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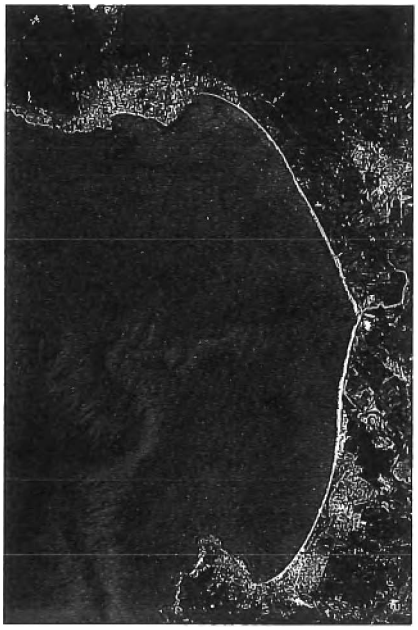
UNIVERSITY OF CALIFORNIA

MONTEREY BAY EDUCATION, SCIENCE AND TECHNOLOGY CENTER

BUSINESS PLAN



Monterey Bay satellite photograph by the URISA Journal

FINAL • DECEMBER 1996

This report was prepared by Economic and Planning Systems for the University of California at Santa Cruz under award No. 07-49-04063 from the U.S. Department of Commerce Economic Development Administration

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Prepared for the University of California at Santa Cruz by Economic and Planning Systems.
The statements, findings, conclusions, and recommendations are those of the authors and do not necessarily reflect the views of the Economic Development Administration.

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1.0 INTRODUCTION, PURPOSE & OBJECTIVES

The closure of Monterey County's Fort Ord has afforded the opportunity for the University of California (UC), under the leadership of UC Santa Cruz (UCSC), to acquire approximately 1,089 acres of the former base from the U.S. Army as a site for the development of the Monterey Bay Education, Science and Technology Center (UC MBEST Center). The mission of the UC MBEST Center is to promote collaborative interaction and strategic alliances between research and education institutions, private business, and policy makers in the Monterey Bay region in order to foster economic development. This Business Plan sets forth a comprehensive strategy and program for the implementation of the UC MBEST Center.

The development of the UC MBEST Center site will take place in the context of the overall reuse program for the former Fort Ord. The entire Fort Ord property encompasses about 28,000 acres, about 25 percent of which will be subject to reuse and redevelopment, with the remainder in permanent habitat management. The Fort Ord Reuse Authority (FORA) was created by special legislation for the purpose of carrying out the redevelopment of the base. In May, 1996 FORA published a comprehensive reuse plan including a business plan and capital financing program for basewide infrastructure. The UC MBEST Center is a component of the reuse plan, and is a participant in the financing plan for basewide infrastructure improvements.

The UC MBEST Center property is being conveyed to the University under a 1994 Memorandum of Agreement with the U.S. Army. Deed recordation for more than 90 percent of the property occurred in September, 1994. The balance is due to be conveyed by January, 1997. Of the total acreage comprising the UC MBEST Center, about 1,042 acres are situated along Reservation Road and are adjacent to Marina Municipal Airport and agricultural fields in the County of Monterey. These 1,042 acres are the primary focus of this report. Awaiting conveyance is an additional 47 acres near Eighth Street and the campus of the California State University, Monterey Bay.

The UC MBEST Center includes a 605-acre UC/NRS Fort Ord Natural Reserve permanently managed as natural habitat. The principal portion of the site planned for development (hereafter referred to as "the site" or the "UC MBEST Center" unless otherwise specified) comprises 437 acres located along Reservation Road and is intersected by Imjin and Blanco Roads. Approximately 30 percent of the site is within the City of Marina, and the remainder is located in unincorporated Monterey County. The site topography is gently rolling and covered by coastal chaparral and stands of native Coast Live Oak. The site is mostly undeveloped with only one substantial building available for reuse, a 16,000 square foot structure that formerly housed a flight training center and Blackhawk Helicopter simulator.

The UC MBEST Center is both a regional economic development program with a physical site and a facilitative institutional program. It is this latter dimension that drives the mission for the Center. The UC MBEST Center organization's charge is to initiate, coordinate, and sustain synergistic relationships between UC, other Monterey Bay region

research institutions, and private enterprise. It is a collaborator with local and regional government in harnessing these assets to drive regional economic development and the spin-off benefits economic development creates, including research, education, business opportunities, and jobs. The primary focus of this economic development activity will be the Monterey Bay region. It will, however, necessarily entail linkages to statewide, national, and global markets.

The trend for strategic alliances between universities, other research institutions, and private enterprise continues to rise in importance as economic growth is increasingly tied to research and technological innovation. University-related research parks have emerged throughout the nation and elsewhere in the world over the last decade, and private business is increasingly involved in sponsoring research by universities and other academic institutions. These relationships are yielding expanded research funding and educational opportunities as well as intellectual property assets to universities. At the same time businesses are receiving access to commercially valuable technologies, which in turn generates jobs and income for potential employees and residents of the region.

The Monterey Bay region offers significant opportunity to leverage intellectual resources embodied in the multiple research institutions around the bay to create a regional competitive advantage. It is home to one of the largest concentrations of marine and environmental scientists and engineers in the country, and has considerable depth in technological knowledge and resources applicable to environmental data management, atmospheric and marine sciences, and deep sea exploration. As a result of its wealth of scientists, research institutions, and graduate and undergraduate colleges and universities, the Monterey Bay region is known as the "Monterey Bay Research Crescent".

The region possesses exceptional foreign language translation capabilities and instructional services, and world class conference and tourist facilities. Roughly 10 percent of all university-level foreign language instruction in the country occurs in the Monterey Bay Research Crescent. Additionally, it is the location of one of the nation's most technologically sophisticated agricultural centers (the Salinas Valley), and is in close proximity to the extensive concentration of computer science, software, and biotechnology activities in Silicon Valley and the greater San Francisco Bay Area. Its high quality environment, recreational resources, and beautiful landscape make it an attractive area to both visitors and residents who are able to find jobs within commute distance.

The UC property at the former Fort Ord site provides a physical location to leverage the institutional and business activities catalyzed by the UC MBEST Center. The site provides the opportunity for UC to have an increased presence in the Monterey Bay region; the potential to offer centralized services, meeting venues, and research facilities; and a location for educationally-related and research-oriented business enterprises that can benefit from, and reinforce, the research and economic development activities of the Center and its constituent institutions. As a regional economic enterprise with an international vision, its assets extend beyond conventional land development. Yet it must conform to the economic imperatives of real estate development to be successful (i.e., it must respond to market demand and meet the tests of financial feasibility).

In parallel with the FORA planning for basewide reuse, UCSC commissioned its UC MBEST Center planning efforts, of which this Business Plan is the culmination. Supporting this Business Plan and its implementation strategies are a Master Plan for the site and a Market Evaluation and Strategy Plan to define target market segments and strategies to attract tenants from those industry groups. The Master Plan delineates a land use and subdivision scheme, design guidelines, an infrastructure program, and a phasing strategy for the site. The Market Evaluation and Strategy Plan evaluates market opportunities for targeted and cross-cutting industry groups, including multi-media, information science, biotechnology, and environmental technology. These industry groups were determined to derive the most competitive advantage from the intellectual resources in the region and to offer the greatest opportunity for strategic alliances and economic development leveraging the region's assets.

1.1 PURPOSE AND ORGANIZATION OF BUSINESS PLAN

Full realization of the UC MBEST Center will take time, effort, and adaptive responses to institutional and market forces. The creation of an organization with appropriate relationships to UC, other research institutions and private enterprise, as well as to FORA and local governmental jurisdictions, will in some measure be an evolutionary process and the product of experimentation, negotiation, and sustained day-to-day effort. Many issues that will be encountered and resolved in this process cannot be foreseen, let alone resolved, by the Business Plan. Thus, the intent of the Business Plan is to establish the framework for a feasible program and to provide a clear set of directions on how to move forward to its realization.

This Business Plan is intended to be a strategic document that will serve to define the UC MBEST Center in terms of concept, program and execution. In addition to the purpose and objectives of the UC MBEST Center described below, this document defines its organizational characteristics (**Chapter 2**); provides a strategic assessment of its market potentials (**Chapter 3**); summarizes key elements of the Master Plan (**Chapter 4**); forecasts development cash flows and assesses financial feasibility (**Chapter 5**); and sets forth an implementation strategy, including a marketing and financing plan (**Chapter 6**).

1.2 PURPOSE AND OBJECTIVES OF THE UC MBEST CENTER

The organizational form and the activities of the UC MBEST Center will be shaped by its purpose, or mission, and the specific objectives identified to realize that purpose. The UC MBEST Center is a dynamic organization interacting with rapidly evolving information-based industries, and strives to foster the growth of new business clusters along the Monterey Bay Research Crescent. It necessarily must evolve and change in response to specific technological, market, and political forces. Nevertheless, its success will depend in part on having a clearly defined mission and an appropriate operational and organizational strategy to undertake that mission.

1.2.1 UC MBEST CENTER PURPOSE

The Monterey Bay region comprises the communities bordering the Monterey Bay from Santa Cruz in the north, to Monterey in the south. While this area has experienced modest economic development as a result of its small population base and isolation from urban centers, it is rich in education and research intensive institutions that specialize in marine and biological sciences, environmental technologies, computer science and engineering, and advanced oceanographic and atmospheric studies, as well as foreign language training. It is home to the University of California, Santa Cruz campus, a new California State University campus, and a number of other graduate education and research institutions. These assets, together with the attractive quality of life in the region, provide a basis for economic development.

Successful and sustained economic development increasingly requires approaches that are interdisciplinary, multi-institutional, and information-intensive, and that involve public-private partnerships. The UC MBEST Center has been established as a multi-institutional enterprise that incorporates science, technology, education, and policy. The principal mission of the UC MBEST Center is to create opportunities for the region's research institutions to work with industry to serve commercial markets in ways that will foster technology-based economic development in the region.

Through the activities of the UC MBEST Center, UCSC and other research and education institutions in the Monterey Bay Research Crescent will play a pivotal role in regional economic development by promoting collaborative interaction between private business, public and private research organizations, and public policy makers. The UC MBEST Center will build regional competitive advantage to foster economic development through a variety of means, including development of the UC MBEST Center site in a manner that serves R&D clients, creation of new research and technology development capabilities that capitalize on regional intellectual resources, and the development of workforce training capabilities.

1.2.2 UC MBEST CENTER OBJECTIVES

There are a variety of specific objectives to be accomplished by the UC MBEST Center which may be expected to change over time. Specific objectives of the UC MBEST Center include, but are not limited to, the following.

- **Create Jobs By Enhancing Educational and Research Opportunities.** By helping to attract additional University-related business, agencies, and services UC MBEST will help to expand research, educational, and employment opportunities in the Monterey Bay Research Crescent for faculty and students of UC and other institutions, residents of the region, and employees of companies in the area.

- **Foster Applied Research and Technology Transfer.** By facilitating relationships between researchers and private enterprise, UC MBEST will promote the commercialization of scientific discoveries and technologies and, at the same time, stimulate basic and applied research by UC faculty and other scientists in the region. This reciprocal relationship will generate jobs and specific benefits for both private industry and the academic/research community.

- **Achieve Next Generation Technology Community.** Through careful and selective development of the UC MBEST site, a community of high technology businesses that derive advantage from the assets of the Monterey Bay Research Crescent will be assembled. These businesses can be the nucleus of a critical mass that will reinforce the identity of the Research Crescent as a synergistic location for certain industries, including components of the multimedia, biotechnology, information science, and environmental technology industry sectors.

- **Use Fort Ord Site to Leverage Regional Economic Development.** Development of the UC MBEST Center property will help foster regional economic development and job creation by serving as a source of funding for UC MBEST Center programmatic activities, providing a locational focus for regional assets and emerging industry clusters, and offering competitive sites with necessary amenities and services for targeted research-based businesses.

- **Provide Competitive Advantage.** The net result of the above objectives is to develop economic infrastructure and competitive advantages for the Monterey Bay Research Crescent that will distinguish it from competing regions, and provide the basis for a strong and stable economy that will replace many of jobs lost in the Fort Ord closure.

Chapter 2 builds on these objectives of the UC MBEST Center to articulate a set of operational and organizational strategies. **Chapter 5,** later in this Business Plan, evaluates the financial feasibility of the UC MBEST Center, and **Chapter 6** sets forth a detailed strategy for implementation.

2.0 STRATEGY FOR UC MBEST CENTER ORGANIZATION AND FUNCTIONS

Functional strategies comprise both the role and functions of the UC MBEST Center, what it will do, and how it will be constituted as an organization to achieve its purpose and objectives. The range of activities in which the UC MBEST Center can engage is broad, and is dependent on the size and funding of UC MBEST Center staff and the relationships that develop as a result of its activities. Again, it may be expected that these functions will evolve, as they must, in response to specific events and conditions in the future. The organizational structures that will support the range of activities appropriate to the UC MBEST Center's mission may be foreseen, but will also be subject to changes in response to future conditions and institutional requirements of UC.

2.1 ROLE AND FUNCTIONS

The potential activities of the UC MBEST Center may be grouped into five major categories:

1. **Regional Technology Access** -- provide the link between research, business enterprise, and economic development.

2. **Human Resource Development** -- enhance education, training, labor force resources, and job opportunities.

3. **Operations and Program Financing** -- fund the activities of the UC MBEST Center.

4. **Marketing** -- promote regional economic development to support the tenanting of the UC MBEST Center site.

5. **Site Development** -- carry out the physical development of the UC MBEST Center property.

There are a number of specific activities and functions that can be carried out by the UC MBEST Center within each of these categories. Likely activities for each are described briefly below. Some of these are underway already. Others can be started even while the UC MBEST Center remains wholly within UC. Still others will be most appropriate under an autonomous organization affiliated with UC and other regional educational and research organizations.

2.1.1 REGIONAL TECHNOLOGY ACCESS

- Serve as an intermediary institution to link research capacities to commercial markets.
- Provide facilities where university-based researchers can work with government and industry.
- Develop institutional incentives for researchers to collaborate with industry by fostering programs and policies that motivate and reward such activities.
- Develop industry incentives, such as UC specific and multi-institutional liaison systems to bridge between research and the marketplace.
- Facilitate financing of collaborative research.
- Develop an independent applied research and policy organization.

2.1.2 EDUCATION AND TRAINING DEVELOPMENT

Major functions of the UC MBEST Center for human resource development (training) include:

- Expand or attract programs that can offer on-site, regional, and national companies industry-specific training and continuing education, as well as undergraduate and post-graduate professional education (e.g., engineering or business programs).
- Establish facilities for education and training purposes (e.g., classrooms, media spaces, distance learning, and teleconferencing).[1]
- Develop institutional mechanisms and incentives for collaborative regional education and training programs involving public/private partnerships.
- Provide or arrange financing for innovative training projects and services.

2.1.3 OPERATIONS AND PROGRAM FINANCING

- Initiate and oversee activities, such as networking and brokering, to encourage financial institutions to work collaboratively with the UC MBEST Center.
- Establish a corporate research affiliates program linked with UC and regional institutions via the UC MBEST Center. Research dollars would be allocated to

[1]See **Appendix E** for a detailed discussion of media spaces and other advanced teleconferencing and telecommunications technology to be considered for application to the UC MBEST Center.

participating research institutions and to the UC MBEST Center to fund promising research and activities related to UC MBEST Center focus areas.

- Facilitate development of sponsored research centers for specific technical areas that seek government and business funding of research by member institutions (facilities for center may be actual or networked).

- Coordinate pre-competitive consortia with research focused on specific areas in collaboration with private businesses, based on a "technology road map" foreseeing future technology with commercial potential.

- Identify proprietary technology or product development by selected research teams, with royalties shared by participating institutions, the UC MBEST Center, and sponsoring companies.

- Broker technology consultancies between individual researchers and private businesses as a revenue producing function of the UC MBEST Center.

- Assemble technical assistance teams for industry problem-solving.

- Offer technology commercialization services.

- Offer services, such as teleconferencing and computer-aided translation for fee.

- Operate telecommunications system, charging user fees to tenants.

2.1.4 MARKETING

- Collaborate with regional economic development agencies, local cities, Monterey County, and FORA in efforts to market the region as a location for the targeted industry groups.

- Carry out a marketing program to attract development to the UC MBEST Center site.

- Create a UC presence on-site at the UC MBEST Center to facilitate marketing of both the site and the region.

- Pursue joint ventures with FORA and local agencies to provide housing packages to employers who are UC MBEST Center tenants.

2.1.5 SITE DEVELOPMENT

Serve as the master developer, overseeing entitlement and environmental clearance, interaction with local government agencies and FORA, marketing and disposition of

property, financing of backbone infrastructure, and development of individual projects by third party developers.

2.2 ORGANIZATIONAL STRATEGY

This organizational strategy section recommends eventual formation of the "UC MBEST Center Corporation" as a separately constituted umbrella organization with three subsidiary corporations to conduct research, training, and real estate programs. The following section provides an overview of its constituent parts and required implementation actions.

2.2.1 INTRODUCTION

As UC proceeds to implement the UC MBEST Center and initiate the diverse set of activities described above, it is essential that the Center's organizational strategy and structure evolve. The strategy should allow organizational adaptation over time to retain the Center's efficacy in the face of a changing economic and political landscape.

The roles and functions of the UC MBEST Center discussed above can be organized into three distinct components:

1. Foster new research and technology development capabilities to serve UCSC and to link regional capabilities to the marketplace.

2. Leverage the region's education and training capacity.

3. Develop real estate at the UC MBEST Center site in a manner that is consistent with the goals of UCSC and the region.

Administration of all three aspects of the UC MBEST Center should start with existing staffing and funding within the UCSC campus, and undergo a transition to a semi-autonomous corporation owned and overseen by UC. This organization must be able to undertake the complex and time sensitive tasks and decision making necessary to implement a major development program.

In the following section, the organizational strategy for the UC MBEST Center mission is briefly described and evaluated in terms of its organizational and functional features. These objectives are structured to offer near-term, medium-term, and long-term strategies that UCSC can use to effectively achieve UC MBEST Center goals. These objectives are applicable to all three components of the UC MBEST Center (research, training, and real estate).

2.2.2 OVERVIEW OF UC MBEST ORGANIZATIONAL STRATEGY

The UC MBEST Center can achieve its overall mission by using a phased development path. This path begins with modest UCSC financial support and strong institutional commitment, with an ultimate spin-off of the UC MBEST Center as an autonomous entity. It is proposed that this entity use its assets and organizational capacity to enable new R&D and training institutions. As the market allows, these institutions will be partially seeded and supported by continued commercial real estate development at the site as well as revenues from the activities of these new entities.

A three-phase development process is proposed to implement the UC MBEST Center in a way that minimizes initial UC expenditures and initiates the building of a landmark institution. This process will enable expansion of R&D, as well as education and training opportunities for UCSC, will build new linkages between regional R&D institutions in the Monterey Bay area and the commercial marketplace, and will accelerate the growth of a next generation Monterey Bay area economy. The recommended phases are described below:

Priorities for UC MBEST Center Development			
Phase of Activity	**Research and Technology Development**	**Education and Training Development**	**Real Estate Development**
Phase I Initiation (In-house)	Informal Networking	Informal Networking	UC Partners with Region for Marketing, Contracts with Private Real Estate Developers and Brokers
Phase II Network Formation (In-house)	1) Monterey Bay Regional Innovation Policy 2) UC MBEST Center Research Network 3) Monterey Bay Regional Incubation Network	1) UC MBEST Center Professional Training Network 2) UC MBEST Center Skills Network	Continue activities as described for Phase I
Phase III Institutionalization (UC MBEST Center Corporation)	1) UC MBEST Center Technology Institute 2) UC Research Entity	UC MBEST Center Training Institute	UC MBEST Center Development Corporation Formed, Continues Contracts with Brokers and Developers

2.2.2.A Phase I: UCSC Administration at the UC MBEST Center

UC has allocated a budget allotment of $232,000 per year to support three staff positions to administer UC MBEST Center operations. This initial structure is a practical though conservative near-term approach. Ultimately, UC should consider replacing this structure with a separately constituted entity. Research and training functions can be "virtual" centers until such time that physical facilities are available at the UC MBEST Center.

The goal of the first one-to two-year phase is to start-up operation of the UC MBEST Center, working directly from the University of California, Santa Cruz out of offices at the UC MBEST Center site. In this first phase, UC should focus on: 1) cost-effective implementation of UC MBEST Center operations; and 2) building resources for the next organizational phase. The two proposed objectives and activities in this phase are:

Objective 1: Continue Informal Networking

UCSC should continue to conduct informal networking activities in preparation for the formal research and training networks to be created in Phase II, as described below.

Objective 2: Initiate UC MBEST Center Marketing and Real Estate Development

The University should establish ongoing development protocols to be carried out by the UCSC team as it begins to implement the site Master Plan and the Business Plan. As a part of this effort, UCSC should designate and establish the UC MBEST Center office at the UC MBEST Center site, and develop a regional marketing partnership with FORA and surrounding jurisdictions (City of Marina, County of Monterey, City of Monterey). The marketing partnership should focus on implementation of cross-cutting[2] marketing themes to foster emerging, expanding and global firm location at the site. The UC MBEST Center will also identify broker and real estate development partners who will assume responsibility for target-specific cluster marketing and begin formal land development at the site. This stage of development will result in the first land development projects which will generate capital for support of site development and mission activities of the UC MBEST Center (R&D and training).

In this stage, which has already begun, UCSC will use in-house personnel to actively manage real estate development of the UC MBEST Center site. This in-house approach allows UC to maintain extensive control over the outcomes, while utilizing available UCSC staff and funding during this start-up phase. It is proposed that the UCSC staff capabilities be augmented through the assistance of an outsourced contract development advisor. The development advisor would be retained as needed to help manage infrastructure construction and real estate transactions, working closely with the staff and commercial real estate brokers to improve and subsequently lease or sell land to third-party developers. The contract development advisor and brokers will fund their own overhead functions. Real estate brokers will also fund their own marketing functions.

[2]The term "cross-cutting" refers to all identified market sectors (multimedia, information technology, biotechnology, and environmental technology).

The operational complexity of the UC MBEST Center development process is likely to approach that of developing a university campus. For this reason, the burden on UCSC is likely to become substantial, as considerable complexity arises from individual projects and competing needs for resources among UCSC staff. Thus, it is recommended that the UCSC internal staff approach yield to a different organizational strategy in the third stage of development.

2.2.2.B Phase II: Initiate Research and Training Networks

Objective 1: Initiate Monterey Bay Regional Innovation Policy

Focus groups and interviews with industry across the country over the past 10 years indicate that the two most common requirements firms have in dealing with universities and laboratories, are: 1) information on competencies related to commercial markets, and 2) need for easy to understand rules for use of resources (faculty and intellectual property management). To distinguish the Monterey Bay region's unique capacity to foster entrepreneurship, support collaborative R&D, and serve industry, a set of institutional policies and practices should be developed. These policies and practices should promote entrepreneurship and outreach to commercial users among researchers and faculty, and also to communicate the region's readiness to work with industry. This regional enterprise innovation policy does not require a uniform agreement among institutions, but rather an integrated communications document targeted to the region's entrepreneurs and industry. This initiative can be undertaken as a precursor to or part of a broader UC MBEST Center research network.

Objective 2: Initiate UC MBEST Center Research Network

To demonstrate to companies that the Monterey Bay region has the capacity to harness diverse R&D skills across institutions, a network organization can be formed that would facilitate company access to R&D services, faculty, scientists, and facilities at the region's major universities and laboratories. This UC MBEST Center Research Network could be the first phase in the development of an eventual UC MBEST Center Technology Institute that would, if necessary, create a formal organization for linking regional research capabilities to the marketplace.

Objective 3: Initiate Monterey Bay Regional Incubation Network

To accelerate the rate of enterprise formation across all industry categories, an incubation network that provides services to support early stage companies should be established. This organization should consist of an "enterprise maintenance organization" comprising a network of regional business service providers offering strategic services to new enterprises at discounted prices. This network can be undertaken as part of the development of a broader UC MBEST Center research network or as a collaborative venture between regional economic development and business service organizations offering business planning, financing and marketing expertise.

Objective 4: Initiate UC MBEST Center Professional Training Network

To link companies to the formidable capabilities for management training that exist across the Monterey Bay region, a professional training network organization such as a UC MBEST Center Professional Training Network could be established. This network would provide access to world-class technology management, international business, and marketing training courses brokered from the region's leading education and training institutions. These services are useful for businesses expanding their production and marketing, as well as for global companies. This network could also help broker solutions where non-management skill development is required.

Objective 5: Initiate UC MBEST Center Skills Network

This association-like organization can be formed to help identify and train non-management workforce from the region's labor market.[3] This organization could be a subsidiary or affiliate of the UC MBEST Center Professional Training Network or developed collaboratively with regional training organizations. This can be a medium-term initiative, or integrated into longer-term programs to respond to incoming business needs.

Objective 6: Continue UCSC Administration of Marketing and Real Estate Development

It is expected that UCSC will maintain its role in real estate development and marketing until such time that a subsidiary entity is formed to perform these tasks, as described below under Phase III.

2.2.2.C Phase III: UC MBEST Center Corporation

Once the primary activities of the UC MBEST Center have been initiated and carried out through UC, three important developments will materialize. First, the research network will mature and achieve a scale of activity that warrants formalization. Second, the scale of network training activities in the region will increase through the expansion and attraction of new public or private training institutions. Third, the number and scale of real estate development projects at the site will increase, generating revenues for the UC MBEST Center. Eventually these aspects of development are expected to reach a scale of activity and stage of readiness at which the UC MBEST Center should transition to a formal, separate entity (the UC MBEST Center Corporation) under the auspices of the UC system.

It is recommended that a separately constituted entity, the UC MBEST Center Corporation (hereafter "the Corporation") ultimately be formed to expand and manage the UC MBEST Center. It is recommended that initial preparation for this transition begin immediately. Depending on the level of demand for UC MBEST Center services and/or space and the potential for alternative revenue sources (e.g., member dues), this approach could be adopted as early as the year 2000. It is recommended that the organizational form be a Limited Liability Corporation (LLC). Establishing the LLC is proposed as a means of preserving UC's interest in the UC MBEST Center while externalizing management functions and liabilities. This structure has several advantages over retaining the status quo

[3] As discussed in **Chapter 3**, census data indicate over 40,000 commute trips per day from the Monterey Bay region to the San Francisco Bay Area.

n-house administration) or a non-profit corporation, including an enhanced ability to raise capital and obtain financing from private sources, the ability to retain and spend earnings as needed with maximum flexibility and discretion, and other advantages cumulatively contributing to an efficient management structure.[4] The legal neutrality of the Corporation, with its well defined purpose, can effectively be used over time to meet the UC MBEST Center needs.

It is recommended the Corporation be owned by UC, with a separate board of directors. It could alternatively be a jointly owned institution, with shareholders from a number of regional institutions (similar to Philadelphia's Science City, with over 28 shareholding institutions). Responsibilities of the Corporation will include research and technology development, education/training, and real estate. Each would be a separate division within the Corporation.

The Corporation would be established and the title to the UC MBEST Center site would be transferred through a transaction with UC. This would empower the Corporation to act autonomously from UCSC as a legal entity, while at the same time reporting to UC through the board (shareholders). The Corporation would have a separate staff and could work with contracted service providers to assist in the implementation, marketing and development of the UC MBEST Center.

By using a small staff with contracted services (e.g., contract development advisor, property manager, consultants) the Corporation can start small and grow over time, as revenues permit, making for a smooth transition from the internal UCSC management structure. The charter for the Corporation will specify the decision-making procedures for how revenues will be used, and enable the Corporation to build up a capital base over time that will be used to fund staffing for the programmatic mission of UC MBEST Center and site improvements. The Corporation should have three operating objectives:

Objective 1: Establish a UC MBEST Center Technology Institute

A new R&D institution such as a UC MBEST Center Technology Institute could be established to create a unique locational attractor to the UC MBEST Center. This institute would, if necessary, expand on the efforts of the proposed UC MBEST Center Research Network to increase commercial R&D services in the region. The UC MBEST Center Institute could be UC-affiliated, multi-institution sponsored, or an independent R&D organization. This type of technology institution can serve as an important bridge between global companies and the research capabilities of the Monterey Bay region. This type of organization requires a strong institutional sponsor, as well as capitalization of initial planning, development, and operation over a three to five year period as a client base is developed.

[4] See analysis of alternative management structures conducted by KPMG Peat Marwick LLP entitled "University of California Fort Ord Project Outline of Organizational Options" dated March 31, 1995.

Objective 2: Attract UC Research Entity

A UC research entity at the UC MBEST Center site may be an important attractor for high technology companies. If the UC system or UCSC believes it is appropriate, a research entity representing a department, laboratory, or research center could be physically located at the site. This institution would be an outpost of the UC system or UCSC campus, and to the extent feasible within its mission, focus on commercially relevant research.

Objective 3: Establish UC MBEST Center Training Institute

An organization such as a UC MBEST Center Training Institute could be developed by building on the efforts of the proposed UC MBEST Center Professional Training Network as demand warrants. The UC MBEST Center Training Institute can be an independent organization specializing in the assessment of training needs, the design of new curriculum, and innovative delivery of training for professional management and workforce in fields such as technology management and international business. This type of institution requires founders and initial sponsors to secure operational financing for early years of operation.

Objective 4: Organize Subsidiary Under UC MBEST Center Corporation to Manage Development

As the number of real estate projects at the UC MBEST Center increases, development activity will need to be effectively managed on a full time basis. A real estate development corporation should be established as a subsidiary under the UC MBEST Center Corporation, and have the authority to promote and approve development, hold revenues, and reallocate them to both site improvements and to UC MBEST Center mission-specific activities, such as regional R&D and training. Initial revenues from UC MBEST Center project development could be used to compensate brokers and an outsourced contract development advisor, to supplement the operating budget sufficiently to enable hiring additional staff, and to ready the UC MBEST Center for the next phase of site development, as discussed in **Chapter 5.**

3.0 MARKET ASSESSMENT

The UC MBEST Center will need to capitalize on the research strengths of the region and its proximity to Silicon Valley to draw office, R&D, and light industrial development. This Market Assessment chapter brings together research conducted by the UC MBEST Center Market Evaluation and Strategy Plan[1] and an analysis of regional real estate market conditions to produce a synthesized account of development types and magnitude on the UC MBEST Center through the 1997-2015 period.

The precise type and magnitude of development will, of course, be subject to many different factors, such as growth in the Silicon Valley, national and state legislation affecting the activities of technology firms, and global economic trends affecting supply and demand for information-driven technologies. This assessment of current market conditions, initiatives of UC and other regional stakeholders, and key market characteristics and trends will provide a basis for specifying and evaluating the operating and financial characteristics of the UC MBEST Center.

This chapter synthesizes regional market conditions to provide context for the development and implementation assumptions and recommendations that follow. This synthesis: 1) summarizes the historical market performance of the region; 2) summarizes Fort Ord market forecasts; 3) presents major conclusions regarding demand among market sector industries; and 4) presents a synthesized forecast of development at the UC MBEST Center that provides parameters for the operating and financing elements of the project.

3.1 REGIONAL ECONOMIC OVERVIEW

The former Fort Ord sits in a thri-county economic region that includes Monterey, Santa Cruz, and San Benito Counties. The UC MBEST Center site is entirely within Monterey County. In 1990, the tri-county region had 250,200 wage and salary employees, of which 64 percent were employed in Monterey County. The largest industry sectors in Monterey County in 1995 were agriculture (31,200 jobs), services (30,000 jobs), and retail trade (23,800 jobs). The Monterey County economy experienced an average annual growth rate of about 1.3 percent from 1985 through 1995, with the most jobs added in the agriculture and service industries **(Table 3-1)**.

During the 1990s the Monterey County economy has been substantially affected by both the recession and the closure of Fort Ord. Approximately 20,000 to 21,000 total jobs are estimated to have been lost as a result of the base closure. While the regional economy has been largely stagnant, recently released State of California Employment Development Department (EDD) data indicate that the region is making an economic recovery across all sectors.

[1] UC MBEST Center Market Evaluation and Strategy Plan, prepared by Information Design Associates (IDeA) in December, 1996.

Table 3-1
Wage and Salary Employment by Industry in Monterey County, 1985-1995 (1)
UC MBEST Center

Industry Sector	1985	1990	1995	1985-1995 Total Growth	1985-1995 Avg. Annual Growth Rate
Agriculture	24,200	28,500	31,200	7,000	2.6%
Mining	500	300	100	(400)	-14.9%
Construction	3,300	4,100	3,800	500	1.4%
Manufacturing	8,800	9,500	8,900	100	0.1%
Trans.& Pub. Utilities	4,700	4,700	4,800	100	0.2%
Wholesale Trade	3,600	5,200	5,200	1,600	3.7%
Retail Trade	23,400	24,900	23,800	400	0.2%
F.I.R.E	4,500	6,000	6,300	1,800	3.4%
Service	24,000	28,100	30,000	6,000	2.3%
Government					
Federal	8,600	8,600	5,400	(3,200)	-4.5%
State & Local	17,200	19,100	20,200	3,000	1.6%
Total	122,800	139,000	139,700	16,900	1.3%

(1) March 1995 Benchmark.
Source: Economic Development Department; Association of Monterey Bay Area Governments; Economic and Planning Systems, Inc.

The Association of Monterey Bay Area Governments (AMBAG) forecasts a net gain of 88,000 jobs between 1995 and 2015 for the tri-county region, of which 90 percent (79,000) are projected to be captured by Monterey County. Assuming the successful implementation of the Fort Ord Reuse Authority's (FORA) Reuse Plan, the Monterey Peninsula has the potential to capture 25 to 35 percent of the County's projected employment growth (20,000 to 25,000 jobs). Through 2015, about 11,887 new light industrial, R&D and office jobs are expected on Fort Ord, of which 5,800 will be located at the UC MBEST Center according to FORA's plan.[2]

3.2 COMMERCIAL REAL ESTATE MARKET

There is limited regional data upon which to make judgments about R&D and related office real estate market performance at Fort Ord. Historical market demand for non-central business district office space has been concentrated in one particular business park in Monterey -- Ryan Ranch. Other industrial parks in the region are largely oriented around agriculturally-related light industrial activity.

According to data provided by a regional commercial real estate brokerage firm (BT Commercial), the counties of Santa Cruz and Monterey currently have a combined total of two million square feet of R&D space, of which 38 percent is in Monterey County (**Table 3-2**). The two counties have total available space of 200,272 square feet, for a total vacancy rate of 10.0 percent. The R&D vacancy rate in Monterey County is a relatively high 15.5 percent (118,708 square feet in 1995), largely due to recently vacated space now being improved to re-enter the market in Ryan Ranch. R&D rents in the region typically range from $0.55 to $1.00 per square foot (NNN).

Office conditions are favorable in Monterey County, with a vacancy rate of 7.7 percent in 1995 and a County office base of nearly three million square feet. Office rents in Monterey County range from $0.95 to $2.05 per square foot (full service). Available manufacturing space is very limited in both Santa Cruz and Monterey Counties, with vacancy rates of less than five percent in 1995. Manufacturing/light industrial space typically leases for $0.40 to $0.85 per square foot (NNN).[3]

Major expansions within the "suburban" office/R&D market are likely to be limited to the UC MBEST Center and Ryan Ranch in Monterey. In Santa Cruz County, development is highly monitored and entitlements can be relatively difficult to obtain. Along the US 101 corridor from South San Jose to Salinas, industrial and warehouse activity is very closely tied to the agricultural industry.

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[2] FORA Business Plan dated May, 1996.

[3] "NNN" refers to "triple net" rents where tenant is responsible for paying taxes, insurance, maintenance and other costs pertaining to rental space.

Table 3-2
Real Estate Market Overview: Monterey and Santa Cruz Counties (1995)
UC MBEST Center

Item	Office	R&D	Manufacturing	Total
Building Base				
Santa Cruz	3,558,727	1,241,118	4,923,135	9,722,980
Monterey	2,946,755	766,404	3,481,415	7,194,574
Total	6,505,482	2,007,522	8,404,550	16,917,554
Available Space				
Santa Cruz	509,115	81,564	75,461	666,140
Monterey	226,733	118,708	153,517	498,958
Total	735,848	200,272	228,978	1,165,098
Vacancy Rate				
Santa Cruz	14.3%	6.6%	1.5%	--
Monterey	7.7%	15.5%	4.4%	--
Total	11.3%	10.0%	2.7%	--
Rent Range (1)				
Santa Cruz	$0.95-$2.05	$0.55-$1.00	$0.40-$0.85	--
Monterey	$0.95-$2.05	$0.55-$1.00	$0.40-$0.85	--

(1) All rates are triple net (NNN), except office rates which are full service.
Sources: BT Commercial; Economic & Planning Systems, Inc.

Perhaps the most telling of all current market statistics is the fact that agriculture-related industrial land in Salinas' Airport Business Park is selling for higher prices than R&D land at Ryan Ranch in Monterey. This is illustrative of the fact that the regional economy is still heavily grounded in agriculture, and that agricultural-industrial users are willing to pay a premium to obtain increasingly scarce land that is suitable for packing and distribution.

Thus, it can be interpreted that the local office/R&D market is in a formative stage. Currently, Ryan Ranch is the region's major center for R&D and "suburban" office development with tenants including AT&T language line, Phoenix Technologies, and Pro-Log, while Santa Cruz's planned Terrace Point project represents Santa Cruz County's largest new marine/biotech project. Major projects that future users may consider in addition to the UC MBEST Center are described below.

3.2.1 RYAN RANCH

Ryan Ranch is a business park project owned by Spieker Partners. This park, located directly east of central Monterey on Highway 68, is the key established development project in Monterey County region that will continue to accommodate a broad category of users, including firms similar to those targeted for the UC MBEST Center.

Ryan Ranch is approximately 210 acres in size, has 900,000 square feet of total building space leased or owned by approximately 100 firms, and is currently about 50 percent built out. At current rates of absorption (five to seven acres annually), the project will be an active competitor with the UC MBEST Center throughout most of the 1997-2015 period. Recently, development activity has increased at Ryan Ranch, with three buildings currently under construction. Two of these buildings are speculative R&D projects developed by Spieker Partners (about 17,500 square feet each), while the third is a 70,000 square foot building developed by the Slautterback Corporation, a manufacturer of glue application machines. Other recent leasing activity includes the 1995 lease of 22,000 square feet to Phoenix Publishing Systems, Inc., relocated from Boston to Monterey. In addition, the former McGraw-Hill headquarters (62,500 square feet) is in escrow with a buyer who plans to divide the building into a multi-tenant facility. Other than Ryan Ranch, there are currently few options in Monterey County for tenants needing more than 10,000 square feet of space.

Ryan Ranch is situated within steep terrain that provides an attractive setting but contributes to high development costs and limited site coverage. These factors, as well as the project's manufacturing use restrictions, may have curbed development at the park. At this time, a mix of development is occurring, ranging from light industrial, distribution, R&D, and office. Traffic congestion on Highway 68 may ultimately serve as a competitive disadvantage for Ryan Ranch relative to Fort Ord.

Because the market for applicable users has been limited, the property's improved land is selling at relatively modest prices averaging between $3.50 and $4.50 per square foot. Small parcels of an acre or less sell for $6.00-$8.00 per square foot, while a 15-acre parcel recently sold for $3.00 per square foot. Monthly office lease rates in the park's multi-tenant office buildings range from $1.05 to $1.65 (NNN) per square foot for two-story tilt-up office product. Currently, smaller space is in high demand, with many firms interested in leasing 1,000 to 3,000 square feet of space.

3.2.2 SCOTTS VALLEY

Scotts Valley is located approximately 20 miles northeast of Santa Cruz on Highway 17, in the Santa Cruz Mountains. At year-end 1995, there was over a million square feet of office and 459,000 square feet of R&D space in Scotts Valley. Vacancy rates were 24.5 percent and 14.7 percent, respectively. There has been very little high-tech development in Scotts Valley in the last five years. Recently, several small software firms in Scotts Valley have been purchased by larger firms and relocated to Silicon Valley.

Borland became the largest software company in Scotts Valley with the construction of a 200,000 square foot facility in 1991. However, Borland's business declined significantly in the mid-1990's, and the facility is now 50 percent vacant. The large floorplate and overall design of the facility has made subleasing difficult. Asking rents for office/R&D space in Scotts Valley are $1.25 to $1.50 per square foot (NNN).

According to regional commercial brokers, Scotts Valley is not expected to emerge as a major high technology district. Land and development costs, the local attitude toward development, inadequate sewage capacity, and a lack of affordable housing are all factors contributing to modest R&D development expectations in Scotts Valley. It is expected that Scotts Valley will maintain its current base of office/R&D activity, contributing to a "zero-sum game" with the arrival of new companies filling space vacated by others.

3.2.3 TERRACE POINT

The Terrace Point project in Santa Cruz is planned to include 15 acres of marine research facilities. Prospective tenants include the California Department of Fish and Game Oiled Wildlife Center. It is possible that a small speculative building will be proposed in the near term, in the range of 10,000 square feet and including wet lab and office space. These developments will consume over half of the Terrace Point project's land area, leaving another seven or eight acres that may attract smaller users in marine science. This area could be built out over the next eight to ten years. The project's EIR has been certified, and the project is expected to be approved by the California Coastal Commission. Approval by the City of Santa Cruz must be granted prior to development.

3.2.4 OTHER REGIONAL R&D PROJECTS

In addition to the three efforts discussed above, the following projects are active in the market region:

- Cisco Systems has recently leased approximately 15,000 square feet of office space in downtown Santa Cruz to house Cisco's Internet Division. A future expansion of 30,000 to 40,000 square feet in a nearby location is possible. Estimated rents for Cisco's initial space are estimated to be $1.40 per square foot (NNN).

- Also in Santa Cruz, Silicon Systems, a subsidiary of Texas Instruments, is planning on expanding on their land near the Terrace Point project.

- At Moss Landing, MBARI is using surplus land to facilitate development of small support businesses related to MBARI's research activities.

- The City of Watsonville is attempting to annex and develop 214 acres of land for a proposed industrial park located at the intersection of Highways 154 and 1. It is expected that at least 150 acres will be approved by 2000. This would likely be relatively inexpensive land that would appeal to users currently searching for adequate space in Castroville, Salinas, and other agricultural hubs. This property could also appeal to agricultural R&D users. Overall, Watsonville has the largest base of industrial product in Santa Cruz County, and has recently attracted users including International Paper (44,000 square feet), Cal Tube Lab (20,600 square feet), Optronic Technologies (18,092 square feet), and Anaphaze (12,292 square feet).

- Salinas has the region's largest supply of developed industrial land, and has a very tight real estate market with manufacturing and warehouse vacancy rates of four percent. The limited base of R&D development (166,700 square feet) in Salinas is associated with crop management and other agriculture applications.

3.3 FORT ORD MARKET FORECASTS

This section provides major market findings of the Fort Ord Reuse Plan. The Reuse Plan utilizes historical employment and real estate market data to estimate future development at Fort Ord. In addition to this extrapolation of historical growth rates, FORA estimates that the presence of the UC MBEST Center will have a positive effect on overall employment growth, and is expected to become Fort Ord's most substantial source of new employment. Key findings of the FORA Reuse Plan's market analysis include:

- **UC MBEST Center is expected to capture about half of light industrial, R&D, and office development at Fort Ord.** Approximately 3.86 million square feet of development is projected to be captured at Fort Ord through 2015 (beyond which time additional analysis will be necessary to analyze environmental consequences of growth). Of this, 1.75 million square feet of light industrial, office, and R&D development is projected to occur at the UC MBEST Center. The rate of light industrial, office, and R&D development projected for Fort Ord alone through 2015 exceeds the historical rate of this development for all of Monterey County. The increased rate is attributed in part to the effective intervention of the UC MBEST Center in the market place.

- **Light industrial absorption in Monterey County has averaged 150,000 square feet of space annually.** In the future, FORA has forecasted light industrial space absorption to be 165,000 square feet over the next five years, and subsequently to increase to 300,000 square feet annually by 2015. Fort Ord has the potential to capture 25 percent of this demand or 75,000 square feet per year during the latter portion of the 1997-2015 period.

- **Office/R&D development has also averaged 150,000 square feet annually in Monterey County.** The County is expected to continue this rate over the next five years, gradually increasing to an annual level exceeding 300,000 square feet annually by 2015. Fort Ord is expected to capture 40 percent of this demand or 120,000 square feet/year during the latter portion of the forecast period. In addition, another 925,000 square feet of total office/R&D growth is expected to result from the creation and effective marketing of the UC MBEST Center.

For the UC MBEST Center projection to be realized, an increase over the baseline level of real estate demand in the region will need to occur. Factors that may support an increase over historic trends include:

1) involvement of UC at the UC MBEST Center;

2) publicity surrounding the reuse of Fort Ord;

3) active economic development efforts and redevelopment financing associated with the reuse of Fort Ord;

4) the opening of a four-year college on Fort Ord (CSUMB);

5) the leveraging of existing R&D potential through the UC MBEST Center's concerted effort to encourage collaboration among local firms and agencies; and

6) development of new areas of expertise in the Monterey Bay region, through creation of the UC MBEST Center by successfully marketing to and attracting candidate firms from outside regions, such as Silicon Valley.

3.3.1 SAN FRANCISCO BAY AREA OPPORTUNITIES

In order to draw firms or specialized functions of firms away from the (San Francisco) South Bay's innovative and established R&D environment, the Monterey Bay region's housing, labor force, support services, image, research activity, and other factors must continue to improve. Some Silicon Valley migration has begun to occur in Santa Cruz, Watsonville, and Salinas, establishing a precedent and a base of support for business establishment. Projections for future growth by FORA assume that the linkage between these two regions will strengthen.

Silicon Valley's R&D real estate market has stabilized over the past two years. Vacancy rates are 5.3 percent on average (1st quarter 1996) and average rents are $1.16 per square foot (NNN) for industrial/flex and R&D space. These economic conditions are resulting in the development of build-to-suit and limited speculative space throughout the area, which now includes north San Jose, Milpitas, and Fremont. Cisco Systems, for example, recently purchased 151 acres in north San Jose to develop 3.3 million square feet of space for 12,400 new employees. IBM will be investing $75 million into its South San Jose disk drive division over the next two years, reversing a planned sale of the property. While there is no shortage of land availability in the greater Silicon Valley region, there is a demonstrated reluctance by firms to locate away from the core of the region.

Much of the growing high-tech labor force is commuting from areas such as Livermore and Pleasanton (located in the East Bay portion of the San Francisco Bay Area) to obtain satisfactory housing. At some point in the future, congestion on I-880 and I-680 between Silicon Valley and regional housing centers could reach a threshold that will make more distant locations such as Fort Ord attractive, particularly if additional R&D development continues in the Monterey Bay region in the interim. Moreover, the Santa Cruz/Monterey County region has a large technical/executive labor force that commutes to the South Bay. According to the 1990 Census, 34,000 commute trips per day occur between Santa Cruz County and the South Bay. Another 12,600 commute to the Bay Area from Monterey County, contributing to a total out-commute at 46,500 per day.[4] Fort Ord would be a preferable commute for these employees and executives.

Rather than competing against Silicon Valley, it would be opportune to cooperate with Silicon Valley's regional marketing efforts (e.g., Joint Venture Silicon Valley) to spread awareness of opportunities in the Monterey Bay market area. A collaborative marketing effort would enable the regions to work together to retain R&D, production, and other functions that have recently moved to locations such as the Central Valley, Solano County, and out-of-state areas including Austin, Portland, and other regions.

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[4]Association at Monterey Bay Area Governments (AMBAG). Data generated from origin-destination daily vehicle trip table from the 1990 base year AMBAG regional travel model.

3.4 MARKET SECTOR CHARACTERISTICS

Four market sectors were studied for development at the UC MBEST Center. In particular, marine and agricultural firms within these and other sectors are considered to be potential clientele for the UC MBEST Center. The selected market sectors studied include: 1) multimedia; 2) information technology; 3) biotechnology; and 4) environmental technology.

The following section provides an introductory overview of each market sector, assesses the competitive position of the Monterey Bay Region and the UC MBEST Center with regard to these sectors, and describes potential marketing and development strategies by stage of growth and by industry sector. Finally, future growth prospects for these and other sectors are summarized, and a future development scenario is discussed for purposes of analyzing financial feasibility of the UC MBEST Center.

3.4.1 MARKET SECTOR OVERVIEW

A separate consulting team has prepared a Market Evaluation and Strategy Plan that extensively studied four market sectors: multimedia, information technology, biotechnology, and environmental technology. In particular, the marine and agricultural applications of environmental and biotechnology have been analyzed based on their high concentration within the Monterey Bay region.

As discussed later in this chapter, it is important to consider both the stage of growth of the collective market sectors as well as the particular characteristics of each sector. For example, start-up firms in all four market sectors share the need to minimize expenses, including the cost of building space, services, seed capital, and other financial requirements. More mature firms have more capability to construct build-to-suit facilities and to assist with the costs of moving key employees. The marketing efforts recommended by this Business Plan include efforts to market to companies in a "cross-cutting" fashion (to all pertinent sectors based on common needs) as well as "cluster-specific" marketing. The composition of the four major sectors is profiled below:

3.4.1.A Multimedia

The multimedia industry can be considered a continuum of five interdependent markets that produce final consumer goods: 1) publishers; 2) pipelines (wireless, satellite); 3) content producers (games, education); 4) authoring tools (software and network) and 5) platforms (computers).

3.4.1.B Information Technology

This is a large continuum of industries from semiconductor suppliers and integrated circuit device makers to producers of computer systems and their components and peripherals. The industry is defined by its end-products, hardware, on which software runs to create applications. Software is included in the multimedia sector described above.

- End Markets include super computers, mainframes, workstations and servers, personal computers, laptops, personal digital assistants, communications devices, and peripherals (printers, keyboards, displays).

- Intermediate suppliers include networks, switching systems, integrated circuit devices, semiconductor manufacturing equipment, and mass storage devices.

3.4.1.C Biotechnology

The biotechnology market sector is composed of seven major end-market segments and has front-end (development) and back-end (processing) technological requirements including: 1) human health; 2) agriculture; 3) chemicals and energy; 4) environmental; 5) analytic instruments; 6) processing systems; and 7) chemicals and reagents.

3.4.1.D Environmental Technology

This is an relatively new industry with over 14 different segments divided into "end use" and "intermediate suppliers". This is broad industry that, in addition to the major end uses and intermediate supply firms listed below, includes firms that overlap with information technology (e.g., digital mapping and satellite imagery). Currently, one such firm is a major tenant in the UC's Simulator Building at the UC MBEST Center.

- End users include solid waste, water and wastewater, air pollution control, and hazardous waste management.

- Intermediate suppliers include remediation services, environmental engineering, instruments, testing and analysis laboratories, combustion systems (including waste to energy systems), recycling equipment, and waste management equipment.

3.4.2 STRATEGIC EVALUATION: UC MBEST CENTER ASSETS AND CHALLENGES

To evaluate the prospects of drawing prospective industries and tenants to the region and the UC MBEST Center site, the following section profiles the major assets of the region/site and the major challenges that the region and the UC MBEST Center project must confront. Six categories of regional assets and challenges are evaluated including human resources, physical infrastructure, high-tech business environment, land prices and rents, regulatory climate, and quality of life (**Table 3-3**).

3.4.2.A Human Resources

The Monterey Bay Region has substantial human resources that could be utilized by high-tech firms locating and growing at the UC MBEST Center. As discussed earlier, the region contains an estimated 46,500 regional employees that commute to Santa Clara County and other portions of the San Francisco Bay Area daily.

Table 3-3
Comparison of Regional Assets and Challenges
UC MBEST Center

Category	Assets	Challenges
Human Resources	UCSC Expertise Naval Postgraduate School MBARI CSUMB Hopkins Marine Station Defense Language Institute Fleet Numeric Meteorology and Oceanographic Center Other teaching and research institutions Good supply of students as interns/researchers Access to educated work force Area is a natural draw for executives Excellent language skills Entrepreneurial environment International business capabilities	Increase engineering expertise and technical labor force in general University must display skills managing research training, and real estate functions Develop incentives for tech transfer among faculty
Physical Infrastructure	Access to Monterey Bay Access to research vessels Access to research facilities Low land costs relative to SF Bay Area ATM network	Improve passenger/cargo air service Improve road access to/from SF Bay Develop long-term water supply
High Tech Business Support	Proximity to regional research institutions Existing base of makers of customized instrumentation equipment High telecommunications bandwidth High amenity area Favorable international reputation	Create tech park to provide focus, collaboration, synergy Improve access to clients and customer base Improve access to suppliers Develop targeted regional marketing program
Regulatory Climate	Cooperative local government agencies (City of Marina and County of Monterey) UC MBEST Center environment expected to be favorable	Ensure public support of development Educate environmental constituency of habitat conservation and environmental research goals of UC MBEST Center
Quality of Life	Excellent recreational opportunities International environment Area perceived to be safe Access to SF culture Good schools	Improve supply of good quality affordable housing

The presence of UCSC contributes a considerable concentration of natural and social scientists, engineers, artists, students and others who are directly related to the market sectors sought by the UC MBEST Center. All of UCSC doctoral programs are in the top half nationally; Astronomy, Biochemistry, Earth Sciences, and Linguistics are in the top quarter. Researchers at UCSC are the recipients of a large fraction of prestigious research fellowships and $85 million in new research facilities have been completed in the last five years. UCSC is ranked 13th nationally among "institutions committed to undergraduate teaching" in 1996 by U.S. News and World Report. The immediate proximity of CSUMB and other institutions (Naval Postgraduate School and Monterey Institute of International Studies, for example) augments this representation of local scientific and business expertise, and increases the local supply of students who play an important role in providing entry level positions in high tech and support businesses. The area has an international presence, and is a natural draw for high-tech executives with second homes in the Carmel/Pebble Beach area.

The area must meet several challenges in order to create a world class center of innovation. One of these is to increase the level of local engineering expertise and the magnitude of its technical labor force. Currently, a large portion of the South Bay's technical labor force lives in the East Bay portion of the San Francisco Bay Area where relatively affordable housing is located. The members of FORA and other cities in the area must continue to make affordable housing a major basewide reuse and economic development priority.

While the University of California Santa Cruz is gaining an excellent reputation in science, it must bolster its connections to the commercial marketplace. As a part of this effort, the scientific community at UCSC and other institutions must increase participation in technology transfer programs. The preliminary steps toward development of the UC MBEST Center have accelerated the prospective development of these and other programs.

3.4.2.B Physical Infrastructure

The Monterey Bay Area's greatest physical asset is its defining feature -- the Monterey Bay and its deep near-shore underwater canyon. The Monterey Bay results in access to research vessels, projects, and facilities that are associated with this vast biological storehouse.

In terms of physical improvements, one potentially advantageous telecommunications facility that could directly benefit the UC MBEST Center is the presence of an asynchronous transfer mode (ATM) network linking UCSC, NPS, MBARI, CSUMB, and the Monterey Bay Aquarium. This is a high bandwidth data transmission gateway that was installed by Pacific Bell as a part of a collaborative pilot project lead by UCSC. It is one of three such switches in California. Currently, the switch is underutilized, but may be a major asset to UC MBEST Center and other Fort Ord tenants in the future. Concepts under consideration at the initial UC MBEST Center Building, including the development of advanced video-conferencing facilities known as media spaces, could make direct use of this ATM facility.[5]

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[5]Refer to **Long-Term Telecommunications Plan** in the **Business Plan Technical Appendices** for additional information regarding this and other advanced telecommunications and video-conferencing concepts that may be applicable to the UC MBEST Center.

In order to attract major R&D development, continued effort must be concentrated on improving roadway access between the region and the San Francisco Bay Area. Currently, the trip from the UC MBEST Center to San Jose (and its international airport) can be made in just over one hour during non-commute periods. The ability to maintain this commute time to the South Bay will be enhanced with the successful implementation of off-site transportation improvements to regional connectors with US 101, as proposed in the Fort Ord Reuse Plan. Even with these improvements, certain businesses will require more immediate connections to international flights. With increased customer demand, the Monterey Peninsula Airport will have more options available for scheduled air service. The Marina Municipal Airport, immediately adjacent to the UC MBEST Center, could be a valuable asset for corporate executive aircraft.

Finally, the region must continue to address the issue of water supply. FORA has determined that existing supplies are sufficient through approximately 2015 based on projected levels of development. After this period, additional water supply will be necessary using desalination technology and/or other regional solutions currently under consideration.

3.4.2.C High Technology Business Environment

Business support for high tech firms includes proximity to the personnel and facilities of regional research institutions, suppliers of customized instrumentation equipment and other key inputs, and presence of required infrastructure such as high-capacity data transmission bandwidth. While all of these major items are existing assets of the Monterey Bay region, the lack of proximity to the UCSC campus is a challenge that must be addressed. The UCSC campus is approximately 35 miles north of the UC MBEST Center. Traditionally, university research parks are able to create a definitive competitive advantage by virtue of the "university-connection" that offers prestige and access to key university personnel and facilities.

The lack of geographical proximity to the UCSC campus can be partially alleviated with sustained and directed programs aimed at integrating UC MBEST Center with UCSC and other institutions, including the concepts discussed in **Chapter 2.** These concepts include the formation of a research institute and/or co-location of a professional school or other training institute. Telecommunications technologies are emerging that may help to build a "virtual" bridge between the UC MBEST Center and UCSC, as discussed in **Technical Appendix E.**

Two potential strategies in particular may help to strengthen the connection between the UC MBEST Center and UCSC:

1. **Build new University facilities at the UC MBEST Center Site.** The location of UC activities (i.e., research institute or professional school) partially or entirely at the UC MBEST Center would bring faculty, researchers, students, and laboratory facilities to the UC MBEST Center;

2. **Build a "virtual connection" between the two sites.** Several applicable technologies are emerging to help create this linkage. As discussed in the Long-Term Telecommunications Plan (**Technical Appendix E**), the UC MBEST Center could be developed as a center for communications technology research focusing on how to link physically separate research locations to simulate physical proximity. This research is on the frontier of distance collaboration technology, and implementation would require ongoing coordination with researchers from other institutions.

3.4.2.D Land Prices and Building Lease Rates

Land prices and building space rents are lower than in the adjacent San Francisco Bay Area, although not low enough to compete with areas such as California's Central Valley for automated production and distribution functions. Although this is an issue partially out of the control of the UC MBEST Center, prospects for attracting Northern California and other firms will be enhanced by minimizing on- and off-site infrastructure costs. This topic is discussed in further detail in **Chapters 5 and 6** of this Business Plan.

3.4.2.E Regulatory Climate

The regulatory climate in the Monterey Bay region is influenced by a strong environmental community that is particularly concerned about water availability. The UC MBEST Center can address this challenge by demonstrating how research conducted at the site could help the region and other communities address important environmental issues.

The local regulatory agencies affecting site development at the UC MBEST Center (primarily the City of Marina) have helped to create a cooperative working environment. Activities recommended in this Business Plan could provide an opportunity to market the local regulatory climate as a competitive advantage for the UC MBEST Center by completing all environmental review, completing subdivision maps, and adopting use restrictions and design guidelines that are clear, fair, and easy to understand. Creating a sound foundation of entitlement that reduces the complexity of development is a process that is largely under the UC's control which could improve the UC MBEST Center's development opportunities.

3.4.2.F Quality of Life

The Monterey Bay region has excellent recreational opportunities, environmental quality, and international surroundings that to some extent offset other challenges that cannot be resolved in the near term, such as the region's limited passenger/air cargo service. The area is perceived as a low-crime area with a good representation of high quality schools that is attractive to families that can afford to live there. The major challenge will be in improving the quality of life for a broader segment of the population that is needed to support R&D development. Key challenges include improving the supply of good quality affordable housing and schools adjacent to the former Fort Ord site.[6]

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[6]Currently, new housing is being developed in Salinas, the Highway 68 corridor east of Monterey, and (to a limited extent) in the cities of Marina and Seaside.

3.5 MARKET SYNTHESIS

The following section synthesizes the assessment of regional economic characteristics, employment growth prospects, commercial real estate conditions, market sector characteristics, and the UC MBEST Center's strategic assets. The product of this market synthesis is a buildout schedule used as a baseline project description in the development feasibility assessment (**Chapter 5**).

3.5.1 UC MBEST CENTER CROSS-CUTTING MARKET ANALYSIS

The approach of the cross-cutting marketing strategy is to identify common requirements among industry clusters, and then to apply these commonalties to shape a concerted marketing program that will extend the reach of UC MBEST Center resources. This approach emphasizes marketing to firms by their stage of development.

3.5.1.A Identification of Industry Development Stages

All firms move through stages of development, and share in common many fundamental economic needs. These stages include:

- **Emerging Stage.** Fundamental issues include: securing the rights to intellectual property, organizing the business and its financing, developing, testing and engineering a product for manufacturing, marketing and distribution. Formation issues will typically be important to growing operations with less than 25 employees.

- Expansion Stage. The Monterey Bay region has substantial prospects for: 1) growing already established firms that are ready to expand and; 2) for attracting smaller, but growing companies, located in communities outside the region. For these companies the Monterey Bay region needs to focus on the commonalties associated with early to mid-stage operations growth. Expanding companies are immersed in a constant struggle to cost-effectively produce goods and services. Every factor input is scrutinized in terms of how it affects the bottom-line. Expanding firms are concerned with minimizing the cost of scaling up their operations, whether it is in real estate, utilities, labor, capital equipment, or distribution, and tend to be growing firms with 25 or more employees.

- **Globalization Stage.** Many global computer companies have moved engineering and product development functions to regional production centers, away from headquarters. Today's high technology global "gazelles" (fast growth, flexible, global firms) tend to be highly networked and are concerned with being close to markets and close to specialized sources of competitive advantage in technical fields, skills, and transportation. Globalization stage companies tend to have employment in the thousands.

3.5.1.B Emerging Stage Companies: Market Findings

Industry Characteristics: Regional Spin-Offs and Start-Ups

The key marketing focus for formation stage businesses is to promote "volume" of start-ups. It is only through survival of the fittest that new enterprise growth can contribute to the Monterey Bay region's economic development. From the standpoint of the UC MBEST Center, there are two major inter-related programmatic themes to emphasize. The first is accelerating the formation of new enterprises. The second is to reduce the risks in enterprise development.

The types of new start-ups that can be expected to take shape across clusters are likely to include:

- **Multimedia.** Media content producers, new media publishing ventures for the Internet associated with the regional arts and academic community, software tool entrepreneurs on faculty or laboratory staff.

- **Information Technology.** Regional software developers spinning-out from existing companies; faculty and laboratory staff developing commercial applications of intellectual property for software development, image processing, database management or communications and networking.

- **Biotechnology.** Entrepreneurs with relationships to UC faculty or Monterey Bay area laboratories in fields such as instrumentation, crop or animal improvement, and medical applications such as protein engineering.

- **Environmental Technology.** Entrepreneurs with new technical approaches to measurement and control, entrepreneurs from or associated with faculty or laboratory staff researching new remediation techniques or information systems.

Industry Requirements

The challenge of promoting entrepreneurship and risk-taking in the Monterey Bay area involves addressing these common needs:

- **Technology.** Need for access to intellectual property (data and rights) often from multidisciplinary fields.

- **Human Resources.** Need for entrepreneurship policies at regional research institutions that encourage and reward: formation of new enterprises; training; and technical expertise in business planning, market analysis, and production scale-up.

- **Financing.** Need for early stage "seed" capital (high risk), lines of credit for working capital, and first round venture financing.

- **Physical Infrastructure.** Need for office space (an average of 1,000 to 2,500 square feet) for a new enterprise at below-market rates ($0.50-$0.70 per square foot per month

(NNN)), access to laboratory facilities and equipment to design, build and test products, and inexpensive operating support facilities (conference space, telecommunications, printing, facsimile).

- **Tax and Regulatory Policies.** Need to minimize time spent on complying with regulatory requirements (e.g., business permits, zoning and building code compliance), and need to reduce cost of permits and county tax assessments on capital equipment or inventory.

- **Quality of Life.** Need on-site business peer culture to enable mentoring and networking, short commute, child care availability, and access to retail services.

3.5.1.C Expanding Companies: Market Findings

Industry Characteristics: Growing Regional Firms and Attracting Newcomers

The expansion of regionally-based firms and attraction of non-local expanding stage firms is a good focus for UC MBEST Center marketing. Companies at this stage of operation are very concerned with specific factor inputs that enable their company to grow. However, because these companies are often single proprietor establishments, the specific values and concerns of the owners can determine locational decisions independent of other input factors. The types of companies falling into the expanding stage category include:

- **Multimedia.** Established content producer companies and publishers already operating in the Monterey Bay region; companies unhappy with their current location, including those in Silicon Valley, San Francisco and Los Angeles.

- **Information Technology.** Software developers, "waferless" fabrication facilities for semiconductor device design, communications network engineering firms in the region, expanding firms from the Silicon Valley; electronics firms seeking a corporate training center for languages, management or technical training.

- **Biotechnology.** Mid-size growing firms, second or third round of venture capital, needing space and facilities for continued development and testing of plant and animal improvement developments, or for human therapeutics research from South San Francisco and Mid-Peninsula or San Diego.

- **Environmental Technology.** Growing companies in the analytic and measurement instruments segments (particularly with interest in marine or agricultural applications), equipment controls, as well as remediation and reclamation firms needing test sites, access to researchers, and a new community to work with.

Industry Requirements

Areas where expanding stage companies have specific needs that can be supplied by a region include the following:

- **Technology.** Expanding companies need access to cost effective external services and facilities for product development and testing, while maintaining confidentiality. They also have needs for assessment of manufacturing processes to determine best practices for quality control and production.

- **Human Resources.** To cost effectively identify and recruit a skilled workforce.

- **Finance.** Relationship with commercial bank for working capital; need for partners for expansion of production, marketing and distribution; need for speculative space available on the market.[7]

- **Physical Infrastructure.** Leasable space in which companies can grow as they expand (approximately 20,000 to 50,000 square feet at $0.70 to 1.50 per square foot per month), with land prices competitive with regions such as the Central Valley (Sacramento to Tracy) market (under $4.00 per square foot).[8]

- **Taxes and Regulation.** Minimize time spent on regulatory compliance and avoid delays for zoning and building permit approval; minimize fees or one-time-charges for utility connections and/or other unique financial offsets.

- **Quality of Life.** Access to affordable housing for those employees that are relocated into the region.

3.5.1.D Global Stage Companies: Market Findings

Global Industry Characteristics: Relocating Branches of Major Companies

The Monterey Bay region is not located within a major growth corridor, and for this reason is not likely to experience a general in-migration of corporate headquarters, R&D facilities and production operations of typical Fortune 500 companies. However, the special qualities of the region may lead firms to explore placing certain elements of their businesses in the region over time. Rather than taking a consistent path, the pattern of development in the Monterey Bay region and at the UC MBEST Center is likely to be distinctly different; experiencing growth from newly formed firms and expanding firms, with an occasional "match" with a larger company that leads it to place a corporate R&D facility, training center or services facility at the site.

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[7]This latter consideration implies that the regional real estate development community is willing to take this risk. Currently, one or two speculative buildings (40,000 square feet annually) are successfully developed each year at Ryan Ranch, the nearest competitor for the UC MBEST Center.
[8]It should be noted that prices of land at the UC MBEST Center can only be competitive with California's Central Valley if offsite costs are reduced or UC MBEST Center subsidizes development.

If the Monterey Bay region wishes to recruit the operations of larger firms, the region will need to carefully cultivate relationships with companies to establish the UC MBEST Center's position on their advance planning horizons, and work to match the region with their needs and corporate culture.

When the UC MBEST Center develops efforts to recruit larger, global enterprises to the region, specific types of companies to target include:

- **Multimedia.** Publishing units, software development centers, technical service and training facilities of global Silicon Valley, Los Angeles or East Coast-based companies looking for a user-friendly business environment and a high quality of life.

- **Information Technology.** Specialized unit of a global electronics or communications company, including a waferless fabrication, as well as branch manufacturing or service facility from Silicon Valley or Los Angeles that can use a small regional workforce and maintain suitable connections to headquarters; possibly, engineering center focusing on a narrow development topic where there are links to the universities and laboratories.

- **Biotechnology.** Branches of global crop improvement firms, product testing and evaluation laboratories, drug or chemical production facilities, or special service facilities of established human therapeutic or instrumentation firms from the San Francisco Bay area or Japan that are seeking relationships with specific departments of UCSC and/or regional institutions.

- **Environmental Technology.** Branch of a large international engineering firm with plans to develop or serve a major regional public works project or specific remediation project; potentially, a development facility focusing on marine environmental remediation, or special instrumentation and controls.

Global Industry Requirements: Cost-Effective Resources and Specialized Assets

The following needs of larger companies should be recognized, and addressed as part of the strategic marketing effort by the UC MBEST Center:

- **Technology.** Global companies that come to this region will want to have systematic access to university faculty and laboratory staff on highly focused technical issues, and assistance in organizing individual firm or multi-firm R&D projects as required, including placement of company researchers or technical staff at research sites.

- **Human Resources.** Recruit and match skilled workforce from the region to company positions; just-in-time preparation of new workers; and resources for maintaining skills currency of company workforce.

- **Finance.** Good deals on land purchases. Special consideration should be given to high-technology anchor tenants. If off-site costs of infrastructure (or other capital or annual funding requirements) are reduced, the UC MBEST Center's ability to accommodate these firms will be greatly enhanced.

- **Physical Infrastructure.** Larger parcels for campus developments, with advanced infrastructure in place (e.g., regional fiber, ATM switch) at competitive prices, close to prestigious residential locations; transportation access to San Jose, San Francisco, Los Angeles.

- **Tax and Regulation.** Reliable regulatory system and processes; just-in-time approval of development.

- **Quality of Life.** Need to house incoming employees and have prospects for employees to move-up in the regional housing market; high quality schools; access to prestige sports and recreation.

3.5.1.E UC MBEST Center Marketing Priorities

Two important aspects of marketing to emerging, expanding and globalized enterprises are: 1) communicating a consistent message to firms within and external to the region and 2) ensuring that the UC MBEST Center is able to respond to their special needs. For these reasons, both collaborative marketing and negotiation of regionally-supported development incentives for the site should be considered.

A basic marketing program is essential to achieving UC MBEST Center development goals, whether it is promoting the site for industrial development or seeking participants and co-sponsors for UC MBEST Center initiatives. This requirement is fundamental and should include development and management of marketing that focuses both within the region and externally.

A well organized marketing support system is a basic requirement for growing any new institution. The UC MBEST Center will need to work with other cities and agencies to create a visibility that will help to initiate and sustain development of the UC MBEST Center site. A marketing partnership is proposed that brings together the UC MBEST Center staff with partners that can help achieve marketing objectives. The proposed marketing partners include: 1) cities and agencies, such as the City of Marina, FORA, and the County of Monterey; and 2) real estate brokers and developers with specific industry specializations. The partnership is intended to share the costs of marketing within and external to the region, and to reach advanced agreements that will help the UC MBEST Center development move forward smoothly when tenants/clients are identified. Examples of goals that a marketing partnership should pursue include:

- **One-Stop Zoning and Permitting Process.** A user-friendly regulatory environment is essential to attracting any company. Global enterprises are particularly sensitive to regulatory burdens and have more choices than smaller companies. Even expanding stage enterprises may lose interest if there are regulatory burdens that create uncertainty in development.

For this reason, a marketing partnership effort should focus on developing capacity to move through regulatory issues consistently and rapidly. Moreover, to attract biotechnology firms, advanced planning may be needed to anticipate potential community concerns that could delay issuance of permits.

- **Development of Leasable Buildings.** To respond to expanding companies' need for leasable buildings, the region should identify real estate companies willing to invest in one or more 20,000 to 40,000 square foot multi-tenant leasable structure(s) prior to a specific client having been identified (i.e., on a speculative basis); or arrange for a package to be immediately developed for incoming tenant on a rapid-cycle build-to-suit basis. As the Market Evaluation and Strategy Plan indicates, these facilities will need to be adapted to the specific themes of particular companies. Required office rents (e.g., $0.70 - $1.00 per square foot per month) among emerging companies will either require construction of relatively inexpensive buildings and/or subsidies extended by the UC MBEST Center to "incubator" tenants.

- **Employee Housing Packages.** Large global companies typically will relocate a significant portion of management and key staff when expanding or establishing a new facility. For this reason, ensuring that the Monterey Bay region and the UC MBEST Center are able to accommodate the employee housing needs of incoming firms is very important. For this reason, an employee housing package could be developed by regional stakeholders as an incentive for incoming firms that includes a first right of refusal to purchase or lease housing from among the 3,000 units of former Fort Ord housing. Knowing that a source of housing is available would be an important marketing point for outreach efforts to globalizing enterprises.

- **Transportation and Distribution Center.** A drawback of the Monterey Bay region and the UC MBEST Center site for companies is the difficulty in commuting or shipping from the site to major metropolitan areas. Larger scale improvements in the surrounding highways will take considerable time to achieve. However, development of a transportation and distribution center that would provide a central point for moving goods and people would be helpful. This center might include utilizing the Marina Airport as a significant cargo link to San Francisco, San Jose and Los Angeles International Airports. Alternately, the center would simply provide the best available shipping and distribution services to on-site companies and the surrounding region. Finally, improving passenger service to the Monterey Airport would improve the region's ability to draw high-tech development.

3.5.2 UC MBEST CENTER MARKET SECTOR DEVELOPMENT POTENTIAL

In order to provide a project description for the cash flow analysis and to inform programmatic strategies, a projection of development at the UC MBEST Center has been made. As discussed earlier in this chapter, FORA has projected 1.75 million square feet of development at the UC MBEST Center site, comprising about 45 percent of light industrial/business park and office/R&D development on the former Fort Ord through 2015. FORA's forecast is based primarily on reviews of historic real estate absorption and the Monterey Bay region's strengthening relationship with the South Bay portion of the San Francisco Bay Area (a.k.a. Silicon Valley).

In contrast, the forecast summarized here is based on an analysis of high technology employment characteristics over the 1988-1995 period. These employment data, along with a review of market sector performance in northern California and nationwide, have provided information facilitating forecasts of employment growth in the Monterey Bay region and market capture at the UC MBEST Center site. One important facet of the UC MBEST Center project to be noted is the effect the project could have, if successful, on bolstering development throughout the Monterey Bay region.

The following discussion analyzes prospects for sector-related growth in the Monterey Bay region and the UC MBEST Center. For each market sector, historical data published by the California Employment Development Department (EDD) has been analyzed. Based on consideration of historical employment growth rates and the absolute amount of employment growth in the region over the past six to seven years, a future growth rate through 2015 is estimated. The UC MBEST Center "capture rates" (i.e., market share) are applied, and per employee space requirements are subsequently applied to estimate potential absorption at the UC MBEST Center under high, low, and average scenarios. The final section of this chapter more fully describes the basis for forecasting assumptions and the implications for development at the UC MBEST site.

The results of this analysis are both encouraging and sobering. On the positive side, the region's location, workforce and research capabilities can be harnessed to grow and attract the media and information technology-related industries to the UC MBEST Center site. The reason is that these industries are already present in the region and are forecasted to grow over the next decade, creating a foundation from which to launch growth and attraction efforts focusing on the UC MBEST Center site. Furthermore, the special culture of the Monterey Bay area is both close enough to the San Francisco Bay area and different enough to have the potential for acquiring expansion or spin-offs of both the multimedia and information technology industries.

On the discouraging side, despite its world class research capabilities in marine and biological sciences, the Monterey Bay Area's potential for growing and attracting the environmental technology and biotechnology industries is modest at best and will require extensive new efforts to make a breakthrough. The reasons for this condition include the fact that both of these industries are in their early stages of development, both locally and nationally.

As a result, these industries: 1) tend to be highly concentrated in the regions in which they were founded; and 2) have fewer firms actively seeking sites for growth compared to other industries. Because these industries are not particularly well established in the Monterey Bay area, there is currently little external industry awareness of the region.

The environmental technology and biotechnology industries do represent important targets for longer-term growth for which the region should prepare. For this reason, the UC MBEST Center should actively attempt to capture environmental technology and biotechnology market share, recognizing that the growth of these industries in the Monterey Bay region will be gradual and initially depend more on local enterprise formation then on attraction of major firms.

3.5.2.A Multimedia Development Potential

This is the fastest growing of the four sectors, with an estimated $12 billion in sales nationally in 1995. There are an estimated 5,000 jobs in the Monterey Bay area today (**Table 3-4**). This industry is expected grow substantially in the Monterey Bay area through 2015, adding 10,000 new jobs over the period.[9] This is expected to be due to: 1) the increasing share of total economic activity involving media production; and 2) a local social climate that will attract segments of this industry. Growth will be likely to take place in segments associated with tools used by multimedia companies, such as software for graphics and Internet communications, as well as content producers and publishers.

As a goal, the UC MBEST Center should strive to create opportunities for local entrepreneurs, as well as sites for larger corporate media producers and publishers from outside the region over the long-term. Large and mature firms are the most likely prospects for attracting development from other regions to the UC MBEST Center.
Initial demand will be strongest among smaller software firms, many of which will have roots in the Monterey Bay Region. By 2015, potential development in this sector could be in the range of 500,000 square feet -- the most of the four market sectors studied.

Multimedia Development Concepts

In order to capture targeted multimedia growth in the market region (Santa Cruz and Monterey Counties), the UC MBEST Center will need to market an image that sells the Monterey Bay area's attractiveness as an entrepreneurial and multimedia-conscious region. Carried out with regional partners, plans could include a "Multimedia Village" that will meet the expectations of this industry for flexible work and living space (mixed use structures), a highly interactive lifestyle (retail and commercial land uses), and access to advanced communications technology (ATM switch) as well as regional media facilities at UCSC, CSUMB, and the Naval Postgraduate School (NPS).

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[9]Based on analysis of historical market performance using ES202 data compiled by the Minnesota Implan Group, Inc., based on California Employment Redevelopment Department (EDD) data.

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Table 3-4
Multimedia Employment Projection
UC MBEST Center

Industry Sector	Monterey Bay Region Employment SIC	1988	1994	Historical Annual Growth Rate (1988-1994)	Projected Annual Growth Rate (1997-2015)
Recording Media					
Prerecorded Records and Tapes	3652	0	8	n/a	
Magnetic and Optical Recording Media	3695	0	47	n/a	
Subtotal		0	55	n/a	6.8%
Print Media					
Periodicals	2721	30	36	3.1%	
Book Publishing	2731	901	890	-0.2%	
Miscellaneous Publishing	2741	82	152	10.8%	
Commercial Printing, Lithographic	2752	361	547	7.2%	
Commercial Printing, NEC	2759	135	99	-5.0%	
Subtotal		1,509	1,724	2.2%	2.2%
Graphic Arts & Design					
Advertising Agencies	7311	75	85	2.1%	
Photocopying & Duplicating Services	7334	361	40	-30.7%	
Commercial Art & Graphic Design	7336	66	84	4.1%	
Subtotal		502	209	-13.6%	0.0%
Video & Motion Pictures					
Motion Picture & Video Production	7812	16	27	9.1%	
Services Allied to Motion Pictures	7819	11	6	-9.6%	
Subtotal		27	33	3.4%	3.4%
Programming & Software Development					
Computer Programming Services	7371	320	564	9.9%	
Prepackaged Software	7372	913	2,272	16.4%	
Computer Related Services, NEC	7379	101	139	5.5%	
Subtotal		1,334	2,975	14.3%	10.0% (3)
Total		**3,372**	**4,996**	**5.8%**	**8.0%**

Growth Forecast

Monterey Bay Region	High (1)	Low (2)	Average	1997-2015 Annual Average
1994 Employment: Region	4,996	4,996	4,996	--
Average Annual Growth Rate	8.0%	2.5%	5.26%	--
Total Employment: 2015	25,259	8,391	16,825	--
New Employees over Period (1994-2015)	20,263	3,395	11,829	--
New Employees Adjusted for 1997-2015	17,369	2,910	10,139	563
UC MBEST Center				
UC MBEST Capture of Regional Growth	20.0%	15%	17.50%	--
UC MBEST New Employees	3,474	437	1,955	109
Square Footage per Employee	300	300	300	--
UC MBEST Square Footage	1,042,112	130,957	586,534	32,585

(1) Reflects continuation of historical annual average growth rate in the Monterey Bay Region. Assumes no growth in industries registering negative growth in 1988 - 1994 period.
(2) Reflects nation-wide growth rate average per BLS employment projections.
(3) Adjusted downward to account for both annual average growth rate and absolute growth over historic period.
Source: Minnesota Implan Group; CA Employment Development Department (EDD); Bureau of Labor Statistics, (BLS); Economic & Planning Systems, Inc.

The components contributing to this marketing concept might consist of a commercial multimedia complex that provides a mixed use space for business and living (e.g., a loft-type building), access to a nearby multimedia training center (possibly at CSU Monterey Bay), services of a "MetaMedia Center" (a hotel-conference facility that could eventually be developed at the site), access to a business incubator that serves multimedia enterprises (to be formed), and the opportunity to acquire former Fort Ord housing.

The marketing package for the multimedia industry should combine profiles of the Monterey Bay area's extensive competencies in all segments related to the multimedia industry's technology platforms and content production requirements. Specific competencies include:

- **University of California, Santa Cruz:** Computer engineering skills and applications for networking and software development in multimedia, multimedia programs in art, music and computer engineering, materials for development of K-12 and university education, and many scientific visualization laboratories.

- **California State University, Monterey Bay:** Content production for K-12 education, workforce and entertainment markets, multimedia production and delivery, computer modeling and software for educational displays for corporate and educational applications, facilities for multimedia production, post-production, imaging, technology demonstration, and product design.

- **Naval Postgraduate School:** Software automation tools for domain specific applications, modeling and simulation tools, large complex system modeling and development, real time software modeling, design, specification and automated construction tools, and reengineering of existing software.

- **Monterey Bay Aquarium Research Institute:** Multimedia integration management for multiple databases, virtual reality, computer graphics, distributed processing, multimedia information retrieval techniques for video, audio and text information, scientific database management, and information modeling.

- **Monterey Institute of International Studies:** Content development for international databases, database programming for monitoring and instructional training, analysis of foreign languages, and development of language training and networks.

The recommended development strategy to facilitate UC MBEST Center multimedia growth is to develop a mixed use product with spaces divisible to 1,000 square feet, allowing small entrepreneurs to afford space and interact with others in the same industry. This would develop a baseline of activity at the UC MBEST Center that could ultimately leverage the attraction of larger, more mature firms to the UC MBEST Center's campus-scale parcels.

Assumptions, methodologies, and overall projections of future multimedia and other sector development at the UC MBEST Center site are described in the last section of this chapter.

3.5.2.B Information Technology Development Potential

Nationally, the computer industry had revenues of $159 billion in 1995 while the telecommunications equipment industry had sales of $18.5 billion in 1993. This industry, which is moderately well-developed in the Monterey Bay region (primarily in Santa Cruz County) currently employs 6,000 in the region and is expected to generate 4,000 new jobs through 2015 (**Table 3-5**). These jobs will be in segments such as computers and electronics components, telecommunications and networking equipment, telecommunications services, and information processing and management services. Much of the projected growth at the UC MBEST Center is likely to come from established firms in these sectors. Based on a review of regional industry trends and employment statistics, development in this industry at the UC MBEST Center could be in the range of 235,000 square feet by 2015.

Substantial development at the UC MBEST Center will require dedicated marketing directed to local firms, as well as firms in the Silicon Valley and Southern California. The message should focus on the Monterey Bay region's labor force potential (of which an estimated 46,500 commute to the San Francisco Bay Area daily) and its research institutions, portraying the region as an undiscovered expansion location.

Information Technology Development Concepts

The development concept proposed for the information technology industries has the working title "Best of Both Worlds". This development concept focuses on marketing around a potential technology park component of the UC MBEST Center that includes large corporate parcels, user-friendly regulations (a one-stop permitting program), access to a research and development network (the proposed Monterey Bay Research Network), access to an information technology collaboratory (space that can be leased within future UC MBEST Center core buildings), access to nearby housing for employees, and the potential of a nearby executive airport.

Competencies that can be used to help build the image of the UC MBEST Center site and surrounding region include:

- **University of California, Santa Cruz:** Computer Engineering and Computer Science Department capacity in high speed networking, asynchronous transfer mode (ATM), massively parallel architecture, all-optical self-routing switching networks, distributed computing, computer communications, artificial intelligence, computer aided design, graphics and image processing. Pertinent Physics Department work includes flat panel display technologies, optical storage, superconductors and materials characterization.

- **Naval Postgraduate School:** Key competencies include simulation and modeling, electro-optical systems, communications systems architecture and engineering, high band-width networks, remote sensing, thin film memories, complex system modeling and development, imbedded software development, cryptography, high-speed network protocols, object-oriented data basis, parallel processing, and micro-engineering.

Table 3-5
Information Tech Employment Projection
UC MBEST Center

Industry Sector	SIC	Monterey Bay Region Employment 1988	1994	Historical Annual Growth Rate (1988-1994)	Projected Annual Growth Rate (1997-2015)
Computers & Electronic Components					
Computers and Storage Devices	3571, 3572	2,471	1,675	-6.3%	
Computer Terminals	3575	0	0	n/a	
Computer Peropheral Equipment, NEC	3577	6	169	74.4%	
Calculating & Accounting Equipment	3578	0	0	n/a	
Subtotal		2,477	1,844	-4.8%	0.0%
Telecommunications Equipment					
Household Audio & Video Equipment	3651	8	23	19.2%	
Telephone & Telegraph Apparatus	3661	536	479	-1.9%	
Radio & TV Communications Equipment	3663	337	70	-23.0%	
Communications Equipment, NEC	3669	0	447	n/a	
Subtotal		881	1,019	2.5%	2.5%
Precision Instruments					
Search & Navigation Equipment	3812	112	27	-21.1%	
Process Control Instruments	3823	37	368	46.6%	
Measuring & Controlling Devices, NEC	3829	113	73	-7.0%	
Subtotal		262	468	10.2%	10.0%
Telecommunications Services					
Radiotelephone Communications	4812	4	64	58.7%	
Telephone Communications, except Radio	4813	957	1,257	4.6%	
Telegraph & Other Message Communications	4822	1	2	12.2%	
Communications Services, NEC	4899	1	3	20.1%	
Subtotal		963	1,326	5.5%	5.5%
Distribution of Electronic Parts & Equipment					
Electronic Parts & Equipment	5065	93	310	22.2%	
Subtotal		93	310	22.2%	10.0% (3)
Information Processing & Management Services					
Computer Integrated Systems Design	7373	578	225	-14.6%	
Data Processing & Preparation	7374	54	55	0.3%	
Information Retrieval Services	7375	29	33	2.2%	
Computer Facilities Management	7376	49	4	-34.1%	
Computer Rental & Leasing	7377	5	15	20.1%	
Management Consulting Services	8742	147	376	16.9%	
Business Consulting, NEC	8748	79	230	19.5%	
Subtotal		941	938	-0.1%	0.0%
Total		**5,617**	**5,905**	**0.8%**	**4.3%**

Growth Forecast

Monterey Bay Region	High (1)	Low (2)	Average	1997-2015 Annual Average
1994 Employment: Region	5,905	5,905	5,905	--
Average Annual Growth Rate	4.3%	0.75%	2.53%	--
Total Employment: 2015	14,297	6,908	10,603	--
New Employees over Period (1994-2015)	8,392	1,003	4,698	--
New Employees Adjusted for 1997-2015	7,193	860	4,027	224
UC MBEST Center				
UC MBEST Capture of Regional Growth	20.0%	15%	17.50%	--
UC MBEST New Employees	1,439	129	784	44
Square Footage per Employee	300	300	300	--
UC MBEST Square Footage	431,604	38,696	235,150	13,064

(1) Reflects continuation of historical annual average growth rate in the Monterey Bay Region. Assumes no growth in industries registering negative growth in 1988 - 1994 period.
(2) Reflects nation-wide growth rate average per BLS employment projections.
(3) Adjusted downward to account for both annual average growth rate and absolute growth over historic period.
Source: Minnesota Implan Group; CA Employment Development Department (EDD); Bureau of Labor Statistics, (BLS); Economic & Planning Systems, Inc.

- **Other agencies** with the expertise to support development of this sector include the Fleet Numeric Meteorology and Oceanography Center (management of large scale software program development and implementation), and the Monterey Bay Aquarium Research Institute (objective oriented software engineering, artificial intelligence).

This development concept can be taken directly to major Silicon Valley firms by the UC MBEST Center's real estate partners and can also be used to describe the site in advertisements placed by the partners in industry trade magazines and trade shows. The results should be increased awareness and interest in developing expansions or specialized information technology business units in the region and particularly at the UC MBEST Center site.

3.5.2.C Biotechnology Development Potential

This industry had $6.8 billion in worldwide product sales in 1995 (not including conventional pharmaceuticals). The biotechnology industry is expected to experience growth of 2,800 new jobs (from a 1995 base of 1,200 employees) in the Monterey Bay region through 2015 (**Table 3-6**). This growth is expected to originate from expanding local firms and formation of new firms in segments such as agricultural crop improvement (seed), mariculture (abalone), analytic instruments, and drug research services.

Biotechnology companies, particularly in the San Francisco Bay Area, are currently reaching a stage where they are rapidly expanding to new facilities for research and production. Therefore, there is a window of opportunity for marketing to this industry. Biotechnology production facilities may locate in the Monterey Bay area in the near future for reasons that have more to do with the priorities of the company founders than any specific regional feature. However, to increase regional growth in the biotechnology industry, proactive marketing will be needed to overcome substantial competition from biotechnology industry-friendly regions that share Monterey Bay area's proximity to research institutions, as does Vacaville (near UC Davis and the Bay Area) and Emeryville (near UC Berkeley).

Overall, the UC MBEST Center must work to meet several challenges to attract biotech firms, including the relatively small labor force in the region and the distance between the UC MBEST Center site and UCSC. One mitigating factor is the project's location near Carmel and the Monterey Peninsula which is an appealing residential location for executives. As such, the project achieves an important locational determinant affecting location decisions by biotechnology firms.[10] In addition, Salinas has a growing population commuting to Silicon Valley that may provide an educated labor force for biotech and other sectors at the UC MBEST Center in the future.

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[10] *Industrial Location Decisions of Biotechnology Organizations*, by Peter Haug and Philip Ness. Economic Development Quarterly, Vol. 7, No. 4, November 1993, pp. 390-402.

Table 3-6
Biotechnology Employment Projection
UC MBEST Center

Industry Sector	Monterey Bay Region Employment SIC	1988	1995	Historical Annual Growth Rate (1988-1995)	Projected Annual Growth Rate (1997-2015)
Drugs	2830	0	0	n/a	0.0%
Cyclic Crudes & Intermediaries	2865	0	0	n/a	0.0%
Industrial Organic Chemicals, nec	2869	0	8	n/a	7.3%
Nitrogenus Fertilizers	2873	0	16	n/a	7.3%
Phosphatic Fertilizers	2874	98	0	-100.0%	0.0%
Fertilizers, Mixing Only	2875	6	42	32.0%	10.0% (3)
Pesticides & Agricultural Chemicals, NEC	2879	141	132	-0.9%	0.0%
Commercial Physical & Bio Research	8731	148	256	8.1%	8.1%
Noncommercial Research Organizations	8733	109	571	26.7%	10.0% (3)
Seeds Testing Laboratories	8734	29	69	13.2%	9.0%
Services, nec	8999	80	68	-2.3%	0.0%
Total		**611**	**1162**	**9.6%**	**8.6%**

Growth Forecast

Monterey Bay Region	High (1)	Low (2)	Average	1997-2015 Annual Average
1995 Employment: Region	1,162	1,162	1,162	--
Average Annual Growth Rate	8.6%	4.0%	6.29%	--
Total Employment: 2015	6,035	2,546	4,290	--
New Employees over Period	4,873	1,384	3,128	--
New Employees Adjusted for 1997-2015	4,385	1,246	2,815	156
UC MBEST Center				
UC MBEST Capture of Regional Growth	20%	15%	17.50%	--
UC MBEST New Employees	877	187	532	30
Square Footage per Employee	350	350	350	--
UC MBEST Square Footage	306,969	65,398	186,183	10,344

(1) Historical annual average growth rate adjusted downward to reflect magnitude of historical noncommercial research organization growth, which is unlikely to maintain historical rate of development.

(2) Reflects nation-wide growth rate average per BLS employment projections.

(3) Adjusted downward to account for both annual average growth rate and absolute growth over historic period.

Source: Minnesota Implan Group; CA Employment Development Department (EDD); Bureau of Labor Statistics, (BLS); Economic & Planning Systems, Inc.

Biotechnology Development Concepts

Expectations that the region's agriculture and marine biotechnology research capabilities will generate significant development should be viewed guardedly. While the Monterey Bay area's universities and laboratories are rich in biotechnology-related research competencies (RNA, protein engineering, marine biochemistry) the region's comparably less developed entrepreneurial culture and reputation of not having strong community or local government support for biotechnology must be transformed to facilitate substantial biotechnology enterprise growth or attraction.

For these reasons, development of biotechnology-based industry at the UC MBEST Center will require "breakthrough" tactics that will redefine the region's image and accelerate entrepreneurship at regional research institutions. Although the biotechnology industry is ranked third among the targeted market sectors in terms of prospects for growth under baseline conditions, a breakthrough strategy may be the key to enabling the Monterey Bay area to sustain this sector's economic growth.

To this end this market strategy proposes that the UC MBEST Center work with real estate development partners to shape and promote a biotechnology development concept with the working title of the "Biotechnology Campus." This development concept provides an organized structure for marketing to and recruiting companies from outside the region as well as for encouraging start-ups. Components of the development concept include a leasable building with wet labs to serve expanding stage firms, a land area pre-zoned and approved for biotechnology production for global enterprises, a "collaboratory" for university-laboratory-industry research, and land designated for use as a test bed for agricultural or marine biotechnology pilot testing. None of these concepts requires public funding. They are all based on private sector development.

The "Biotechnology Campus" concept is designed to convey an attractive image to the marketplace and secure attention of potential tenants that will appreciate the concept particularly when combined with profiles of the region's accessible biotechnology research competencies. These competencies include those at:

- **University of California, Santa Cruz:** nucleic acid engineering and gene regulation technology, with specialized DNA analytic and instrumentation facilities, protein engineering for drugs, enzymes, antibiotics, diagnostics, marine natural products, nanometer scale bioreactors, chemistry of marine microorganisms, biological probes.

- **Hopkins Marine Station:** analysis of marine organisms for antiviral, anticancer, anti-inflammatory pharmaceuticals and animal improvement.

- **Monterey Bay Aquarium Research Institute:** DNA/RNA sequence analysis for diagnostic tests and DNA probe-based diagnostics, and microalgae culturing.

Based on an analysis of historic biotech employment in the Santa Cruz/Monterey County market area, forecasted employment growth could result in UC MBEST Center biotech development of about 185,000 square feet through 2015.

3.5.2.D Environmental Technology Development Potential

Nationwide, this industry has grown rapidly over the last five years, and is now growing at three percent annually. The environmental industry currently employs an estimated 1,600 in the Monterey Bay area, and has grown by almost 25 percent since 1988. If past growth trends continue, environmental businesses could add another 1,500 jobs to the region through 2015 (**Table 3-7**). While there are no accurate estimates of the size of the technological side of the environmental industry in the region, there are an estimated twelve companies around the Monterey Bay that focus on environmental testing and analysis, remediation and assessment, manufacturing of specialized measurement devices and controllers, research services, and environmental data acquisition and distribution.

The future growth of this industry in the region is likely to be independent of the major trends in metropolitan regions where public works projects, commercial construction, and environmental remediation define the most conventional segments of opportunity. In contrast, the emerging trend in environmental technology is to prevent pollution and/or improve treatment methods.

While general industry is estimated to be spending at least 10 percent of their revenues on environmentally-related needs, it is difficult to interpret the implications for the industry or its role in the Monterey Bay region. Suppliers of expertise in environmental engineering services and products, including measurement and controls, mechanical engineering, advanced materials, and chemical engineering, will have new clients. The challenge for the Monterey Bay area will be to develop more suppliers and attract users in the new fields of industry-focused environmental problem prevention, detection, and remediation.

The UC MBEST Center site is expected to be particularly attractive to small and medium sized environmental technology firms that are already established and seeking affordable sites. Many of these firms are pursuing relationships with research institutions, and do not depend on rapid shipping of products out of the region. Typical environmental technology firms in the Monterey Bay area are between 20,000 and 25,000 square feet in size -- a likely size range for initial firms at the UC MBEST Center.

<u>Environmental Technology Development Concepts</u>

The initial expectation that environmental technology industry growth could be a major source of employment growth in the Monterey Bay area over the next five years must be viewed cautiously. This is true even in the fields where the region has special world class competencies such as the marine environment.

To grow environmental technology business activity at the UC MBEST Center, a regional strategy to "bootstrap" environmental spin-offs from regional research institutions will be required, as well as outreach to mainstream companies who are seeking innovations in environmental prevention and treatment. To achieve this activity, the UC MBEST Center should support policies and programs that increase entrepreneurial activity among faculty and laboratory staff, and establish a user-friendly setting at the UC MBEST Center for existing and new firms in this industry.

Table 3-7
Environmental Tech Employment Projection
UC MBEST Center

Industry Sector	Monterey Bay Region Employment SIC	1988	1995	Historical Annual Growth Rate (1988-1995)	Projected Annual Growth Rate (1997-2015)
Adhesive Sealants	2891	1	0	n/a	n/a
Search & Navigation Equip.	3810	91	41	-10.8%	0.0%
Measuring & Controlling Devices	3820	258	588	12.5%	8.5% (3)
Sanitary Services	4950	351	354	0.1%	0.1%
Engineering Services	8711	585	610	0.6%	0.6%
Total		**1,286**	**1,593**	**3.1%**	**4.8%**

Growth Forecast

Monterey Bay Region	High (1)	Low (2)	Average	1997-2015 Annual Average
1995 Employment: Region	1,593	1,593	1,593	--
Average Annual Growth Rate	4.8%	2.2%	3.52%	--
Total Employment: 2015	4,097	2,462	3,279	--
New Employees over Period	2,504	869	1,686	--
New Employees Adjusted for 1997-2015	2,254	782	1,518	84
UC MBEST Center				
UC MBEST Capture of Regional Growth	20%	15%	17.50%	--
UC MBEST New Employees	451	117	284	16
Square Footage per Employee	450	450	450	--
UC MBEST Square Footage	202,830	52,773	127,801	7,100

(1) Reflects continuation of historical annual average growth rate in the Monterey Bay Region. Assumes no growth in industries registering negative growth in 1988 - 1994 period.
(2) Reflects nation-wide growth rate average per BLS employment projections.
(3) Adjusted downward to account for both annual average growth rate and absolute growth over historic period.
Source: Minnesota Implan Group; CA Employment Development Department (EDD); Bureau of Labor Statistics, (BLS); Economic & Planning Systems, Inc.

To achieve this goal a marketing strategy has been proposed that will accelerate development around a "sustainable environmental technology community" concept. This concept will consist of a real estate plan for a portion of the UC MBEST Center that will include a commercial environmental technology complex (a facility with leasable space), access to incubation services that can support new entrepreneurs in environmental technology, and opportunities for participating in a research network. The research network should organize projects on innovation in sustainable industrial technology, detection of contamination, measurement and control, as well as prevention techniques.

The marketing of this concept will combine portrayal of the user-friendly environmental technology development concept proposed for the UC MBEST Center with opportunities to access the region's competencies in environmental technology including:

- **University of California, Santa Cruz:** elemental and isotope analysis and monitoring of natural processes, biodiversity inventory, interaction and monitoring; sustainable agriculture systems, bioremediation systems, pharmacology and toxicology work on heavy metal and work on near-shore ecology.

- **Naval Postgraduate School:** ecological monitoring, instrumentation for pollution analysis, simulation systems for industrial safety, remote sensing technologies, and unique robotics vehicles.

- **Monterey Bay Aquarium Research Institute:** ocean science, deep sea geology and geochemistry, biological and microbiological research, analysis and sampling technologies for instruments and sensor development, solid state chemical analysis devices and DNA probes as well as autonomous instrumentation systems for environmental analysis.

The region can be marketed to major firms by focusing on transportation, manufacturing, and materials. Moreover, there is strong interest from the U.S. Environmental Protection Agency in promoting the development of technology parks with environmentally interdependent tenants (e.g., one tenant uses or supplies the inputs of another). Using an environmentally integrated development concept for part of the UC MBEST Center could be a useful marketing tool.

The environmental technology industries are disparate at best and controlled by external events including national and state legislation and related funding commitments. For this reason, this is a particularly difficult industry to forecast. Future employment growth could result in about 128,000 square feet of development at the UC MBEST Center through 2015.

3.5.3 UC MBEST CENTER DEVELOPMENT ASSUMPTIONS

As described earlier, historical data published by the California Employment Development Department (EDD) have been analyzed as a basis for estimating future industry growth. The following more fully describes the forecasting methodology and provides a summary of the development projections for the UC MBEST Center site.

Based on a future growth rate through 2015 and UC MBEST Center "capture rates", per employee space requirements are subsequently applied to estimate potential absorption at the UC MBEST Center under high, low, and average scenarios. The following describes this methodology and subsequently discusses conclusions of the market analysis.

3.5.3.A Regional Supply Characteristics

The UC MBEST Center's share of land supply in the Monterey Bay region (Monterey and Santa Cruz Counties) has been estimated in order to provide baseline information for analyzing potential development at the site. Based on the FORA Business Plan, regional commercial real estate brokers, and City Planning Departments throughout the region, it is estimated that the UC MBEST Center development through 2015 (121 acres) comprises about eight percent of the regional supply expected to become available over that period **(Table 3-8)**.[11]

3.5.3.B Estimated UC MBEST Center Regional Market Share

Two alternative market shares, or "capture rates" have been estimated and are generally correlated with alternative development scenarios at the UC MBEST Center. These capture rates have been developed through industry analysis of the four market sectors: multimedia, information technology, biotechnology, and environmental technology. In collaboration with a separate team of marketing consultants, several sources of information have been utilized including industry-specific employment data, industry working group meetings, and interviews of key firms. Based on the analysis presented in the Market Evaluation and Strategy Plan, as well as supplemental analysis of local market conditions, EPS has estimated potential UC MBEST Center capture rates. These are described below:

a. **Baseline Scenario: UC establishes aggressive marketing, an on-site presence, and research and training networks headquartered at the UC MBEST Center site.** It is assumed that the establishment of these attributes would enable the UC MBEST Center to capture 15 percent of regional demand among the targeted market sectors. This rate reflects the expectation that the UC MBEST Center will be more competitive than other properties in the region as a result of success in marketing to high-tech companies interested in the Monterey Bay region. The most important competitive advantage of the UC MBEST Center, referenced by high-tech business leaders and the real estate community alike, is the "name brand" recognition provided by the University of California.

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[11] Vacant land supply defined as active, proposed, and planned business/industrial parks in the region.

Table 3-8
Office and Business Park Land Supply through 2015
UC MBEST Center

Area	Acres of Available or Planned Business Park Land
Monterey Peninsula (1)	645
Watsonville	
Westridge Business Park	32
Junction 154/1 Industrial Park (proposed)	150
Scotts Valley	162
Santa Cruz	
Harvey West Business Park	44
Delaware Avenue	40
Terrace Point	15
Soquel/Capitola	
Soquel Research Park	22
Salinas	32
Other Fort Ord	237
UC MBEST Center (projected)	121
Total	1,500
UC MBEST Center as % of Total Supply	8.1%
Assumed Low Demand Capture Rate (1)	15%
Assumed High Demand Capture Rate (2)	20%

(1) Estimated by FORA.
(2) Assumes that UC MBEST Center exceeds pro-rata share of development in the region based on marketing, UC presence on-site, and establishment of formal research and training networks headed by UC MBEST Center.
(3) Assumes that UC MBEST Center successfully establishes on-site research and training centers.
Source: FORA, City Planning Departments; BT Commercial; Economic and Planning Systems, Inc.

b. **Improved Capture Scenario: In addition to (a), UC successfully establishes on-site research and training centers at the UC MBEST Center site.** It is assumed that these centers could act as anchors and help the UC MBEST Center to capture 20 percent of regional demand.

3.5.3.C Employment and Development Growth Estimates

For each industry sector, as defined by the Standard Industrial Classification (SIC) codes given in **Tables 3-4 through 3-7**, historical data for Santa Cruz and Monterey counties published by the California Employment Development Department (EDD) have been analyzed. Based on consideration of historical employment growth rates and the absolute amount of employment growth in the region over the past six to seven years, a future growth rate through 2015 is estimated. The UC MBEST Center capture rates discussed above are applied, and per employee space requirements are subsequently applied to estimate potential absorption at the UC MBEST Center under high, low, and average scenarios. The methodology is briefly described below, followed by results of the market study:

a. **High and low forecasts are made to bracket potential growth.** An average of the two forecasts is used as a basis for the Business Plan's financial discussion. The high growth forecast utilizes the projected annual growth forecast for a given sector in the Monterey Bay region and a 20 percent capture rate. The low growth forecast utilizes a nationwide growth rate forecast for the same sector and a 15 percent capture rate.

b. **Monterey Bay growth forecasts are largely based on historical trends.** However, where a combination of high growth and a small initial (1988) employment base results in extremely high historic growth rates, rates have been adjusted downward. Under no circumstances are projected employment growth rates assumed to exceed 10.0 percent average annual growth through 2015.

c. **Industry-standard employee space requirements are used to assess UC MBEST Center space demand.** Employee space requirements are assumed to be 350 square foot per employee for biotechnology; 450 square feet for environmental technology; 300 square feet for multi-media; and 300 square feet for information technology.

Based on the projected average square footage demand at the UC MBEST Center from 1997 through 2015, it is estimated that about 1.1 million square feet could develop among the specialized market sectors at the UC MBEST Center over the period (**Table 3-9**). This total is composed of 586,000 square feet among multimedia firms; 235,000 square feet among information technology firms; 186,000 square feet among biotech firms; and 128,000 square feet among environmental technology firms.

Based on input by UCSC, it is estimated that educationally-related uses will amount to approximately 135,000 square feet through 2015 (about nine percent of total development). Retail and visitor-serving uses are expected to total 148,000 square feet over the 1997-2015 period, including 23,000 square feet of retail estimated by EPS and a 125,000 square foot

Table 3-9
Growth Forecast Comparison: FORA vs. UC MBEST Center
UC MBEST Center

Item	1997-2015 Absorption
FORA Forecast (1)	
Light Industrial/Business Park	1,137,500
Office/R&D	1,794,000
Induced Demand (2)	925,000
Total Fort Ord	3,856,500
UC MBEST Center	1,749,300
UC MBEST Center as Percent of Total	45%
UC MBEST Center Market Forecast (3)	
Multi-media	586,500
Information Technology	235,100
Biotech	186,200
Environmental Technology	127,800
Subtotal	1,135,600
Other Sectors Absorption (4)	170,300
Educational Uses (5)	135,000
Retail/Visitor-Serving (6)	148,000
Grand Total	1,588,900
UC MBEST Center as Percent of Total Fort Ord	41%

(1) Data from Fort Ord Reuse Plan Volume 1: Context and Framework. Prepared by EDAW on behalf of the Fort Ord Reuse Authority, May 1996, Figure 2.3-1
(2) Induced demand is projected to occur as a result of the successful implementation of the UC MBEST Center.
(3) Based on analysis of historical market performance using ES202 data compiled by the Minnesota Implan Group, Inc., which is based on data published by California Economic Development Department (EDD). Represents average absorption forecast results.
(4) Represents suppliers, support firms, and other sectors expected to locate at the UC MBEST Center. This estimate represents a general level of R&D development estimated to be needed to support specialized sectors, calculated at a percentage of projected market niche space equal to 15 percent. This estimate of general user occupancy is consistent with EPS' general knowledge and experience.
(5) Represents administration, training, research centers and professional schools of educational institutions.
(6) Represents 23,000 square feet of retail space and a 125,000 square foot hotel/conference center.
Sources: MIG Inc., US Bureau of Labor Statistics, EDD, FORA, Applied Development Economics, DMS Research & Consulting, Economic & Planning Systems, Inc.

hotel/conference facility expected to develop near the end of the study period. Finally, it is assumed that R&D businesses in other industry sectors, suppliers, and support firms will locate at the UC MBEST Center to the extent that they augment or support research-related development. To account for these users, it is assumed that these firms will comprise 15 percent of total market niche demand, or about 170,000 square feet over the period. This estimate of general R&D user occupancy is reasonable if not conservative based on EPS' general knowledge and experience.

Moreover, if the Improved Capture Scenario pertains, it may be that the regional historical growth rates assumed in the preceding analyses are too low. That is, if the UC MBEST Center fulfills its potential to attract and support educationally related and research oriented employers to the Monterey Bay Research Crescent, then not only will its "capture rate" increase as assumed here but, in addition, the entire regional growth rate is likely to increase. This increase is what the Market Evaluation and Strategy Plan refers to in its Section C.2 as "Scenario Two: Strategic Regional Investment Leading to Leveraged Recovery". If this occurs, then the UC MBEST Center development assumed in this report could occur more rapidly or more selectively.

Comparison to FORA Development Forecast

The FORA Business Plan projected growth of 3.85 million square feet of light industrial/business park and office/R&D development at Fort Ord, and 1.75 million square feet of this type of development at the UC MBEST Center. The FORA analysis concludes that the UC MBEST Center will represent 45 percent of this development within Fort Ord through 2015.

The analysis conducted for this UC MBEST Center Business Plan concludes that total development at the UC MBEST Center could be just over 1.5 million square feet, or 41 percent of the total light industrial/business park and office/R&D development occurring at Fort Ord through 2015. Based on the best available real estate, employment, and qualitative information, it appears that the similar development levels projected by both the FORA and UC market analyses are of reasonable magnitude.

3.5.3.D Timing of UC MBEST Center Development

The initial development at the UC MBEST Center is likely to result from small firms, contributing to a relatively modest initial rate of growth. The ability of UC to pledge support to the project will have a major bearing on initial growth rates. If UC can add value by siting a training facility, a professional school, or a research institute at the UC MBEST Center, or if the UC MBEST Center can otherwise secure seed capital for research and training facilities, then the trajectory of the UC MBEST Center development could increase from assumed levels of development. For purposes of financial feasibility analysis

(**Chapter 5**), it is assumed that the UC MBEST Center is successful in implementing enough of the programs recommended in **Chapter 2** to achieve the average regional growth rates and capture rates assumed in **Tables 3-4 to 3-7.**

Through the year 2015 (a planning threshold based on FORA's estimated growth rates and the ability to plan for infrastructure capacity), an average annual rate of development of about 85,000 square feet annually is estimated, based on the market analysis described above. Initially (from 1997 to 2001), development is unlikely to exceed 60,000 square feet annually. Ultimately, as the concerted effort of UC, UCSC, and the UC MBEST Center begins to increase the baseline of economic activity in the region, annual development could be as much as 100,000 square feet annually.

It is critical to recognize that the success of the UC MBEST Center does not rely on the realization of the magnitude of growth discussed here. As discussed in the remainder of this Business Plan, the financing of the UC MBEST Center is tied to the development of specific packages of development and infrastructure that may be opened as market conditions dictate.

4.0 UC MBEST CENTER MASTER PLAN OVERVIEW

The following chapter presents selected information from the Master Plan for the UC MBEST Center and UC/NRS Fort Ord Natural Reserve. The full Master Plan document should be consulted for complete information regarding the UC MBEST Center's planning approach, specifications, and recommendations.

The concept for the UC MBEST Center originally emerged from the efforts of the Fort Ord Task Force to draw upon the existing regional research and educational resources. Programmatic planning for the UC MBEST Center has included the input of more than 15 regional education and research institutions, drawing upon and linking the talents of these institutions with each other, with public and private sector entities that will relocate to or participate in the newly formed UC MBEST Center, and with national and international regions and institutions. UCSC has worked diligently to refine and develop the vision of the original planning concept. The Master Plan represents the culmination of this planning effort. It provides a framework for the conservation and development of the UC MBEST Center lands in a way that will achieve the University's broad objectives for economic development and environmental stewardship.

4.1 PLAN SCOPE AND ORGANIZATION

This Master Plan sets forth a broad vision for the UC MBEST Center. The purpose of the plan is to guide the development of the property in a way that encourages the creation of a coordinated collection of buildings and activities, reflective of UC's mission and its values and objectives for the stewardship of the property.[1] The plan recognizes that new development and investment will occur on an incremental basis over an extended period of time, and as such, it is formulated to allow UC to respond to changing conditions and opportunities. At the same time, the plan provides specificity where the fundamental objectives of UC are affected.

The Master Plan is written in the format of a Specific Plan to enable UC and the relevant local jurisdictions to adopt it as a regulatory document in the future. As such, the plan sets forth:

- the goals of UC in undertaking the project;
- the existing physical, institutional and regulatory context for development;
- the planning principles that underlie the policies and standards of the plan;
- the management of UC Natural Reserve System lands at Fort Ord;
- the location, mix and intensity of land uses, and the development standards that will guide the physical planning and design of the campus;
- the transportation systems (vehicular, transit, bicycle and pedestrian) and programs that will support development;
- the utility systems (water, sanitary sewer, storm drainage, gas, electric and telecommunications); and

[1] Throughout this document, the term "campus" will be used to refer to the proposed physical development; the word is not intended to imply a traditional teaching campus.

- the regulatory, management, phasing and financing actions that will be required to implement the plan.

4.2 SUMMARY OF PLAN RECOMMENDATIONS

This Master Plan provides guidance to the University of California for the ongoing management and planning of the 1,089 acres of property transferred or anticipated to be transferred to UC at the former Fort Ord. More specifically, the plan provides for:

- **The preservation of 605 acres of land, or 56 percent of the property, as a natural reserve,** the purpose of which will be to preserve and maintain existing habitats and to provide opportunities for teaching and research. This property was incorporated into the University of California Natural Reserve System (UC/NRS) in June of 1996. An Installation-wide Multispecies Habitat Management Plan is being prepared to guide the management of all lands at the former Fort Ord that have been set aside for conservation of endangered species. A specific management plan is being prepared by the UC/NRS to guide the management of the UC/NRS Fort Ord Natural Reserve over an extended period of time.

- **The creation of a mixed-use campus on 437 acres of land that** can accommodate up to 4.4 million square feet of public and private sector educationally related and research-oriented activities and support functions, including hotel/conference, service commercial and light industrial uses. The land use plan identifies unique areas of the property (e.g., the hillside promontory on the South Central Campus, and the bluff edge on the East Campus) for special amenity uses, such as restaurants, conference centers and health clubs, that can serve as gathering places for the campus and surrounding users.

- **Additional capacity for mixed-use development on 47 acres of property not included in this Master Plan.** This property, which is located adjacent to the Eighth Street cutoff and Sixth Avenue near the CSUMB campus, will serve as an adjunct campus for research and development, housing, and other uses complementary to the regional economic development effort. The Fort Ord Reuse Authority Reuse Plan proposes mixed-use development for this property.

- **The coordinated development of the UC MBEST Center with the Marina Airport Business Park** as a visually consistent mixed-use complex sharing the same circulation system, amenities and development standards. The City and UC have undertaken their planning in a coordinated manner and envision that the two developments will be closely integrated, with complementary uses and activities.

- **The retention of the rural character and rolling topography of the property** through preservation of existing oak woodlands, sensitive site planning and grading, and augmentation of existing landscape with native or ecologically compatible vegetation that further enhances the unique coastal environment. The alignment of internal roadways within the campus has been carefully planned to limit significant regrading; major existing

oak woodland clusters on the West, North and South Central Campuses will be retained as site amenities; and the development standards of the plan will promote development that is compatible in scale and character with the rural landscape.

- **The concentration of activities at strategic locations within the campus to promote intellectual exchange and social interaction among UC MBEST Center participants.** With activities located within walking and bicycle distance of one another, the need for automobile trips can be reduced, and the ability for transit to efficiently serve development can be enhanced. Several activity centers are planned within the campus, including a Campus Core Quadrangle on the North Central Campus, a quadrangle in the vicinity of the existing Simulator Complex, and a concentration of commercial uses at the Blanco gate to the UC MBEST Center and Marina Airport Business Park.

- **The creation of a continuous system of landscaped bikeways and pedestrian paths** that extends the planned regional and citywide systems and promotes non-vehicular trips. The internal roadway systems of the campus will include continuous landscaped pedestrian ways as well as exclusive bicycle lanes that connect to the planned regional bike route system.

- **The creation of "virtual" linkages between: the UC MBEST Center and CSUMB; UCSC and the UC system; and other regional research facilities.** Virtual linkages will be facilitated by an onsite fiber optic telecommunications system and broad bandwidth high-speed connectivity to UCSC and the UC system, and other regional research institutions. Onsite communications will be facilitated by installing multiple communications conduits with fiber optic cable under major roadways. External communications will be facilitated by a fiber optic cable to be installed by Pacific Bell by early 1997.

- **An open-ended phasing program that will allow UC and the City of Marina to respond to marketing opportunities as they arise.** The phasing program sets forth a series of infrastructure improvement "packages" each with an associated tract of land that is opened up. The packages can be undertaken in a number of combinations, depending upon demand. The early phase strategy calls for the leveraging of existing public funds to open up substantial acreage on portions of the UC MBEST Center West and North Central Campuses, as well as the Marina Airport Business Park.

4.3 REGIONAL CONTEXT AND SETTING

4.3.1 REGULATORY CONTEXT

The California Constitution and related court decisions provide UC with an exception from many local land use regulations for UC's educational and other public trust activities. Research, development, and technology transfer are clearly included within those activities. It is UC's desire to include local jurisdictions in planning and oversight. Activities on UC property that generate revenue for UC, but are not directly related to UC's educational and research mission, may be subject to local regulations.

All of the UC MBEST Center lands lie within Monterey County. In addition, approximately half of the campus is within the city limits of Marina (Figure 4.1). In this regard, consistency will need to be established between the UC MBEST Center Master Plan and the General Plans of Monterey County and the City of Marina. These General Plans may need to be updated and amended to achieve such consistency. Chapter 8 of the Master Plan, Implementation, provides a discussion of consistency between the UC MBEST Center Master Plan and these General Plans.

4.3.2 TRANSPORTATION CONTEXT

Existing access to the UC MBEST Center is provided by two major county roadways. Reservation Road provides a link with Highway 1 on the west and with State Route 68 on the east. Blanco Road provides access from Salinas. In addition, Imjin Road, part of Fort Ord's internal circulation network, links the UC MBEST Center with the CSUMB campus.

The Reuse Plan sets forth a comprehensive program of transportation improvements that will be implemented over a 20-year period, significantly enhancing access to the UC MBEST Center. The proposed 2015 roadway network represents a system of regional and localized improvements aimed at improving access and serving planned development. These improvements are described in **Chapter 6** of the Master Plan, Circulation.

4.3.3 EXISTING FACILITIES ON THE UC MBEST CENTER LANDS

The existing facilities on the UC MBEST Center lands include several buildings, roads, portions of airfield pavements, and major utilities.

4.3.3.A Flight Simulator Building

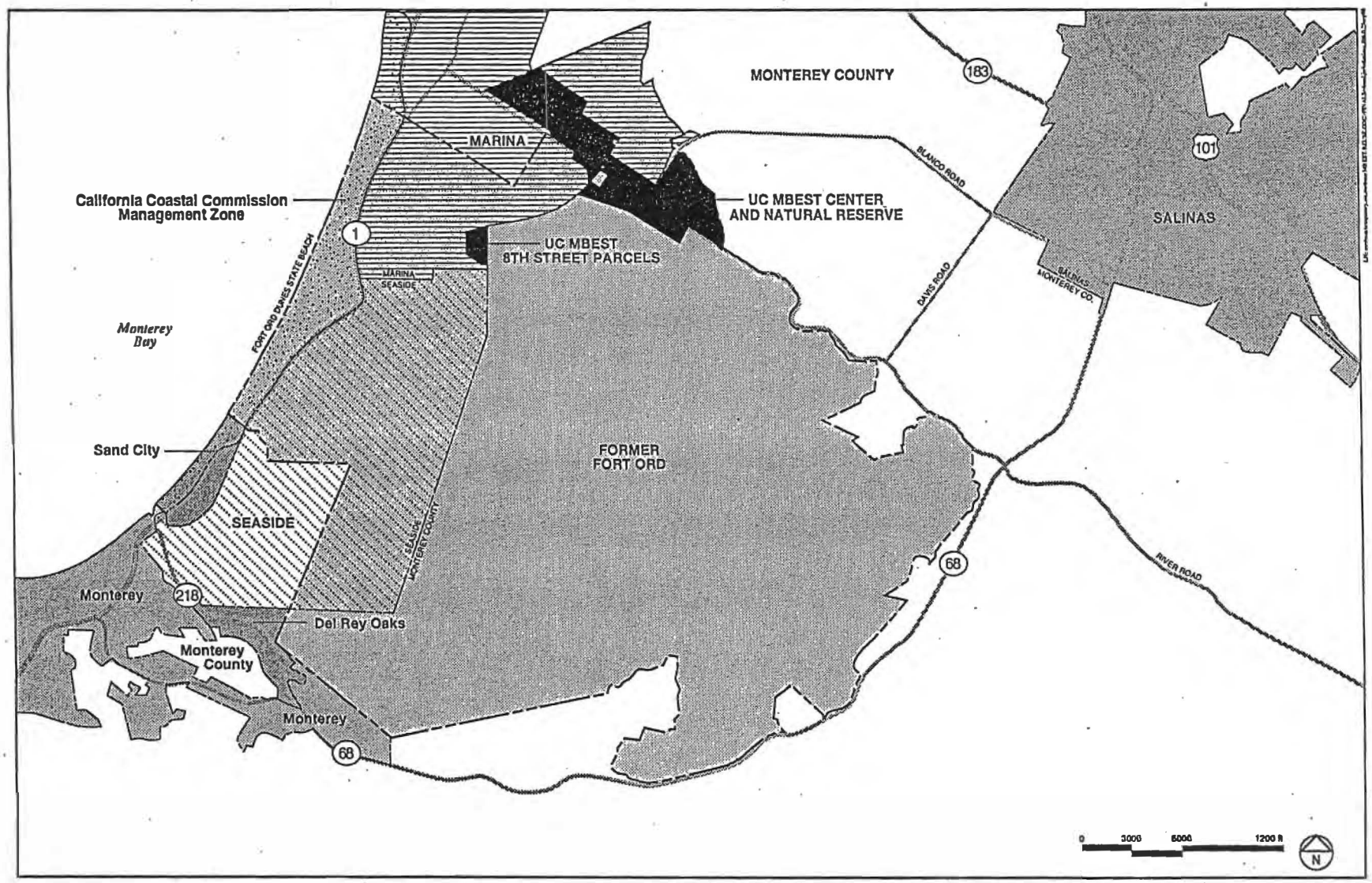
The Flight Simulator Building, with approximately 13,000 square feet, was constructed in 1978 and is the newest structure at the former Fritzsche Army Airfield. It is a single-story structure with concrete block external walls, steel frame and roof. The structure was formerly used to house a helicopter flight simulator. The simulator and associated computer equipment have been removed. The vacant space has been converted to office and assembly space. A series of offices and classrooms is located at each end of the building; the largest classroom has capacity for up to 75 people. The building is rated in good condition in the above-referenced report. It is currently occupied by the University of California, Santa Cruz Extension; a private technology company; a nonprofit education and research program; and the UC MBEST Center Office.

4.3.3.B Utilities

Five utility services are present on the UC MBEST Center lands.

1) *Power:* The Salinas-Del Monte 60 kv electric utility line is an overhead transmission line that bisects polygon 7a on the eastern portion of the UC MBEST Center. The line is located along the centerline of a 30-foot wide utility easement. The former Fort Ord area is served by a single electrical substation located near the CSUMB campus.

Figure 4-1



Source: Fort Ord Reuse Plan Administrative Draft, Vol.2 Reuse Plan Elements. Edaw, Inc. & EMC Planning Group Inc. (March 1996)

PLANNING AREAS AND LOCAL JURISDICTIONS

MARINA

SEASIDE

CALIFORNIA COASTAL COMMISSION MANAGEMENT ZONE

2) *Water:* Four existing water wells are located on the UC MBEST Center lands and are the principal source of potable water for the former Fort Ord. This system will remain in place for the foreseeable future.

3) *Sanitary Sewer:* An existing sanitary sewer line connects the Marina Municipal Airport facilities to the regional treatment facility, located at the U.S. Army Reserve outparcel. This line will no longer be needed once a new wastewater pump station and connecting sewer lines are constructed to serve the UC MBEST Center, Marina Municipal Airport and the East Garrison.

4) *Gas:* A three-inch gas line is located adjacent to Imjin Road; this line will soon be transferred to Pacific Gas and Electric, which will maintain it and expand capacity as needed.

5) *Telephone:* The UC MBEST Center and Marina Municipal Airport are currently served by a 300-pair copper cable located in a four-conduit underground bank running parallel to Imjin Road. Once the basewide communications system is transferred to Pacific Bell, high-speed fiber-optic service will be brought to the UC MBEST Center and Marina Municipal Airport.

4.4 LAND USE AND DEVELOPMENT

The following policies are intended to provide greater specificity to guide development within the UC MBEST Center and to achieve the planning principles outlined in the preceding chapter of this plan.

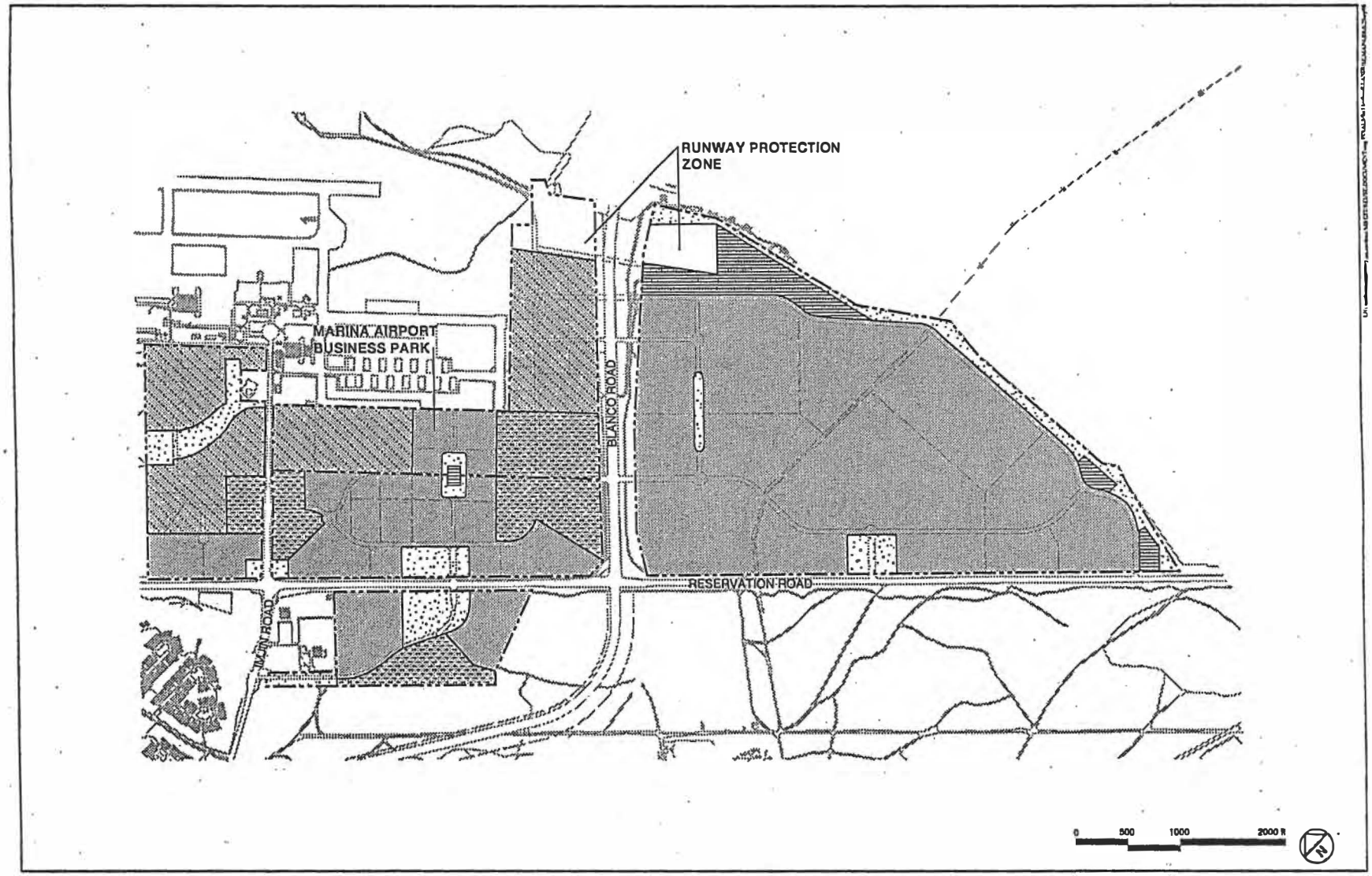
Policy 5.1: Establish a mixture of uses which helps to achieve UC's vision for the creation of a center devoted to innovation in science, technology, education and policy.

The land use plan for the UC MBEST Center (**Figure 4.2**) provides a framework for the achievement of the University's vision of an educational, science and technology center consisting of private businesses and public institutions committed to innovation and research. The land use plan is aimed at creating a mixed-use district with a range of public and private activities. It is flexible to allow the UC MBEST Center to respond to changing market conditions and opportunities that may occur in the future. Based on consultations with the City of Marina, the plan also provides a recommended distribution of land uses for the adjacent Marina Airport Business Park, intended to enable optimal coordination and synergy between the two developments.

Six land use categories have been established within this Master Plan for the UC MBEST Center, each emphasizing the most appropriate use of the land relative to: the natural features of the site, adjacent land uses, and urban design objectives for the creation of an interactive campus environment.

Educationally related uses shall be permitted on all portions of the UC MBEST Center property where development is allowed.

Figure 4-2



Land Use Map*

- RESEARCH AND DEVELOPMENT (R&D)
- LT. INDUSTRIAL/SERVICE COMMERCIAL (LI/SC)
- COMMERCIAL MIXED USE
- SPECIAL AMENITY USES
- OPEN SPACE

*EDUCATIONALLY-RELATED USES PERMITTED ON ALL DEVELOPMENT SITES WITHIN UC MBEST CENTER.

Research and Development (R&D). The predominant use within the UC MBEST Center shall be research and development and educationally related activities, including public institutions and private businesses that have research, administration, and limited manufacturing components. The term "R&D" is used to refer to a broader group of uses than has traditionally been considered to be research and development. All development sites within the UC MBEST Center will have an underlying R&D designation, except those designated for Open Space, those located in the Runway Protection zone, or those designated for Special Amenity uses along the bluff edge. **Appendix A** of the Master Plan provides a listing of permitted uses within the R&D land use designation. It is recommended that the Marina Airport Business Park be given an underlying land use designation of R&D.

Light Industrial and Service Commercial (LI/SC). This land use designation is intended to provide opportunities for businesses that support the primary research and development activities of the UC MBEST Center and the Marina Airport Business Park, as well as the aviation role of the Marina Municipal Airport. Light industrial and service commercial uses (which includes service and repair, fabrication and assembly, and warehousing activities) are permitted on sites with the LI/SC designation. **Appendix A** of the Master Plan provides a more complete listing of permitted uses. These activities are permitted within the Marina Airport Business Park to the south and east of the airfield, and in the West Campus of the UC MBEST Center.

Commercial Mixed-Use (CMU). This land use designation is intended to provide opportunities for retail, professional office, institutional, hotel/conference and guest-serving residential uses which support the primary research and development activities of the planning area, and which can promote public-oriented activity and gathering. The location of these uses has been targeted to areas that enjoy good access and visibility from regional transportation systems (e.g., Blanco Road frontage and Four Corners gateway) and/or areas which have unique environmental conditions suitable for commercial-recreational, hotel/conference or temporary housing uses (e.g., South Central Campus).

Special Amenity Uses (SA). Along the bluff edge of the East Campus, several development sites have been designated for Special Amenity uses that can take advantage of the unique views to the Salinas River and the Gabilan Mountains beyond. The ultimate land use of these development sites must comply with the conditions outlined in **Appendix A** of the Master Plan. These conditions emphasize the importance of public-oriented uses (e.g., restaurants, athletic clubs, conference centers) that allow the bluff edge of the UC MBEST Center campus to be enjoyed by all.

Runway Protection (RP). This land use designation is assigned to development sites which are located within the Marina Municipal Airport Runway Protection zone. Uses within these areas will be limited to low-intensity activities that do not require permanent onsite employees or residents, including storage and service yards, agriculture, and open space. The Runway Protection zone is located in the northernmost portion of the UC MBEST Center and the Marina Airport Business Park, adjacent to Blanco Road.

Open Space (OS). In addition to the UC/NRS Fort Ord Natural Reserve areas described in the Conservation Element of this Master Plan, open space areas have been designated within the developable portions of the UC MBEST Center (**Figure 4.3**). These open space areas serve a range of roles and needs, including: the provision of gathering places for activities (e.g., Central Core and Simulator Complex quadrangles), the preservation of existing oak woodlands (e.g., West Campus Glade and Reservation Road Grove), scenic overlooks (the Bluff Trail), and the promotion of continuity and connections between habitat areas.

Policy 5.2: Allow for interim uses that are compatible with the principal goals of the UC MBEST Center.

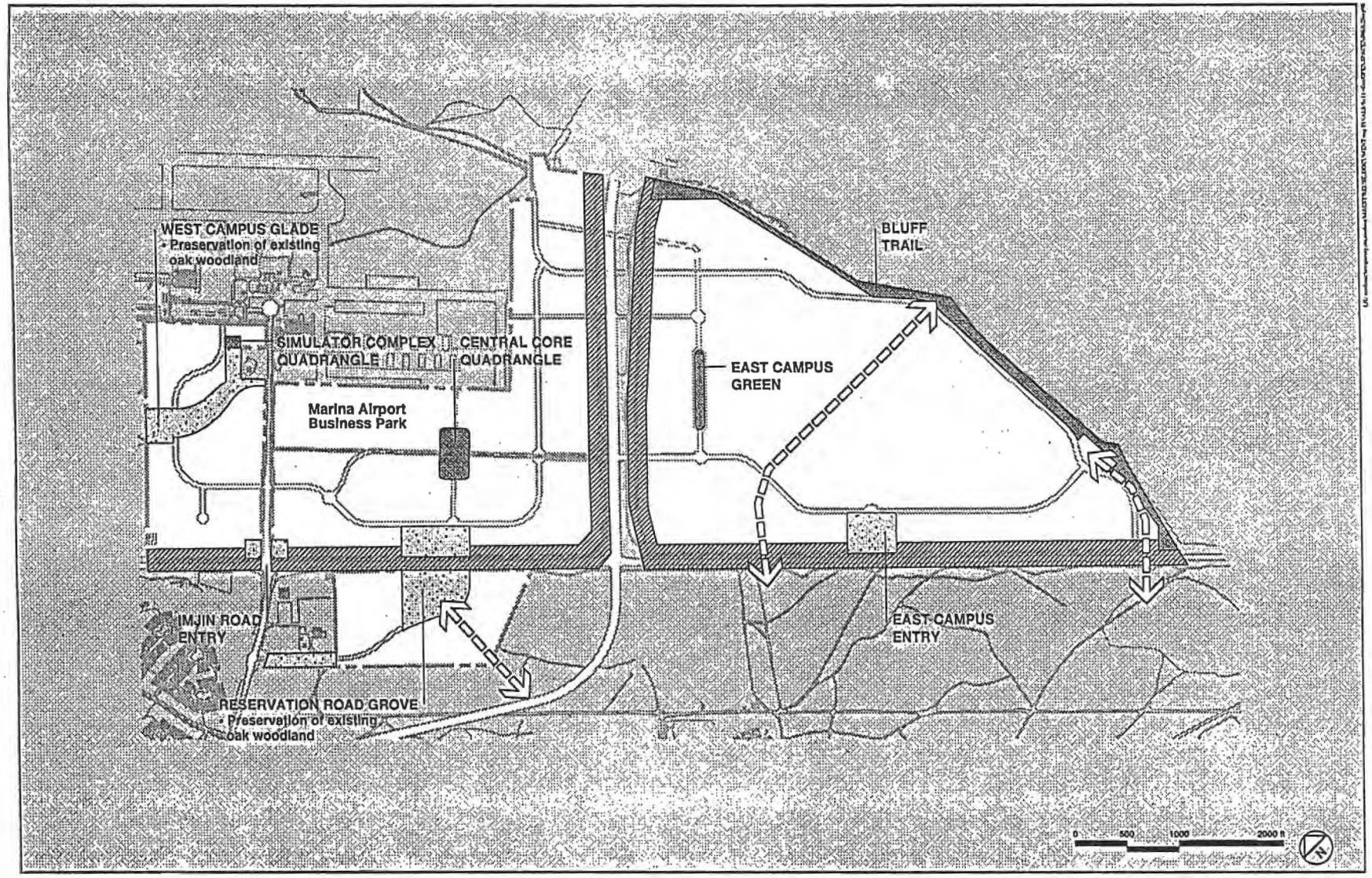
Much of the UC MBEST Center property will remain undeveloped during the early years of the project. In order to encourage productive use of the property prior to full development, interim uses will be permitted. Such uses must comply with the conditions outlined in **Appendix A** of the Master Plan. These conditions emphasize the need for interim uses to be: compatible with the long-term land use designation of the site; environmentally advantageous or neutral to the property; and visually unobtrusive. All interim uses shall be subject to renewal by the University of California or the governing jurisdictions.

Policy 5.3: Establish a character of development that complements the natural setting of the site.

The UC MBEST Center is envisioned as a complex that respects the character and environmental qualities of the surrounding landscape. Building height and intensity have been established to promote appropriate transitions to the UC/NRS Fort Ord Natural Reserve areas and areas with unique environmental features, and to encourage a concentration of activity at the campus core and in areas that will be served by transit. **Figure 4.4** describes the maximum densities for the UC MBEST Center and recommended densities for the Marina Airport Business Park. Generally, development sites adjacent to the Reserve areas and/or in environmentally sensitive areas (e.g., the bluffs and woodlands) are limited to a maximum Floor Area Ratio (FAR) of 20 percent; development sites abutting the Campus Core Quadrangle and the Simulator Complex are permitted to build to a FAR of 40 percent to encourage a concentration of activity. All other development sites will have a maximum FAR of 30 percent except for the northern Marina Airport Business Park, which will have a FAR of 35 percent.

Building heights within the planning area shall not exceed two stories, or 35 feet, except buildings adjacent to the Central Core Quadrangle and within the Simulator Complex area, which will be permitted to a height of three floors, or 50 feet. No structures will be permitted within the Runway Protection zones or in areas designated for Open Space, except the Campus Core Quadrangle open space, as provided for in the development standards below. Maximum building heights are illustrated in **Figure 4.5**. These heights are in compliance with FAA height limits imposed on the Marina Municipal Airport.

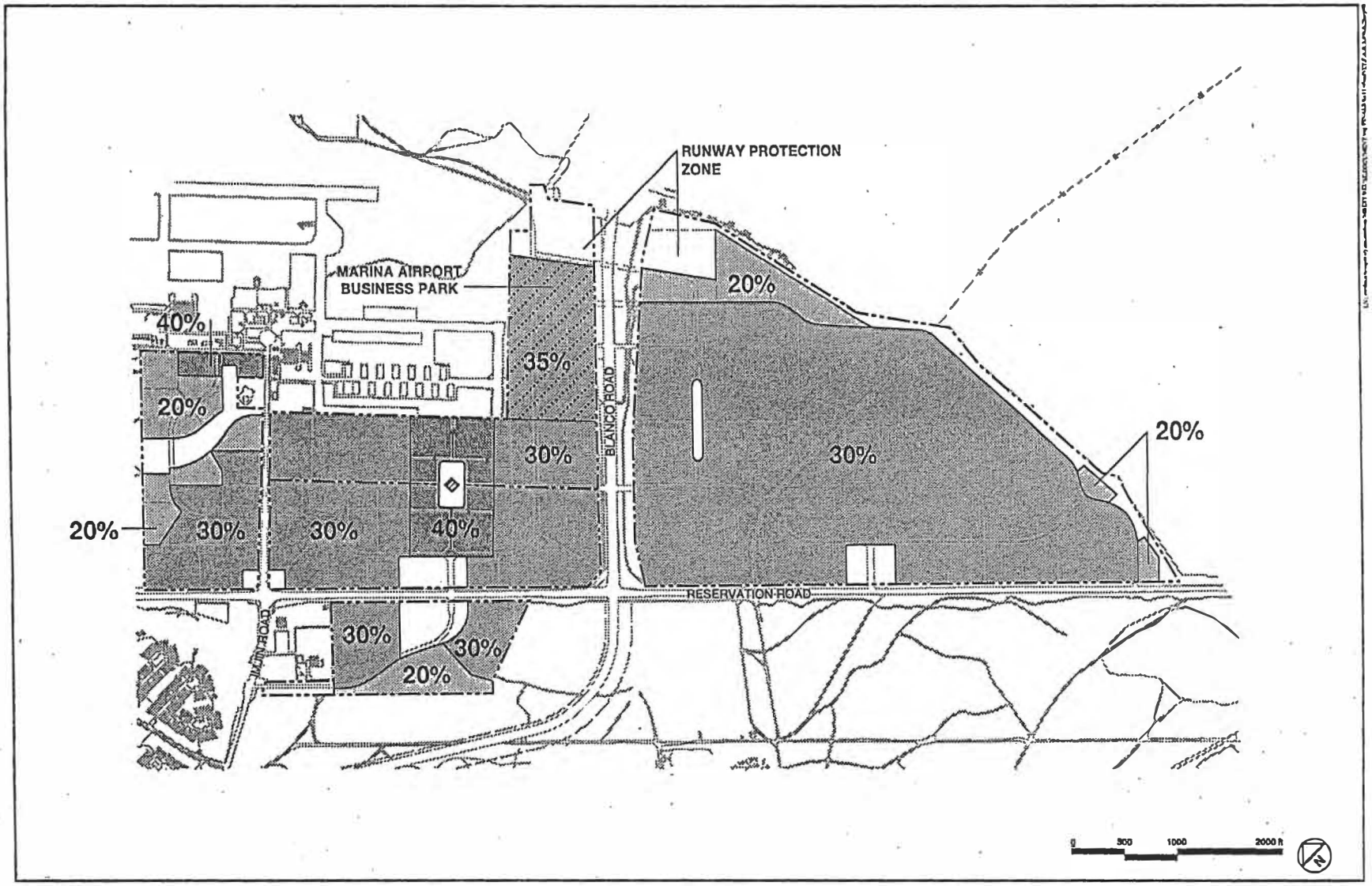
Figure 4-3



OPEN SPACE

- ACTIVE RECREATIONAL/GATHERING SPACES
- VISUAL LANDSCAPED ENTRY SPACES
- MAJOR LANDSCAPE CORRIDORS
- KEY LANDSCAPE LINKAGES TO NATURAL RESERVE AREAS

Figure 4-4

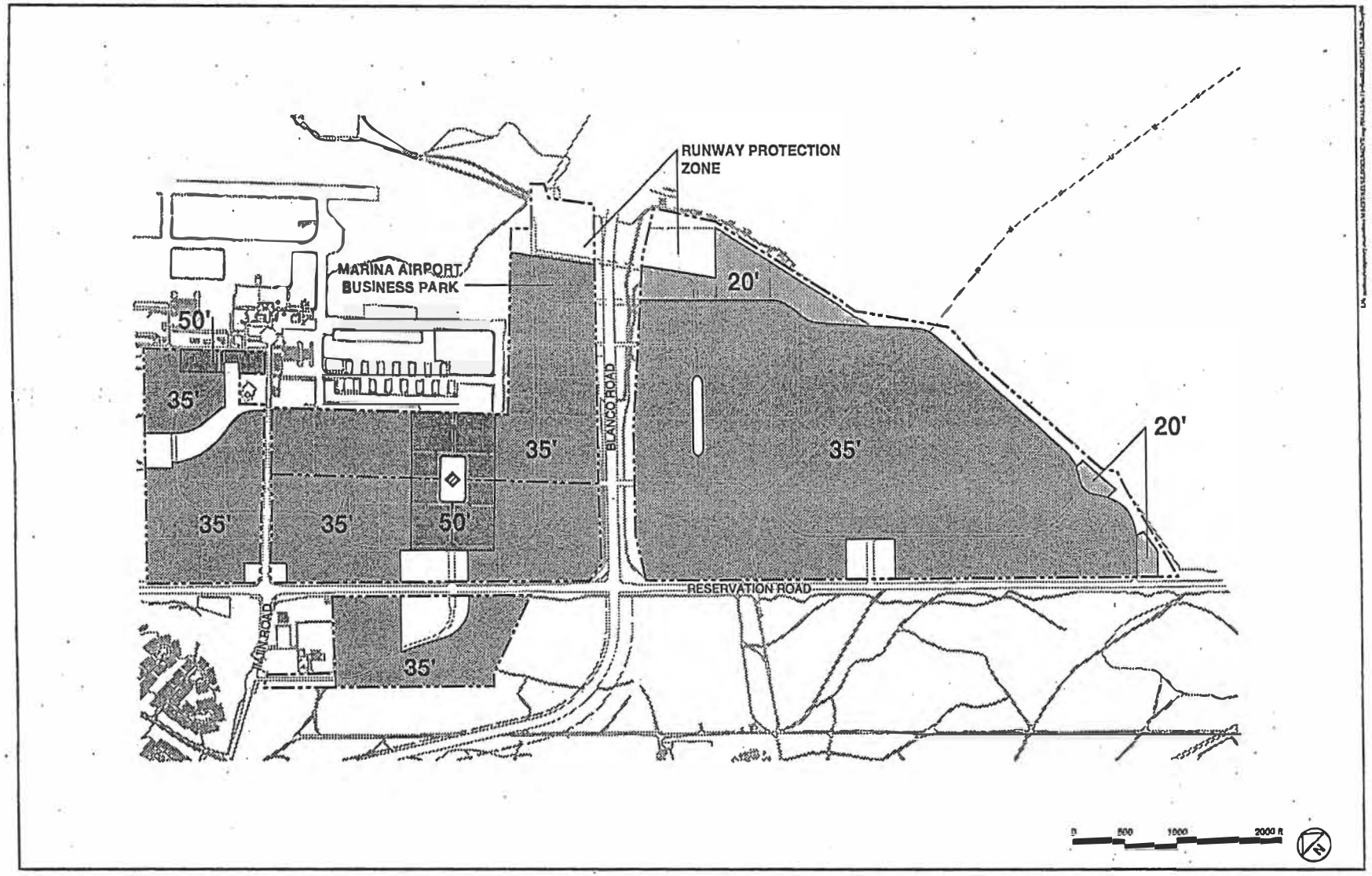


MAXIMUM INTENSITY (NET F.A.R.*)

- 0 NET F.A.R.
- 20% NET F.A.R.
- 30% NET F.A.R.
- 35% NET F.A.R.
- 40% NET F.A.R.
- LIMITED DEVELOPMENT PERMITTED – SUBJECT TO SPECIAL CONDITIONS

*FLOOR AREA RATIO IS A PERCENTAGE CALCULATED BY DIVIDING FLOOR AREA INTO THE TOTAL SITE AREA.

Figure 4-5



MAXIMUM BUILDING HEIGHTS

- NO STRUCTURES PERMITTED
- 20' (1 FLOOR)
- TWO STORY STRUCTURE PERMITTED – SUBJECT TO SPECIAL CONDITIONS
- 35' (2 FLOORS)
- 50' (3 FLOORS)

4.5 CIRCULATION

4.5.1 STREETS AND ROADWAYS

Streets and roadways form the primary structure of the transportation system, consisting of local-serving streets as well as regional roads that provide access to and from the UC MBEST Center. This regional network includes Highway 1, which extends across the former Fort Ord in a north-south alignment approximately one mile west of the UC MBEST Center, and Highway 68 and Reservation Road, which provide major east-west linkages. State Highway 68 provides access along the southern and eastern sides of the base, connecting Salinas with the Monterey Peninsula, while Reservation Road extends through the city of Marina, connecting the UC MBEST Center campus with Highway 1 and the East Garrison. Blanco and Davis roads intersect with Reservation Road, providing connections with Salinas and Highway 101. Blanco Road provides the most direct access to the UC MBEST Center campus from the city of Salinas. Imjin Road, a major north-south arterial roadway through the base, connects CSUMB and Highway 1 with the UC MBEST Center and the Marina Municipal Airport.

FORA Reuse Plan Recommendations

The Fort Ord Reuse Plan establishes a comprehensive framework of roadway improvements for the 2015 planning horizon and for buildout conditions. The proposed 2015 roadway network (**Figure 4.6**) represents a system of roadways, both outside and within Fort Ord, that serves the 2015 development in the area. From a regional perspective, the proposed network includes a number of major improvement projects with varying levels of relationship to the reuse of Fort Ord. In some instances, these improvements are aimed at addressing existing system deficiencies; others are proposed with the intent of improving access to Fort Ord. Key regional improvements include the widening of State Highway 1 north of Castroville, State Highway 156, State Highway 183 and State Highway 218, and the construction of the State Highway 68 Bypass Freeway and the Prunedale Bypass. Of most direct transportation planning relevance to the UC MBEST Center are the Reuse Plan's recommended improvements to Reservation and Blanco roads. More specifically:

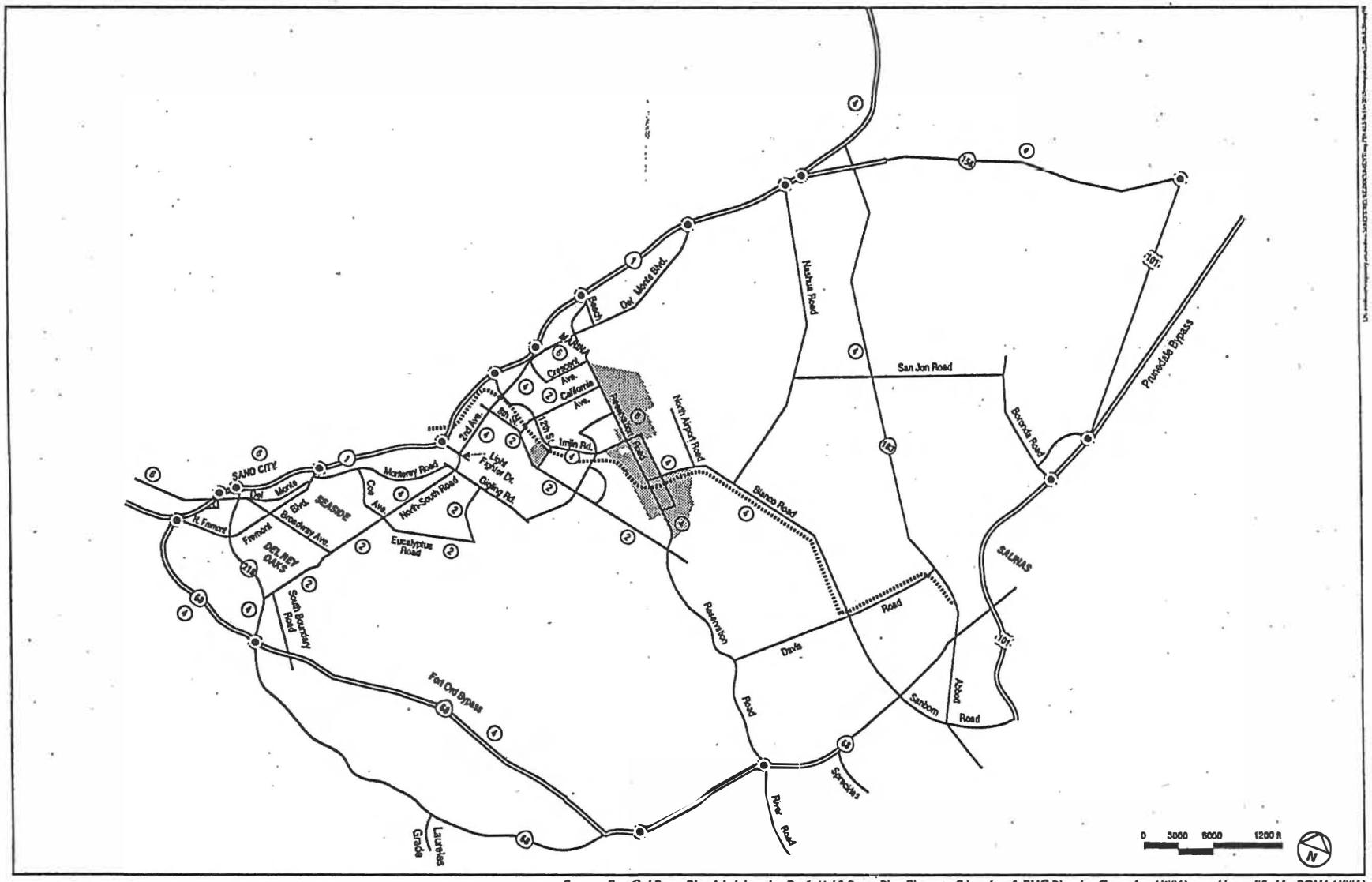
Reservation Road: By 2015, the Reuse Plan calls for the widening of Reservation Road to six lanes between Highway 1 and Blanco Road, and to four lanes between Blanco Road and Highway 68.

Blanco Road: The Reuse Plan proposes that Blanco Road north of Reservation Road be widened to four lanes by 2015, and to six lanes at buildout. South of Reservation Road, the plan identifies the need to extend Blanco Road to Imjin Road as a four-lane roadway to serve buildout conditions. The plan also designates the Blanco Road corridor as a multimodal transit corridor.

UC MBEST Center Street and Roadway Policies

The publicly dedicated system of streets within the UC MBEST Center is intended to provide safe and efficient circulation for planned development within the UC MBEST Center campus and provide an integrated system with the adjacent Marina Airport Business Park. The roadway system (**Figure 4.7**) is guided by the following policies:

Figure 4-6

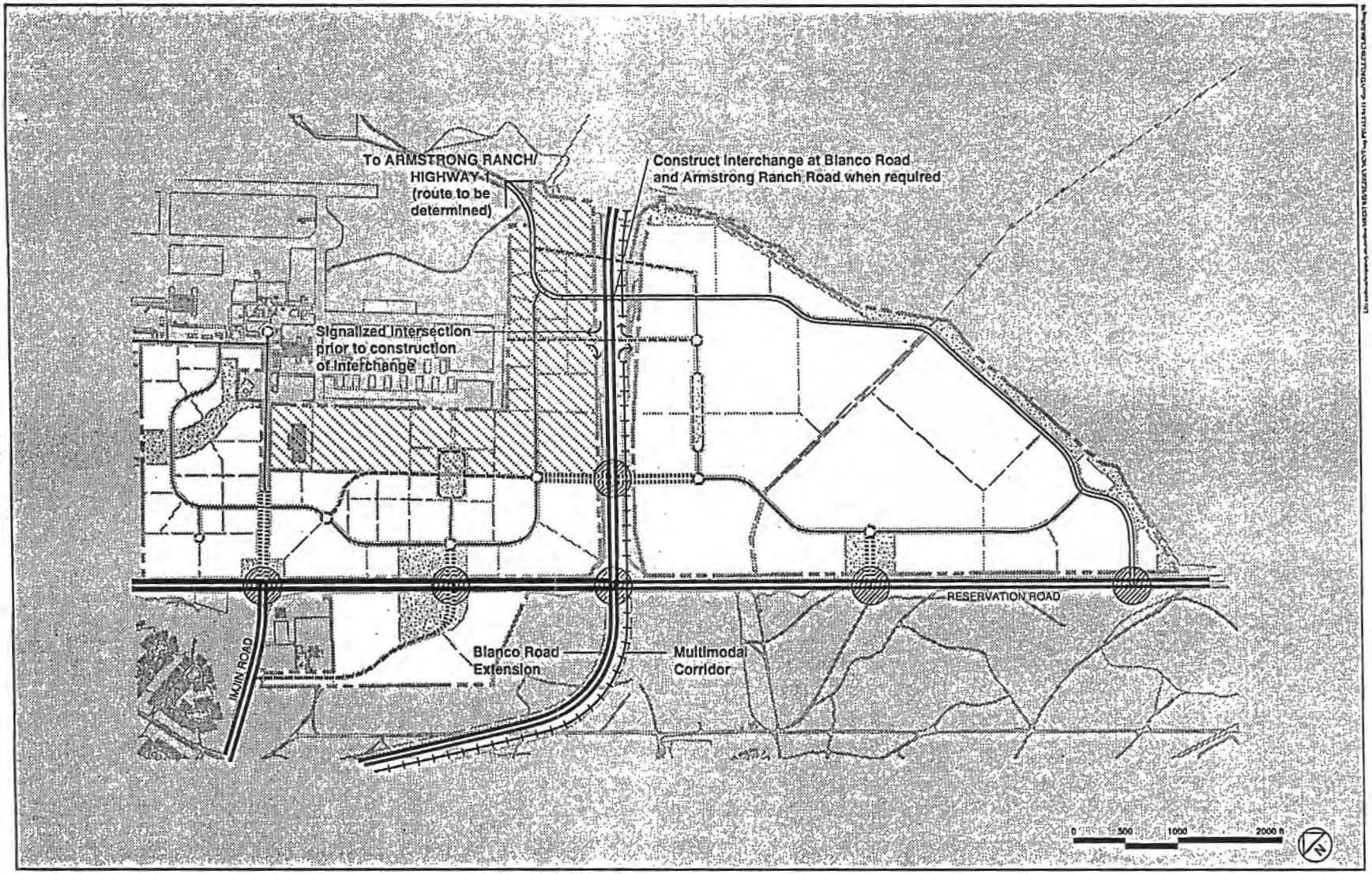


Source: Fort Ord Reuse Plan Administrative Draft, Vol.2 Reuse Plan Elements, Edaw, Inc. & EMC Planning Group Inc. (1996); graphic modified by ROMA (1996)

Transportation Network (2015)

- FREEWAY
- MULTIMODAL CORRIDOR ROW
- INTERCHANGE
- NUMBER OF LANES.
- UC LANDS

Figure 4-7



VEHICULAR CIRCULATION

- 6-LANE ARTERIAL
- 4-LANE ARTERIAL
- SIGNALIZED INTERSECTION
- RIGHT-IN / RIGHT-OUT INTERSECTION
- IN-TRACT ROADWAY (2 LANES)
- IN-TRACT ROADWAY (3 LANES)
- ENTRY ROAD (2 LANES WITH MEDIAN)
- IN-TRACT ROADWAY (4 LANES)
- MULTIMODAL CORRIDOR

Policy 6.1: Establish new signalized intersections along Blanco and Reservation roads.

In order to provide access to the UC MBEST Center campus, new signalized intersections will be required along Blanco and Reservation roads. The new intersections shall be located and designed to minimize conflicts and congestion along these key regional corridors, and shall be installed in a phased manner to serve development as it proceeds. More specifically, four new signalized intersections are planned along Reservation and Blanco roads; these new signalized intersections do not include the signal that is already planned for Reservation and Blanco roads to serve existing traffic volumes:

- A new intersection approximately midway between Blanco and Reservation roads to provide access to the Central North and South campuses;

- Two additional signalized intersections along Reservation Road east of Blanco spaced at approximately 2,500 feet to provide access to the East Campus; and

- A new intersection on Blanco Road approximately 1,000 feet north of the Reservation Road intersection to provide access to the Central North and East campuses, and to the Marina Airport Business Park.

In addition to these four new intersections, a fifth signalized intersection is proposed along Blanco Road approximately 2,300 feet north of the Reservation Road intersection to provide access to the Marina Airport Business Park and the East Campus. However, this signal will ultimately be replaced by an urban interchange when the Armstrong Ranch Road is implemented to serve the City's mixed-use development.

Policy 6.2: Create an onsite roadway system that allows for the coordinated development of the UC MBEST Center and Marina's Airport Business Park.

It is the University's intention to create a research and development campus with linkages to the Marina Airport Business Park. To this end, the roadway system of the UC MBEST Center shall be configured in a way that allows for the simultaneous and coordinated development of the two areas, and for the creation of a single roadway circulation system that provides for efficient access from the regional arterial network. UC and the City intend to cooperate with regional agencies and the County to implement the roadway system to optimize development opportunities for both areas while minimizing impacts on the external roadway system.

The UC MBEST Center and the Marina Airport Business Park will share a system of internal public roadways dedicated to the City or County, with access from signalized intersections along Blanco and Reservation Roads. The internal access roads shall be configured to permit circulation between all of the UC MBEST Center campuses (West, Central North and South, and East) and the Marina Airport Business Park without utilizing the adjacent arterials.

single roadway is planned through the Central South Campus, connecting Imjin and Reservation roads.

The West Campus of the UC MBEST Center shall be served primarily from the existing signalized intersection at Reservation and Imjin roads, and shall include an internal roadway connecting Imjin Road to the Simulator Complex and the Marina Airport.
The East Campus of the UC MBEST Center will be served by the Blanco Road intersections and by two new signalized intersections along Reservation Road. An internal loop road within the East Campus will distribute traffic to each of the parcels and provide for future regional access between Armstrong Road and Reservation Road.

Policy 6.3: Configure the internal roadway system in a manner that allows for the preservation of the existing topographical features of the site and efficient access and parcelization.

The roadway alignments for the UC MBEST Center have been carefully configured to minimize onsite grading, allow for preservation of major vegetation clusters, and provide for efficient parcel access and subdivision. To the extent that the roadway plan is modified or amended in the future, adjusted alignments should strive to maintain topographical characteristics of the site and reduce the need for major cutting or filling of the site.

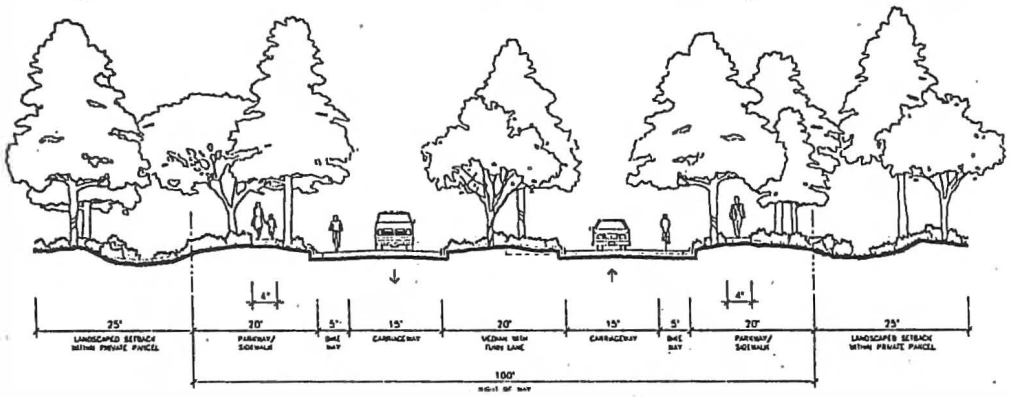
Policy 6.4: Establish roadway standards that provide for efficient circulation of vehicles.

Figure 4.8 illustrates the standards for onsite roadways within the UC MBEST Center. These standards are based upon those provided in the Fort Ord Reuse Plan, but are specifically designed to serve the needs of the UC MBEST Center. With the exception of the roadway surrounding the Central Quadrangle and pull-out parking bays along the bluff road, parking along internal streets is not permitted, since individual development sites will be responsible for providing all parking. This arrangement will help reduce conflicts between bicycles and parked cars and will limit the amount of impervious surface throughout the UC MBEST Center. As shown, five such roadway types are established:

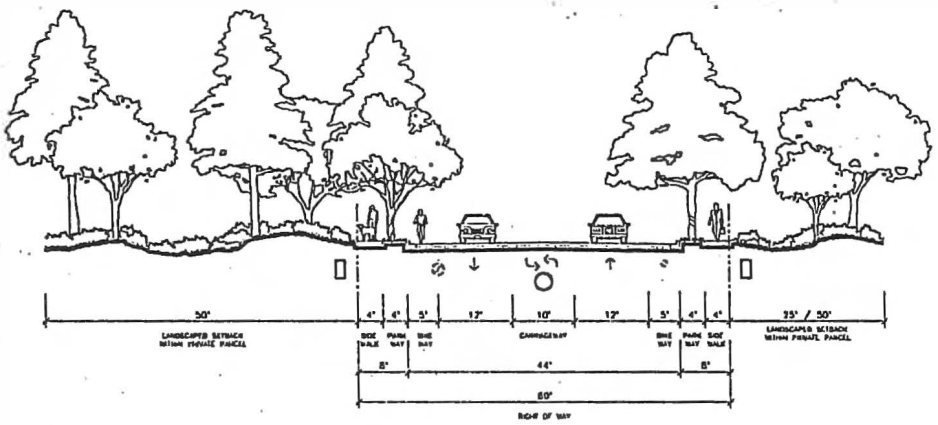
Entry Roads: These roads are located at the key gateways to the UC MBEST Center campus to provide a distinctive sense of entry, and to provide for gateway elements and signage. They include: the Imjin entry from Reservation Road; two new entry roads from Reservation Road (east and west of Blanco Road); and a new entry road from Blanco Road. The typical right-of-way for entry roads is 100 feet, with two 20-foot carriage ways (one lane of traffic and one bicycle lane) separated by a 20-foot landscaped median and bordered by 20-foot landscaped parkways.

Primary In-tract Roadways: The majority of the onsite roadways shall be three lanes in width, with the center lane providing for left turns into individual parcels. The right-of-way for such streets shall be 60 feet, including a carriage way of 44 feet (three vehicular lanes and two bicycle lanes) and 8-foot parkway/sidewalk zones on both sides.

Figure 4-8

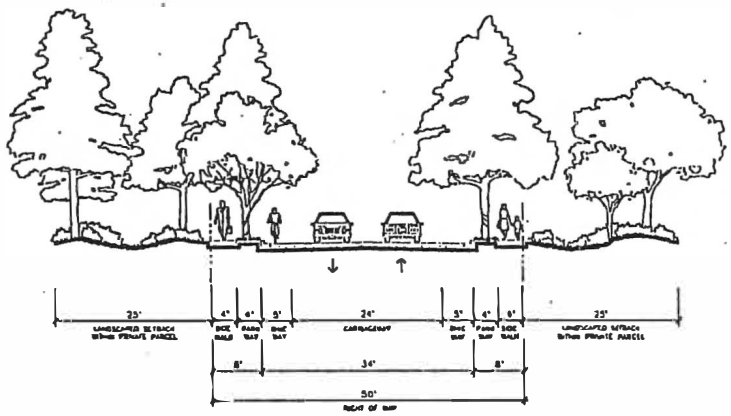


SECTION A–A
TYPICAL ENTRY ROAD

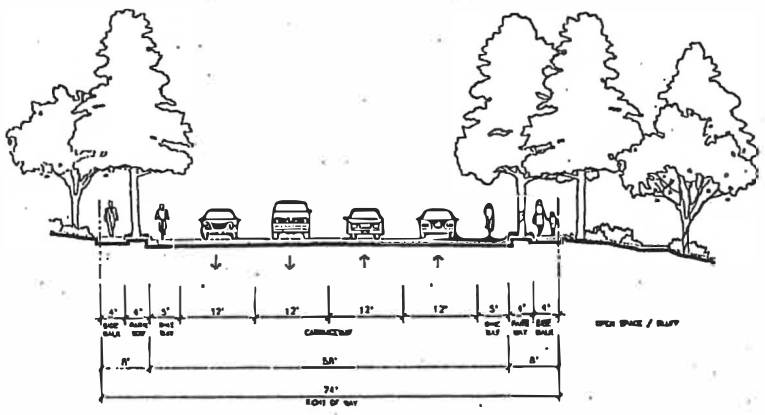


SECTION B–B
PRIMARY INTRACT ROADWAY (60' R.O.W.)

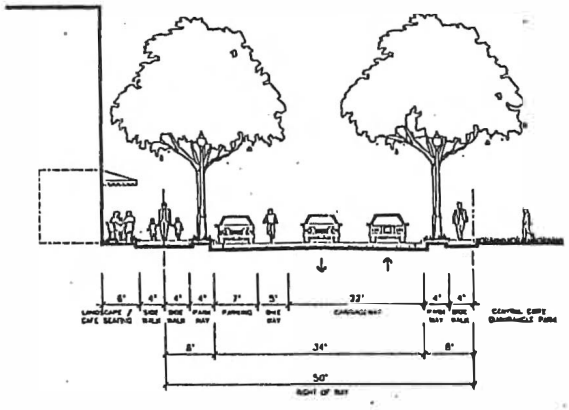
Figure 4-8



SECTION C–C
SECONDARY INTRACT ROADWAY (50' R.O.W.)



SECTION D–D
INTRACT COLLECTOR ROADWAY (74' R.O.W.)



SECTION E–E
CENTRAL CORE QUADRANGLE

Secondary In-tract Roadways: Two-lane/two-way secondary roadways are proposed within the Central North Campus (along the UC MBEST Center/Marina property line and around the Central Quad) and within the Central South Campus. These roadways shall have a right-of-way of 50 feet, including a 34-foot carriage way (two vehicular lanes and two bicycle lanes) and 8-foot parkway/sidewalk zones on both sides.

In-tract Collector Roadway: As described below, the UC MBEST Center shall provide for the creation of a collector roadway connecting the future Armstrong Ranch Road to Reservation Road through the East Campus along the bluff edge. This roadway shall have a right-of-way of 74 feet, including a 58-foot carriage way (four vehicular lanes and two bicycle lanes) and 8-foot parkway/sidewalk zones on both sides. Along the bluff top a sidewalk will not be required along the outer side of the roadway.

Central Quadrangle Road: Surrounding the Central Quadrangle, the plan calls for a two-lane roadway with parallel curbside parking along the outside edge. The 50-foot right-of-way includes 8-foot parkway/sidewalk zones on both sides and a 34-foot carriage way including two moving lanes, one bike lane (counterclockwise around the quadrangle), and one curbside parking lane. Adjacent development would provide an additional 4 feet of sidewalk area and a landscaped setback of 6 feet adjacent to the right-of-way to promote a pedestrian-intensive environment.

4.6 UTILITIES

The goal of the UC MBEST Center utility plan is to provide for the orderly and cost-effective construction of onsite utilities in conjunction with the development of the property. Where feasible, utility systems will be designed to facilitate sustainable use of resources. The Implementation Element of the Master Plan describes the potential phasing and "packaging" of utilities as well as their potential funding. This Master Plan describes policies for the improvement and/or establishment of onsite infrastructure systems for water, sanitary sewer, storm drainage, gas and electric, and telephone and communication systems to support the activities of the UC MBEST Center. The utility plan for the UC MBEST Center is based upon the most current assumptions and planning undertaken as part of the Fort Ord Reuse Plan. As more finalized offsite utility plans are prepared, additional analysis will be necessary to coordinate the development of the UC MBEST Center with the overall reuse of Fort Ord.

4.6.1 WATER

The long-term challenge facing development within Fort Ord and the UC MBEST Center is water supply. The Fort Ord Reuse Plan proposes a phased water delivery system that includes improvements to existing wells, construction of a disinfecting station prior to the year 2000, and the provision of distribution mains as required by development. Four wells, located in the East Campus area on the UC MBEST Center property and in the UC/NRS Fort Ord Natural Reserve, are the primary water source for Fort Ord; as currently configured, they can provide up to 5,400 acre-feet of potable water per year from the 400-foot aquifer. If a new well is drilled into the 900-foot aquifer, an additional 1,200 acre-feet of water will be available. In the event that use of the

existing wells must be discontinued, the Monterey County Water Resources Agency will provide replacement water. FORA has allocated the available water supply to individual land holdings across the base, reserving a pool of 780 acre-feet per year to be available on a first-come, first-served basis for users that develop early. The UC MBEST Center allocation is 165 acre-feet per year. If the UC MBEST Center is one of the first users to exceed its allocation, it will be able to draw upon the 780 acre-feet per year reserve.

Based on projections, current sources of water will allow for development of approximately 50 percent of the projected buildout of the priority parcels designated in the Initial Base Reuse Plan, including the UC MBEST Center. Further development will require better conservation, water reuse, or additional sources of water. The Fort Ord Reuse Plan suggests that importation of water or desalination may be necessary to accomplish the full buildout of Fort Ord.

Current onsite infrastructure includes a 300,000-gallon elevated water tank adjacent to the Marina Municipal Airport. The existing water supply is extended from the tank north to the airfield area in Imjin Road by means of an eight-inch water main. A water distribution system also extends from this source to all existing buildings within the airfield area, and provides a significant fire protection system at the existing helicopter tie-down area.

Policy 7.1: Provide for the cost-effective extension of water service to development sites within the UC MBEST Center property.

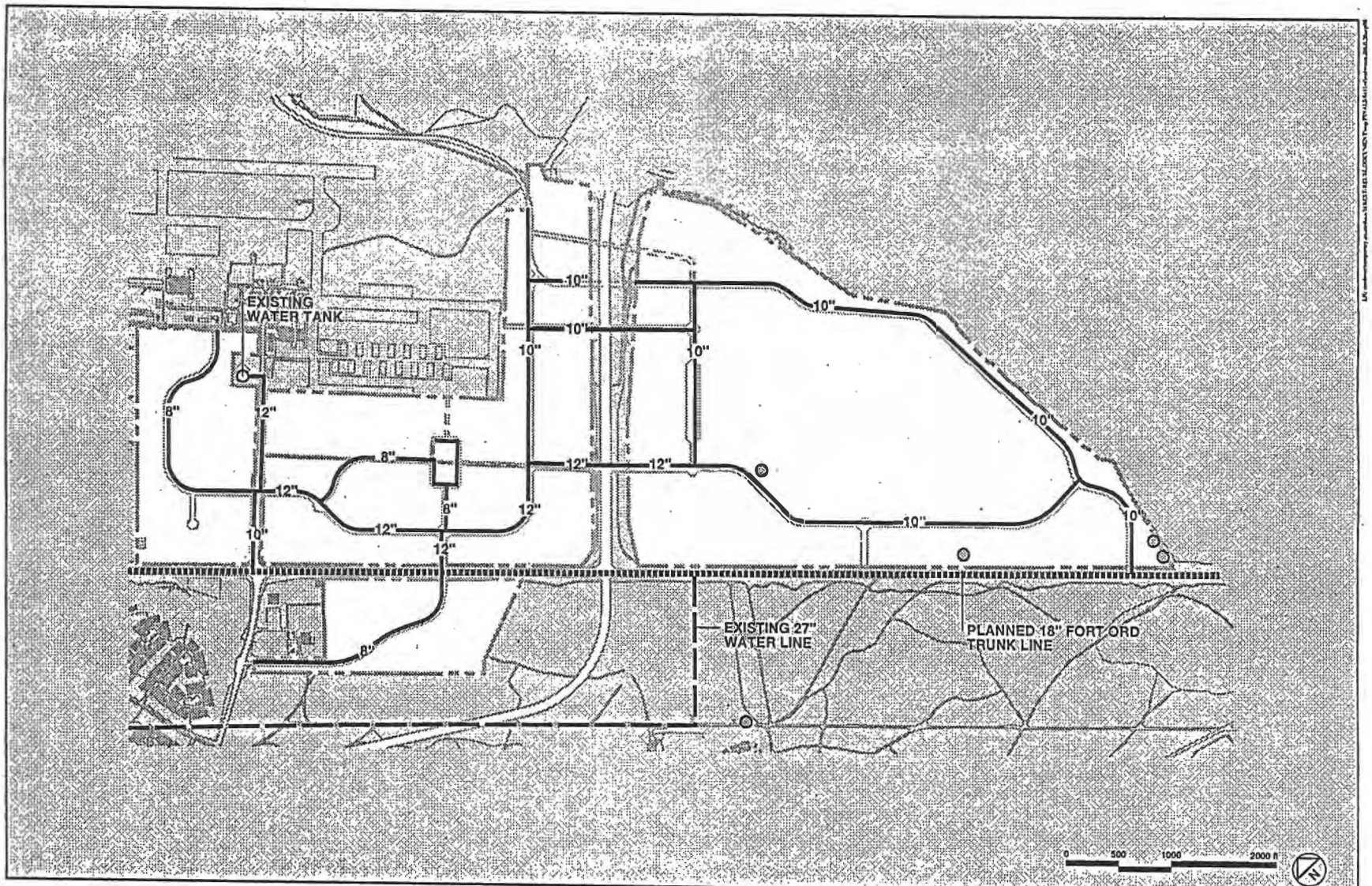
UC MBEST Center tenants are likely to use an average of 0.1 acre-feet per year per 1,000 square feet of built space (FORA Business Operations Plan). The FORA initial allocation of 165 acre-feet per year for the UC MBEST Center would be adequate to serve 1,650,000 square feet of built space, which is close to the amount of development projected for the UC MBEST Center by the year 2015.

The initial phases of the development will utilize the existing 300,000-gallon water storage tank in the vicinity of the airfield. A new water main will be constructed from this source to serve the initial phases of development in the West and Central North campuses. In the future, basewide water system improvements will eliminate the need for this existing water tower. The East Campus may be initially served from this system or a proposed new water main in Reservation Road that would serve the East Garrison. At buildout, a system of looped water mains (**Figure 4.9**) with stub-outs within the in-tract roadway system will provide water to each development site. If improvements to the on-base water supply system are postponed, arrangements for service from the adjacent Marina Coast Water District will be explored.

4.6.2 SANITARY SEWER

The former Fort Ord is served by the Monterey Regional Water Pollution Control Treatment Plant located north of Marina. The Army owns and is expected to transfer to FORA rights to 3.3 million gallons per day (mgd) of the plant's treatment capacity. A 2-1/2 inch sanitary sewer force main currently extends north along Imjin Road from the Army Reserve property to the existing development at the airfield. Once it is pumped to the high point, the effluent then gravity flows by means of a 10-inch sewer line to a sewage lift station north of the runway, at

Figure 4-9



Source: Ruggeri-Jensen and Associates, Engineers/Planners Surveyors (July 1996)

PROPOSED WATER FACILITIES

WATER LINES

EXISTING WELLS

which point it is pumped into the Salinas interceptor sewer line. Capacity constraints in this interceptor sewer line limit the discharge to 20,000 gallons per day (gpd), or service to a combined total of approximately 208,000 square feet of development within the Marina Municipal Airport, the Marina Airport Business Park, and the UC MBEST Center. While this system can provide interim service to the early phases of the UC MBEST Center, a primary system will be required to serve any additional development. When the UC MBEST Center and Airport are connected to a new primary wastewater collection system, the existing service will be abandoned.

Policy 7.3: Establish a comprehensive wastewater system for the UC MBEST Center, in coordination with the overall upgrade of sanitary sewer systems for Fort Ord.

The UC MBEST Center will create a sanitary sewer system in close coordination with the upgrade of backbone infrastructure for Fort Ord. To this end, a new lift station will be constructed on UC MBEST Center property (at the southwest corner of Parcel W18) to accept flows from the UC MBEST Center, the City of Marina Airport and Business Park, and from the East Garrison. This lift station will be implemented and funded as part of the overall Fort Ord infrastructure system. It shall be accessed by means of a service driveway connecting to Reservation Road along the western boundary of the West Campus. A gravity sewer trunk main traversing the UC MBEST Center property from east and north will service these external development areas as well as UC MBEST Center development, and will drain to the planned lift station. Effluent will be pumped from this lift station along Reservation Road, then south along Imjin Road to the regional wastewater treatment plant.

Additional sanitary sewer lines shall be constructed within the rights-of-way of onsite streets. Based upon preliminary grading assumptions, all areas of the property can be served by gravity flow, with sewer lines connecting to the lift station. **Figure 4.10** shows a conceptual layout for the sanitary sewer system.

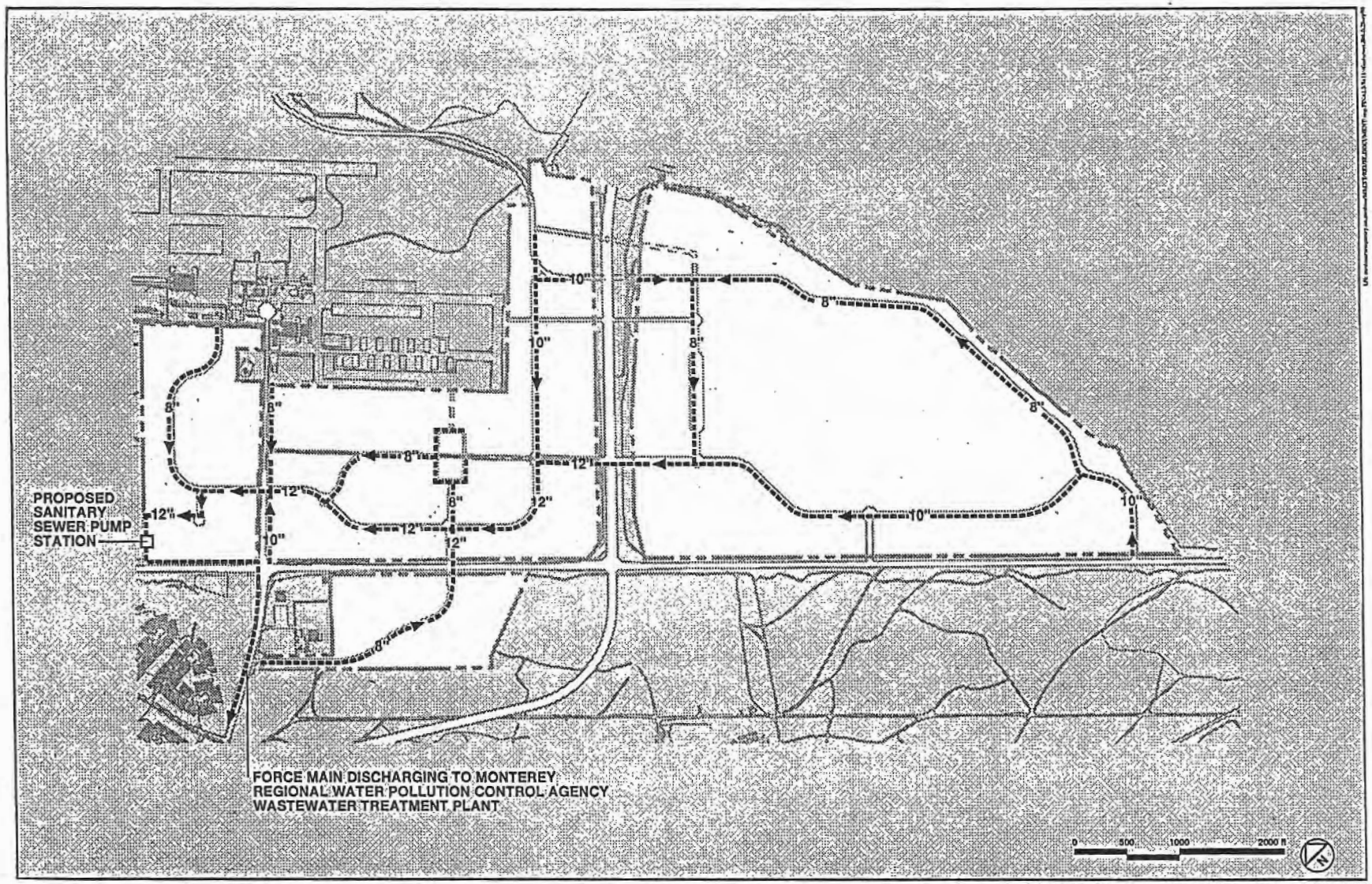
4.6.3 STORM DRAINAGE

The existing developed portions of the UC MBEST Center and the southern portions of the airfield are drained by means of existing pipes which collect the storm water from around the buildings and paved areas and discharge into adjacent depressions in the terrain, where the storm water percolates into the highly permeable sandy soil. The northern portions of the airfield are drained to a series of pipes that lead to a 36-inch line that discharges to the Salinas River.

Policy 7.4: Maintain preconstruction levels of storm water percolation onsite while complying with environmental and water quality regulations.

Because of the excellent percolative capacity of the surficial soils at Fort Ord, the storm water system for individual parcels within the UC MBEST Center will consist of landscaped percolation recharge ponds or recharge vaults capable of retaining the 100-year storm. Drainage of roadways will be achieved through subsurface collection lines leading to percolation ponds along the roadway right-of-way (**Figure 4.11**).

Figure 4-10

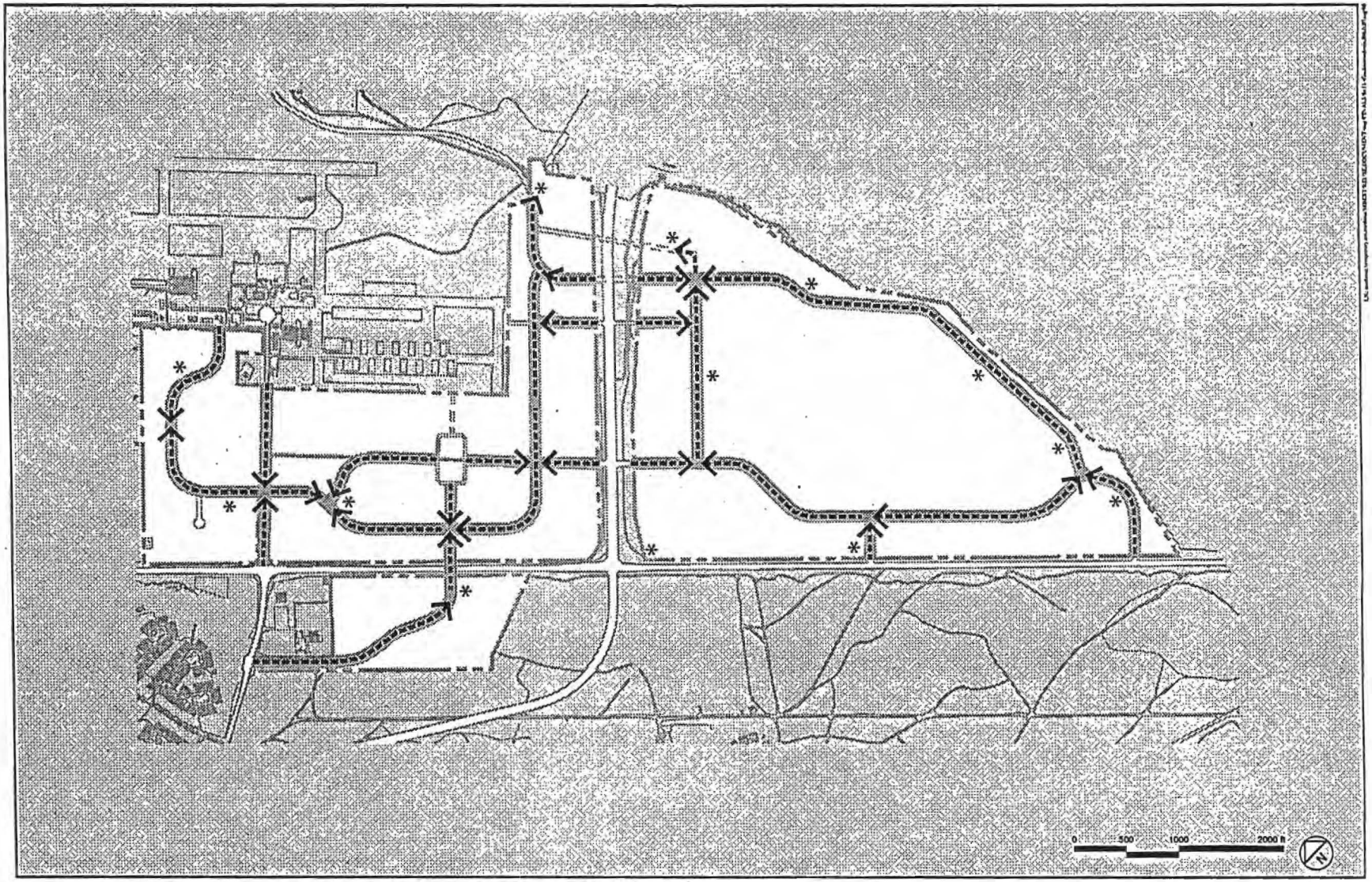


Source: Ruggeri-Jensen and Associates, Engineers/Planners Surveyors (July 1996)

PROPOSED SANITARY SEWER FACILITIES

SANITARY SEWER LINES

Figure 4-11



Source: Ruggeri-Jensen and Associates, Engineers/Planners Surveyors (July 1996)

STORM DRAINAGE

STORM DRAIN LINES

LANDSCAPED AREAS WITH POTENTIAL FOR PERCOLATION

POTENTIAL LOCATION OF PERCOLATION PONDS FOR ROADWAY DRAINAGE

The precise location of these ponds will be finalized during the engineering of the roadways, but they will be distributed throughout the four campuses in a manner that permits storm water to gravity flow to low points. The percolation ponds shall be carefully designed as an integral extension of the landscape treatment of the roadways. Onsite ponds shall be located and engineered in a manner that extends and enhances the landscape design of the development, and that ensures gravity flow from all portions of the site to the pond. Based upon an interpolation of the percolation ponds proposed in the Infrastructure Planning Costing and Financing Study prepared by Reimer Associates in January 1995, approximately 3 cubic feet of percolation pond capacity will be required for every 43 square feet of building area. According to the Reimer report, the sizing of the percolation ponds is based upon a 100-year design storm and a percolative capacity of one foot per hour.

However, each individual parcel will require additional soils analysis and engineering calculations to determine feasibility and detention basin size.

4.6.4 GAS AND ELECTRIC

A 16-inch high-pressure gas line paralleling Highway 1 and a 10-inch east-west transmission main crossing Fort Ord along Intergarrison Road south of the UC MBEST Center provide sufficient natural gas for existing and future development. These two supply routes provide framework from which the existing three-inch service to the UC MBEST Center and Marina Airport Business Park can be expanded.

Electrical supply is provided from PG&E's power supply grid. Crossing the UC MBEST Center is a 60 kv Salinas/Del Monte transmission line within an existing 40-foot easement. The easement also accommodates a section of line that is part of a system tie-in between the Fort Ord substation, located on Gigling Road between Sixth and Seventh Streets, and the North Salinas substation, located on Boranda Road south of Madison.

Policy 7.5: Coordinate with PG&E for the provision of gas and electric service to the UC MBEST Center.

Gas and electric service will be provided by PG&E, which will develop its own electrical and gas infrastructure plan for the UC MBEST Center. The University shall coordinate with PG&E as development proceeds to ensure that service is provided in a cost-effective manner. All in-tract roadways will include underground electrical and gas service.

4.6.5 TELEPHONE AND COMMUNICATIONS

The UC MBEST Center's goal is to have high-speed wide band width communications services available to serve all tenants. The existing telephone system in the planning area is based on a 30-year-old cabling and switching technology and is in need of replacement. The existing system has the capability to service current telephone demand, but lacks the ability to expand and provide service to proposed growth. At this time, there is no high-speed communications system serving Fort Ord.

Policy 7.6: Install telecommunication infrastructure systems that minimize up-front investment and provide maximum flexibility and independence.

Given the speed at which communications needs and technologies change, the UC MBEST Center should not make any substantial investments in providing telecommunications facilities or services unless they are specifically related to needs expressed by prospective tenants, preferably as part of the agreement for the sale or lease of development sites. At each stage of development, however, the UC MBEST Center should make the necessary investments in fundamental infrastructure required to maintain independence and flexibility in the provisioning of telecommunication services to future tenants. Regarding the construction of basic infrastructure, the University shall pursue the following two policies:

Policy 7.6.1: Ensure that a fiber optic link to the Public Switched Telephone Network (PSTN) reaches the UC MBEST Center as soon as possible.

In July of 1996, an agreement was reached between the U.S. Army and the Fort Ord Reuse Authority to allow for the interim operation by Pacific Bell of the existing 300-pair copper cable and the supporting conduit system serving the airport area. Within the next few months, this system will be transferred to UC and the City of Marina. Also within the next few months, Pacific Bell will install fiber optic cable that will reach the site via Reservation Road, terminating at a point near the water tower on Imjin Road. From this point, copper or fiber optic cable will be used to provide service to existing and future buildings at the UC MBEST Center and the Marina development. The availability of this fiber optic facility will ensure that prospective tenants will be able to receive any type of service they need, from basic voice connections to high-speed data transmission.

Policy 7.6.2: Install and maintain ownership of an underground system of interbuilding communications conduit sized to meet future needs without additional construction.

At each successive stage of development, an internal network of underground conduit and structures will be installed within the in-tract roadways. This system should include a total of twelve 4-inch ducts to provide for public telephone service (2 ducts), cable television (1 duct), public electric service (2 ducts) and lighting (1 duct), and an additional six 4-inch ducts for use by Pacific Bell, UCSC, or other competitive service providers. The UC MBEST Center should retain ownership of these facilities regardless of the entity using them. In addition to the conduit systems, the UC MBEST Center will install underground communications vaults at selected points on the campus. These vaults will be located where main conduit banks make a significant change in direction, or where a "feeder" system leaves the "trunk" system to enter a building.

5.0 DEVELOPMENT FEASIBILITY ASSESSMENT

This chapter of the Business Plan provides an assessment of overall project economics and financial feasibility. Specific phases of the project are identified and key capital funding and operational issues are evaluated. Within this assessment, potential responses to fluctuations in demand and cash flow are discussed. Key issues include adoption of tax increment legislation, disposition strategies, the sequencing of development areas, and use of cash or financing to fund infrastructure.

5.1 DEVELOPMENT OVERVIEW

As described in the Master Plan, the UC MBEST Center currently planned for development comprises approximately 437 acres, with an adjacent 605 acres under habitat preservation as the UC/NRS Fort Ord Natural Reserve. The UC MBEST Center development area is divided into four major campuses, which are in turn divided into a series of packages of land and infrastructure that are 20 to 30 acres each, to be phased over time as market conditions dictate. Major phases of development may include one or more of the project's packages. For example, the first phase of development assumes that a single package is developed to open-up the west and central portions of the UC MBEST Center. The subsequent phase builds on the initial improvements to open two subsequent packages of land and infrastructure. The development strategy has been designed to allow maximum flexibility in the phasing of development. This flexibility will enhance the project's ability to respond to market forces.

5.1.1 UC MASTER DEVELOPER ROLE

It is assumed in this cash flow analysis that UC, through the UC MBEST Center entity it creates for real estate development, will adopt a role of Master Developer of the UC MBEST Center's real estate assets. As such, the UC MBEST Center Development Corporation will, among its other responsibilities, be responsible for converting its raw land to a regional center of research and innovation using the Business Plan and the Master Plan. Major tasks include securing entitlements, installing physical infrastructure to create improved lots, marketing, negotiating deals with developers and tenants, and maintaining its land assets. It is assumed that UC MBEST Center staff capabilities will be augmented with the services of a contract developer and other real estate professionals as needed.

As the Master Developer, the UC MBEST Center, will create a subdivision map consistent with the specifications of the Master Plan. Infrastructure financing will proceed as funding from grants, land sales, redevelopment tax increment, and development transactions allow. The UC MBEST Center will solicit bids from developers interested in leasing and/or buying land and constructing buildings, either on a build-to-suit or speculative basis, consistent with the intended activities and uses articulated by the Master Plan. UC may occasionally construct buildings for educational and research-related uses. However, for purposes of evaluating project economics, it is assumed that educational uses are leased from

developers at market rates.[1] The only exception to this rule is the UC MBEST Center building to be developed as a component of the Phase 1 Development Strategy, where UC will fund construction using EDA grant money. In practice, other options such as trading land for space in private buildings may be pursued as opportunities present themselves over the life of the project. Such arrangements will need to be made on a case by case basis depending on specific stakeholder needs.

The financial analysis assumes that, with the exception of telecommunications, utility systems' annual operating and maintenance costs will be provided through the rates charged by appropriate districts and City departments administering the systems. Therefore, these costs are not included in the cash flow analysis. Telecommunications infrastructure owned and operated by UC MBEST Center will be funded through user charges.

5.1.2 CASH FLOW OVERVIEW

The cash flow analysis evaluates potential cash flow from existing UC MBEST Center buildings, newly developed UC MBEST Center buildings, land sales, land leases, tax increment revenues, telecommunication user charges, UC budget allocations, and State/Federal grants. The timing of this cash flow is evaluated relative to the annual uses of funds including:

- **Operational expenses:** UC MBEST Center administrative expenses, including real estate development, marketing, leasing, habitat maintenance, programmatic activities, and asset management.
- **Capital funding requirements:** major on-site and off-site infrastructure improvements associated with bringing the land to an improved state in increments of 20 to 30 acres each, including roadways, intersections, utilities, roadway landscaping, and habitat management.

As with most large real estate projects, the key to initiating the project is funding the first increment of development. The UC MBEST Center project has several options for achieving this:

- **Initial grant funds.** The UC MBEST Center can receive federal (e.g. EDA) grants directly, or indirectly through FORA, to construct infrastructure and buildings. In addition, UC can partner with the City of Marina to secure Community Development Block Grant (CDBG) funding from the State of California.

[1] Strategies employed for housing educational, training, and research components of the UC MBEST Center will depend on factors including the amount of available capital for constructing buildings, ability of outside parties to provide space meeting UC needs, and UC policy/regulatory factors.

- **Bond Financing.** Issuing bonds with debt service paid by annual lease revenue can provide near-term capital funds when cash reserves are not sufficient. Successful issuance of these bonds, which can be secured by the value of land, will depend on specific characteristics of major tenants, future market conditions, and institutional lending practices.
- **UC Regents' Loan.** As with other research-oriented development completed at UC Irvine, a loan granted by the UC Regents may help to cover initial and subsequent capital funding gaps. Specific terms of UC Regents' loans are typically negotiated on a case-by-case basis.

Once the project is underway, the main challenge will be to proceed with subsequent phases by strategically opening packages of development. These packages must be small enough to limit the magnitude of required up-front capital funding, but large enough to achieve economies of scale in land development (i.e., maintain affordable costs per square foot of land). The strategic opening of packages of land and infrastructure will allow the UC MBEST Center to generate revenue from land sales and leases that can: 1) pay for ongoing operations and 2) capitalize infrastructure investment.

The UC MBEST Center will need to offer flexible development opportunities and market responsive lease, sale, and financing terms to prospective developer tenants/buyers. Depending on market conditions and the financial position of the project at any given time, the UC MBEST Center may wish to dispose of land using annual ground leases or land sales. Where possible, it is recommended that the project pay for infrastructure on a cash basis to minimize debt service costs. In circumstances where opportunities for up-front capital are limited, it may be advantageous to finance improvements.

5.2 DEVELOPMENT SCENARIO

The overall goal of this Business Plan is to provide a blueprint for strategic actions that will facilitate success of the UC MBEST Center. The main charge of the Business Plan is therefore to provide a framework for decision-making that will guide responses to changing project conditions.

The Business Plan also intends to provide summary financial information to the University, prospective investors, developers, tenants, and stakeholders. Assumptions used to conduct this financial analysis are based on available information regarding the nature and timing of development, estimated proceeds from development, and required capital and annual operating expenditures of the UC MBEST Center.

It should be emphasized that the development program analyzed here is a scenario – not a precise forecast of the sequence of development. The site could be developed in any number of ways, depending on the market and financing opportunities that arise as the project proceeds. The purpose of the analysis is to evaluate the financial implications of project components to evaluate feasibility and identify key implementation actions.

5.2.1 PROJECT ABSORPTION RATE

It is assumed that approximately 1.5 million square feet of development will be developed on 120 acres through the year 2015 (**Table 5-1**).[2] After this development is complete, uncertainty regarding basewide infrastructure costs and market conditions makes further analysis overly speculative. The UC MBEST Center is projected to average 85,000 square feet of new building development annually during the 1997-2015 period. The total amount of development is based on an evaluation of the UC MBEST Center's possible position in the marketplace, as discussed in **Chapter 3**.

Initially, it is expected that less than five acres per year will be leased or sold, translating to approximately 60,000 square feet of building space annually. By the end of the development period, annual development is expected to be in the range of 100,000 square feet – about 8 to 10 acres annually. This rate of development is consistent with findings of the market analysis that development will initially consist of smaller companies, with buildings generally not exceeding 50,000 square feet. Over time, as the project builds critical mass, it is expected that the site will become more attractive to larger firms. While historical development trends at comparable locations such as Ryan Ranch have been modest in comparison, it is expected that the Fort Ord Reuse effort, including the creation and marketing of the UC MBEST Center, will result in an increase in overall real estate market activity in the Monterey Bay region to support regional demand facilitating this level of development.

5.2.2 DEVELOPMENT PHASING SEQUENCE

The project's development schedule through 2015 has been aggregated into three major phases of development (**Figure 5-1**). Phases of development are presented as periods of time and do not necessarily correspond to development "package" areas. During any one phase of development, any number of package areas could be under development. The goal is to create options for prospective developer tenants in terms of available prices/lease rates, parcel sizes, and amenities.

The following provides an overview of major phases of development and the assumed development packages that comprise them. This sequence is only one way that UC MBEST Center development could unfold, and other outcomes are possible. For example, market demand for East Campus lands (assumed to develop after 2015 in this scenario) may require the development strategy to incorporate this area sooner than assumed here. This area is discussed at the end of this section.

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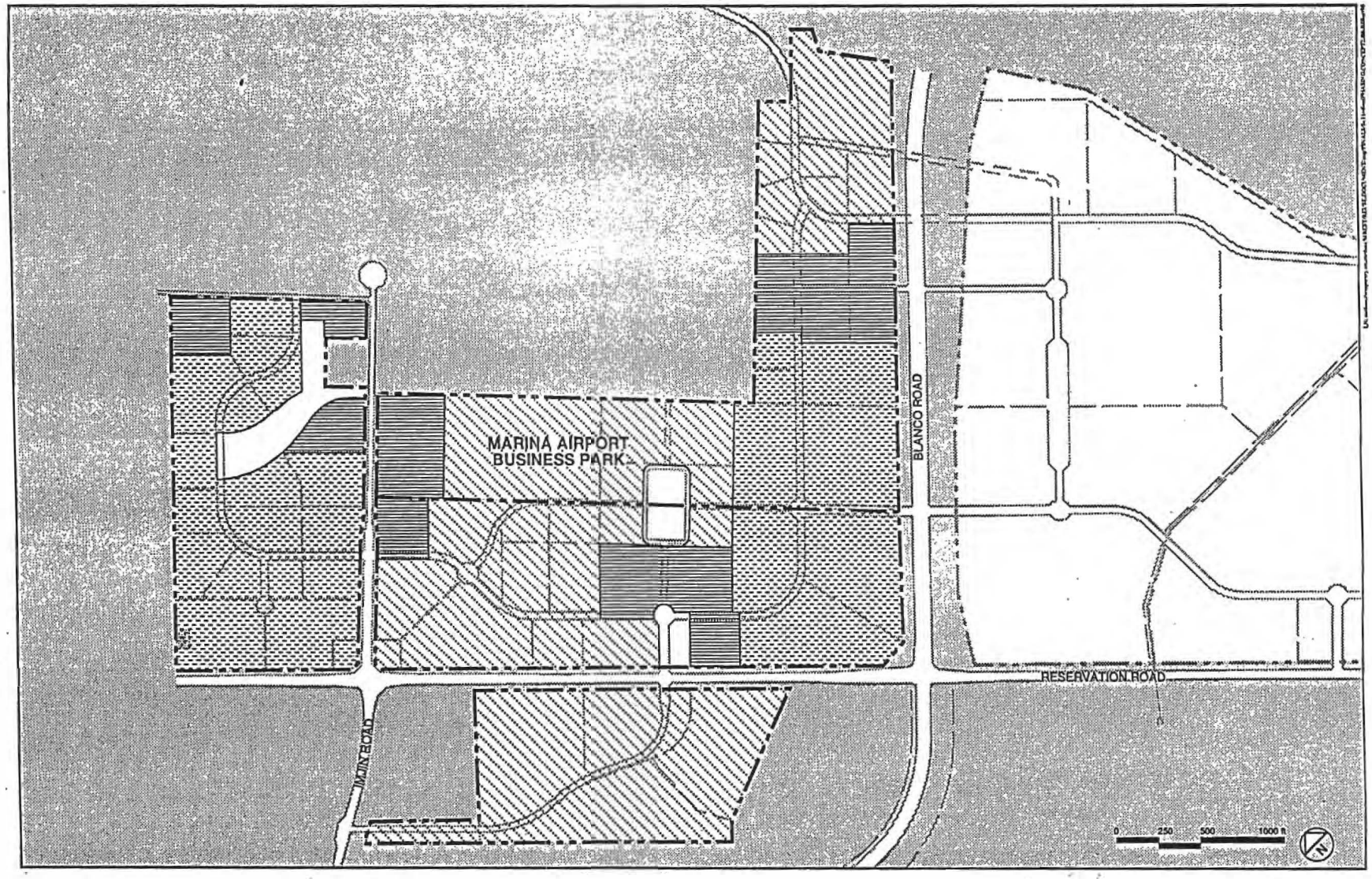
[2] All references to years in this document assume fiscal year beginning July 1. For example, the year 2015 should be read as Fiscal Year 2015/16.

Table 5-1
Base Case Development Scenario: Assumed Phasing Sequence
UC MBEST Center

Phase	Development Package Areas				
	Package 1 (West/Central Combo)	Package 2 (NW Corner Blanco/Res.)	Package 4 (Remainder N. Central)	Package 5 (Remainder W. Campus)	Package 6 (S. Central Campus)
Phase One (1997-2000)	Building (10,000 SF) and land (17.6 ac.)				
Phase Two (2001-2008)		19.4 acres developed over 4 years		34.9 acres developed over 5 years	
Phase Three (2009-2015)			22.3 acres developed over 3 years		27.5 acres developed over 3 years

Source: ROMA Design Group; Economic & Planning Systems, Inc.

Figure 5-1



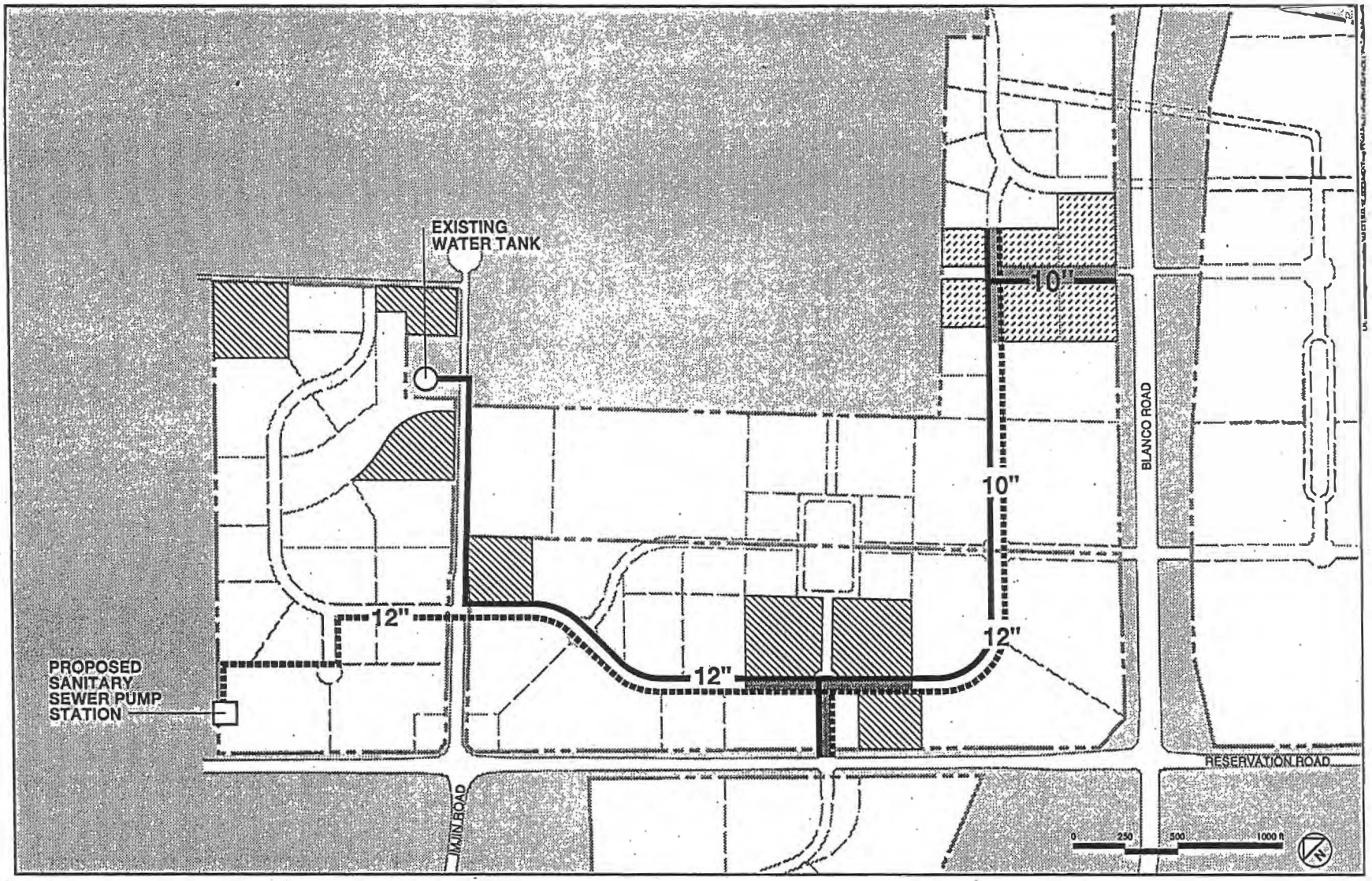
PHASING CONCEPT 1997–2015

Phase 1: 1997-2000

Phase 2: 2001-2008

Phase 3: 2009-2015

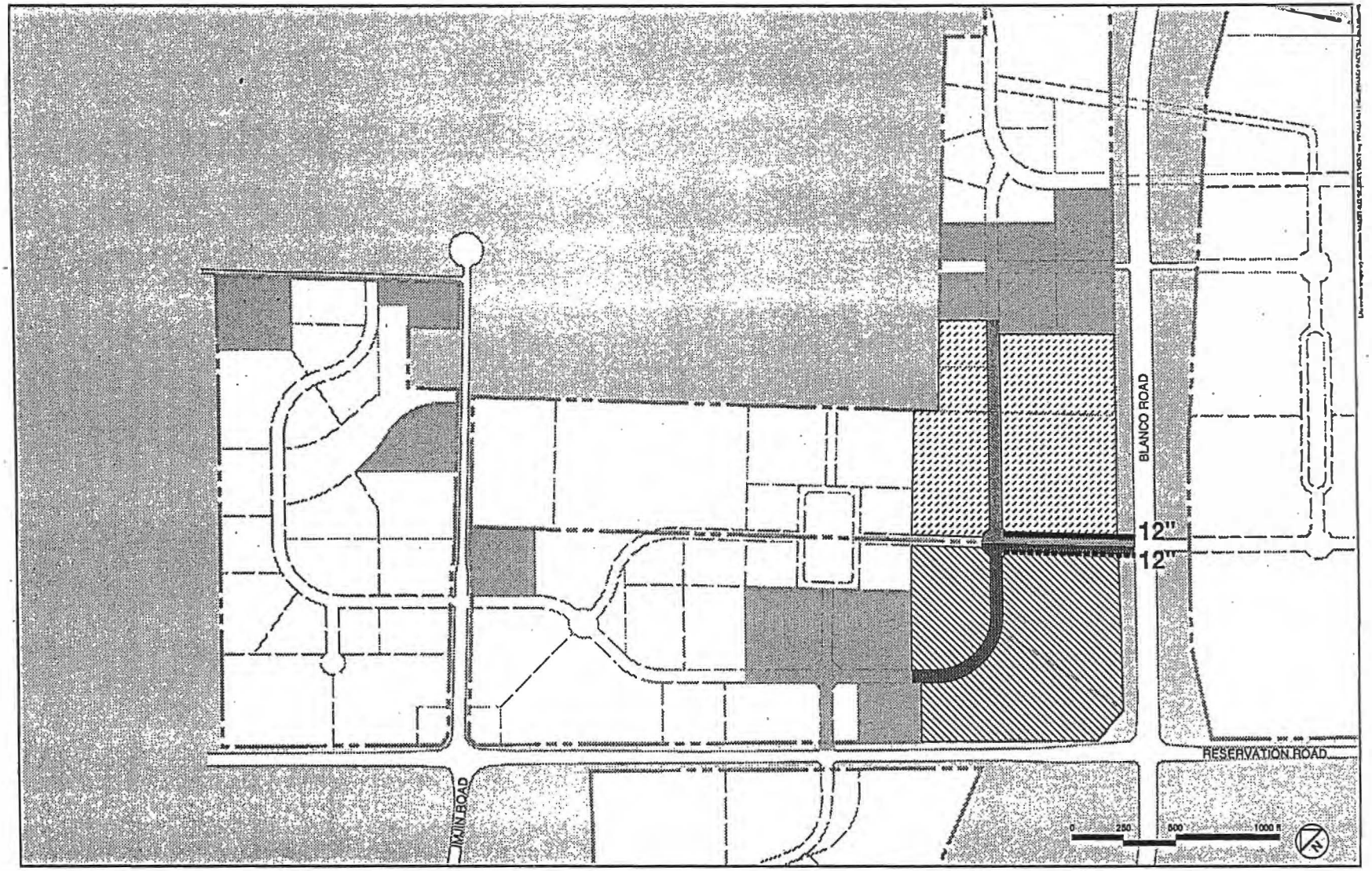
Figure 5-1a



PHASE ONE/PACKAGE 1/1M (UC MBEST/CITY OF MARINA)

- MBEST PARCEL
- CITY OF MARINA PARCEL
- MBEST STREET IMPROVEMENT
- CITY OF MARINA STREET IMPROVEMENT
- SANITARY SEWER
- WATER

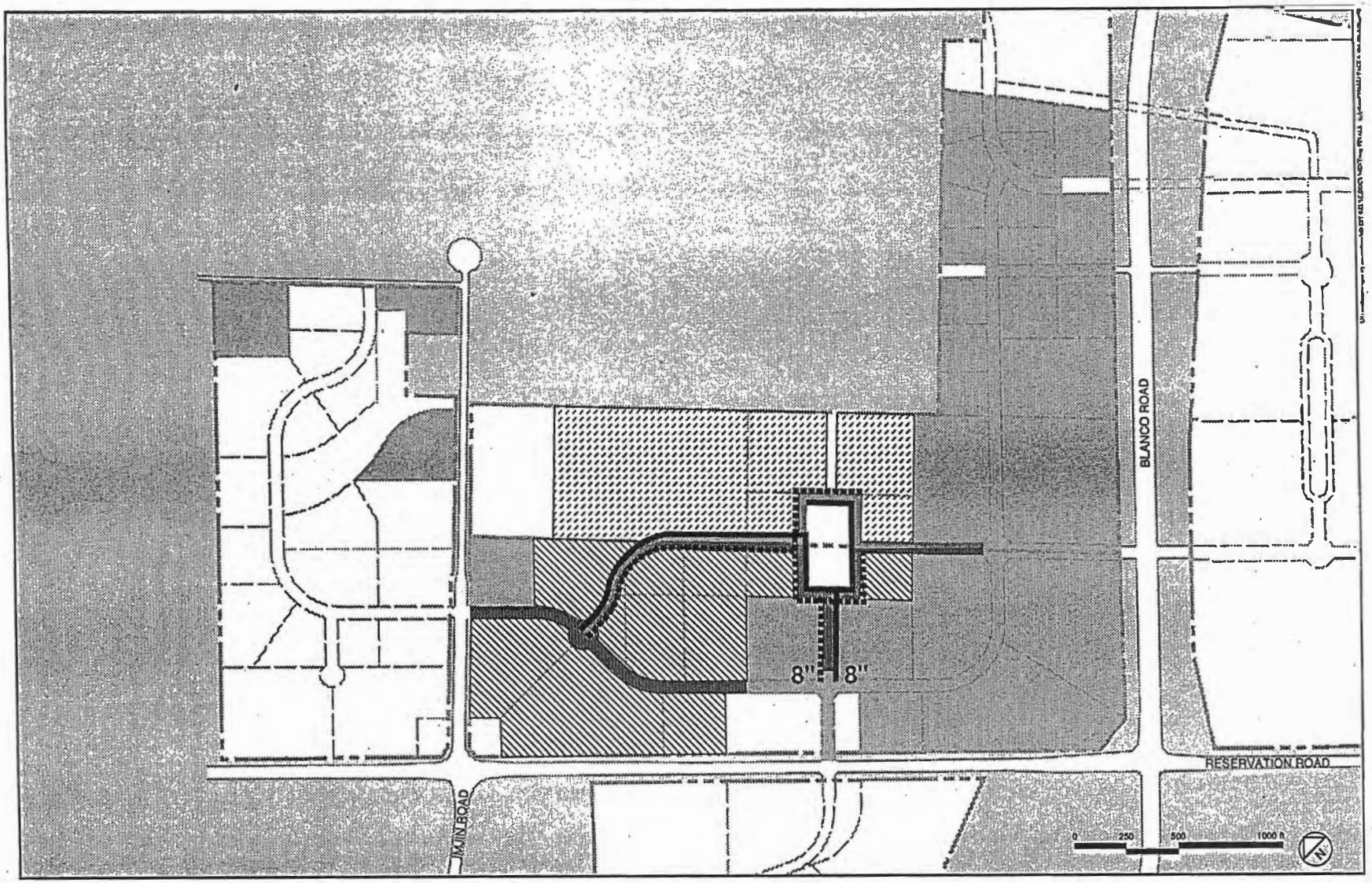
Figure 5-1b



PACKAGE 2/2M (UC MBEST/CITY OF MARINA)

- MBEST PARCEL
- CITY OF MARINA PARCEL
- PREVIOUS PHASE OF DEVELOPMENT
- MBEST STREET IMPROVEMENT
- CITY OF MARINA STREET IMPROVEMENT
- SANITARY SEWER
- WATER

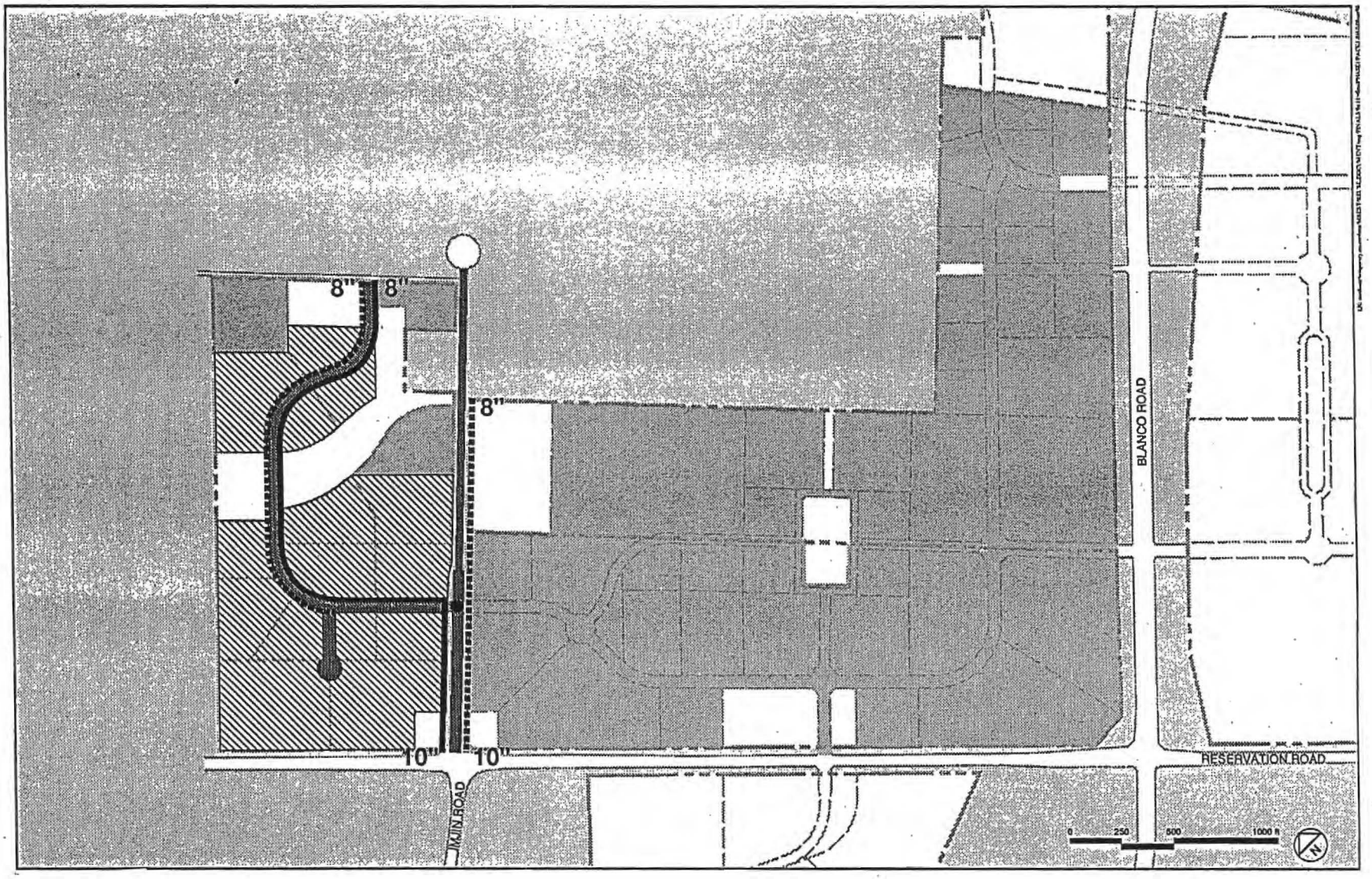
Figure 5-1c



PACKAGE 4/4M (UC MBEST/CITY OF MARINA)

- MBEST PARCEL
- CITY OF MARINA PARCEL
- PREVIOUS PHASE OF DEVELOPMENT
- MBEST STREET IMPROVEMENT
- CITY OF MARINA STREET IMPROVEMENT
- SANITARY SEWER
- WATER

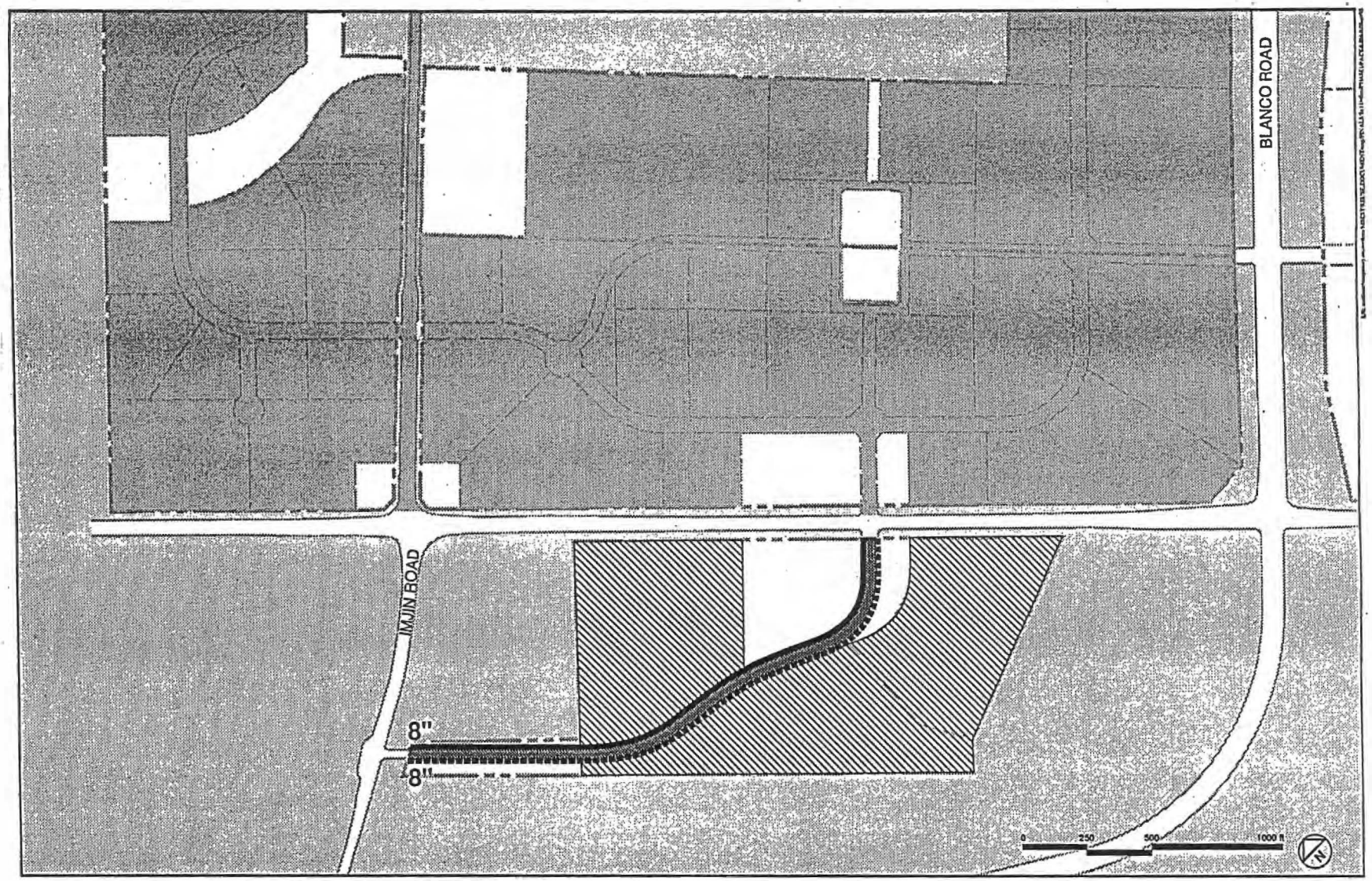
Figure 5-1d



PACKAGE 5 (UC MBEST)

- MBEST PARCEL
- PREVIOUS PHASE OF DEVELOPMENT
- MBEST STREET IMPROVEMENT
- TRAFFIC SIGNAL
- SANITARY SEWER
- WATER

Figure 5-1e



PACKAGE 6 (UC MBEST)

MBEST PARCEL

PREVIOUS PHASE OF DEVELOPMENT

MBEST STREET IMPROVEMENT

SANITARY SEWER

WATER

Phase 1 Development (project inception through 2000)

The first phase of development corresponds directly with Package 1 development. This is the only situation where "development phase" and "package" are synonymous. Package 1 consists of 17.6 acres of developable land, split between the North Central Campus and the West Campus. The estimated buildout period is four years at an average absorption rate of four to five acres annually. The North Central Campus portion of the development is expected to be largely R&D-related, while the West Campus incorporates a mix of light industrial and R&D products.

Initially, it is expected that development will be modest in terms of pace and size of users, and could include a mix of both R&D and light industrial users. As a result, Phase 1 includes land in both the West Campus and the Central North Campus. Exemplary users can be located to the south of The Quad in the North Central Campus which can command a higher price for land, while users less directly tied to the mission of the UC MBEST Center can be located in the West Campus.[3] At the end of the first phase, it is expected that the UC MBEST Center will have a total of 269,000 square feet of building space, including the Simulator Building on the West Campus and the UC MBEST Center administrative building located on the North Central Campus. Approximately half of the Center's space by the end of this phase is expected to be used for R&D, while the remainder is distributed among light industrial, office, and educational uses.

A key component of this initial phase is a potential joint development with the City of Marina. The UC MBEST Center has already initiated a cooperative working arrangement with the City by integrating the City's plans in the UC MBEST Center Master Plan, estimating associated infrastructure costs, and discussing joint planning principles with City officials.

As a part of the initial phase, utilities would be extended northward from the UC MBEST Center Central Campus to the Marina Airport Business Park to facilitate near-term development in the City. Although specific terms have yet to be negotiated, the City of Marina would participate in funding this improvement. This analysis considers only those costs expected to be paid by the UC MBEST Center.

The basic tenets of this strategy are discussed below:

Phase 1 Strategy

The initial phase of development is intended to generate an initial use on-site, to create improved land available for development, and to facilitate future phases of development. One potential strategy is to locate the largest feasible initial UC MBEST Center building in

[3] It should be noted that the key constraint to developing West Campus parcels accessible from Imjin Road and/or the Simulator Building is the present availability of wastewater treatment capacity. Based on this constraint, new development capacity for both the UC MBEST Center and the City of Marina is about 208,000 square feet of building space. As a result, a portion of Phase I can proceed with existing wastewater service. It will be critical to ensure the timely installation of a lift station planned as part of a basewide system improvement to enable the remainder of Phase I and other lands to develop.

the North Central Campus. This building can serve several purposes, including administrative offices, a marketing center for site development, meeting/event space, research and technology related services, and lease space for small businesses. At this stage, the presence of UC on the site is more important than lease income potentially generated by the building.

Portions of the West Campus can be opened to accommodate light industrial and other users with no initial modifications to infrastructure. However, UC should work with FORA to ensure that basewide wastewater improvements are made that will facilitate development beyond the first 208,000 square feet of this phase (including development by the City of Marina).

By opening development opportunities in the North Central Campus, the UC MBEST Center gains:

1) **Project visibility.** It will be important to create an immediate impact from heavily traveled Reservation Road. A visible UC MBEST Center Building in an attractive setting will provide evidence of activity on the UC MBEST Center site. It will also serve as a nucleus for visiting firms, developers, research entities, and other interested parties that will introduce them to the central portion of the project.

2) **Project identity.** The UC MBEST Center Building's location in the North Central Campus would provide an opportunity to create a new, distinct, image for the UC MBEST Center. For logistical reasons, the preferred location is likely to be near the "four corners" area along Imijin Road. This is also a highly visible, good location for this building, although the former site is preferable if funding can be secured.

3) **Future development feasibility.** Extension of basic utilities to the North-Central Campus should be accomplished during Phase 1 using grant funds, augmented by other sources as necessary. In effect, the extension of utilities to the site will "front" infrastructure for Package 2. Since Package 2 will be the first package to use proceeds from development as a major funding component, this fronting of infrastructure is critical to realizing future development.

4) **Establish Development Protocol with Local Jurisdictions.** By extending utilities north and east to the Marina Business Park along Blanco Road, the initial phase strategy would open up access to about ten acres of land for the City of Marina. The City of Marina is a long-term partner in the UC MBEST Center project. By incorporating the City into an initial development strategy, the UC MBEST Center and Marina will be able to develop decision-making processes and standard operating procedures for development. UC will also need to establish a protocol for dealing with the County in order to prepare for development on the South and East Campus parcels in the event that these lands attract interest in the initial years of the project.

5) **Market flexibility.** The strategy would open approximately ten acres of prime land to be sold or leased by fiscal year 1998/1999. In addition to providing access to this prime area, the initial phase strategy also accommodates initial users who may not be highest

priority R&D-intensive tenants of the UC MBEST Center by opening up selected portions of the West Campus that can be developed immediately using existing utilities. The West Campus area could generate a substantial near-term cash flow, especially among parcels that serve light industrial and agricultural segments of the market. Proceeds could be used to finance improvements in the North Central Campus or other new development areas of the UC MBEST Center.

Subsequent Development Phases

Once the initial phase is under way, subsequent development patterns and pace will depend on the type and magnitude of market demand for UC MBEST Center properties. Within the second phase, the cost effective development of Package 2 is immediately possible due to the underlying utilities installed during Phase I. Beyond this package, there is considerable flexibility in the subsequent packages. Package 3 is entirely City of Marina property and is not considered for this report. For purposes of assessing project economics, the following sequence of development is assumed:

- **Phase 2 (2001-2008).** As the project begins to build critical mass and identity, and the regional market continues to develop, it is anticipated that the project will attract more medium-scale users. During this phase, a mix of small, medium, and larger users can be accommodated in Packages 2 (northwest corner of Blanco and Reservation Roads) and 5 (the remainder of the West Campus). Both of these areas are easily improved based on the presence of existing utilities and improvements made during Phase 1. Both of these Package areas are weighted heavily toward R&D users, with Package 2 including an above-average allocation to retail uses along the extensive arterial frontage of the property. It is during this phase that ground leases expected to be introduced.
- **Phase 3 (2009-2015).** This phase takes the project through the Year 2015. During this phase, the remaining North Central Campus (Package 4) and the South Central Campus (Package 6) are ideal for accommodating a wide variety of high profile R&D, office, and ancillary users. A business hotel/conference center is expected to be developed on the South Central Campus during this phase. At the end of this phase, the UC MBEST Center is expected to comprise about 120 acres of developed land with total building space of just over 1.5 million square feet. Research-oriented and educationally-related space is expected to include approximately two-thirds of this total amount.

5.3 UC MBEST CENTER FINANCIAL SUMMARY

5.3.1 IMPLICATIONS OF DISPOSITION ALTERNATIVES

Table 5-2 presents a summary of economic outcomes of the project, utilizing the baseline absorption schedule described above. Key assumptions in estimating these outcomes are summarized in **Section 5.6**. As shown, two major disposition strategies have been analyzed, including: 1) land sales, and 2) a transition from land sales to ground leases that assumes that forty percent of the UC MBEST Center is sold while sixty percent is leased. The transition from all land sales to all ground leases has been simulated to occur between year 2005 and 2007. Based on the project's need for up-front cash, the early stage in the

Table 5-2
Summary of MBEST Cash Flow by Scenario
UC MBEST Center

(1996 $$)

Item (1)	Alternative #	Annual Capital Funding Balance (3) Phase 1 1997-2000	Phase 2 2001-2008	Phase 3 2009-2015	Total
Land Sales					
SB 1600	1	$3,105,534	($525,201)	$1,876,236	$4,456,568
AB 2736	2	$3,787,938	$1,323,497	$1,466,167	$6,577,603
Transition from Land Sales to Annual Leases (Ground Lease Cash)					
SB 1600	3	$3,105,534	($3,598,976)	($4,162,556)	($4,655,999)
AB 2736	4	$3,787,938	($2,205,033)	($3,732,901)	($2,149,996)
Transition from Land Sales to Annual Leases (Ground Lease Debt) (2)					
SB 1600	5	$3,105,534	($1,544,366)	($3,016,774)	($1,455,606)
AB 2736	6	$3,787,938	($150,422)	($3,262,198)	$375,318

(1) Difference between the two tax increment scenarios would be nominal if FORA reinvests tax increment from UC MBEST Center on UC MBEST Center improvements.

(2) The ability to issue lease revenue bonds will depend on specific characteristics of major tenants, future market conditions, and institutional lending practices.

(3) All scenarios deduct profit-sharing with Army in 2009.

project's development, and the preference among developers and owner-users for a range of options, it is not recommended that an all-lease disposition strategy be pursued. Each major disposition strategy is analyzed under two redevelopment legislation scenarios that will affect the availability of tax investment debt proceeds for the project.

Substantial research has been conducted to ascertain the financial implications of using ground leases at the UC MBEST Center. There is no question that ground leases are less attractive to developers and lenders than fee-simple transactions. While use of ground leases will immediately limit the field of lenders willing to be involved in the project, there are lenders who are willing to finance development on leased land, if the risks are acceptable. There are several considerations that mitigate the risk a lender incurs when entering into a ground lease deal:

- Lease terms of sixty-six years or more are recommended. During the initial thirty years of the lease term, effects on financing projects will be minimal. After that period, discounting of project value will occur based on the depreciation schedule of building assets;
- If foreclosure is imminent, the lender must have the right to step in to cure the default, and could expect UC to release the property to sell to a third party purchaser. The willingness of UC, as ground lessor, to step in and cure any default under the mortgage would strengthen ground lease financing deals. UC would not necessarily need to subordinate its ground lease to a mortgage to make ground leases financially feasible, but it would further improve the probability of successful use.
- It may be possible to find a large-scale lender to infuse equity in the UC MBEST Center project. For example, a lending partner may be interested in a revenue participation agreement with the UC MBEST Center. Yielding some degree of control to a lender could enhance the availability and improve the terms of development financing.
- If the project can qualify under the provisions of the California Reinvestment Act (CRA), the chances of obtaining lender participation in UC MBEST Center projects would be greatly enhanced. Banks are required by law to make loans under the CRA, which apply to communities in particular need of capital investment. Additional information regarding CRA provisions is located in **Technical Appendix I.**
- The key to obtaining financing (for all UC MBEST Center development) is the ability of developers to bring strong deals to the table with 1) signed contracts by well-regarded tenants, and 2) the ability to contribute at least thirty percent developer equity. UC's ability to offer incentives to attract strong and well-known developers/tenants in the initial stage of the project will help to improve absorption.

Each major disposition alternative is briefly described below.[4] **This financial discussion refers to constant (1996) dollars.**

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[4] It should be noted that the Master Plan analyzes development in the City of Marina only. This portion of the UC MBEST Center is assumed to be built-out by 2012. The cash flow analysis indicates that the portion of the UC MBEST Center located in the City of Marina is also financially feasible with results substantially similar as those described below.

- **Land Sales.** Exclusive use of land sales as a disposition strategy would yield the highest return – a capital funding surplus in 2015 estimated to range between $4.4 and $6.6 million.
- **Sale/Lease Transition.** This scenario (shown as Alternatives Three through Six) is presented as a baseline analysis. Under this scenario, the project initiates development using land sales and transitions to use of ground leases over time. Alternatives Five and Six, which use lease revenue bond proceeds to facilitate near-term financing of infrastructure, result in improved project performance over the 1997-2015 period, relative to using lease revenues as cash. This approach provides for maximum front-end cash resources and allows the project to move forward immediately while retaining strategic parcels under ownership of UC or its UC MBEST Center operating entity.[5] As discussed in the following section, it is expected that implementation of this strategy will result in project funding balances ranging from ($1.8 million) to $375,000.

5.3.1.A UC Profit Sharing with the U.S. Department of the Army

UC has entered into a profit sharing agreement with the U.S. Department of the Army (hereafter "the Army") as compensation for property conveyance. The profit sharing agreement provides that fifteen years after conveyance of property (1994), the Army shall be entitled to share forty percent of net profits from UC's land development activities, not to exceed the appraised fair market value of the property as determined by the MAI appraisal at the time of conveyance.

Based on a Memorandum of Agreement (dated August 19, 1994) between the Army and UC, several general principles and terms have been set forth, including:

- **Guiding Principles:** Generally Accepted Accounting Principles (GAAP) as implemented under existing UC accounting practices will be used to determine allowable costs including infrastructure expenses (including installation and financing costs), costs of promotional work, advertising, participation in regional economic development activities, and costs of operation including staff and facilities deployed to attract and influence location and investment decisions of potential users to the UC MBEST Center.
- **Timing:** Settlement of net profit and profit sharing will be undertaken in the fifteenth year (2009). The profit sharing agreement allows for carry forward of both losses and profit throughout the fifteen year period.
- **Definition of Project:** The project includes all parcels conveyed or to be conveyed to UC at the former Fort Ord including lands to be managed by the UC/NRS.

[5] Regardless of the pattern of ownership on the UC MBEST Center, UC can ensure acceptable development type and quality through the implementation of use restrictions and design guidelines specified in the UC MBEST Center Master Plan.

Illustrative scenarios are summarized by **Table 5-3.** Each is profiled below in terms of project funding balance in Fiscal Year 2009/2010. All figures are expressed in constant 1996 dollars. Both scenarios assume that the UC MBEST Center project benefits from development proceeds from off-site land assets (e.g., Eighth Street parcel). Specific economic assumptions made regarding these off-site development proceeds are presented in **Technical Appendix B, Table 9,** in the cash flow model printout.

1. **Land sales.** This scenario assumes that through 2009, all UC MBEST Center land disposition is comprised of fee simple transactions. This disposition method results in the highest balance of all alternatives analyzed, with a balance of $3.4 million projected in FY 2009/10. The Army's 40 percent share is therefore projected to be $1.4 million.
2. **Land sale/lease combination.** This scenario assumes a combination of land sales during the initial phase of the project and a transition to leasehold disposition in FY 2005/06. The use of leases corresponds with UC's desire to maximize ownership of UC MBEST Center lands. The project funding balance in FY 2009/10 is $1.7 million, of which $675,000 would be shared with the Army.

It should be noted that the implementation of the Fort Ord Reuse Plan may yield opportunities for improved cash flow and profit-sharing with the Army. Among the ideas that have surfaced during the course of FORA's board meetings is the concept of redistributing basewide infrastructure costs to reduce the cost burden on critical employment-generating projects such as the UC MBEST Center. This could potentially be accomplished by shifting costs to other land uses better able to support them, such as housing. While any such cost redistribution would likely bolster UC MBEST Center absorption and funding balance, care should be taken to ensure that such proposals do not undermine the development of critically-needed housing for the future employees of the region.

5.3.2 IMPLICATIONS OF TAX INCREMENT FINANCING ALTERNATIVES

An important factor influencing the UC MBEST Center's financial performance is the legislation that governs the use of tax increment generated by the project.[6] A portion of the project is expected to be included in a new redevelopment project area administered by the City of Marina Redevelopment Agency (RDA). Because the area is largely free of development, the frozen property tax base of the project area should be minimal, and the property is not expected to be encumbered by existing debt of RDA.[7]

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[6] Under California Redevelopment Law, jurisdictions experiencing blight in their communities may form a Redevelopment Project Area. Within this area, a jurisdiction's Redevelopment Agency may utilize property taxes generated through incremental increases in assessed value for purposes of improving the Redevelopment Area through the issuance of tax increment bonds.

[7] This analysis assumes that the UC MBEST Center receives tax increment bond proceeds in proportion to its share of new incremental assessed value in the City of Marina Redevelopment Project Area. It is assumed that existing and future debt service payments related to other projects in the RDA will not be deducted from debt proceeds directly affiliated with the incremental assessed value resulting from the development of the UC MBEST Center.

Table 5-3
UC MBEST/Army Profit Sharing Agreement
UC MBEST Center
(1996 $$)

Item	Profit Sharing Amount in 2009
Land Sale (Alternative 2)	
Project Balance (net profit)	$3,414,452
Army Share @ 40% of Net Profit	$1,365,781
Land Sale/Lease Combination (Alt. 6)	
Project Balance (net profit)	$1,687,698
Army Share @ 40% of Net Profit	$675,079

(1) All scenarios assume provisions of AB 2736 apply to tax increment debt proceeds. Ground lease scenario assumes issuance of lease revenue bonds.

For each major alternative, tax increment scenarios have been analyzed in order to account for the implications of operating under both SB 1600 and AB 2736. While these two separate redevelopment laws are discussed in detail below, in general terms SB 1600 provides for FORA to act as a basewide redevelopment authority. Since FORA is being advised by its consultants not to assume this responsibility, the most likely alternative is AB 2736, which allows the project to operate and apply tax increment debt proceeds as a project area in the City of Marina RDA.[8] A similar approach is assumed to apply to UC MBEST Center property within the unincorporated portion of the County of Monterey.

SB 1600

SB 1600 authorizes FORA to collect tax increment generated on this and other basewide property for purposes of bonding basewide infrastructure projects. This legislation generally requires local redevelopment agencies to forward thirty-five percent of gross tax increment to FORA after the local jurisdiction's RDA deducts twenty percent for a housing set-aside account to provide housing for low and moderate income persons. The redevelopment agency is entitled to retain approximately twenty-eight percent of the remaining tax increment, after mitigating any fiscal deficits created by new development resulting from the Base Reuse Plan. Theoretically, a potential UC MBEST Center Mello-Roos Special Tax used to pay for basewide capital facilities would be reduced as a result of FORA's tax increment proceeds. However, at this time there is not enough information to determine the effect AB 1600 would have on the basewide funding balance and how it might affect the UC MBEST Center.

Interestingly, at this time FORA's own Business Planning consultants are recommending that SB 1600's tax increment authority not be utilized. According to the FORA Business and Operations Plan (Appendix B of the Ford Ord Reuse Plan Public Draft), the overall Base Reuse effort is capable of funding capital improvements, but will not generate sufficient annual revenues to pay for public services such as public protection and general governmental functions of local jurisdictions.

AB 2736

If SB 1600 is not utilized by FORA, the most likely option is for the City of Marina to become part of a project area in the City of Marina RDA under the auspices of AB 2736, according to the City's legal redevelopment advisor.[9] In terms of retaining tax increment for bonding capital improvements on the UC MBEST Center site, the provisions of AB 2736 yield an average of $2.2 million more in tax increment bond proceeds for UC MBEST Center capital improvements through 2015, relative to SB 1600.[10] The provisions of AB 2736 are assumed to be in effect in the ensuing cash flow analysis of development.

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[8] Based on conversation and subsequent review of information with Karen Teidemann of the Law Offices of Goldfarb & Lipman, counsel to the City of Marina Redevelopment Agency, September 13, 1996.

[9] Interview of Karen Teidemann of Goldfarb & Lipman, 9/13/96.

[10] The comparative advantage of utilizing AB 2736 instead of SB 1600 varies depending on specific timing and magnitude assumptions regarding land sales versus ground leases.

5.3.3 PUBLIC SERVICES OVERVIEW

Adequate public services in a financially stable community are important considerations for major employers to be targeted by the UC MBEST Center. Based on negotiations currently under way between the UC MBEST Center and the City of Marina (City), it is understood that the City will provide law enforcement and fire protection services to lands within its jurisdiction (the West Campus and the North Central Campus). Public safety services include animal control, hazardous material incident response and emergency medical aid; public roadway maintenance, and planning/building permit services (**Table 5-4**). These services are funded through general and other fund tax revenues. The purpose of this section is to compare tax revenues accruing to service providers as a result of UC MBEST Center development compared to the cost of providing services necessitated by the UC MBEST Center.

The South Central and East Campus portions of the UC MBEST Center are located in the jurisdiction of the County of Monterey. Although formal discussions between UC and the County have not yet taken place, it will be important to reach agreement about service provision and development protocols in these areas in order to prepare for potential demand for the East Campus' expansive lands by medium-to large-scale users in the near future. The fiscal review located in **Technical Appendix D** provides additional detail regarding annual UC MBEST Center-related costs and revenues accruing to the City of Marina and the County of Monterey.

5.3.3.A City of Marina

Overall, it appears that diverting property taxes for purposes of tax increment financing of UC MBEST Center infrastructure will contribute to a moderate project-related annual fiscal deficit averaging ($25,000) annually. This deficit can be reduced or eliminated under several circumstances. For example, the fiscal review assumes that the utilities user tax will sunset as proposed by the City. This is a major funding source that would otherwise result in additional revenues to the City resulting from the development of the UC MBEST Center. The City has recently extended this source for an additional two years. Second, the City is requiring staffing and budget allocations for public safety and road maintenance that are on the higher end of the typical range for such costs. Finally, it is the recommendation of FORA's consultants, if revenues are generated as projected, to use basewide land sale proceeds to mitigate fiscal deficits caused by the reuse of Fort Ord. UC should continue to work closely with the City of Marina to ensure that public safety and road maintenance services can be effectively provided within available City resources.

5.3.3.B County of Monterey

If the South Central Campus or the East Campus develops under the County of Monterey's jurisdiction, it is assumed for purposes of this Business Plan that service costs would equal those estimated by the City of Marina. Estimates of project-related property, sales, and transient occupancy (hotel) taxes expected to accrue to the County of Monterey as a result of UC MBEST Center Development indicate the UC MBEST Center will have a positive fiscal impact on the County. Although revenue projections assume the availability of both transient occupancy taxes (hotel taxes) and property tax revenues, the loss of either one of

Table 5-4
Summary of Public Service Providers
UC MBEST Center

Public Service	Primary Provider
Public Safety	
Law Enforcement	City of Marina Public Safety Department
Traffic Control/Accident Investigation	City of Marina Public Safety Department
Fire Protection	City of Marina Public Safety Department
Hazardous Material Incident Response	City of Marina Public Safety Department
Emergency Medical Aid	City of Marina Public Safety Department
Animal Control	City of Marina Public Safety Department
Public Works	
Public Street/Roadway Maintenance	City of Marina Public Works Department
Community Development	
Planning & Land Use Regulation	City of Marina Planning Department
Building Inspection/Permits	City of Marina Building Inspection Department

Source: Draft Memorandum of Understanding Between the City of Marina and the Regents of the University of California; Economic & Planning Systems, Inc.

these sources would reduce but not eliminate the project's positive fiscal impact on the County. However, it is estimated that the failure to receive benefit of both of these sources may result in annual fiscal deficits. As with the City of Marina, UC should work closely with the County of Monterey to secure mutually acceptable service provision arrangements.

5.4 UC MBEST CENTER CASH FLOW ANALYSIS

The timing of cash flow relative to that of improvement costs is central to project success. Depending on specific market conditions, periodic cash flow shortages could require use of gap funding measures including unimproved land sales, a Regents' Loan, exogenous funding, additional UCSC budget allocations, or any combination of measures. If land sales are initially used for UC MBEST Center property disposition, the need for gap funding is less likely. The following provides a brief description of the cash flow performance of the baseline financial analysis. This analysis assumes that land sales are used exclusively until 2005, and then (market permitting) are gradually replaced by annual ground leases used to service subsequent lease-revenue bond issuance.[11]

5.4.1 OVERALL PROJECT PERFORMANCE

In order to maintain consistency with the FORA planning effort, which analyzes off-site infrastructure costs and overall basewide development through the year 2015, the cash flow analysis described here also encompasses the 1997-2015 period. At the end of the 1997-2015 period, the total project balance for the UC MBEST Center is estimated to break even with a modest surplus of $375,000 (see **Table 5-5**).

Project-based revenues during Phase 1 will need to be augmented by "Other Potential Funding Sources" (see **Table 5-5**) to provide adequate coverage for initial capital improvements. Additional external funding may allow UC to rely more on ground leases than sales before 2005 if the project is, before 2005, attracting strong anchor tenants and/or major developers. An alternative strategy would be to use more land sales, using the improved cash flow performance as well as additional external revenues to fund programmatic activities at the UC MBEST Center. The strategy adopted reflects UC's desire to own the UC MBEST Center land to maintain maximum long-term control over the site.

It should be noted that the disposition of UC MBEST Center property using land sales in no way jeopardizes the UC's goals of enhancing the region's research capacity and conducting economic development. However, UC's time horizons are longer that those of most developers, and as a matter of internal policy, UC has expressed interest in maximizing long-term ownership of UC MBEST Center property. UC can likely increase affect the percentage of property it can retain in ownership by subsidizing development and attracting initial users, who might otherwise require title to the land, by offering highly competitive lease rates. However, additional financial resources would need to become

[11] This is Alternative 6 of the comparative cash flow analyses presented by **Figure 1** in **Technical Appendix A**.

Table 5-5
Cash Flow Summary
UC MBEST Center **Sale/Lease Transition (Tax Increment per AB2736)**
(1996 $$)

Item (1)	Phase 1 1997-2000	Phase 2 2001-2008	Phase 3 2009-2015	Total
Improvement Costs				
MBEST Building Construction	$1,100,000	$0	$0	$1,100,000
Roadways	$479,886	$2,011,746	$1,988,877	4,480,509
Signalized Intersection (Internal)	$0	$145,200	$0	145,200
Blanco/Reservation Signals	$76,230	$132,495	$145,200	353,925
Sewer Lines	$302,016	$193,842	$184,041	679,899
Water Lines	$326,700	$198,924	$214,715	740,339
Retention Basins	$58,080	$87,120	$87,120	232,320
Telecom Conduit	$50,820	$157,905	$277,695	486,420
Street Grading	$169,811	$786,694	$557,488	1,513,993
Landscaping	$202,400	$881,210	$847,100	1,930,710
Basewide/Offsite Facilities	$791,743	$3,356,473	$3,684,852	7,833,068
Habitat Management Facilities	$250,000	$0	$0	250,000
Total Improvement Costs	3,807,687	7,951,608	7,987,087	19,746,383
Project-Based Revenues				
UC Fund Transfer In	$928,000	$1,856,000	$1,624,000	4,408,000
Land Sales	$2,135,920	$5,864,344	$0	8,000,264
Annual Ground Lease	$0	$547,235	$4,982,784	5,530,019
Lease Secured Debt Proceeds	$0	$2,474,760	$4,328,739	8,803,499
Facility and Ag Leases	$208,000	$680,000	$595,000	1,483,000
Telecom User Charges	$50,820	$157,905	$277,695	486,420
Subtotal	$3,322,740	$11,580,245	$11,808,218	26,711,203
Less Operating Costs (Table 5-7)	($2,508,032)	($6,214,008)	($6,147,640)	(14,869,680)
Net Operating Revenues	$814,708	$5,366,237	$5,660,578	11,841,523
Less Debt Service - Lease Secured Debt	$0	($420,149)	($3,182,957)	(3,603,106)
Tax Increment Debt Proceeds	$1,033,270	$2,722,603	$2,777,147	6,533,021
Total Project-Based Revenues	$1,847,978	$7,668,691	$5,254,769	14,771,438
Subtotal A				
Subtotal Project Balance - Annual	($1,959,709)	($282,917)	($2,732,319)	(4,974,945)
Subtotal Project Balance - Cumulative	($1,959,709)	($2,242,626)	($4,974,945)	
Other Potential Funding Sources				
EDA Grants (2)	$2,740,730	$132,495	$145,200	3,018,425
8th Street Development Proceeds	$2,506,917	$0	$0	2,506,917
CDBG Grants	$500,000	$0	$0	500,000
Subtotal B				
Subtotal Project Balance - Annual	$3,787,938	($150,422)	($2,587,119)	1,050,397
Subtotal Project Balance - Cumulative	$3,787,938	$3,637,516	$1,050,397	
Profit Sharing Payment to US Army	$0	$0	($675,079)	(675,079)
TOTAL PROJECT BALANCE - ANNL.	$3,787,938	($150,422)	($3,262,198)	$375,318
TOTAL PROJECT BALANCE - CUM.	$3,787,938	$3,637,516	$375,318	

(1) See Appendix B for a complete printout of the model and detailed assumptions.
(2) Expenditure of grant money assumed to be held in reserve until associated improvement is installed.

available to subsidize development. If the UC MBEST Center cannot secure an additional source of revenue (e.g., a line of credit from UC)[12] it is recommended that land be sold initially.

As shown, major revenues through 2015 include:

- $26.7 million in project based revenues, including land sales ($8.0 million), lease-secured debt proceeds ($6.8 million), annual ground lease revenue ($5.5 million), building leases ($1.5 million), UC allotments ($4.4 million) and telecommunications user charges ($486,000);
- $6.5 million in tax increment proceeds reflecting the provisions of AB 2736;
- $3.5 million in EDA and CDBG grant funding.
- $2.5 million in development proceeds from off-site land assets (e.g. Eighth Street)[13] or other sources.

Major costs include:

- $19.7 million in infrastructure and other capital items including $10.5 million in on-site costs, $7.8 million in basewide Mello-Roos payments (one-time charges paying for the provision of basewide infrastructure), $1.1 million for the initial UC MBEST Center Building construction (including soft costs) and $250,000 in habitat management start-up responsibilities;
- $14.9 million in operating costs including project administration, research and training program administration, out-sourced development and consulting contracts, and asset management;
- $3.6 million in debt service payments resulting from lease-secured revenue bond issuance.

5.4.2 PHASE 1 DEVELOPMENT (1997-2000)

Although Phase 1 is expected to achieve a positive funding balance by the end of 2000, a critical investment hurdle must be cleared in FY 1997/98 in order to initiate development. **Table 5-6** shows an annual cash flow analysis of this phase.

The initial year of development includes substantial improvements estimated to total over $3.0 million, including on-site infrastructure installation and the development of a $1.1 million UC MBEST Center Building (10,000 gross square feet). Project operating costs are

[12] It is not possible to determine the precise monetary sum of additional revenue needed to rely solely on a lease-based disposition program. It is possible, depending on market conditions, lending practices, and other factors, that several million dollars could be required.
[13] The Eighth Street Development Scenario assumes the same project-based revenues and development costs per acre as other UC MBEST Center developed property.

estimated to be about $600,000 during this initial year, which are about 50 percent offset by a UCSC budget allotment and telecommunications user fees. During this initial year, the utilization of grant funds estimated to total $3.2 million largely fills the funding gap, leaving about $91,000 unfunded.

It is critical that the UC MBEST Center focus its efforts over the next two years on securing an additional $250,000 or more to ensure adequate coverage for cost of pre-development activities (e.g., additional CEQA review, subdivision of the property), installing backbone infrastructure, and operating the UC MBEST Center as currently conceived. This money can be generated perhaps through the sale of unimproved land assets or a Regents' loan/line of credit. If this initial investment can be capitalized, subsequent development is expected to build a net project balance of $3.8 million in the subsequent three years of development, enough to fund up-front infrastructure services the second phase of the project.

Moreover, if adequate revenues can be secured, it is highly recommended that the Quad area to the north of Phase 1 lands be opened as a component of Phase 1. It is estimated that accomplishing this would require $1.1 million in additional funding, including the City of Marina's portion of this feature. The City of Marina would need to participate in this arrangement and reimburse the UC MBEST Center for improvements in the City's jurisdiction to ensure the coordinated development of the northern portion of the Quad.

Phase 1 Revenue Summary

Phase 1 is projected to generate $2.1 million in land sales and another $208,000 from Simulator Building and UC MBEST Center Building lease revenues (**Tables 5-5** and **5-6**). Although the project receives $928,000 in revenue from UCSC's annual budget for UC MBEST Center Staff funding over this period of time, this revenue only covers minimal administrative costs for the program and property management. In addition, it is assumed that the project recovers its investment in on-site telecommunications infrastructure through user charges ($51,000). Tax increment bond proceeds total $1.0 million over the initial phase. No revenues for interim agricultural uses are considered.

Operating Expenses

Total operating costs are estimated to be $2.5 million over the initial phase (**Table 5-7**). Operating costs include compensation of UC MBEST Center administrative staff and other UC personnel (including telecommunications and marketing); out-sourced costs such as contract development advising, brokering, property management/accounting, and asset management including grounds maintenance[14], security, insurance, and habitat

[14] It is assumed that private developers leasing or purchasing land on the UC MBEST Center will be responsible for maintaining or funding maintenance of grounds on development parcels. It is assumed that UC grounds maintenance activities will apply to open space parcels within the UC MBEST Center development site, project-wide pedestrian/bicycle paths, recreational areas, site amenities such as the Quad, roadway landscaping and grounds surrounding UC-owned buildings. UC should explore which, if any, of these areas could be maintained by the City of Marina.

Table 5-6
Phase 1 Cash Flow: UC MBEST Center (1996 $$)

Sale/Lease Transition (Tax Inc per AB2736)
Land Secured Debt Scenario

	Phase 1 (fiscal year beginning)			
Item (1)	1997	1998	1999	2000
Improvement Costs				
MBEST Building Construction	$1,100,000	$0	$0	$0
Roadways	479,886	0	0	0
Signalized Intersection (Internal)	0	0	0	0
Blanco/Reservation Signals	76,230	0	0	0
Sewer Lines	302,016	0	0	0
Water Lines	326,700	0	0	0
Retention Basins	58,080	0	0	0
Telecom Conduit	50,820	0	0	0
Street Grading	169,811	0	0	0
Landscaping	202,400	0	0	0
Basewide/Offsite Facilities	0	220,650	285,547	285,547
Habitat Management Facilities	250,000	0	0	0
Total Improvement Costs	**3,015,943**	**220,650**	**285,547**	**285,547**
Project-Based Revenues				
UC Fund Transfer In	232,000	232,000	232,000	232,000
Land Sales	0	595,256	770,332	770,332
Annual Ground Lease	0	0	0	0
Lease Secured Debt Proceeds	0	0	0	0
Facility and Ag Leases	0	38,000	85,000	85,000
Telecom User Charges	50,820	0	0	0
Subtotal	282,820	865,256	1,087,332	1,087,332
Less Operating Costs	(598,960)	(574,707)	(628,217)	(706,148)
Net Operating Revenues	**(316,140)**	**290,550**	**459,115**	**381,183**
Less Lease Secured Debt Service	0	0	0	0
Plus Tax Increment Debt Proceeds	0	445,047	243,799	344,423
Total Project-Based Revenues	**(316,140)**	**735,597**	**702,914**	**725,607**
Subtotal A				
Subtotal Project Balance - Annual	(3,332,083)	514,947	417,367	440,060
Subtotal Project Balance - Cum.	(3,332,083)	(2,817,136)	(2,399,769)	(1,959,709)
Other Potential Funding Sources				
EDA Grants (2)	2,740,730	0	0	0
8th Street Development Proceeds	0	0	2,506,917	0
CDBG Grants	500,000	0	0	0
Subtotal B				
Subtotal Project Balance - Annual	(91,353)	514,947	2,924,284	440,060
Subtotal Project Balance - Cum.	(91,353)	423,594	3,347,878	3,787,938
Profit Sharing Payment to Army (40% of 2009 balance)	0	0	0	0
TOTAL BALANCE - ANNUAL	(91,353)	514,947	2,924,284	440,060
TOTAL BALANCE - CUM.	(91,353)	423,594	3,347,878	3,787,938

(1) See Appendix B for a complete printout of the model and detailed assumptions.
(2) Expenditure of grant money assumed to be held in reserve until associated improvement is installed.

Table 5-7
MBEST Operations Budget
UC MBEST Center

Item	Phase 1 1997-2000	Phase 2 2001-2008	Phase 3 2009-2015	Total
ADMINISTRATIVE BUDGET				
UC MBEST Staff	$608,000	$1,216,000	$1,064,000	$2,888,000
(Director, Assoc. Director, and Assistant)				
Office/Marketing Expenses	$180,000	$360,000	$315,000	
MBEST Education/R&D (4)	$395,000	$1,264,000	$1,106,000	$2,765,000
UC Business Services (1)				
Telecommunications	$24,989	$68,927	$64,534	$158,450
Planning/Real Estate	$49,978	$137,854	$129,067	$316,899
Legal	$37,484	$103,391	$96,800	$237,675
Plant/Engineering	$29,154	$80,415	$75,289	$184,858
Campus Liaison	$24,989	$68,927	$64,534	$158,450
Subtotal UC Business Services	$166,594	$459,514	$430,224	$1,056,331
Outsourced Professional Services				
Real Estate Brokerage (2)	$64,078	$270,413	$325,880	$660,371
Contract Development Adviser (3)	$228,000	$461,700	$399,000	$1,088,700
Property Management/Accounting	$100,000	$350,000	$350,000	$800,000
Consulting Contracts	$160,000	$320,000	$280,000	$760,000
Subtotal Professional Services	$552,082	$1,402,124	$1,354,891	$3,309,096
TOTAL ADMIN. BUDGET	$1,957,467	$4,686,895	$4,229,065	$10,873,428
ASSET MANAGEMENT				
Private Security	$174,720	$349,440	$305,760	$829,920
Grounds Maintenance	$29,835	$394,358	$845,070	$1,269,263
Habitat Management	$222,000	$444,000	$388,500	$1,054,500
Insurance	$4,580	$43,410	$86,500	$134,490
SUBTOTAL ASSET MGMT	$431,135	$1,231,208	$1,625,830	$3,288,173
Expense Contingency Fund	$119,430	$295,905	$292,745	$708,080
TOTAL OPERATIONAL COSTS	$2,508,032	$6,214,008	$6,147,640	$14,869,680

(1) UC personnel expected to provide services as needed. Total compensation as percent of on-site capital costs = 10%

(2) Commission as percentage of fee simple land value is assumed to be: 3.0%

(3) Total compensation based on level of development activity.

(4) Includes personnel for administering UC MBEST Center research and training networks.

Source: Economic & Planning Systems, Inc.

management. In addition to the current staffing, the initial organization required to develop formal research and training institutes is expected to require an additional one half-time position initially, increasing over time to two new full-time positions by the beginning of Phase 2.

Phase 1 Capital Balance

Comparing backbone infrastructure costs per square foot of $3.66 to the estimated (fee simple) land value of $4.02 per square foot, the Phase 1 capital balance is $0.36 per square foot.

5.4.3 PHASE 2 DEVELOPMENT (2001-2008)

This analysis assumes that the UC MBEST Center project will fund operations and capital improvements during Phase 2 solely with project-based sources. Additional external sources (e.g. government grants) would release more project funds for initiation of the UC MBEST Center research and training programs and/or lessen the need to sell land rather than lease it. The initial section of Phase 2 consists of Package 2, which is leveraged by the underlying utility installations performed under Phase 1 using grant funds. With the completion of a connecting roadway to Blanco Road including a major interchange serving the UC MBEST Center site, the Central Campus will be accessed from both Blanco and Reservation Roads. During the same phase the project can continue to offer flexibility to prospective tenants by continuing development of the West Campus (Package 5).

Infrastructure Costs

Required capital investment for this phase is estimated to be $7.9 million. Major on-site cost items include a signalized intersection on Blanco Road ($132,500). Other roadway improvements comprise $2.8 million of on-site costs in this phase, including grading. These costs include extensive improvements to Imjin Road, which could be scaled-back depending on strategic implementation objectives.[15] Other capital items include off-site costs of $3.4 million, paid over the full eight-year period as new buildings are constructed.

Revenues

The project generates $11.6 million in project-based revenues during this phase. No grants or off-site land sales are assumed to be available, beyond the allocation of a $134,000 EDA grant to offset the cost of a new signalized intersection on Blanco Road. Land sales provide the bulk of project revenue ($5.9 million). Facility leases provide $680,000 over this eight-year phase.

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[15] Assumes that the City of Marina will pay for seventy-five percent of roadway and associated landscaping costs of the two-lane Imjin Road section north of the "four corners", as the UC MBEST Center traffic will access the UC MBEST Center via an internal roadway. All other roadway and utility costs along the City of Marina/UC MBEST Center border are split evenly between the two jurisdictions. The cash flow analysis pertains only to improvements on UC MBEST Center property.

Near the middle of Phase 2, market conditions may facilitate the initial use of ground leases in 2005. Ground lease revenues over the last four years of this phase are assumed to generate $547,000. Bond proceeds financed by lease revenue are expected to yield $2.5 million over this phase.

Tax increment from development could amount to $2.7 million over Phase 2. It is assumed that the UC's annual allocation for UC MBEST Center remains the same as in Phase 1 during this period.

Operating Expenses

Operating costs are estimated to be $6.2 million during Phase 2, averaging $778,000 annually. This is slightly higher than the previous phase on an annual basis due to the salaries paid to two full-time coordinators running the UC MBEST Center's research and training networks. In addition with more development area to maintain and administer, costs such as landscape maintenance will increase over time.

Phase 2 Cash Flow

Package 2 has an average land value of $4.21 per square foot and total infrastructure costs of $2.66 per square foot, yielding a positive land residual of $1.55 per square foot. The underlying utilities installed during Phase 1 are largely responsible for this positive capital balance. The location along Blanco and Reservation Roads yields valuable frontage that is expected to facilitate the development of 19,000 square feet of retail space which increases land value.

In contrast, Package 5 achieves a break-even capital balance, with infrastructure costs of $3.85 about equal to its estimated land value. Package 5 may achieve slightly lower than average land values due to light industrial land uses, which over the long term are expected to yield lower rents and generate lower sale proceeds and/or ground lease payments than R&D land uses. Package 5 also entails the high costs of improving Imjin Road. Depending on specific disposition plans for the West Campus, it may be possible to scale-down certain Imjin Road improvements (such as landscaping), thereby improving basic land economics of Package 5.

Phase 2 alone is expected to generate a minor deficit project balance of $(150,000). Added to the estimated project surplus of $3.8 million developed through buildout of the first phase, the cumulative surplus is expected to be $3.6 million by the end of Phase 2. The funding of Package 2 should not be problematic due to its relatively inexpensive improvements and the assumed generation of land sales proceeds from Phase 1.

5.4.4 PHASE 3 DEVELOPMENT (2009-2015)

Phase 3 develops the centerpiece of the Central UC MBEST Center, including Package 4 to the north of Reservation Road and the South Central Campus (Package 6). Package 4 includes extensive roadway and signalization infrastructure, and includes the Quad landscape feature north of the entrance to the UC MBEST Center -- expected to become a

central focus of the UC MBEST Center. Package 6, located in the County of Monterey's jurisdiction, includes a large habitat area in its center, as well as a hotel/conference center on its southern parcel. Package 6 has also been considered as a potential location for an expanded UC MBEST Center educational facility.

Infrastructure Costs

Infrastructure costs over this six-year phase are estimated to be $7.98 million, the highest of all phases. Major capital items include the extensive internal roadways, internal signalization, and completion of intersections on Blanco and Reservation Roads, made necessary by the traffic volume threshold triggered introduced by the cumulative development introduced through this phase.[16] Roads and intersections (including grading) are estimated to comprise 34 percent of total costs ($2.7 million). The land economics of the South Central Campus (Package 6) are favored by the relatively simple and inexpensive on-site infrastructure required for development.

Revenues

Total project-based revenues received during this six-year third phase are estimated to be $11.8 million. While the early (2005) introduction of ground leases is expected to result in substantial generation of annual lease revenue and enables receipt of substantial bond proceeds, debt service payments are also very high. However, the timely introduction of ground leases will enable UC to assert additional control over UC-affiliated development sites, such as the Quad. Tax increment proceeds are considerable at this phase of development, with $2.8 million generated over the period.

Operating Expenses

The project incurs $6.1 million in operating expenses over this phase. Operating revenues are slightly higher than previous phases on an annual basis due to the more rapid absorption of land, higher contract development fees, and increased property management, marketing, and other responsibilities associated with the rate and magnitude of development transactions.

Phase 3 Cash Flow

Package 4 results in a slightly negative land residual of ($0.12) per square foot. This is a result of the expensive infrastructure program for this mainly R&D area, including development of the Quad. Package 6 generates a positive residual of $1.90 as a result of the hotel's influence on land values and a very simple improvement program.

After profit-sharing with the Army, a marginal capital surplus of $375,000 is expected to result at the end of Phase 3 through the improvement and subsequent leasing of Package 4 (includes the Quad), which will require substantial roads, intersections, and landscaping, and Package 6, which is assumed to accommodate development though FY 2015/16. If

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[16] Based on analysis of trip generation and facilities needs by Korve Engineering. See **Appendix H** for additional detail.

necessary, the relatively economical (yet high amenity) Package 6 could be developed earlier in the project, perhaps substituting for either Package 4 or Package 5.

Because Package 6 is currently located in the County of Monterey's jurisdiction, the UC MBEST Center management must take steps prior to development to ensure that services to this parcel can be provided in a timely and economical manner. According to a fiscal review (See **Technical Appendix D**), County tax revenues generated from Package 6 development should be adequate to fund services at the same level as those provided to the City of Marina's jurisdiction.

5.4.5 EAST CAMPUS CASH FLOW IMPLICATIONS

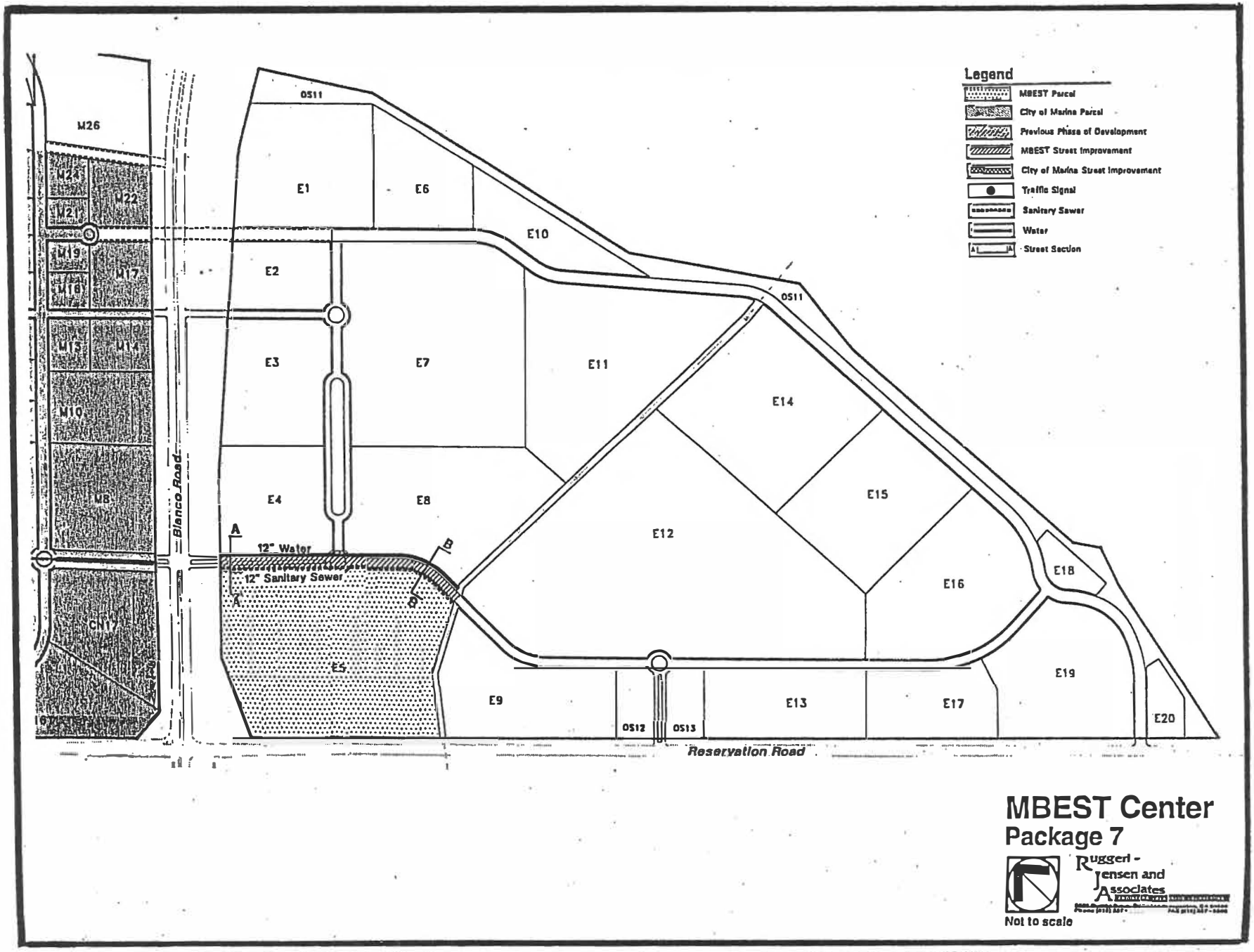
The East Campus is a 233-acre area of land located to the east of Blanco Road. This area, over the long-term, will house the bulk of the UC MBEST Center's development. Although it is expected that the 120-acre West and Central Campuses will accommodate projected development through 2015, portions of the East Campus could be utilized if needed. The large-scale, high visibility, scenic qualities of this area could result in demand for this land prior to buildout of other areas.

This area, due its large scale and efficient layout of planned infrastructure improvements (as discussed below), has the potential to generate substantial revenue for the UC MBEST Center. Overall, initial development is expected to be most cost effective in Packages 1 through 6. Once these packages are developed, the comparatively low development cost per square foot on Packages 7 and 8, in combination with the expectation of a better-established real estate market in the Monterey Bay region and the arrival of a critical mass of development activity at the UC MBEST Center site, may result in one or more of the following for the UC MBEST Center:

- more funds to invest in UC MBEST Center-related programs per acre of development;
- less reliance on land sales;
- more opportunity to negotiate successfully with targeted tenants;
- opportunity to have more land developed annually with corresponding cash flow benefits; and
- opportunity to attract larger firms whose impact on the UC MBEST Center may be substantial.

As with the East Campus in general, the 22-acre Package 7 (**Figure 5-2**) is very efficient in terms of per square foot infrastructure cost burdens, with land values estimated to average $4.29 per square foot and total costs estimated to be $3.02 per square foot. It is recommended that a mix of land sales and ground leases be utilized if this area is developed late in the period (e.g., after 2005). If this area is developed earlier, then a slightly heavier balance toward land sales will likely be necessary in order to provide required funding for operations and improvements, similar to the 40/60 land sale to ground lease disposition ratio assumed in the foregoing analysis, depending of course on specific tenant, market, and lender preferences.

Figure 5-2


Legend
MBEST Parcel
City of Marina Parcel
Previous Phase of Development
MBEST Street Improvement
City of Marina Street Improvement
Traffic Signal
Sanitary Sewer
Water
Street Section
M26
M24
M22
M21
M19
M17
M18
M15
M14
M10
MB
CN17
OS11
E1
E6
E10
E2
E3
E7
E11
E14
E4
E8
E12
E15
E16
E18
E5
E9
E13
E17
E19
E20
OS12
OS13
A
B
12" Water
12" Sanitary Sewer
Blanco Road
Reservation Road
MBEST Center
Package 7
Ruggeri - Jensen and Associates
Not to scale

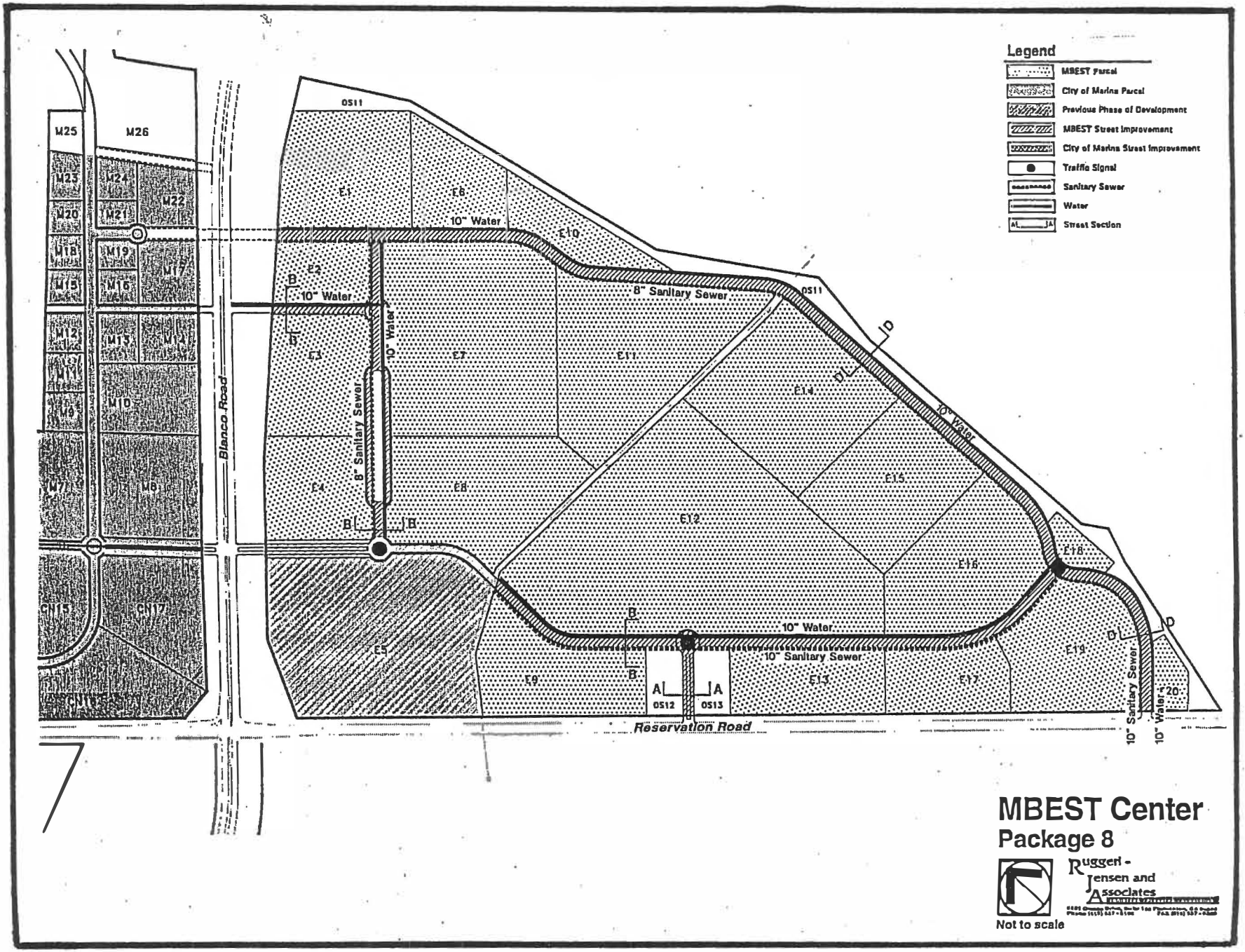
Subsequent development on the East Campus could be approached around the perimeter of the parcel, depending on specific user needs. Relatively simple improvements, such as development of modest interior entrances from Reservation and/or Blanco Roads, can open up very large parcels of land to development. Because UC MBEST Center utilities will be extended from the west, it is likely that the western portions of the East Campus will be less expensive to develop initially. Once basewide improvements to water and wastewater are in place, the remainder of the East Campus (Package 8) is expected to generate substantial development proceeds (**Figure 5-3**).

The scale of the property affords an efficient approach to project layout that can facilitate maximum development efficiency and minimum per acre costs. Values are estimated to average $4.09 per square foot, compared to development costs of $2.67 per square foot, yielding a capital funding balance averaging $1.93 per square foot. Therefore, if portions of the East Campus are developed instead of North Central Campus areas (e.g., Package 4) prior to 2015, it is likely that cash flow will be improved over the development scenario presented above, assuming that utilities are extended to Packages 1 and 2 as articulated in the initial development strategy.

However, early development of the East Campus (as well as the South Central Campus) would introduce several new challenges, including the need to extend utilities across the North Central Campus and Blanco Road (if development is prior to development of Packages 1 and 2), the location of the property outside of the City of Marina and therefore the City's Redevelopment Area, and the need to arrange public services provision with the County of Monterey. The fiscal review conducted as a part of this Business Plan (see **Technical Appendix D**) indicates that revenues generated by development in the County will offset costs of providing public safety and road maintenance services to the project. This appears to hold true even if property taxes are utilized for tax increment financing with the implementation of SB 1600. However, specific arrangements for service provision to the East Campus would need to be negotiated between UC, the County of Monterey, and (possibly) the City of Marina. One potential scenario includes having public safety and other services provided for the County by the City of Marina under a contract between the two entities.

Based on the development scenario presented in this chapter, the development of Packages 1 through 6 results in a break-even scenario by 2015, assuming a combination of land sales and leases as specified in the preceding discussion. Under this scenario, it would be necessary to secure additional funding before initiating development of Package 7, for example, in 2016. Capital costs associated with initiating development in this area are approximately $1.5 million. It is recommended that the UC MBEST Center secure at least this amount, plus additional revenue for unforeseen expenses and operating funds in order to ensure that post-2015 development can be feasibly improved and managed. It is recommended that the UC MBEST Center have an additional $2.5 million in reserve prior to continuing development, under this scenario. This amount could be derived from additional grants, a bulk sale of unimproved land, additional reliance on land sales (versus ground leases) over the 2005-2015 period, and/or additional funds allotted to the project by UC.

Figure 5-3


Legend
MBEST Parcel
City of Marina Parcel
Previous Phase of Development
MBEST Street Improvement
City of Marina Street Improvement
Traffic Signal
Sanitary Sewer
Water
Street Section
M25
M26
M23
M24
M22
M20
M21
M18
M19
M17
M15
M16
M12
M13
M14
M11
M10
M9
M7
M8
CN15
CN17
CN16
Blanco Road
OS11
E1
E6
10" Water
E10
E2
B
10" Water
8" Sanitary Sewer
OS11
D
E3
E7
E11
10" Water
E14
E4
8" Sanitary Sewer
E8
E15
E12
E18
E16
10" Water
E5
E9
A
OS12
A
OS13
10" Sanitary Sewer
E13
E17
E19
D
10" Sanitary Sewer
10" Water
20
Reservation Road
MBEST Center
Package 8
Rugger - Jensen and Associates
Not to scale

5.5 CASH FLOW FEASIBILITY CONCLUSIONS

The following general conclusions reflect the major findings of the feasibility analysis. **Chapter 6** builds on these findings to recommend strategies for funding UC MBEST Center operations and infrastructure.

The UC MBEST Center project can break even financially over 20 years if a number of critical assumptions are met. The prospects of satisfying these assumptions are optimistic but not unrealistic. However, an early investment of even several million dollars in addition to the funds considered here would reduce the reliance upon certain assumptions substantially. Key assumptions include:

- **The R&D market will continue to become more interested in Monterey County than it has been in the past.** This is likely to require more commercially-related research activity and graduate students in the region, especially at UCSC; the availability of technically sophisticated undergraduates at UCSC and CSUMB; effective R&D workforce training programs in the region; and the physical presence of UC research programs at the UC MBEST Center.

- **UC sells (not leases) 40 percent of its property,** including all property developed through 2005, exercising its control over the property through CC&Rs and deed restrictions on permitted uses.

- **Competitive land rents and building lease rates are realized.** This is estimated to require ground leases of $14,000 per acre per year for finished land, and facility leases for buildings constructed by third party developers of $0.88 per square foot per month (NNN), for buildings that cost $80 per square foot to construct, using R&D space as an example.[17]

- **The surrounding community supports the project.** This support needs to evidenced by actions such as: ensuring that Mello-Roos special taxes imposed by FORA are less than $1.50 per square foot for off-site infrastructure; using the equivalent of all tax increment revenue generated from UC MBEST Center property on infrastructure that serves the UC MBEST Center site; expediting property entitlement; expediting permitting; allocating additional water as required on a first-come first-served basis; jointly marketing the UC MBEST Center program and site; assisting UC MBEST Center firms in identifying suitable housing for their employees; and supporting improvements to offsite infrastructure.

[17] Includes the cost of providing surface parking.

5.6 ATTACHMENT A: DETAILED FINANCIAL ASSUMPTIONS

Major assumptions having direct impact on project feasibility were addressed in the main portion of the cash flow analysis. Examples include assumptions regarding the use of ground leases versus land sales, and the relative effects of alternative legislation affecting the use of tax increment revenues (e.g., SB 1600 versus AB 2736). The following provides more detailed assumptions supporting the financial feasibility analysis.

GENERAL ASSUMPTIONS

1. The costs of providing public services to the project are analyzed in detail in the Public Services Analysis (**Technical Appendix D**).

2. It is assumed that purveyors of electrical and gas services (PG&E) and other utilities will use rate-based charges to offset project-related capital expenses.[18]

3. All revenues, expenses, and capital costs are expressed in constant (1996) dollars.

4. All soil remediation costs are assumed to be funded by the U. S. Army. It is assumed that all land will be positioned to be developable by 2001.

5. Demolition of the Motor Pool Building and existing wood buildings will be funded by exogenous revenue sources.

6. Installation of first phase infrastructure is assumed complete in fiscal year 1997/98.

7. Development of new buildings on first phase land is assumed to begin in fiscal year 1998/99.

8. The average percentage distribution of built space by use types, for purposes of calculating land values and ground lease rates, is roughly as follows: 55 percent R&D, 18 percent light industrial; 9 percent office; 1 percent retail; 9 percent education; and 8 percent hotel. This distribution varies somewhat by Package Area.

9. Educational land uses are assumed to pay market lease rates equal to R&D users (e.g., $0.88 per square foot per month triple net rent).

REVENUE ASSUMPTIONS

10. The baseline analysis assumes a distribution between land sales and annual leases of forty and sixty percent, respectively, with land sales used initially and leases used at the end of the period.

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[18] According to the City of Marina, as an alternative, improvements may need to be financed by property developers. Specific arrangements must be resolved prior to development initiation. .

11. Annual ground lease revenues are calculated at eight percent of residual land value. Residual land values are calculated using currently prevailing project costs, rental rates, and capitalization rates based on regional market research. Assumed monthly lease rates (triple net) per square foot of leasable space are $0.88 per square foot for R&D; $0.65 for industrial; $1.30 for office; and $1.20 for retail.

12. Tax increment assessed valuation is based on use of both fee-simple and long-term lease disposition. Possessory interest taxes are based on capitalized net operating income of users. See Public Services Plan (**Technical Appendix D**) for a more detailed explanation of basic assumptions affecting tax increment revenues.

13. Tax increment and lease revenue bond proceeds are calculated assuming an interest rate of 7.5 percent. Term is 25 years and debt coverage ratios are 1.2 (tax increment bonds) and 1.3 (lease revenue bonds).

14. UC budget allocation to the UC MBEST Center project begins in Fiscal Year 1997/98 at $232,000 annually. This amount includes an allocation ($152,000) for three UC personnel (Director, Associate Director, and an assistant), a $25,000 allocation for property management, and a portion of a $55,500 annual allocation for the UC/NRS. These are annual allocations subject to ongoing UC review and approval.

15. No revenues from research, training, parks and recreational facilities are estimated.

16. Lease revenues are expected to keep pace with the assumed inflation rate of 3.0 percent.

17. The initial UC MBEST Center Building is assumed to be 10,000 square feet in size, with 8,000 square feet of rentable area. Operating revenues are based on estimated market rents and expenses.

18. Flight Simulator Building revenue is based on a continuation of current user types, with educational and R&D users incurring lease rate increases at the end of current lease contracts.

19. Agricultural leases on the East Campus are not assumed. It should be noted that the ability to generate lease revenue from such leases could reduce the proportion of the project that would need to be sold versus leased.

EXPENDITURE ASSUMPTIONS

20. The financial analysis assumes that, with the exception of telecommunications, utility systems' annual operating and maintenance costs will be provided through the rates charged by appropriate districts and City departments taking over the systems. Therefore, these costs are not included in the cash flow analysis. Telecommunications infrastructure owned and operated by UC MBEST Center will be paid through user charges.

21. Habitat management capital is assumed to be $250,000 total, incurred in FY 1997/98.

22. Off-site infrastructure costs are paid through one-time Mello-Roos special taxes of $64,897 per acre of land. These costs are assumed to be paid at the time building permits are taken out with the City of Marina or the County of Monterey. Costs are set according to FORA Base Reuse Plan, and are first applicable in fiscal year beginning 1998 to the UC MBEST Center Building. Off-site infrastructure includes basewide transportation, water, wastewater, and public safety capital facilities.

23. On-site infrastructure includes roadways, signalized intersections, UC MBEST Center access improvements, sewer lines, water lines, retention basins, telecommunications conduit, street grading, and roadway landscaping. In addition, UC is funding the maintenance of surrounding 600 acres of natural habitat. Costs include a 21 percent contingency and 20 percent soft costs.

24. Annual operating costs include UC MBEST Center Administrative Staff, UC Business Services, outsourced professional services (real estate brokers, contract development advisor, accounting, consultants), and asset management including private security, grounds maintenance, habitat management, and insurance, as described below:

    a. UC MBEST Center Administrative Staff. This staff comprises a director, associate director, and an assistant. Personnel costs are reimbursed by the UC in short-term. Mid- and long-term options are open, including transition to alternative entity (e.g., LLC or non-profit corporation). Annual costs (fixed) are $232,000 (constant dollars) including administration, property management, and a portion of natural reserve annual costs. It is not expected that a transition to an alternative entity will have a substantial effect on annual costs. Included in the annual fixed cost are office expenditures of $45,000 annually.

    b. Research and Training Network Staff. Starting with one position and increasing to three FTE's over time, at an average salary of $79,000. This may be sufficient to initiate the Baseline Scenario discussed in Scenario 3.5.3.B.

    c. UC Business Services. It is assumed that specialized expertise (telecommunications, planning/real estate, legal, engineering, campus liaison) from UC will be utilized on a periodic basis. It is assumed that this cost is equal to 10 percent of total capital construction costs associated with installation of on-site infrastructure and the UC MBEST Center Building. This does not include: UC's personnel costs associated with building construction on its property (e.g. property planning, risk management, inspectors, telecommunications); the use of UC Administrators and other offices related to general operations prior to formation of a separate organizational entity; or the use of UC space at the UC MBEST Center site or the UCSC campus. All of these services are normally captured as Indirect Costs applied to revenue. Such use of indirect costs is anticipated but has not been treated in this analysis.

d. Outsourced Professional Services. UC MBEST Center out-sourcing will be necessary for real estate brokerage services (3.0 percent of fee simple land value), contract development services ($114,000/FTE, varying with development activity), property management/accounting (0.5 FTE increasing to 1.0 FTE at $50,000/FTE annually) and consulting ($40,000 annually).

e. Private security. Beginning in 1999 full-time private security costs are assumed throughout the year. Depending on specific agreements negotiated with the City of Marina, this cost may be reduced as a result of City-provided public protection services.

f. Grounds Maintenance. It is assumed that approximately 15 percent of the gross developable area will be maintained at a cost of $8,500 per acre. This estimate assumes an emphasis on water-efficient indigenous vegetation.

g. Insurance. Insurance expenses are assumed to be $0.01 per square foot of building space. Insurance is expected to be minimal, as private developers will carry their own insurance for their UC MBEST Center projects.

h. Expense Contingency Fund. An amount equal to 5.0 percent of total operating expenses has been set aside for contingency expenses.

6.0 IMPLEMENTATION STRATEGY

With a completed Business Plan and a corresponding Master Plan in place, there are a number of tasks that need to be undertaken to keep the project moving forward through the implementation process. These tasks include revising the organizational framework and staffing of the UC MBEST Center, marketing, securing agreements with local governments, coordinating financing and marketing efforts with FORA, establishing financing mechanisms, implementing the programmatic activities of the UC MBEST Center, establishing outsourcing contracts, and pursuing development and disposition of the UC MBEST Center site.

This section of the Business Plan sets forth a strategic blueprint for undertaking these various tasks in an efficient, prioritized manner to move implementation forward. The development and operation of the UC MBEST Center will require thoughtful and responsive management on a day-to-day basis that addresses the many issues and actions needed to accomplish the goals of the Center, and adapts continually to the exigencies of emerging market, financial and political circumstances.

This implementation strategy is intended to serve as a guide to the things that must be done to initiate the process and establish an organization and program capable of the dynamic action and adaptation that will be crucial to the project's success. The success of the project will be dependent on attaining the support of key stakeholders, including UC, other research institutions, FORA, and City and County agencies, as well as the financial, development and business communities. Finally, dedicated staff with the essential skills to carry out the program will be very important assets in achieving the goals of the project.

6.1 STRATEGIC ACTION PROGRAM FOR PROJECT IMPLEMENTATION

6.1.1 UC MBEST CENTER ORGANIZATION AND OPERATIONS

The successful development of the UC MBEST Center project requires an effective organizational framework to guide the marketing and management of the property disposition. In order to effectively market property and manage activities at the UC MBEST Center, it is essential that the organization be capable of effectively carrying out a full array of development responsibilities, including infrastructure financing, marketing, leasing, property disposition, and asset management.

The current organization that is staffed by UC will represent the first stage organizational entity to commence the operations of the UC MBEST Center. This group will be responsible for carrying forward the marketing and development of the property, as well as initiating the research and technology development programs of the Center.

It will be necessary to clarify the decision making processes and authority within UC to provide the initial staff with as much capacity for timely decision making on transactions as possible in order to ensure their ability to respond to appropriate market opportunities. The consultants also recommend it will be advantageous to move toward a semi-autonomous organization, with more resources and transaction authority as soon as it is financially feasible to do so.

Efforts to define and lay the groundwork for this organization, described in **Chapter 2**, should continue. In the meantime, the current staff should move ahead with the action items described in this section as expeditiously as their resources will allow, drawing from additional UC staff and resources wherever possible.

6.1.2 MARKETING

6.1.2.A Regional Economic Development

From its inception, the UC MBEST Center has played a role in regional economic development, and has seen promotion of the region for high technology, research-based businesses as central to its mission. Through participation in the Monterey Bay Futures group, as well as regular interaction with FORA, AMBAG, Monterey County, and various City economic development agencies and business leaders involved in economic development efforts, the UC MBEST Center has established itself as an active partner in the efforts to facilitate the emergence of new business clusters along the Monterey Bay Research Crescent.

The Market Evaluation and Strategy Plan which was prepared at the same time as this Business Plan, evaluates the opportunities for promoting growth of high technology industries in the region, focusing especially on information science, biotechnology, multimedia and environmental technologies. This effort has yielded a strategic blueprint for pursing these industry sectors, individually and collectively, by leveraging the region's assets as well as the UC MBEST Center site and its sponsorship by UC.

The operational strategy for research and technology development described in detail in **Chapter 2** is designed specifically to further the efforts of UC towards regional economic development via the UC MBEST Center. The implementation of these efforts will entail, first, enabling the organizational framework to carry forward the various strategies to link research institutions and local business; and, second, undertaking as many activities as time and resources allow to operationalize these linkages.

These activities, which are described more fully in **Chapter 2**, range from brokering research contracts among various Research Crescent institutions, to initiating research consortia, to fostering or providing various training and education programs, to creating a presence of UC professional schools at the UC MBEST Center site. The overall intent of these initiatives is to provide a competitive advantage to targeted business sectors in the

Monterey Research Crescent Region to promote the region as a recognized center for these activities, in order to facilitate regional economic development, and to enhance the academic programs at UCSC and other regional institutions.

6.1.2.B Real Estate: Marketing the UC MBEST Center Site

The marketing of the UC MBEST Center site will draw from, and support, the regional marketing efforts described above. The development of the UC MBEST Center site provides a geographical focus and UC presence to further research, technology, and regional economic development. As is the case with most research parks, the real estate development of the UC MBEST Center is not viewed by UC as an end in itself. Nevertheless, the methods used to locate and secure tenants for the site will be similar to the marketing efforts employed for most large-scale research and business parks, and should include the following elements.

Tenant Recruitment

The staff of the UC MBEST Center should be actively involved in recruiting potential tenants. Many corporations and government institutions prefer to deal directly with representatives of the property rather than a broker when evaluating a site. Companies often do not want it to be public knowledge that they are shopping for a facility location and therefore avoid the brokerage community. Furthermore, direct solicitation of prospects by the management entity can motivate brokers to aggressively pursue their leads. The marketing activity that has occurred to date is evidence of the value of in-house staff that can respond to inquires and follow-up with potential tenants.

A key element in successfully obtaining tenants for the UC MBEST Center will be the service and personal attention provided to prospective tenants and developers. Face-to-face contact with prospects is a major component of the marketing effort. The initial meeting and tour of the property and region provided by in-house staff is often crucial for creating a positive first impression of the project and management organization. For key prospects, private meetings with high-ranking UC officials and civic leaders could be instrumental in successfully marketing the property.

In-house staff can also play an important role in promoting the site nationally. Key staff should participate in relevant organizations and attend national conferences to market the property. Appropriate collateral marketing materials, as discussed below, will be important to supporting these marketing efforts.

Broker Solicitation

Listing property at the UC MBEST Center with the top brokerage houses in the Monterey and San Francisco Bay Area regions will be an integral part of the marketing program. Brokers are an excellent source of tenant prospects for firms based within the region, throughout the country and internationally. As corporate business operations have become more international in scope, real estate brokerage firms have followed suit by developing international networks of affiliated offices. Through their networks, the major brokerage firms expose a property to a national and international client base.

Commissions. Real estate brokers are compensated for leasing property through commissions. It is important that the UC MBEST Center set forth a standard policy concerning the payment of commissions. One potential policy on commissions is that the entire commission is paid by the buyer or lessee. Buyers will respond with a bid price that is "net of commission". In other words, the sales price or initial lease payment in deals with the UC MBEST Center would be modified to compensate the buyer for the half of the commission that normally would be paid by the seller. In cases where the land owner is restricted in its ability to pay commissions, this makes it possible to compensate brokers and also results in a lower price and property tax obligation for the buyer.

Use of Multiple Brokerage Firms. A critical issue for the UC MBEST Center is whether to enter into an exclusive contract with one brokerage firm or allow multiple firms to list property at the UC MBEST Center. Based on interviews with brokers and other groups marketing large-scale commercial properties throughout the United States, we recommend that the UC MBEST Center develop a reward-based program by which multiple firms are invited initially to list and market the UC MBEST Center property.

Portions of the West and Central campuses should be open for the brokers to market in Phase 1. At least two brokers should be given an exclusive listing on selected groups of parcels. Those brokerage firms that are successful in leasing property should be rewarded with additional property listings. Those firms that do not perform will not be eligible for listings on subsequent releases of property. Additionally, UC MBEST Center brokers should be instructed to work with and split commissions with non-listing brokers who bring transactions to the project.

The UC MBEST Center should hold a brokerage conference during which pertinent information regarding the property is provided (see discussion of Technical Service Package and Marketing Brochure below) and the reward-based program discussed. The purpose of this conference is to inform the entire brokerage community of the opportunities offered by the site, and to provide orientation and generate interest among the prospective listing brokers. Periodic updates of the status of development and tours of the property for brokers should be scheduled.

Listing brokers should be selected in a competitive process in which a selected group of brokers is asked to present a package detailing qualifications, marketing strategies, and commission structure. UC MBEST Center staff should conduct interviews and select the initial set of brokers for exclusive listing, matching broker qualifications with identified parcel groups as much as possible.

6.1.2.C Marketing Materials

Marketing materials are a primary medium for disseminating information about the UC MBEST Center. A variety of materials should be developed for specific purposes. The following describes the key materials that should be developed and alternative ways to disseminate the information.

Primary Materials

Promotional Sales Brochure. A professionally-designed sales brochure sent directly to prospects and industry contacts is one of the primary avenues for marketing property at the UC MBEST Center. The brochure should carry a distinctive logo. Brochures are generally developed in a 9-by-12-inch, fold-out design with general literature about the project, management group, the region, a site map, a location map and selected information about the project such as existing tenants and site amenities. The brochure should be designed with pockets to allow revisions and updates without reprinting the entire brochure.

The brochure should have a professional and distinctive quality, which conveys an image that sets the project apart from competitive properties. Pictures, renderings and other graphics should be used liberally in the promotional literature.

Technical Service Package. A technical service package that contains detailed information of interest to prospective clients should be developed. The technical package should be disseminated to brokers actively marketing the site, FORA, and prospective tenants that convey a serious interest in the property. The technical service package should include information on: regional growth trends; business operating costs (e.g. taxes, utility rates); public services (e.g. police, fire, utilities); transportation services, site Master Plan, CC&Rs and design guidelines for the site; and relevant information from the Business Plan.

Marketing Center. An on-site marketing center should be developed to serve as a central location for dissemination of marketing material and the staging area for tours of the property. Given the large scale of the UC MBEST Center's land assets, it may be useful to develop a model of the property that can be used to provide prospective tenants with a perspective of the entire site and show the long-term vision for the project. The model should be prominently displayed in the marketing center. Other marketing materials, such as the brochure and technical service package, should also be displayed at the marketing center. The marketing center should be in the UC MBEST Center Building located in the North Central Campus.

Video. A video (or CD ROM if cost effective) that describes the history of Fort Ord, the conversion to civilian use, the attributes of the region, and the long-term vision of the UC MBEST Center property can be an effective tool for conveying the ultimate design and function of the UC MBEST Center to prospective tenants. In marketing the UC MBEST Center on a national and international basis, a video or multimedia presentation can be an effective tool for showing the property to prospective tenants that otherwise may not consider the site.

Newsletter. A bi-annual newsletter that highlights development activities at the UC MBEST Center is an effective way to keep the UC MBEST Center in the minds of prospective tenants. A well-designed and well-edited two to four page newsletter that discusses current activities and future plans at the UC MBEST Center can create the sense of momentum that is critical to getting a project of this size off the ground.

Other Marketing Options

Other marketing strategies that might be pursued are:

1. Focus articles for trade journals should be prepared and submitted for publication. Trade journals are an excellent way to market the UC MBEST Center to a target audience for limited costs. Urban planning and economic development journals include *Urban Land, Economic Development Commentary*, and *Planning* (American Planning Association). Other journals oriented to scientific community would also be appropriate.

2. Press releases and feature articles in national press such as the New York Times, Wall Street Journal and Los Angeles Times should be pursued. The national press tend to be interested only in projects with tangible results to display.

Target Mailing Lists. An important component of distributing marketing material, such as the newsletter and the sales brochure, is to develop an appropriate list of target firms and industry contacts. Target firms will be identified through a combination of sources including referrals, unsolicited inquires, personal contacts, trade journals, industry association directories and business list databases.

From the initiation of marketing efforts, a database of target firms should be compiled and maintained. The database should include the name, address, contact, firm description, source of lead and notes regarding materials that have been sent. Multiple contacts within key firms should be pursued, including VP's of R&D, marketing, and facilities planning, in addition to CFO's and CEO's.

In addition to distributing market information to local and regional research organizations, businesses, and jurisdictions, the UC MBEST Center can obtain valuable national exposure through developing contacts at and participating in selected national organizations. The Association of University Related Research Parks (AURRP) can provide exposure for the R&D activities planned at the UC MBEST Center. Other associations that are relevant to the activities at the UC MBEST Center are the National Association of Installation Developers (NAID), the Urban Land Institute (ULI) and the National Council for Urban Economic Development (NCUED).

6.1.3 INFRASTRUCTURE FINANCING

The financing and development of backbone infrastructure, including roads, sewer, water, utilities and storm drainage will be a critical function of the UC MBEST Center staff. Initial improvements will need to be funded in large part from grants and other funding sources not tied specifically to project development. Subsequent improvements will rely principally on revenues generated through project development, and will need to be driven by market activity and land transactions to the maximum extent possible.

Funding of off-site sewer, water and roadway improvements will be accomplished through cooperation in FORA's basewide financing program. It is anticipated that a one-time Mello-Roos special tax will be utilized to contribute towards these improvements on a per acre basis as development occurs. This Mello-Roos levy is estimated to be $1.49 per square foot of land. The amount of the Mello-Roos might be reduced by FORA to the extent that land sales provide revenues to fund some of the off-site improvements or that FORA receives government grants for infrastructure. Moreover, the redistribution of basewide infrastructure costs to other land uses, such as housing, may result in a reduction of basewide costs allocated to the UC MBEST Center and other lands designated for employment-generating uses. It is expected that any reduction in basewide costs would improve the absorption schedule and increase the project's funding surplus.

Given the need to tie infrastructure development to: 1) the availability of outside grants or other revenues, and 2) actual land transactions and development, infrastructure development will necessarily be an opportunistic process that will require ongoing oversight and management by UC MBEST Center staff. The purpose of this financing strategy is to set forth the framework for infrastructure financing, in terms of the improvements to be funded, the available financing resources, and the mechanisms that should be employed.

More detailed analysis will be needed to establish financing districts or prepare for any debt issuance that may be necessary. These more detailed analyses will have to occur after more definitive cost estimates, based on engineering design of improvements, and more certainty regarding the timing of development are available.

The cash flow and financial feasibility of the infrastructure financing and land development program are discussed in detail in **Chapter 5.** The financing strategy outlined in this chapter reflects the cost and value relationships and financing mechanisms incorporated in the cash flow and feasibility analysis.

6.1.3.A Improvements to be Funded

Both on-site and off-site improvements need to be funded in order to facilitate development at the UC MBEST Center. The categories of infrastructure improvements that will need to be funded include the following:

- UC MBEST Center Headquarters Building
- Roadways
- Signalized Intersections (on-site)
- Signalized Intersections (off-site)
- Sewer Lines

- Water Lines
- Storm Water Retention Basins
- Telecommunications Conduit
- Street Grading
- Landscaping
- Basewide/Off-site Improvements (Roads, Water, Sewer)
- Habitat Management Facilities

The phasing of these improvements will be tied closely to the rate of development dictated by market absorption. Initial investment will be required to open up the first phase of land available for development.

6.1.3.B Sources of Funding

Potential funding sources and financing mechanisms identified to date are described briefly below. The actual amount of funding available will depend on a number of factors, including the outcome of negotiations with the federal government, the availability of grant funds, market conditions and the success of the development program, and policy decisions regarding the allocation of FORA and City funds. For example, property tax increment is shown as a potential funding source; however, this will require creation of a (planned) redevelopment area by one or more of the local governing bodies, and a determination that the property tax revenue is best utilized for infrastructure investment.

There are five principal sources of funding for the infrastructure development program:

1. **Lease Revenues and Land Disposition.** These funds include lease revenues generated from the existing buildings, and the sale or lease proceeds from the disposition of land. The objective of UC is to maximize the leasing of land versus land sales. As discussed in the financing strategy below, some land sales may be necessary to accomplish the infrastructure financing.

   The value that private development can pay to lease or purchase the land for new development is the principal source of revenue to support development of the UC MBEST Center. The revenues derived from the leasing of existing buildings are less significant, because there are few such buildings.

   The value that is created from these sources, after providing for the funding of UC MBEST Center operating and maintenance costs, which will also be funded initially to some degree by UC, can be applied directly to improvements on a cash basis, or by requiring developer construction in lieu of land payment, or can be leveraged through various financing mechanisms including:

   - Lease Revenue Bonds
   - Public Enterprise Revenue Bonds
   - Certificates of Participation (COP)
   - Landscape and Lighting Maintenance Districts

The financing of improvements on a cash basis or through in lieu construction by developers is the most cost effective means of financing and should be pursued to the maximum extent possible.

2. **Project-Generated Property Tax Increments.** If FORA does not exercise its special legislative authority to utilize basewide tax increment financing, the City of Marina may implement a redevelopment plan to enable tax increments generated by UC MBEST Center development to be used to help finance required infrastructure improvements. If FORA does elect to utilize its tax increment authority, tax increment revenues are still likely to be available for the UC MBEST Center, but probably would be lower than if Marina adopts a redevelopment area.

   Under a redevelopment plan, the incremental property taxes generated by development at UC MBEST Center can be used to support bonded indebtedness for infrastructure and land improvements. The bond proceeds would be based on the value of development in each phase, which assumes that the public capital improvements for each phase can be constructed simultaneously with development; otherwise, additional short-term gap funding may be required. Such gap financing might take the form of a revenue anticipation note, for example, or perhaps a Regents' Loan.

3. **Basewide Financing.** FORA is implementing a financing program for basewide infrastructure improvements. By far the most important and expensive infrastructure item is basewide and off-site transportation improvements that are expected to improve access to Fort Ord from other regions via US 101, as well as providing for efficient traffic flow within the base. Three principal mechanisms are available to FORA to finance basewide infrastructure.

   - **Mello-Roos.** All properties within Fort Ord would pay one-time Mello-Roos special taxes to FORA, which would use this revenue on a cash basis to finance infrastructure. The UC MBEST Center project would pay approximately $64,900 per acre to FORA for this special tax, payable at the time that building permits are taken out at the City of Marina. Other basewide R&D projects would pay similar rates.

   - **Tax Increment.** At this time, FORA's consultants have recommended that tax increment financing not be used, as the Base Reuse Plan is estimated to have sufficient funds for capital items but insufficient annual operating revenues. Local jurisdictions would have access to property taxes to pay for services if basewide redevelopment is not implemented by FORA. The City of Marina, however, is likely to adopt alternate tax increment legislation to help fund UC MBEST Center infrastructure.

   - **Land Sales Proceeds.** FORA may use land sale proceeds throughout the base to pay for capital funding. The UC MBEST Center project has not been assumed to share land sale proceeds with FORA as the land has been conveyed directly to the UC Regents.

4. **Outside Funding.** A number of funding sources not tied to development on the site or other areas of the base may be utilized as part of the UC MBEST Center financing program. These include grants, such as EDA and CDBG funds, private donations, Regents' loans, and other sources yet to be identified. In some cases, such as with grants or donations, these funds can be applied directly to improvements without any debt encumbrances. In other cases (e.g., Regents' loans) funds may need to be paid back out of project proceeds at a later date.

5. **User Charges.** It is assumed that user charges will be a source for capital investment in utilities, including off-site sewer, water, gas, electricity, and telecommunications improvements. Additionally, it has been assumed that UC will install telecommunications conduit as part of the backbone infrastructure for the UC MBEST Center project, and that the cost of the conduit will be offset by user charges paid either by tenants or major providers, such as Pacific Bell, if UC elects not to provide the service itself.

6.1.3.C Recommended Financing Strategy

Table 6-1 illustrates how these funding sources may be applied to accomplish the financing of infrastructure for the UC MBEST Center. The analysis reflects the same phasing of infrastructure and development as presented in the cash flow analysis in **Chapter 5.** Development is broken down into three phases: Phase 1 (through 2000); Phase 2 (2001-2008); and Phase 3 (2009-2015).

In addition to the capital cost items discussed above, the analysis reflects the funding of management and operating costs for the UC MBEST Center. These operating costs include:

- UC MBEST Center Staff
- UC MBEST Center Training/Research Network Administration
- UC Business Services
- Broker Commissions
- Contract Developer Fees
- Property Management/Accounting Fees
- Marketing Materials and Fees
- Consulting Fees
- Asset Management Costs
- Expense Contingency Funds

For purposes of illustrating the sources and uses of funds, it is assumed that land disposition occurs initially on a sale basis, and then on a long-term lease basis, with no discount of land value for leasing versus sale of land due to the relatively long terms (66+ years) utilized for ground leases. The combination of land sales and leases described here maximizes the amount of land leased within the project (60 percent leases/40 percent sales) while covering project costs. This may represent the best course for UC.

As shown in **Table 6-1**, improvement costs in Phase 1 are estimated to total $3,808,000. Total project based revenues, net of operating costs, including an estimated $1,033,000 in tax increment bond proceeds, are estimated to be $1,848,000. The resulting financial balance, before considering outside funding sources, is estimated to be a negative balance of ($1,960,000).

Offsetting the negative financial balance in the first phase are grants from EDA of $2,700,000, a grant from the CDBG of $500,000, and proceeds from off-site property development (or some other source) of $2,507,000. With these funds, the project would end the first phase with a positive funding balance of $3,788,000, which would be accrued and applied to the next round of improvements in Phase 2. While there is a positive balance at the end of Phase 1, there is a need for short-term gap funding to pay for the first set of improvements, as discussed in **Chapter 5**.

Under this scenario, the project generates enough revenue from land sales that, combined with other project-based revenues, it maintains a project surplus over the two subsequent phases, ending Phase 3 with a marginal surplus of $375,000. This revenue is insufficient to be carried over for subsequent investment in the project in the East Campus. This balance includes payment of 40 percent of the net profit accrued by 2009 to the Army as compensation for the land under the terms of the Economic Development Conveyance. As discussed in **Chapter 5**, the 2009 project balance is $1,688,000 under this scenario, yielding a payment to the Army of $675,000 (in constant 1996 dollars). The land sale scenario indicates a projected payment of $1,366,000.

6.1.4 FORA COORDINATION

FORA is charged with guiding the reuse and development of the Fort Ord base as a whole. While much of the development and operating activity of the UC MBEST Center will be carried out independently, it will be necessary to coordinate and cooperate with FORA in a number of key areas, including the following.

1. **Tax Increment.** If FORA undertakes tax increment financing under SB 1600, the special legislation that authorizes them to do so, it will be critical to work with FORA, as well as the City of Marina and Monterey County, to ensure that UCMBEST Center financial requirements are addressed to the maximum extent possible.

2. **Mello-Roos.** FORA financing plan calls for the creation of a Mello-Roos Community Facilities District to fund basewide infrastructure. UC MBEST Center staff will need to work with FORA representatives on the formation of the district, reviewing tax rate formula and other aspects of the financing to ensure they are consistent with project financing needs. Additionally, it will be important for the UC MBEST Center to have a voice and an ongoing role in the allocation and phasing of improvements to ensure that investment priorities are consistent with the development requirements of the UC MBEST Center.

Table 6-1
Cash Flow Overview
UC MBEST Center **Sale/Lease Transition (Tax Increment per AB2736)**
(1996 $$)

Item (1)	Phase 1 1997-2000	Phase 2 2001-2008	Phase 3 2009-2015	Total
Improvement Costs				
MBEST Building Construction	$1,100,000	$0	$0	$1,100,000
Roadways	$479,886	$2,011,746	$1,988,877	4,480,509
Signalized Intersection (Internal)	$0	$145,200	$0	145,200
Blanco/Reservation Signals	$76,230	$132,495	$145,200	353,925
Sewer Lines	$302,016	$193,842	$184,041	679,899
Water Lines	$326,700	$198,924	$214,715	740,339
Retention Basins	$58,080	$87,120	$87,120	232,320
Telecom Conduit	$50,820	$157,905	$277,695	486,420
Street Grading	$169,811	$786,694	$557,488	1,513,993
Landscaping	$202,400	$881,210	$847,100	1,930,710
Basewide/Offsite Facilities	$791,743	$3,356,473	$3,684,852	7,833,068
Habitat Management Facilities	$250,000	$0	$0	250,000
Total Improvement Costs	3,807,687	7,951,608	7,987,087	19,746,383
Project-Based Revenues				
UC Fund Transfer In	$928,000	$1,856,000	$1,624,000	4,408,000
Land Sales	$2,135,920	$5,864,344	$0	8,000,264
Annual Ground Lease	$0	$547,235	$4,982,784	5,530,019
Lease Secured Debt Proceeds	$0	$2,474,760	$4,328,739	6,803,499
Facility and Ag Leases	$208,000	$680,000	$595,000	1,483,000
Telecom User Charges	$50,820	$157,905	$277,695	486,420
Subtotal	$3,322,740	$11,580,245	$11,808,218	26,711,203
Less Operating Costs (Table 5-7)	($2,508,032)	($6,214,008)	($6,147,640)	(14,869,680)
Net Operating Revenues	$814,708	$5,366,237	$5,660,578	11,841,523
Less Debt Service - Lease Secured Debt	$0	($420,149)	($3,182,957)	(3,603,106)
Tax Increment Debt Proceeds	$1,033,270	$2,722,603	$2,777,147	6,533,021
Total Project-Based Revenues	$1,847,978	$7,668,691	$5,254,769	14,771,438
Subtotal A				
Subtotal Project Balance - Annual	($1,959,709)	($282,917)	($2,732,319)	(4,974,945)
Subtotal Project Balance - Cumulative	($1,959,709)	($2,242,626)	($4,974,945)	
Other Potential Funding Sources				
EDA Grants (2)	$2,740,730	$132,495	$145,200	3,018,425
8th Street Development Proceeds	$2,506,917	$0	$0	2,506,917
CDBG Grants	$500,000	$0	$0	500,000
Subtotal B				
Subtotal Project Balance - Annual	$3,787,938	($150,422)	($2,587,119)	1,050,397
Subtotal Project Balance - Cumulative	$3,787,938	$3,637,516	$1,050,397	
Profit Sharing Payment to US Army	$0	$0	($675,079)	(675,079)
TOTAL PROJECT BALANCE - ANNL.	$3,787,938	($150,422)	($3,262,198)	$375,318
TOTAL PROJECT BALANCE - CUM.	$3,787,938	$3,637,516	$375,318	

(1) See Appendix B for a complete printout of the model and detailed assumptions.
(2) Expenditure of grant money assumed to be held in reserve until associated improvement is installed.

3. **Utilities Conveyance.** Utilities conveyance strategy will be very important in the short-term. Specific considerations include:

   - **Roads.** Imjin Road will be owned by UC and Marina. As such, permanent easements can and should be negotiated as part of any agreement conveying those roads to City or County jurisdiction as public roads. Those easements should preserve the University's right to place conduit and cable under the roadway or cable over the roadway at specific points.

   - **Power.** The Army and PG&E are nearing completion of negotiations regarding transfer of the power system to PG&E. It will be important for the UC MBEST Center to ensure that PG&E provides reliable power to the project, which may require bolstering the local power grid to stabilize the system – a very important consideration for large-scale R&D users.

   - **Wastewater.** Currently, the UC MBEST Center benefits from capacity in the regional plant already purchased by the Army. It will be important to ensure that the UC MBEST Center can assume continued use of this capacity (20,000 gallons per day) without paying connection fees. This capacity is estimated to be sufficient to serve about 208,000 square feet of development split between UC and Marina. For future development on the UC MBEST Center, UC should continue to push for use of basewide rate-based financing of major system upgrades.

   - **Water.** It is expected that FORA will support a public benefit conveyance of the basewide water system to Marina Coast Water District. At this time, the conveyance application has not been submitted nor has the FORA board authorized such an application. As with wastewater, UC should push for implementation of rate-based financing of major water system upgrades.

   - **Telecommunications.** As of July 10, 1996, an agreement was reached with the U.S. Army to allow for the ownership transfer of the existing 300 pair copper cable and the supporting conduit system. As part of that agreement, Pacific Bell will install a fiber-optic cable that will reach the site via Reservation Road. The UC MBEST Center will be deeded ownership of a single 4" underground conduit which will run from the existing Flight Simulation Building down Imjin Road to the south side of Reservation Road. In the short-term, this conduit will provide an adequate option for an independent, privately-owned connection between the existing building and a new building that would be located on Parcels W3 (West Campus) or CN1 (western portion of the North Central Campus). It will not, however, provide that connection if the new building is to be constructed close to the Quad. However, it is recommended that (if financially possible) the initial building be located close to the Quad for strategic purposes, as the overall returns from the first phase development strategy are expected to eclipse the marginal cost of extending telecommunications infrastructure to this area.

4. **Marketing.** FORA has been designated as the principal organization responsible for marketing Fort Ord as a whole. It will be important for UC MBEST Center staff to work with FORA representatives to help craft the marketing message and strategy that relates to the UC MBEST Center and the aspects of regional economic development that relate to the UC MBEST Center. It will be appropriate also to share marketing materials and resources with FORA, as well as utilize FORA resources to augment the marketing efforts of the UC MBEST Center.

6.1.5 REGULATORY/ADMINISTRATIVE ACTIONS

6.1.5.A UC MBEST Center Organization and Staffing

The initial staffing and operations funding level for the UC MBEST Center has been established with a budgetary allocation from UCSC. This should be adequate, with some outsourcing of tasks, to continue moving the project through entitlement, initial marketing efforts, and the first phase of improvements to be funded through grants and other outside funds. It will be necessary, however, to begin the process of defining the precise organizational framework for the quasi-independent organization and working within the UC system to bring it into being as soon as resources allow.

Regardless of the organizational structure being used, the outsourcing of tasks including development management, property management, and marketing assistance will allow the UC MBEST Center to retain knowledgeable specialists in key areas while preserving maximum discretion and flexibility in allocating resources

6.1.5.B Public Services Plan

The terms of the public service plan summarized in this Business Plan and presented in **Technical Appendix D** need to be confirmed and implemented by the City of Marina as development proceeds. It is possible that a lower level of staffing and costs could be sufficient to service the UC MBEST Center and surrounding areas in practice. The need for private security, which is reflected in the operating cost of the project, should be reevaluated in light of the level of public safety protection that the City of Marina expects to provide to the area.

6.1.5.C Memorandum of Understanding (MOU)

The roles and responsibilities of the City of Marina and UC/UC MBEST Center in the financing of infrastructure to serve their joint projects, as well as the terms under which entitlements will be secured for UC MBEST Center properties need to be finalized in an executed MOU between the City and UC and in an agreement between UC and the City of Marina Redevelopment Agency.

6.1.5.D Regent Process

The completed Master Plan will need to be taken to the Regents of the University of California for approval, prior to significant development of the site.

6.1.5.E Agreements with Local Jurisdictions

It may be advantageous in marketing the UC MBEST Center property to have a development agreement or similar vehicle between the City of Marina and the UC, which confirms the level of entitlement for the property, financial commitments from UC and City of Marina and other issues pertaining to how development will be carried out. The scoping, drafting and negotiation of this agreement should occur after the UC MBEST Center Master Plan is accepted by the Regents.

6.1.5.F Subdivision and Tentative Map

An important step in securing development entitlements for the property, it will be necessary to file appropriate subdivision and tentative maps for approval by City of Marina. This should occur after UC Regents' approval of the Master Plan.

6.1.5.G Adoption of Master Plan as a Specific Plan

It is recommended that this Master Plan be packaged as a Specific Plan consistent with the State of California's Specific Plan legislation. Specific Plans are intended as a "bridge" between general plan policies and individual development proposals. Specific Plans direct all facets of future development: from the distribution of land uses to the location and sizing of supporting infrastructure, from methods of financing public improvements to stands of development.

6.1.5.H CEQA Documentation

The FORA EIR and the City of Marina Airport EIR (February 21, 1995) may serve as program EIRs for the UC MBEST Center project. At such time that a specific development application is made and/or the time of adoption of the Specific Plan, it will be necessary to prepare an environmental assessment to determine whether the program EIR is sufficient, or if additional CEQA review will be necessary.

6.1.5.I Other Regulating Actions

In addition to the development standards (which become an overlay on the zoning ordinance upon adoption of the Specific Plan), UC may impose additional restrictions on its land through: covenants, conditions and restrictions (CC&Rs) pertaining to operational management and financial issues; lease provisions; and/or deed restrictions.

6.1.5.J Natural Reserve System

The fencing improvements and annual maintenance program reflected in the operating assumptions and costs for the UC MBEST Center are being implemented. The HMP and the HMP Implementation Agreement are expected to be finalized in the near-term.

6.1.6 SITE DEVELOPMENT AND DISPOSITION

There are a number of activities that need to be carried out in order to pursue the ongoing development and disposition, whether through lease or sale, of the UC MBEST Center property. These include the following:

6.1.6.A Marketing and Disposition Technical Assistance Team

This recommendation parallels a similar recommendation in the FORA Business Plan. Particularly in the early stages of the process, the UC MBEST Center will need to outsource some of its marketing and development activities. It would be advantageous to select a group of marketing, real estate and development professionals who could effectively work as an extension of UC MBEST Center staff on an as needed basis to provide the outsourced services in the most cost effective and timely manner possible. This would greatly enhance both the real estate expertise and the responsiveness to opportunity of the UC MBEST Center staff, and facilitate the development of the site and the generation of cash flow to carry the UC MBEST Center program forward.

Marketing and real estate consultants could be selected by RFP in the same manner that they have in the past. A selection process for a contract developer is described below.

6.1.6.B Contract Developer Solicitation

It is recommended that UC outsource some of the development tasks related to land transactions, arrangement of financing, and oversight of third party development. This can be accomplished by contracting with a qualified developer to provide services on an as needed basis. A compensation package can be developed that would combine hourly charges, lease and sale commissions, development fees based on the value of construction and/or other methods for relating the costs of development services directly to the services provided.

It would be advantageous for the UC MBEST Center to carefully select a contract developer to serve on an ongoing basis, developing a fruitful relationship over a period of years as project development proceeds. The developer should possess expertise and experience in developing the types of space needed by tenants in targeted market segments, and be capable of understanding and internalizing the goals and objectives of UC with respect to the development of the UC MBEST Center. The compensation package should provide incentives that are consistent with achieving UC's mission for the UC MBEST Center, not merely developing the site as quickly as possible.

The contract developer should be selected on a competitive basis. UC should identify five or more candidate developers who may be qualified based on their development track records, knowledge of the area, tenant contacts, prior contract development experience, expressed interest and other factors.

These firms should receive a carefully crafted Request For Proposals (RFP), requesting a proposal from the developers that outlines qualifications, marketing and development strategies for the site and a proposed compensation scheme. The RFP should provide information on the site; its regulatory and market context; the Master Plan; and UC's vision, goals, and objectives for development of the site.

UC should make a short list of prospective developers from these responses, then conduct interviews to select one or more finalists. The details of the contract should then be negotiated with the most preferred candidate. If a satisfactory arrangement cannot be reached with the first choice, negotiations should be undertaken with the second candidate, until the optimum arrangement is worked out. A key criterion, beyond excellent qualifications, should be the ability to tie compensation to performance and to the availability of project-generated revenues to the maximum extent possible.

6.1.6.C Third Party Developer Solicitation

It may be appropriate as part of the first phase development strategy to solicit a developer for a portion of the site. Initial site improvements and infrastructure will be funded by EDA and CDBG grants, and other outside funds. At completion of these improvements, several prime R&D sites in the Central Campus as well as several sites in the West Campus suitable for light industrial or R&D uses will be ready for development. As a way of testing the market and initiating the first round of development, it may be useful to solicit a developer through the RFP process. Responding developers may have a build to suit client, or may be willing to build on a speculative basis on the strength of UC's association with the project, and a favorable land price.

The RFP should be issued to a pre-selected group of developers, comprising a larger number of prospective developers than the RFP for the contract developer. Some of the same developers, however, would be on both lists. The RFP should specify all the factors that affect development on the site, including:

- The size, location and topography of the parcel;
- The desired range of uses and user types;
- The planning, design guideline and CC&R restrictions on the site;
- The financial terms being offered by the UC MBEST Center (e.g., price or lease rate for improved land);
- Any required infrastructure improvements and applicable financing sources and mechanisms;
- Any final entitlement or environmental clearance requirements;
- Any UC entitlement or approval processes that remain to be done; and

- Any other factors that influence the type, timing and cost of development on the site.

The RFP should also indicate that the developers' response should include at least the following items:

- A conceptual development plan for the site;
- A prospective tenant profile and marketing strategy;
- Time frame for site acquisition and development;
- Project financial proformas, including development costs, rents, tenant improvement allowances, building operating costs, developer overhead and profit and other aspects of project economics;
- Price and terms offered for the land;
- Proposed financing;
- Developer qualifications and credit worthiness.

Responses to the RFP should be reviewed and evaluated according to criteria established by the UC MBEST Center. Interviews should be conducted with finalist and negotiations undertaken with the first choice. A backup choice should be identified in case the UC MBEST Center cannot come to terms with the first choice candidate. The drafting, review, and negotiation of the RFP can be assisted by the Marketing and Disposition Technical Team.

6.1.6.D Utilities Design and Engineering

Before installation of infrastructure can begin, a further round of engineering design will be needed. The cost of this level of design is estimated as part of the infrastructure costs and will be subject to the same sources of financing as the improvements themselves. For example, if a bond is issued for improvements, the cost of engineering design may be covered by the bond proceeds. Interim funding for engineering services will be needed prior to bond issuance, but can be repaid or recouped from bond proceeds.

6.1.6.E Interim Leases

An early task of the UC MBEST Center staff should be to determine whether there will be any interim leasing of the site for agriculture, or for any other purposes not specifically called for in the Master Plan. An interim lease for agriculture on the East Campus could be a very beneficial use of the land that would improve project economics significantly, and help facilitate project start-up. It is recommended that this option be pursued, as long as it does not appear likely that such an interim use will hamper long term development of the site for its planned uses.

6.1.6.F Initial Site and Infrastructure Development

As discussed in **Chapter 5**, it is recommended that development of the site begin with improvements to the Central Campus that will open up several key parcels, as well as with development of parcels in the West Campus that can be served largely with existing infrastructure. Securing EDA and CDBG grants and aggressively pursuing other outside funding is recommended as a first priority effort. Additionally, active follow up of all inquiries and leads from developers and users should continue to be a high priority activity with the intent of: 1) securing an acceptable development on the West Campus that will generate early project funding, and 2) securing a signature development on the Central Campus that will help to establish project identity as well as cash flow.

6.1.6.G Development of UC MBEST Center Building

As part of the initial site development described above, the UC MBEST Center should aggressively seek funding to construct the UC MBEST Center Building on the Central Campus. This building should be in a prominent location that will establish identity immediately and that will be in a central location later on as development proceeds.

It is recommended that efforts be made to secure funding for a building larger than the 10,000 square foot facility currently contemplated in order to create a more visible presence and to provide more flexibility in the activities that can be housed within the building, including UC MBEST Center services, incubator uses and leasing to private tenants. A building in the 30,000 to 50,000 square foot range would better leverage market opportunities.

Funding of this building will have to come either from outside funding sources, or possibly from some kind of joint venture with a private developer. The latter should only be considered if the identity of the building with UC/UC MBEST Center and its programs can be retained effectively over time. It will be necessary, too, to determine the legal/institutional constraints on such a UC/private sector partnership under these conditions.

6.1.7 RESEARCH/TECHNOLOGY DEVELOPMENT PROGRAMS

An important dimension of the purpose and function of the UC MBEST Center is to carry out programmatic activities aimed at fostering research and technology development, and enhancing education and training in high technology sectors in the Monterey Bay Region. As discussed in depth in **Chapter 2**, there are a great many activities that could be initiated, managed or conducted by the UC MBEST Center, including, among others:

- **Creating a Presence of UC Professional Schools at the UC MBEST Center Site.** Location of an engineering school offering undergraduate and graduate programs, a business extension program focusing on high technology start-up development and/or other UC instructional programs would be a major asset. This could be a joint venture with other regional institutions such as CSUMB, MIIS, or NPS.

- **Research Collaboration/Brokering.** A host of activities could be undertaken by the UC MBEST Center to facilitate joint research and technology development among private enterprise and the variety of research and education institutions in the Monterey Bay Research Crescent.

- **Provision of Services.** To facilitate research, education and technology transfer the UC MBEST Center might provide services such as multipoint video teleconferencing, computer aided translation, or brokering of resources such as access to super computer time or specialized equipment and capabilities within the region.

- **Training.** The UC MBEST Center might provide specialized training to businesses directly, attract corporate training facilities, or broker specialized training resources available in institutions already present in the Monterey Bay Research Crescent.

- **UC MBEST Center Business Incubator.** The UC MBEST Center might set up a business incubator in its headquarters building, offering lab and office/R&D space and various business development services to start up business in target sectors.

It is anticipated that these activities will expand and develop over time as regional economic development and relationships between the existing research institutions, UC/UC MBEST Center and the business community develop. Early efforts will need to be carried out by the initial UC MBEST Center staff primarily with the funding allocated from UC.

At most, the operating budget assumed for the UC MBEST Center in this financial feasibility study provides for only five people funded either by UCSC (three staff members) or project revenue (two staff members) to carry out all of these activities. Additional personnel must be funded by the activities themselves or by other stakeholders. There are numerous potential sources of funding for these activities that relate to the activities themselves, including research grant funds, fees for services, contributions from other research institutions participating in consortia, business sponsorship, and private donations. A critical element of implementing this dimension of the UC MBEST Center is to try to leverage initial UC funding to develop program funding as part of development of each program undertaken.

6.2 RECOMMENDED ACTION AGENDA

The following sets forth a recommended sequence of actions intended to enable the success of the UC MBEST Center. These actions are based on the research, analyses, and policies described in the preceding sections of this report. The actions recommended include those essential to proper initiation of the project and those required to sustain it over time.

6.2.1 IMMEDIATE ACTIONS (COMPLETE WITHIN 8-10 MONTHS FROM COMPLETION OF BUSINESS PLAN)

6.2.1.A Review of Business Plan and Approval of Master Plan by the UC Regents

The UC MBEST Center needs to receive clear policy guidance and commitments from UCSC and the UC Regents. Consideration should be given to:

1. *Financial Investment.* Our analysis suggests that over time a financial investment of about $35,000,000 (in 1996 dollars) in capital and operating expenses will be required to implement development through 2015. The project, including grants, is expected to fund the vast majority of this required investment through land sales/leases, tax investment revenues, grants, and other sources. The remainder has been pledged as a permanent budget allocation from UCSC. An additional $2.5 million is the minimum additional revenue needed in order to sustain development beyond 2015. Our analysis indicates that the project can be largely financially self-sufficient although it will require a sustained UC commitment of about $232,000 per year, initial government grants of $3.3 million for which applications already have been made, and an additional $2.5 million of capital to the project (such as from the Eighth Street parcel). Consideration of financing is multifaceted and includes considerations such as the ability to provide financial backing for purposes of lending, UC's ability to subordinate leasehold interest to enable more immediate use of ground leases, the willingness to locate a UC facility on-site, and the availability of various "Regents' Loans" and/or lines of credit from UC, regional government, or other sources to provide gap funding for capital and/or operational needs.

2. *Administrative Framework.* An administrative framework for managing the UC MBEST Center project should be evaluated and created as finances allow. The entity and approach selected should have greater flexibility than the University has in conducting land transactions and other issues including the ability set up the institutional structures discussed in **Chapter 2**, such as a Limited Liability Corporation and/or non-profit corporations to handle research, training, and real estate functions of the UC MBEST Center. Other issues to be considered include, the ability for UC to enter into joint ventures with private sector partners (e.g., a major institutional lender, telecommunications anchor, etc.) that may have strong financial interests in the project.

6.2.1.B Assemble Technical Assistance Team

In order to enhance initial tasks including specifying terms of future conveyances, CEQA review, FORA coordination, creation of a subdivision map, and initial marketing and development activities, it is recommended that a technical assistance team be assembled. The team can be consist of key UC personnel as well as outsourced engineering, real estate, legal, and development professionals as needed. A precise budget for remaining pre-development activities must be created to ensure that available revenue sources adequately cover costs of the pre-development activities described below.

6.2.1.C Assemble Grant Funds (on-going)

At this time, projected EDA and State CDBG funds of $3.5 million are the minimum needed to sustain a positive project balance through 2015. Thus, it will be necessary to track the status of prospective funding sources, explore opportunities for matching funds, and to aggressively pursue other outside funding. One major short-term objective is to secure additional funding to allow construction of a building larger than the 10,000 square foot facility currently planned.

6.2.1.D Refine/Supplement the FORA Program EIR

The FORA Program EIR was intended to provide general environmental clearance for Fort Ord projects. The Program EIR concept presumes that supplemental analysis may be required for specific projects. Therefore, UC should prepare an environmental assessment to determine whether the FORA program EIR is sufficient, or whether supplemental environmental review will be necessary.

6.2.1.E Negotiate Agreements with Local Jurisdictions

A development agreement or similar vehicle between the City of Marina and UC should confirm the level of entitlement for the property, articulate financial commitments from UC and City of Marina, and address other issues pertaining to how development will be carried out. The scoping, drafting and negotiation of this agreement should occur after the UC MBEST Center Master Plan is accepted by the Regents. The same approach may be necessary with the County of Monterey.

A key part of this process will be a utilities conveyance strategy to secure immediate development opportunities. Specific considerations include:

1. *Roads.* Permanent easements can and should be negotiated as part of any agreement conveying pertinent roads to City or County jurisdictions as public roads. Easements should preserve the University's right to place conduit and cable under the roadway or cable over roadways at specific points.

2. *Wastewater.* Ensure that the UC MBEST Center can assume continued use of current capacity (20,000 gallons per day) without paying connection fees. Strive for adoption of basewide rate-based financing of major system upgrades.

3. *Water.* Strive for adoption of basewide rate-based financing of major system upgrades.

6.2.1.F File Subdivision and Tentative Maps for approval by City of Marina.

The UC MBEST Center requires a division of the land into parcels that can be marketed and developed. This should occur after UC Regents' approval of the Master Plan. It is recommended that this effort be conducted in collaboration with the City of Marina in order to reduce costs, which could be in the range of $40,000 to $50,000 for lands west of Blanco Road. The contingency expense budget in the cash flow analysis provides for this expenditure.

6.2.1.G Adopt Master Plan as a Specific Plan

It is recommended that this Master Plan be packaged as a Specific Plan consistent with the State of California's Specific Plan legislation, as discussed previously.

6.2.1.H Coordinate with FORA on Basewide Funding Strategies

The UC MBEST Center has successfully coordinated with FORA in the past on many subjects, including basewide financing strategies. UC should continue working with FORA to explore ways to ensure development feasibility and timely installation of important basewide infrastructure, including circulation improvements. Specific topics for the UC MBEST Center to focus on include:

1. *Funding Priorities.* The most important and expensive infrastructure item is basewide and off-site transportation improvements that are necessary to improve access to Fort Ord from other regions.

2. *Tax increment.* The UC MBEST Center Team should work with FORA, as well as the City of Marina and Monterey County, to ensure that maximum tax increment debt proceeds are available for UC MBEST Center applications, while preserving the ability of local service providers to fund additional services required by the UC MBEST Center.

3. *Mello-Roos/cost allocations.* Work with FORA representatives on the formation of the district, reviewing tax rate formulas and other aspects of the financing to ensure they are consistent with project financing needs. Establish ongoing role in the allocation and phasing of improvements to ensure that investment priorities are consistent with the development requirements of the UC MBEST Center.

6.2.2 SUBSEQUENT ACTIONS (INITIATED WITHIN 6 MONTHS AND COMPLETE WITHIN 12 MONTHS FROM MASTER PLAN APPROVAL BY UC REGENTS)

6.2.2.A Conduct Third Party Developer Solicitation

Solicit a developer for a portion of the site. An RFP should be issued to a pre-selected group of developers. The drafting, review and negotiation of the RFP can be assisted by the Marketing and Disposition Technical Team.

6.2.2.B Conduct Broker Solicitation

List UC MBEST Center property with top brokerage houses. Develop a reward-based program by which multiple firms list and market UC MBEST Center property. Set forth a standard policy concerning the payment of commissions.

6.2.2.C Refine and Implement Programmatic Activities

Foster research and technology development, enhance education and training in high technology sectors through the following activities. Develop a plan for major programmatic elements that may include (see **Chapter 2** for detailed descriptions):

1. *Location of a UC Facility such as a Professional School or Research Entity at the UC MBEST Center Site;*
2. *Facilitation of Research Collaboration/Brokering;*
3. *Service Provision to UC MBEST Center Tenants;*
4. *Creation of a Training Network/Institute Development; and*
5. *Development of a Regional Innovation Policy and Incubation Network.*

6.2.2.D Create and Implement Comprehensive Marketing Strategy (on-going)

There are several marketing tasks that need to be initiated as soon as possible:

1. *Designate UC MBEST Center Marketing Lead.* A designated person on the UC MBEST Center team should have primary responsibility for pursuing all leads and developing a database of target firms including the name, address, contact, firm description, source of lead and notes regarding materials that have been sent.

2. *FORA Coordination.* Work with FORA representatives to help craft the marketing message and strategy that relates to the UC MBEST Center.

3. *Brochure.* A professionally-designed sales brochure should be sent directly to prospects and industry contacts.

4. *Technical Service Package.* Detailed information of interest to prospective clients should be developed and mailed to leads.

5. *On-site marketing center.* Develop marketing center in initial UC MBEST Center building. Develop a model of the property that can be prominently displayed in the marketing center.

6.2.3 OTHER PRIORITY ACTIONS (COMPLETE WITHIN 18 MONTHS FROM MASTER PLAN APPROVAL BY UC REGENTS)

6.2.3.A Specify Utilities Design and Engineering (on-going)

A further round of engineering design will be needed. The cost of this level of design is estimated as part of the infrastructure costs and will be subject to the same sources of financing as the improvements themselves.

6.2.3.B Create On-Site Financing Implementation Program

Conduct more detailed analysis to establish on-site financing districts or prepare for any debt issuance that may be necessary. These more detailed analyses will be necessary in order to determine exactly how proceeds from development will be used to pay for infrastructure, have to occur after more definitive cost estimates, based on engineering design of improvements, and more certainty regarding the timing of development are available.

6.2.3.C Establish a Semi-Autonomous Organization

Define the precise organizational framework(s) for the quasi-independent organization(s) and working within the UC system to facilitate implementation as soon as resources allow, pursuant to UC Regents-established policy (**Item 6.2.1.A**).

6.2.3.D Pursue Interim Agricultural Leasing

Pursue in order to increase interim cash flow prior to East Campus development. However, do not allow this action to interfere with the long-term development of the site for its planned uses.

6.2.3.E Sustain Natural Reserve System (on-going)

The fencing improvements and annual maintenance program reflected in the operating assumptions and costs for the UC MBEST Center need to be implemented in the near term.

6.2.4 ONGOING PRIORITY ACTIONS

6.2.4.A Business Plan Updates

As the programmatic and real estate missions of the UC MBEST Center evolve over time, it will be necessary to periodically update the Business Plan to reflect current market conditions, costs of financing, and other factors such as UC priorities for the UC MBEST Center. An annual update, if possible, is recommended.

6.2.4.B Army Financial Reviews/Reporting

Per the terms of the property conveyance from the Army to UC, the UC MBEST Center is responsible for sharing net proceeds with the Army after fifteen years (2009). There will be requirements for regular financial reporting to the Army.