Th 21a

UNIVERSITY OF CALIFORNIA, SANTA CRUZ

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PHYSICAL & BIOLOGICAL SCIENCES DIVISION – NATURAL RESERVE SYSTEM SANTA CRUZ, CALIFORNIA 95064

August12, 2013

California Coastal Commission August 2013 Meeting
Agenda Item Th21a Notice of Impending Development 6 (LRDP-3-SCZ-13-0202-6)

Dear California Coastal Commissioners and Staff,

We are writing in response to Condition 1b (and related additional comments on Pages 13-14 of NOID 6) regarding our request to use an open wire mesh (or similar material) fence along McAllister Way to protect resources and research areas in Younger Lagoon Reserve. As you are aware, the University of California Natural Reserve System is a statewide network of 38 protected natural areas that have been set aside to be protected in as natural a state as possible to promote research, teaching, and public service. These sites are the living laboratories and outdoor classrooms for the University of California, equally as important as the traditional campus infrastructure one typically associates with a major University. Like the mission of the California Coastal Commission, the mission of the University of California Natural Reserves strives to balance use and protection. Thus, we understand the conflict between protecting sensitive resources and research areas, such as Younger Lagoon, while trying to maintain visually appealing infrastructure and providing some level of public access. The solutions we have worked on with you and your staff in the past for Younger Lagoon (e.g. allowing access via controlled tours in a way that protects research areas and natural resources) have proven to be very successful. We feel that our proposed fencing concept incorporates components that will better ensure that natural resources and research areas are protected while softening the visual impact to the site. Specifically, installing the fence on the outside of the berm, rather than placing it on the inside of the berm, provides additional protection to research areas and biotic resources along the berm as well as limits campus noise and activities into the reserve (i.e. maintains a functional boundary on the developed side rather than within the reserve). Our design concept also includes siting the fence in a manner that conforms to the contour of the landscape at the toe of the berm and planting native vegetation along either side of the fence that, because of light availability through the mesh fencing, will grow on both sides and through the fence itself.

Per CLRDP RMP MM 30, the University is required to remove and replace the existing chain link fencing on the east side of the berm that separates the lagoon from the development areas of the campus and install new solid fencing and/or an additional berm along or just outside of the original Younger Lagoon Reserve boundary (i.e. at the break in slope). Under section 6.8.3 of the CLRDP (*Specific Fencing/Barrier Design Guidelines),* this solid fencing can be up to six feet in height and is to be installed on the Younger Lagoon (west) side of the berm, or at the break in vegetation where the berm is absent, with landscaping used to soften its appearance. Staff comments suggesting the placement of a 2-3 foot fence along McAllister Way would define the reserve boundary at the interface of the reserve and development areas; however, it would not reduce trespassers from moving into the research area and impacting resources and thus, in our opinion, by itself does not achieve our shared objectives of protecting resources and research areas.

Our initial strategy, based on a conversation with Coastal Commission staff during a field walk in the early planning stages of this project, was to include our modified fencing request as an amendment to the CLRDP. During recent discussions between Coastal Commission staff and UCSC planning staff, it was concluded that this component be analyzed in the NOID without amendment to the CLRDP. We feel that this item is consistent with the CLRDP and would have benefitted from additional discussion with Commission and Natural Reserve staff. We are confident that our proposed fence provides the best solution for protecting the research, teaching, and natural resources of Younger Lagoon while trying to maintain a rural look as the campus expands. Here are some examples of scientific research projects conducted in this area over the past few years that are sensitive to inadvertent disturbance by uncontrolled access: A joint USGS and UCSC study of groundwater movement between the lagoon and nearshore environments that has implications for human health (sensitive instrumentation placements); a study of the role of marine organisms in the diet of coyotes (sensitive tracking stations); beach dune mapping, a newly sited investigation into the role the lagoon's dynamics play on the lifecycle of the endangered tidewater goby (sensitive instrumentation placements), and acoustic monitoring of birds (sensitive arrays of electronic monitoring devices).

We ask that the Commission remove the language of Condition 1b that indicates 2-3 foot post and rope/split rail fence for the berm fence. We welcome the requirement for review and approval of final plans by the Executive Director in that we are confident we can work together on the details of this fencing that ensures protection of resources and research areas while limiting the visual impact to the site.

Yours sincerely,

Gage Dayton, Administrative Director, UCSC Natural Reserves

Elizabeth Howard, Manager, Younger Lagoon Reserve

Th21a

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PHYSICAL PLANNING AND CONSTRUCTION

SANTA CRUZ, CALIFORNIA 95064

August 12, 2013

Dr. Charles Lester, Executive Director
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105

Re: California Coastal Commission Meeting August 2013
UC Santa Cruz Marine Science Campus Coastal Long Range Development Plan (CLRDP)-Notice of Impending Development (NOID 6), Agenda Th21a (LRDP-3-SCZ-13-0202-6)

Dear Dr. Lester:

We are enormously grateful for the positive recommendations made by your staff concerning our NOID 6. We very much appreciate their careful consideration of the many aspects of this first significant building project under our relatively new Coastal Long Range Development Plan. Together we are in agreement about the importance of this project for the furthering of research, education, and public service regarding the coastal and marine environments. Further, we are in agreement, with only very minor exceptions, that the proposed project is consistent with our certified CLRDP.

For the record we must state that we do not fully agree with your staff's proposed conditions regarding Berm Fencing, Parking Fees, and Signs. Of these issues, one stands out as very important, therefore the University requests that you kindly consider modification of staff recommended Condition 1b regarding "Berm Fencing".

We feel strongly that the proposed 6-foot high open mesh fence on rough wooden posts, running sinuously along the eastern toe of the existing and proposed earthen berm that separates the original Younger Lagoon Reserve from McAllister Way and the development zones of the campus is consistent with the CLRDP. Further, this fence is critical for the protection of sensitive natural resources and the protection of an important research area. Condition 1b of the staff report would require that rather than our proposed fence it should be a low-key 2 to 3-foot high landscape barrier. We request that the Commission reconsider the need for this condition for the following reasons:

1. The Younger Lagoon including the surrounding slopes is an active research area as well as an environmentally sensitive habitat area (ESHA) and thus requires protection. In recognition of this, the certified CLRDP explicitly allows for a 6-foot high *solid board* fence along its eastern boundary to provide protection for the resources and experimental

research and restoration efforts there. The minor change we propose from this explicitly allowed fence is that it be of open mesh (rather than solid) and to move it from the lagoon side of the earthen berm to the development side of the berm. This change has been strongly endorsed by the CLRDP-required Scientific Advisory Committee for the Younger Lagoon Reserve. The area includes active research and restoration projects. The fence proposed is more conducive to the development of adequate vegetative growth on both sides of the fence (due to light and air flow); to preclude human movement, noise, and light at the top of the berm that would project into the lagoon environment, and; as a way to soften the fence aesthetically by encouraging vegetation to grow through the open mesh.

2. This is a research area. The CLRDP design guidelines (Chapter 6 Section 6.8.3, pages 20-21) allow for fencing for research areas as follows: *"Fencing/barrier siting and design shall be appropriate to its intended function, but in no case shall be taller than eight (8) feet in height above grade."* The siting and design for the fence we propose is fully consistent with this guideline and the original intent of the certified CLRDP to preclude unauthorized incursion into the original Younger Lagoon Reserve.

3. The "resource protection" fencing and barriers that the staff report cites as the required fence type here (CLRDP Design Guidelines, Chapter 6 Section 6.8.3 pages 19-20) is intended to describe the types of low-key barriers that may be used along public trails to keep people from wandering off trails and into habitat or restoration areas, and is not the appropriate CLRDP reference for the type and specific location of the "berm fencing" in question.

Attached please find a letter from the UCSC Natural Reserves Administrative Director and Younger Lagoon Reserve Manager that provides more detailed information and background on this matter. The Younger Lagoon Reserve Scientific Advisory Committee is submitting a separate letter on this matter.

We request that the Commission remove Condition 1b, Berm Fencing, of the staff report and allow the "Berm Fencing" as proposed as it is consistent with the letter and intent of the CLRDP.

Again, we thank you and Coastal Commission staff for the work on this NOID, and look forward to our continued collaboration on important coastal protection, research, and education.

Sincerely,

John Barnes

John Barnes
Associate Vice Chancellor, Physical Planning & Construction

Via email
cc: Susan Craig, CCC
Steve Davenport, UCSC
Gage Dayton, UCSC
Dean Fitch, UCSC

RECEIVED

AUG 12 2013

CALIFORNIA
COASTAL COMMISSION
CENTRAL COAST AREA

Th21a

August 9, 2013

RE: California Coastal Commission August 2013 Meeting Agenda Item Th21a Notice of Impending Development 6 (LRDP-3-SCZ-13-0202-6)

Dear Coastal Commission Members and Staff,

As you are aware, a component of the Coastal Long Range Development Plan (CLRDP) for UCSC's Marine Science Campus (MSC) was to establish a Scientific Advisory Committee (SAC) to guide the restoration efforts at Younger Lagoon Reserve (YLR). Through a collaborative effort between University and Coastal Commission staff, we were selected to serve on the SAC in 2008. Over the past five years, we have worked closely with reserve staff on a range of issues related to resource protection, restoration, and research. One topic on which we have commented is the vegetative berm and associated fencing along the east side of the original YLR. A summary of that topic and our recommendations are included here.

Vegetative Berm and Associated Fencing
Under the CLRDP RMP MM 30, the University is required to remove and replace the existing chain link fencing that separates the lagoon from the campus and install new solid fencing and/or an additional berm along or just outside of the original YLR boundary. Under section 6.8.3 of the CLRDP (Specific Fencing/Barrier Design Guidelines), this replacement solid fencing can be up to six feet in height and is to be installed on the Younger Lagoon side of the berm, or at the break in vegetation/slope (i.e. original reserve boundary) with landscaping used to soften its appearance. It is our opinion that installing a solid wood fence along the western edge of Younger Lagoon, as per section 6.8.3, is not the most effective manner to achieve the objectives of the CLRDP put in place to protect resources and research areas. Such a fence will effectively reduce the size of the reserve, increase visual disturbance to the lagoon, and shade out native plantings. We think that a more appropriate approach for this location is a visually-permeable, secure fencing on the McAllister Way side of the berm.

The University has proposed that the screening provided by the berm be augmented with visually-permeable fencing on the McAllister Way side of the berm. This visually-permeable fencing would be made of open mesh-welded wire panels on rough wooden posts sited and designed to minimize visual impacts, incorporate vegetation to help it blend into the surroundings, and could be modified to allow for wildlife passage. We support this proposal and believe it strikes a balance between keeping the lagoon area secure for research and resource protection while providing the public with relatively unobstructed views of coastal resources.

Condition 1 of the Coastal Commission staff report found that the wire fencing on the McAllister Way side of the berm, as proposed by the University, is not allowable under the CLRDP and have proposed that roughhewn split-rail fencing no taller than 3 feet in height, or wood post and rope (or cable) barriers no taller than 2 feet in height be used instead. We are confident that the use of such low fencing will increase trespass and have a negative impact on sensitive resources and research areas, thus decreasing the value of the site for long-term research, as researchers require assurance that their equipment is relatively secure before committing to work at a reserve. While we recognize the importance of maintaining a rural and open space aesthetic to the campus, we request the Commission recognize the importance of the lagoon area for resource protection, research, teaching, and docent-led public tours, and to allow for taller, visually permeable fencing on the McAllister Way side of the berm.

Over the past few years, the lagoon area has been the site of numerous research projects, including a joint USGS and UCSC study of groundwater movement between the lagoon and nearshore environments that has implications for human health, a study of the role of marine organisms in the diet of coyotes, and a newly sited investigation into the role the lagoon's dynamics play on the life cycle of the endangered tidewater goby. University-level research projects such as these require a significant commitment on the part of researchers, who use the lagoon as a research site and require that their study area be relatively secure and undisturbed.

We ask that you work with us and the Younger Lagoon Reserve staff to come to an agreeable solution that finds an appropriate balance between protecting resources and research areas while limiting aesthetic impacts on the reserve.

Sincerely,

Karen Holl, Professor, Environmental Studies Department, UCSC
Tim Hyland, Environmental Scientist with California State Parks, Santa Cruz District
Bryan Largay, Hydrologist and Conservation Director, Land Trust of Santa Cruz County
Lisa Stratton, Consulting Restoration Ecologist and Director of Ecosystem Management,
Cheadle Center for Biodiversity and Ecological Restoration, UCSB

Brief bios and full CV's for each member of our committee are attached.

Dr. Karen Holl – Professor, Environmental Studies, University of California at Santa Cruz.

Dr. Karen Holl has been on the faculty in the Environmental Studies Department at the University of California, Santa Cruz (UCSC) for 18 years. She has done research on restoration ecology in a range of ecosystems, including tropical rain forests, eastern hardwood forests, and chaparral, grassland and riparian systems in California. She has published over 70 journal articles and book chapters on restoring damaged ecosystems and is Associate Editor of the Island Press Restoration Ecology book series. She teaches the Restoration Ecology class at UCSC and supervises many of the undergraduate students who work on the UCSC Natural Reserves. Dr. Holl was one of the faculty representatives on the UCSC Long Range Development Plan Committee and was approved by the US Fish and Wildlife Service to monitor the habitat mitigation requirements associated with UCSC's Ranchview Terrace development. She regularly advises numerous public and private agencies along the Central California Coast on land management questions. She was selected as an Aldo Leopold Leadership Fellow. Dr. Holl's expertise in restoration ecology, experimental design and data analysis, as well as her affiliation with UCSC and her excellent rapport with University students and staff make her an irreplaceable member of the Scientific Advisory Committee.

Dr. Holl received a Ph.D. in Biology from Virginia Polytechnic Institute and State University, and a Bachelors degree in Biology from Stanford University.

Mr. Tim Hyland - Environmental Scientist, State Parks, Santa Cruz District.

Mr. Hyland has worked in the field of wildlands restoration for over 15 years. Much of that work has focused on coastal scrub, dune and wetland restoration at sites throughout the Central Coast, including Wilder Ranch State Park (located approximately one mile west of Younger Lagoon Reserve). He has extensive experience in restoration planning and implementation, vegetation mapping, exotic species control, and native plant propagation. In addition, Mr. Hyland is highly skilled in public education and outreach. Mr. Hyland's long tenure with California State Parks and direct experience in designing and implementing large-scale restoration projects makes him a valuable member of the Scientific Advisory Committee.

Mr. Hyland received a B.A. in Graphic Design from California Polytechnic State University, San Luis Obispo.

Mr. Bryan Largay - Conservation Director, Land Trust of Santa Cruz County.

Mr. Largay has worked in the fields of hydrology, water quality and wetlands for fourteen years, with a focus on restoration and wildlife habitat. He has conducted wetland restoration, watershed hydrology, and water quality investigations and designed measures to control erosion and treat water quality problems using vegetation. Much of his work has focused on collaborative water quality protection projects with agricultural landowners and growers. He has worked to solve water resource problems with a broad array of individuals, including scientists, planners, engineers, growers, private landowners and contractors. Prior to joining the staff of the Land Trust of Santa Cruz County, he participated in the Tidal Wetland Project as a member of the Science Panel and Model Advisory Team. Mr. Largay's experience working on complex, large-scale restoration projects with agricultural neighbors in a non-profit setting makes him a very important member of the Scientific Advisory Committee.

Mr. Largay received an M.S. in Hydrologic Sciences at U.C. Davis, and a Bachelor's degree in English Literature at Princeton University.

Dr. Lisa Stratton - Director of Ecosystem Management, Cheadle Center for Biodiversity and Ecological Restoration, University of California, Santa Barbara (UCSB).

Dr. Lisa Stratton has worked in the field of science-based restoration for over 10 years. She has extensive experience in restoration planning and implementation in conjunction with campus construction projects. Much of her work at UCSB has focused on involving students and faculty in the Cheadle Center's restoration projects. Dr. Stratton's work at the UCSB has provided her with a rare understanding of some of the unique challenges and opportunities YLR staff will face as they undertake the restoration project at UCSC. Her combined experience in wildlands restoration and management, scientific research, and working within the University of California system makes her a very important member of the Scientific Advisory Committee.

Dr. Stratton received a Ph.D. in Botany and Ecology from the University of Hawai'i, a M.S. in Conservation Biology and Sustainable Development from the University of Wisconsin-Madison, and a Bachelors degree in Comparative Literature from Stanford University.

Th 21a

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Santa Cruz, CA 95060

Tel (831) 466-3332
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email rcurry@aasi.com

August 6, 2013

AGENDA ITEM Tha
APPLICATION No: LRDP-3-SCZ-13-0202-6

Renwick E. Curry

Opposed to Trail Location

Commissioners

I am opposed to the location of one of the trails, a trail already built, that appears to violate the wetland protection buffer.

Attached are two figures:

1. A portion of the wetland delineation as provided by the wetland consultant in his 2011 review
2. A photograph showing the old path and the newly constructed trail

The aerial photo shows the Seymour Center, one of the wetlands, and its buffer boundaries. The curve near the point "man in the photo" is the 100 foot wetland buffer. Also show is the location of the camera.

Please note the faint outline of the then existing path: it passes through the markers indicating the camera and the man in the photo.

The photograph of the man shows him standing in the old path at the point indicated in the aerial photo. The new gravel trail lies to the east of the old path and thus is clearly within the 100 wetland buffer.

The 100 foot buffer is the minimum size and should be observed at all costs. The wetland being violated is one that supports wildlife, including duck in the rainy season.

I request that as a condition of approval of this application, the applicant move the existing trail outside the 100 buffer boundary to maintain the integrity of the minimal 100 foot buffer.

Sincerely,

Renwick E. Curry

Renwick E. Curry, PhD

CALIFORNIA COASTAL COMMISSION
CENTRAL COAST DISTRICT OFFICE
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Th21a

Prepared August 1, 2013 (for August 15, 2013 hearing)

To: Coastal Commissioners and Interested Persons

From: Dan Carl, Central Coast District Director
Susan Craig, Central Coast District Supervising Coastal Planner

Subject: **University of California at Santa Cruz Coastal Long Range Development Plan Notice of Impending Development 6 (LRDP-3-SCZ-13-0202-6)**

SUMMARY OF STAFF RECOMMENDATION

University of California at Santa Cruz's (UCSC's) Marine Science Campus Coastal Long Range Development Plan (CLRDP) was certified by the Coastal Commission on January 7, 2009. In this Notice of Impending Development 6 (NOID-6), UCSC is now pursuing their first major developments under the CLRDP, which include: 1) a new Coastal Biology Building facility; 2) storage and utility yards; 3) major road and other infrastructure improvements (including improvements to site utilities, water and wastewater systems, and storm water management infrastructure); 4) public access trails; 5) consolidation, expansion, and enhancement of Upper Terrace wetlands; 6) a signage program; 7) a parking program, and; 8) a lighting plan.

Staff recommends that the Commission determine that the development associated with NOID-6 is consistent with the certified CLRDP if conditioned to limit viewshed and habitat impacts associated with the proposed storage and utility yards; to modify fencing along McAllister way to conform to CLRDP allowed fencing types; to limit Campus parking fees to $0.50 per hour; and to modify parking and regulatory signs to better match the CLRDP unified sign design program. With these changes, the NOID-6 projects can be made to conform to CLRDP policies protecting public access, public views, and protected habitat areas. The motion and resolution to implement this recommendation is found on page 2 below.

Staff Note: NOID Action Deadline: This NOID was filed as complete on June 28, 2013. The 30-working day hearing deadline is August 12, 2013. As provided for by the CLRDP, UCSC waived the University's right to a hearing by August 12, 2013 and agreed to extend the deadline (an extension of up to three months from the hearing deadline is allowed per the CLRDP) to the August 15, 2013 hearing in Santa Cruz. Thus, unless UCSC further extends the deadline (it can be extended as far out as September 28, 2013), the Commission must take action on the NOID by the August 15, 2013 hearing or it will be deemed consistent with the CLRDP.

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APPENDICES
Appendix A – Substantive File Documents

EXHIBITS
Exhibit 1: Location Map and Aerial Photograph of UCSC Marine Science Campus
Exhibit 2: Project Plans and Visual Simulations
Exhibit 3: CLRDP Chapter 5 – Long Range Land Use Development Plan[1]
Exhibit 4: CLRDP Chapter 6 – Design Guidelines

I. MOTION AND RESOLUTION

Staff recommends a YES vote on the following motion. Passage of this motion will result in a determination that the development described in UCSC NOID-6 (LRDP-3-SCZ-13-0202-6), as conditioned, is consistent with the certified UCSC CLRDP, and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Motion. *I move that Commission determine that the development described in UCSC Notice of Impending Development Number 6, as conditioned, is consistent with the certified UCSC CLRDP, and I recommend a yes vote*

Resolution. *The Commission hereby determines that the development described in UCSC Notice of Impending Development Number 6, as conditioned, is consistent with the certified UCSC CLRDP for the reasons discussed in the findings herein.*

[1] Exhibits 3 and 4 include amended language and figures proposed under UCSC CLRDP Amendment Number 1.

II. CONDITIONS

1. **Revised Plans.** Prior to any construction associated with the utility yard, the storage yard, or the fencing along McAllister Way, UCSC shall submit two sets of revised plans to the Executive Director for review and approval that modifies these project elements as follows:

   a) **Utility and Storage Yards.** Fencing shall be limited and screening landscaping applied in such a manner as to effectively screen utility and storage yard noise, lights, and activities from public viewing areas and wildlife corridors. Fencing shall be no higher than is required for this purpose, including the manner in which fencing and landscaping together form an effective screen, and shall be no higher than 8 feet in any case. The utility yard shall be minimized in size and scale to the utility yard functions necessary there, and shall be oriented to minimize public view blockage overall. All nighttime lighting shall be limited to the maximum extent feasible, including ensuring that any required lighting is at the lowest intensity and duration necessary to effectively provide for safety and security.

   b) **Berm Fencing.** The mesh wire fence along McAllister Way shall be modified to be of one of the types of resource protection fences provided for in the CLRDP (i.e., roughhewn split-rail fencing no taller than 3 feet in height, or wood post and rope (or cable) barriers no taller than 2 feet in height), and shall be sited and designed to minimize visual impacts otherwise (including avoiding straight-line forms, incorporating vegetation to help it blend into the surroundings, etc.).

   c) **Overlook E Fencing.** The alcove fencing associated with Overlook E shall be sited and designed to limit fencing that would impair public views while still adhering to the CLRDP direction for Overlook E, including with respect to the manner such fencing is integrated with topography and vegetation.

2. **Parking Fees.** Parking fees shall be limited to no more than $0.50 per hour on non-State holiday weekdays between 8:00 a.m. and 5:00 p.m.. Parking at all other times shall otherwise be provided free of charge. Any future modification to the fee shall require a separate development authorization (i.e., a NOID) under the CLRDP.

3. **Signs.** Prior to installing any signs on Campus, UCSC shall submit two copies of a revised sign program to the Executive Director for review and approval that modifies regulatory and parking signs as follows:

   a) **Parking Signs.** All parking signs shall be redesigned to match the style of the Campus unified sign design program and shall be sited and designed to limit their impact on views otherwise (e.g., keeping signs as small and low as possible, limiting absolute numbers of signs, utilizing pavement markings to avoid excessive signs, etc.). Main parking signs at each lot shall be revised to present information primarily based on the type of parking available in each lot (e.g., coastal public access, visitor, permit, etc.), and the permit parking portion of such signs shall be reduced in scale and made secondary to the ‘type of parking’ portion of such signs. In addition, main parking signs at each lot, as well as signage at the Campus entrance, shall be revised to clearly state that all Campus parking

is available for free on a first-come, first serve and unrestricted basis during daylight hours (i.e., one hour before sunrise to one hour after sunset) before 8am and after 5pm on all weekdays and during daylight hours on all Saturdays, Sundays, and State Holidays. All applicable parking signs shall be revised to reflect the $0.50 per hour fee.

b) Regulatory Signs. All regulatory signs shall be redesigned to match the style of the Campus unified sign design program if possible, and shall be sited and designed to limit their impact on views otherwise (e.g., keeping signs as small and low as possible, limiting absolute numbers of signs, etc.). For any regulatory sign not so redesigned, UCSC shall submit evidence demonstrating why it is not possible to redesign said sign, including evidence showing what types of exceptions are available for such regulatory sign designs to better match the Campus unified sign design program and the manner in which such exceptions have been pursued by UCSC. In addition, regulatory signs shall be modified as much as is possible otherwise to better match the Campus unified sign design program and blend as much as possible with the site aesthetic (e.g., using wood posts, framing such signs with similar materials as Campus signs, etc.).

III. FINDINGS AND DECLARATIONS

A. UCSC CLRDP

General CLRDP Background

As an alternative to project-by-project coastal permit review, Coastal Act Section 30605 allows for universities to develop long range development plans for Coastal Commission certification. Once certified, the university becomes the primary entity responsible for ensuring that future development on the site is consistent with the certified long range development plan, subject to ongoing Commission oversight. UCSC's Marine Science Campus CLRDP was certified by the Coastal Commission on January 7, 2009.

UCSC's Marine Science Campus

UCSC's Marine Science Campus site is located directly adjacent to the Monterey Bay National Marine Sanctuary just within the western border of the City of Santa Cruz in Santa Cruz County (see Exhibit 1 for a location map and for an aerial photo of the Campus site). The Campus site has been known locally for many years as Terrace Point. The main UCSC campus is located roughly two miles inland of the Campus in the rolling foothills northwest of downtown Santa Cruz. The Marine Science Campus is located at the outskirts of the City, seaward of Highway One, at the transitional boundary between the urbanized City area to the east (downcoast) and the rural north coast of the unincorporated County to the west (upcoast). The Santa Cruz County north coast area is well known to the Commission for its sweeping vistas of both coastal agricultural fields and natural landscapes framed by the undulating coastal range. Much of this area is in extensive State Park and other rural public land holdings, and all of it is traversed by a rural stretch of Highway One. Although there are some limited residential enclaves (e.g.,

Davenport along the coast, and Bonny Doon in the mountains) in these mostly pastoral areas, this north coast area is part of the stretch of largely agricultural and undeveloped coastal lands extending nearly 50 miles to Half Moon Bay upcoast. The Campus site is located at the beginning of this stretch of coast as one heads upcoast out of the City of Santa Cruz and, by extension, out of the urbanized portion of northern Monterey Bay.

The Campus site is primarily made up of a relatively flat terrace area (roughly 73 acres) sloping gently from north to south (to the ocean) with the remainder occupied by a large arroyo feature (roughly 25 acres) on the west of the site, at the base of which lies Younger Lagoon, an estuarine lagoon that connects (at times) to the ocean. A sandy beach area fronts Younger Lagoon below the terrace. The lagoon, the beach, the arroyo and a portion of the terrace make up Younger Lagoon Reserve. The terrace portion of the site includes within it a 2.5 acre federally-owned parcel completely surrounded by UCSC property. Altogether, the Campus (including the federal in-holding and the Younger Lagoon Reserve) is about 100 acres.

In the general Campus vicinity, agricultural land extends to the west along the coast beyond the Younger Lagoon Reserve and the western Campus boundary. To the north are the Union Pacific Railroad tracks, the Raytek industrial facility, and Highway One. To the south lies the Sanctuary and the Pacific Ocean, and to the east is Antonelli Pond (north of Delaware Avenue) and the densely packed De Anza Mobile Home Park (south of Delaware Avenue), beyond which is Natural Bridges State Park and past that West Cliff Drive in the City of Santa Cruz.

UCSC'S Marine Science Campus CLRDP

UCSC's Marine Science Campus CLRDP was certified by the Coastal Commission on January 7, 2009. The CLRDP provides a blueprint for future development of the site including a maximum increase of about 600,000 square feet of new Campus facilities mostly within four distinct development zones (occupying about one-third of the terrace area – see page 1 of Exhibit 2) for an expanded Marine Science Campus. The CLRDP provides for roughly 340,000 gross square feet of potential new facilities within the four development zones in new one- and two-story buildings up to 36 feet tall, with the remainder in outdoor research and support areas. The CLRDP also accounts for additional areas of roads, and some natural drainage ponds, outside of the four development nodes. Overall, and at full buildout, the CLRDP allows for the Campus to grow by about three times its size at certification. In addition to the building program, the CLRDP also provides for an expanded public access trail system and natural habitat restoration in those wetland and open space areas on the terrace that are not part of the proposed development zones (roughly 47 acres) that, per the CLRDP, have been recently added to Younger Lagoon Reserve.

B. UCSC NOID-6

Notices of Impending Development

Under a certified CLRDP, University development of specific projects contained in the CLRDP can proceed without a coastal permit, provided the University sends a Notice of Impending Development (or a "NOID") to the Commission prior to undertaking development, and either the Commission deems the identified development project consistent with the CLRDP (with or

without conditions to make it so) or does not respond in a timely manner to the NOID.[2] Pursuant to Coastal Act Sections 30605 and 30606, the Commission may impose conditions on such development project proposals only if it finds them inconsistent with the certified CLRDP.

NOID-6 Description
Each project element of NOID-6 is discussed in detail below:

1. Coastal Biology Building and Associated Development
The main component of NOID-6 is the proposed Coastal Biology Building facility (CBB), which would consist of a new research and teaching lab building and associated greenhouses located in the Middle Terrace portion of the Campus. These facilities would provide space for research, instruction, offices and related support operations for the Ecology and Evolutionary Biology (EEB) Department of UCSC's Physical and Biological Sciences Division. See pages 1-8 and 39-40 of Exhibit 2 for project plans and visual simulations of the proposed CBB project.

The main components of the CBB project include:

- A mostly two-story building with three wings (with one of the wings being one-story) consisting of 40,000 square feet, with a maximum building height of 36 feet.

- Building forms consisting of gabled and shed roof styles with shingle roofing, wood cladding, and muted colors, all of which is intended to blend with the landscape and match the style of existing Campus buildings.

- A 20,000-gallon seawater storage tank, which would be about 12 feet in diameter and 30 feet high, to be located just outside the CBB.

- Six new pre-manufactured greenhouses (consisting of five 600-square-foot greenhouses, one 1,200-square-foot greenhouse, and one 3,300 square foot greenhouse, totaling 7,500 square feet; each a maximum of 12 feet in height) located on the opposite side of McAllister Way from the CBB, to provide plant research facilities for faculty and students, and space to grow plants for the Campus' ongoing restoration projects.

- A vegetated berm planted with native plant species to be located along the perimeter of the "Original Younger Lagoon Reserve" (i.e., the lagoon itself and its associated uplands), and new wire mesh fencing to be installed along the McAllister Way side of the berm.

- Two new parking lots (115 spaces total), one south of the CBB and one north of the greenhouse complex.

[2] Coastal Act Section 30606 requires that the University provide notice of an impending development at least 30 working days prior to pursuing it. California Code of Regulations (CCR) Section 13549 provides that a NOID is only filed following Executive Director review of the NOID and any supporting materials to ensure there is sufficient information for making the consistency determination. The filing review must be completed within five working days after receiving the NOID submittal. CCR Section 13548 requires that the Commission take action on the notice within 30 working days of filing of the NOID. In sum, if the Commission does not take action within 30 working days of filing of the NOID, the identified development project is deemed consistent and can proceed. In the case of the UCSC CLRDP, the action deadline may be extended by UCSC for up to 3 months.

- Bicycle parking provided at the CBB's entrances, with space reserved to provide a total of up to 108 bicycle storage spaces (up to one for each employee of the facility), as well as shower facilities.

- About 40,000 square feet of new native plant species plantings in the area around the buildings. Native plantings along the building's foundation lines would include large shrubs and small trees to help break the wind and to mask the building's bulk.

2. Road, Infrastructure, Service Yards, and Other Site Improvements

The project includes the following components related to roads, infrastructure, service yards, and other related site improvements (see pages 8-11 and 41-70 of Exhibit 2 for project plans):

- A 22-foot-wide entry road (Delaware Avenue Extension) that would follow a new route across the Middle Terrace south of the existing entry road and rejoin McAllister Way south of the California Department of Fish and Wildlife (CDFW) building.

- Abandonment of the existing entry road with conversion of this area to an approximately 8-foot-wide pedestrian pathway.

- Modifications to the configuration and design of the Delaware Avenue/Shaffer Road intersection (located directly adjacent to the Campus' entry) to improve its safety and functioning for vehicles, pedestrians, and bicyclists.

- Various utility improvements (water, seawater, sewer, natural gas, electrical, telecommunications, and storm water). Most of these utilities are included in underground trenches and vaults under the roadway or under the new pedestrian corridor.

- Construction of a utility yard to provide secure space for stand-by generators, and a modular building for temporary storage of regulated waste. The utility yard would be surrounded by a solid wooden fence and screened from view by tall native shrubs.

- Development of a staging area adjacent to Shaffer road to be used initially for construction staging and then developed as a fenced open-air storage yard.

3. Public Access Trails and Interpretive Panels

The project includes an integrated 1.2-mile pedestrian and bicycle trail system that will link the Campus' facilities and that will provide views and educational interpretation of coastal features, grasslands, wetlands, and the Campus' habitat restoration projects. Specifically the project includes a 12-foot-wide paved central Campus trail and bike path (a multiuse trail), which will start at the Campus' entrance and curve southwest and terminate at the north end of the Seymour Discovery Center parking lot. Other unpaved trails will also be developed and upgraded at the site. When completed, this trail component of the project will result in all of the CLRDP-required trails being in place and operational. A wayfinding exhibit and visitor information will be provided at the Campus' main entry. All trails will be furnished with benches, trash cans, recycling bins, bike racks, etc.. Minor barriers to restrict pedestrian movement to the trails (e.g., rope or cable and pole) may be installed in areas where required to keep users on the trails and out of adjacent restored habitat areas. The trails will be surfaced in permeable or semi-permeable

materials. See pages 12-14 and page 20 of Exhibit 2 for the location of the proposed trails and the location and examples of interpretive signage.

4. Reconnection of Wetlands

Wetland W1 on the Upper Terrace is a former agricultural ditch that runs along the western border of the campus. An earthen berm separates it from the more expansive wetlands W2 and W3, adjacent and to the east. Under the CLRDP's Specific Resource Plan (SRP) Phase 1B project for the site, wetland W1 is to be reconnected to wetland W2 as part of the habitat restoration required by the CLRDP. See pages 36-38 of Exhibit 2 for the location of the wetlands in the Upper Terrace area and for the options for reconnecting the wetlands.

5. Sign Program

The sign program from the Campus consists of three types of signage: 1) wayfinding, directional, and informational signs; 2) regulatory signs; and 3) interpretive signs (see pages 14, 16-20 of Exhibit 2):

- **Wayfinding signs.** Wayfinding signs would be installed or replaced throughout the Campus to facilitate public access to current and proposed buildings, interpretive features, and site amenities, such as the Seymour Marine Discovery Center, the CBB, parking lots, trails, and overlooks. A main wayfinding exhibit would be located at the main entrance to the Campus. Other informational signs in this category may include those for posting hours or policies, safety warnings, restricted areas, etc.. The wayfinding signage identifies the Campus unified sign design program theme (with consistent materials, fonts, colors, backgrounds, etc.).

- **Regulatory Signs.** Regulatory signs convey information about speed limits, fire lanes, parking regulations, etc.. Regulatory signs governed by jurisdictional codes or enforcement policies would comply with current enforcement standards. Other regulatory signs would be consistent with the Campus unified sign design program theme.

- **Interpretive Signs.** Interpretive signs cover a wide range of topics, from information, including photos, illustrations, and text about an individual species, to how the seawater system works to support marine research activities. Interpretive signs would play off of the Campus unified sign design program theme, and would include a consistent look among the different interpretive signs through use of a common font, a subject line prominently displayed with a color banner at the top of each panel, and facility and program logos at the bottom edge.

6. Parking Program

The proposed NOID would implement a parking program (including parking signage) for the existing[3] and proposed lots as follows (see pages 21-35 of Exhibit 2):

[3] Lot 202 is located west of the Seymour Center and includes 17 parking spaces reserved for UC vehicles only (permit controlled) and 1 disabled parking space (disabled placard controlled). This lot was subject to NOID-1, which was approved by the Commission on November 2, 2009.

Lot 201 (existing lot located north of the Seymour Marine Discovery Center)

- 10 dedicated public coastal access spaces (i.e., reserved exclusively for use by general public access visitors to the site and not for use by any others; $1.50 per hour 8 a.m. to 5 p.m. during non-holiday weekdays; free parking on weekends, State holidays, and during weekday daylight hours before 8 a.m. and after 5 p.m.).

- 40 dual use public coastal access spaces (i.e., reserved exclusively for public coastal access parking and for visitor parking to the Seymour Center; fees for general public use are $1.50 per hour 8 a.m. to 5 p.m. during non-holiday weekdays; free parking on weekends, State holidays, and during weekday daylight hours before 8 a.m. and after 5 p.m.; free parking on non-holiday weekdays with Seymour Center entry fee).

- 30 staff (including one vanpool space) and staff visitor spaces (permit controlled on non-holiday weekdays 8 a.m. to 5 p.m.; available to non-permit holders for free on weekends, State holidays, and during weekday daylight hours before 8 a.m. and after 5 p.m.).

- 2 disabled parking spaces (disabled placard required; always free).

Lot 203 (existing lot located northeast of the Center for Ocean Health building)

- 36 staff and staff visitor spaces (permit controlled on non-holiday weekdays 8 a.m. to 5 p.m.; available to non-permit holders for free on weekends, State holidays, and during weekday daylight hours before 8 a.m. and after 5 p.m.).

- 1 disabled parking space (disabled placard required; always free).

Lot 204 (new lot to be located north of the NOAA Fisheries building)

- 69 staff and visitor spaces (permit controlled on non-holiday weekdays 8 a.m. to 5 p.m.; available to non-permit holders for free on weekends, State holidays, and during weekday daylight hours before 8 a.m. and after 5 p.m.).

- 5 dedicated public coastal access spaces (i.e., reserved exclusively for use by general public access visitors to the site and not for use by any others; $1.50 per hour 8 a.m. to 5 p.m. during non-holiday weekdays; free parking on weekends, State holidays, and during weekday daylight hours before 8 a.m. and after 5 p.m.).

- 4 disabled parking spaces (disabled placard required; always free).

Lot 205 (new lot to be located south of the CDFW building)

- 35 staff and staff visitor spaces (permit controlled on non-holiday weekdays 8 a.m. to 5 p.m.; available to non-permit holders for free on weekends, State holidays, and during weekday daylight hours before 8 a.m. and after 5 p.m.).

- 3 disabled parking spaces (disabled placard required; always free).

Lot 207 (new lot to be located at the Campus' entry)

- 14 dedicated public coastal access parking spaces (i.e., reserved exclusively for use by general public access visitors to the site and not for use by any others; always free)

- 1 disabled parking space (disabled placard required; always free).

The proposed project also would eliminate informal parking in two areas along McAllister Way and restore these areas to a natural state, including replanting with native plant species, as is required by the CLRDP.

7. Lighting Plan

The project includes the following lighting elements (see pages 14-15 of Exhibit 2):

- Pole-mounted fixtures in parking lots and bollard-mounted fixtures along the major pedestrian circulation paths in the vicinity of the CBB.

- Fixtures would have cut-off shields to prevent horizontal and vertical light pollution.

- Interior greenhouse lighting would include shielding to ensure that no direct light is shed into the Original Younger Lagoon Reserve area and that indirect light is minimized.

- Lighting would be installed for the McAllister Way pedestrian path, bus stops, the utility yard, the storage yard, and the Campus' identification sign at the main entrance would be illuminated.

- Low bollard lighting would be installed along the new entry road and along McAllister Way. The public parking lot at the Campus' entrance would not be lighted.

- Other pedestrian and biking trails would not be lighted except as needed for safety, such as at vehicle road and parking lot driveway crossing, and at the intersections of pedestrian paths with the multi-use trail route.

C. CLRDP CONSISTENCY ANALYSIS

1. Coastal Biology Building and Associated Development

The University's CLRDP objective is to develop a world-class integrated marine research facility where researchers, faculty, students, and the public can interact and participate in a comprehensive marine and coastal science research program. Such a facility could make a significant contribution to ongoing efforts to understand, learn, and educate society about the marine and coastal environment. The CLRDP includes a number of policies and implementation measures that describe the size, design, height, and location of allowed buildings and associated development on the site. See Exhibit 3 for the CLRDP figures and Implementation Measures (IMs) referenced below. See Exhibit 4 for applicable CLRDP Design Guidelines. See pages 1-8 and 39-40 of Exhibit 2 for project plans and visual simulations of the proposed Coastal Biology Building facility (CBB).

The proposed CBB would consist of a new research and teaching lab building and associated greenhouses. These facilities would provide space for research, instruction, offices and related

support operations for the Ecology and Evolutionary Biology (EEB) Department of UCSC's Physical and Biological Sciences Division.

Land Use Locational Restrictions
CLRDP Policy 2.5 requires that, "All development and uses on the MSC [Marine Science Campus] shall be limited to marine/coastal research and education, resource protection, and public access development and uses, including primarily coastal dependent and coastal related development and uses." Consistent with this policy, the CBB project would allow the EEB department to move as a unit to a single facility at the Campus, a move that would bring the Coastal Science faculty together with their Marine Science colleagues.

The CLRDP land use designation for new buildings and associated development is "Research and Education Mixed Use." This is the only facility development land use designation in the CLRDP, and it allows for all of the CLRDP building program elements within it (such as research labs, educational facilities, outdoor research areas, meeting rooms, auditoriums, food service, equipment storage and maintenance, certain short-term accommodations, etc.). The main building components of the CBB and the greenhouses, including the associated parking lots and the seawater storage tank, are all located on land designated "Research and Education Mixed Use," and are consistent with the CLRDP in this respect.

CLRDP Figure 5.3 provides locational restrictions for new buildings. However, other than the "Campus Entry Development Zone," there are no Figure 5.3 locational restrictions for marine research and educational buildings such as the CBB and the greenhouse complex. There are also no Figure 5.3 locational restrictions for the proposed parking lots that will serve each of these project components (see below for additional discussion of parking), or for proposed seawater storage tank. All of the proposed buildings are within the general "Campus Entry Development Zone identifies in Figure 5.3, thus, with respect to the marine research and educational buildings and the greenhouses, the proposed project is consistent with CLRDP Figure 5.3.

Development Subarea Restrictions
CLRDP Figure 5.4 identifies 16 development subareas on the Campus site, and provides detailed prescriptions for maximum allowable stories, heights, and building coverage by subarea. Figure 5.4 also includes specific standards for certain discrete areas. The proposed CBB is located in Subarea 4, and the greenhouses are located in Subarea 6. CLRDP Figure 5.4 indicates that no buildings other than ancillary and unoccupied structures are allowed in the first 50 feet extending east from the subarea boundary in the northern 215 feet of subarea 6. The greenhouses are not in this area and thus meet this criterion.

The proposed CBB development would consist of a 40,000 square-foot CBB building and 7,500 square feet of greenhouses. IM 4.2.5 allows for a maximum of 40,000 square feet for buildings in the Middle Terrace, and thus the project meets this criterion, albeit exactly at the maximum. It also meets Figure 5.4's maximum building coverage (a maximum of 63,300 square feet of such coverage is allowed in subarea 4, and a maximum of 29,200 square feet of such coverage is allowed in subarea 6).

The CLRDP also identifies the maximum scale for each potential type of facility to be developed in the building program, and allows for structural heights of up to 36 feet for certain laboratory buildings[4] (see CLRDP Section 5.4), such as the CBB. IM 4.2.3 and IM 4.2.4 limit building heights to no more than two stories and a maximum of 36 feet in height as measured from natural grade for this type of lab building. Mechanical equipment may extend an additional 5 feet, as long as the total amount of mechanical equipment does not exceed 25 percent of the length of the building's ridgeline. The proposed CBB is two stories and the roofline would be 36 feet above natural grade, with two exhaust stacks that would extend 5 feet above the top of the roofline. The proposed greenhouses would be 12 feet in height. Thus, the proposed project meets the CLRDP's height requirements. In addition, IM 4.2.9 limits continuous building length to 175 feet for the portions of buildings located adjacent to a street or parking area. The portion of the CBB building that faces McAllister Way would be 137 feet long; the section facing the new parking lot would be 110 feet long. Thus, the proposed project meets the requirements of IM 4.2.9.

IM 4.2.8 requires that buildings be set back a minimum of 15 feet from campus streets. The CBB will be set back 15 feet from McAllister Way, and the greenhouses will be located more than 100 feet from McAllister Way. Thus, the proposed project is consistent with IM 4.2.8 regarding setbacks.

Clustering of Development

IMs 2.3.1 and 4.1.1 require development to be clustered within areas designated for "Research and Education Mixed Use," to protect and preserve the open space areas on the Campus, including the YLR, and to protect public view corridors. The proposed development is consistent with these CLRDP requirements because the CBB building and its associated parking lot would be clustered near the existing NOAA and CDFW buildings. The proposed greenhouses and the associated parking lot would be clustered with existing CDFW structures. Thus, the proposed project is consistent with IMs 2.3.1 and 4.1.1 regarding clustering development.

Design

Chapter 6 of the CLRDP (see Exhibit 4) sets design standards for development, generally to be in keeping with a coastal rural and agriculture structural motif. For example, buildings, though consisting of large forms, are limited to two stories and construction materials are to relate strongly to the vernacular style of coastal architecture, such as using the coastal barn archetype as inspiration and using colors traditionally seen in the coastal rural setting. The CLRDP also requires the use of construction materials that relate strongly to this theme through the use of stained vertical board and batten siding, shingle roofing, natural materials, muted colors, and board-formed or rough-finished concrete for exposed concrete surfaces (such as at the edges of a foundation). The CBB lab building exterior would be clad in vertical board and batten wood or wood-like siding, extending up over a board-formed concrete foundation, with shingle roofing (see pages 6 and 7 of Exhibit 2 for visual simulations). Thus, the proposed CBB building is consistent with the CLRDP's design requirements.

[4] The maximum allowable building height limit in the Middle Terrace area per Figure 5.4 is 30 feet, but this may extended to 36 feet for laboratory buildings if it is not feasible to meet the 30-foot limit due to the vertical clearance necessary for specialized laboratory equipment (for mechanical systems, ductwork, etc.).

Seawater System
IM 3.1.1 allows the Campus' seawater system to be maintained and allows for expansion of the seawater system, provided that such expansion maintains, enhances, and where feasible restores marine resources. In this case, the proposed project includes a new 20,000 gallon seawater storage tank. However, this proposed development would not expand the intake flow rate or require the construction of ocean intake pipelines. Thus, this component of the project is consistent with IM 3.1.1.

Vegetative Screening, Vegetative Berm and Associated Fencing
Appropriate tall native shrubs would be planted as windbreaks and for screening along the east side of the CBB site (which faces the YLR terrace lands), as required by IM 2.33 and IM 4.2.11. Additionally, about 40,000 square feet of new native plant species would be planted in the area around the buildings.

The CLRDP's Resource Management Plan (RMP) requires the removal of the existing chain link fencing located just outside the Original YLR boundary, and the installation of new solid fencing or, preferably, additional berming in this area to provide a screen between terrace area development and Original YLR resources. CLRDP Figure 5.4 identifies that only fencing, drainage, and landscaping are allowed in this area of the site (Subarea 7). The CLRDP also includes policies and implementation measures to assure that new development does not result in light, noise, or movement associated with development being visible from within the Original YLR, so as to minimize disturbance of wildlife. The CLRDP's Design Guidelines (Exhibit 4) also include specific guidance with respect to the types, heights, and locations of fencing on the campus

The proposed project includes a vegetated berm to be located on the west side of McAllister Way, between the proposed greenhouses and the Original YLR, which will extend south to the existing vegetated berm. The proposed berm will be vegetated with appropriate native plant species, consistent with IM 2.3.3 and IM 3.5.5, and will limit access and visual intrusion into the original YLR from the developed areas, consistent with IM 3.5.7 and IM 4.3.1, and will also buffer the Original YLR from the greenhouse research activities. The proposed berm will protect open space habitat values, consistent with IM 2.3.1 and IM 3.4.1 and IM 3.5.8, which require buffering of sensitive habitat areas from development activities.

The proposed project includes new fencing to be placed on the McAllister Way side of the berm, both the existing berm and as would be extend in this project (see page 39 of Exhibit 2). Such fencing would consist of open mesh-welded wire panels on rough wooden posts (see page 40 of Exhibit 2), and is intended to provide a barrier to block people from accessing the berm and ultimately the Original YLR. There is also a solid board wooden fence proposed across from the NOAA Fisheries building where an alcove would be formed to allow an overlook into YLR without disturbing YLR habitats (Overlook E). On the latter, such fencing is only allowed in limited circumstances, and where it can be sited and designed to limit visual impacts. It appears from the project materials that this solid fence meets such requirements, but it is necessary to ensure that appropriate fencing materials are used as a more detailed site plan and elevation is prepared. Thus Special Condition 1 requires that the fencing materials are appropriate for the berm area, consistent with the CLRDP direction for Overlook E.

In terms of the mesh wire fence proposed, this fence is inconsistent with the required fencing design guidelines of CLRDP Chapter 6 (see Exhibit 4). Specifically, the CLRDP is structured to avoid the use of fencing as much as possible so as interfere as little as possible with the open space and rural aesthetic of the Campus. Fencing that is allowable must be responsive to its purpose and need, and sited and designed to limit visual impacts. In addition, it must be sited and designed so as not to interfere with wildlife movement. The CLRDP includes very specific fencing prescriptions, down to the height, materials, and configurations that are allowable in different circumstances. The fencing proposed does not meet any of these criteria. First, fencing for resource protection purposes is required to be roughhewn split-rail fencing no taller than 3 feet in height, or wood post and rope (or cable) barriers no taller than 2 feet in height. The proposed fencing is taller than both of these, and made up of a very different design, one that is not allowed nor contemplated by the CLRDP. Second, the fencing proposed would serve to block wildlife movement, when wildlife-blocking fencing is prohibited.

In terms of allowing fencing at all, the Commission recognizes that the SAC and the YLR Manager both support some sort of fence in this location to provide enhanced protection for YLR over and above what the vegetated berm can offer, and can find a fence appropriate here under the CLRDP, given its purpose and need for resource protection, as allowed by the CLRDP. However, the fence must be made to conform to the CLRDP specified allowed fencing type, and must be sited and designed to minimize visual impacts otherwise (including avoiding straight-line forms, incorporating vegetation to help it blend into the surroundings, etc.). See Special Condition 1.

In summary, the CLRDP envisions development to provide enhanced and expanded marine science research uses at the Campus. The proposed project includes development of the Coastal Biology Building consisting of a new research and teaching lab building and associated greenhouses and a new seawater tank. With the fencing modifications described above, this aspect of the project can be found consistent with the CLRDP.

2. Road, Infrastructure, Service Yards, and Other Site Improvements.
This aspect of the project would make improvements to the potable water, filtered seawater, sewer, storm drain, electrical, communication, and circulation systems throughout the Campus to address existing utility deficiencies and to support development on the Middle Terrace. See Exhibit 3 for the CLRDP figures and IMs referenced below. See Exhibit 4 for applicable CLRDP Design Guidelines. See pages 8-11 and 41-70 of Exhibit 2 for infrastructure project plans.

Water, Seawater, Sewer, Natural Gas, Electrical, and Telecommunications
Figure 5.7 shows the allowed utility corridor alignment, and also includes a utility prohibition zone through which the extension of sewer and water utilities to areas outside the City of Santa Cruz or otherwise beyond the Campus to the west is prohibited. CLRDP Policy 8.1 and IM 8.1.1 state that utilities shall be sized only to meet the needs generated by development or uses of the Marine Science Campus. Various utility improvements, including water, seawater, sewer, natural gas, electrical, and telecommunications, are included in the project. The proposed utilities will be located in underground trenches or vaults under the roadway or under other paved areas. The proposed sewer lines will connect to an existing sanitary sewer pump station located near the

NOAA building. All of these underground utilities will be serviceable via a series of manholes. The proposed utilities are sized to provide only for the envisioned needs of the Marine Science Campus. The location of the utility corridors is consistent with the routes shown in Figure 5.7, and no water or sewer utilities will extend into the utility prohibition zone. Thus, these components of the project are consistent with the above-cited utilities provisions of the CLRDP.

Roadways
IM 5.1.1 requires that the University construct a new circulation system for the Campus as shown in Figure 5.5. As shown in the project plans, the proposed road alignment is consistent with the road configuration in Figure 5.5.

The existing entry road runs along the southern margins of wetlands W1, W2, and W3, and also segments the grassland habitat in this otherwise undeveloped area. IM 5.1.6 requires that the portion of the existing main entry road between Shaffer Road and the CDFW facility be abandoned as a campus street and restored as a public trail and habitat buffer area. Under the proposed project, the existing entry road would be abandoned as a vehicle roadway from the campus entrance to the southern end of the CDFW facility, and converted to an approximately 8-foot-wide, meandering pedestrian pathway, to be called the Ocean Shore Railroad Trail. This trail would be created by removing excess road pavement (but not roadbed fill, as that is critical to the wetland hydrologic regime at the site), and leaving a curvilinear trail within the roadbed area. All disturbed areas would be planted with appropriate plant species to complement nearby wetlands and buffers, and enhance the trail recreational experience. Thus, this aspect of the proposed project is consistent with the requirements of IM 5.1.6.

Consistent with the requirements of IM 5.1.1 and Figure 5.5, the existing entry road would be replaced with a new main entry road for the campus from the Delaware Avenue entrance, which would become the new Delaware Avenue Extension. This new, asphalt-concrete-paved road would be routed to the south of the abandoned road alignment. At the same time, the configuration and design of the Delaware/Shaffer intersection would be modified to improve its safety and functioning for vehicles, pedestrians, and bicyclists, consistent with the requirements of IM 5.1.2 and IM 5.1.3. Improvements would include relocation of the City's large above-ground water meter and backflow assembly to a less visible location; installation of new entryway fencing and a new automated gate; and roadway design to realign the entry drive with the end of Delaware Avenue, to provide adequate bus turnaround room in the intersection, to accommodate the entry to the new public coastal access parking lot at the entrance, and to integrate the pedestrian trail crossing and access to a new pedestrian trail along the new Ocean Shore Railroad Trail. The new Delaware Avenue Extension would be 22 feet wide with unpaved shoulders and without curbs. The roadway would include a sidewalk from the Campus entry to McAllister Way, where it would connect to a proposed new sidewalk along McAllister Way near the CDFW facility.

Consistent with CLRDP IM 5.1.4, the driveway entrance into the Upper Terrace development zone (i.e., the location of the proposed storage yard - see below) would be located in the center of the zone, to ensure that adequate areas for wildlife passage are preserved north and south of the development zone.

Storm Water Management

The governing plan for drainage design at the Campus is the Marine Science Campus "Drainage Concept Plan," which is included as part of the CLRDP as Appendix B. The Drainage Concept Plan identifies specific water quality treatment parameters that must be met by new development, and requires that runoff from new development be controlled to avoid increasing peak flow rates and to maintain infiltration at pre-CLRDP levels to the maximum extent practicable. To achieve these goals, the Drainage Concept Plan describes the ideal storm water management system as a series of natural drainage facilities and engineered filtration systems. The natural drainage facilities include vegetated filter strips and grassy swales that connect to vegetated storm water basins, to remove pollutants from storm water runoff and to provide opportunities for groundwater recharge. These natural systems may be supplemented with engineered treatment systems, as necessary, to ensure that runoff meets water quality objectives set forth in the CLRDP. The proposed project includes the following types of natural drainage features (see pages 64-69 for examples of these types of drainage features):

- Bio-retention ponds, which are shallow, landscaped depressions that allow runoff to pond and infiltrate through layers of mulch, a prepared soil mix, and a gravel base.

- Vegetated swales, which are grass-lined channels designed to convey and filter/treat storm water and other runoff.

- Vegetated filter strips, which would be six- to ten-foot wide linear features adjacent to new roadways that would be planted or seeded with appropriate native grass species. Runoff flowing over the filter strips would drain to bio-retention ponds or vegetated swales.

- Vegetated storm water basins, which are designed to detain water for a short period of time between storms. In between storm events, pollutants in water that remains in the detention areas are removed or reduced by infiltration, settling, and physical and biological processes.

- Pervious paving, which is designed to allow percolation or infiltration of storm water through the surface into the soil below where the water is naturally filtered and pollutants are removed. The use of pervious pavement reduces the volume and rate of runoff.

The proposed project also includes engineered filtration systems for specific types of development. For example, areas used for the maintenance and servicing of heavy equipment or for food service wash-down must drain to the sanitary sewer system and must be covered to limit storm water from coming into contact with potential pollutants. Engineered storm water treatment systems are required for parking lots, maintenance areas, and laydown areas, and oil and grease traps are required for food service areas.

On the CBB site, pervious paving would be used in Parking Lot 204, the bicycle/pedestrian paths, and the fire lane. The gravel fire lane shoulder and the courtyard decking would also be pervious. Runoff from the roof of the CBB lab building would drain to a series of bio-retention areas east of the building and in the courtyard. A vegetated swale along the northern edge of the building would collect runoff from the fire lane. The ponds and swale would drain to a vegetated storm water basin that would occupy the area between the lab wing and Parking Lot 204, and extend to the east across the Middle Terrace utility corridor (future Middle Terrace Walk).

Filtered and treated water from the basin would drain to the wetland buffer in the YLR, surrounding wetland W4, from which it would infiltrate into the subsurface or flow overland to wetland W4. Construction of the storm water basin would not entail grading in the wetland buffer. Runoff from the parking lot that does not infiltrate through the pervious pavement would flow to a vegetated swale in the middle of the lot. Filtered and treated water from the eastern half of the swale would flow east and discharge through a box culvert within the development area to the wetland W4 buffer. Filtered and treated water from the western half of the parking lot would flow west and would discharge to drainage features along McAllister Way and thence to the Original YLR via a drainage system described below.

The area around the proposed greenhouse complex currently is graveled and/or covered with existing greenhouses. Runoff from this area currently drains to an existing infiltration feature in Subarea 7. Under the proposed project, the area between the greenhouses would be surfaced with pervious aggregate paving. The greenhouse area would also include three bio-retention areas. A new 5-foot-high berm topped with screening vegetation would be constructed along the site margin, in Subarea 7, to provide screening and buffering to protect YLR and its wildlife from visual and other impacts from development. The berm would incorporate storm water infiltration and conveyance features. A vegetated swale would be constructed along the berm in Subarea 6 to collect runoff from the greenhouse area. Flows in the swale would be directed to the YLR (consistent with IM 7.3.1) at six points along the edge of Subarea 7 via pipes installed at the base of the berm. On the lagoon side of the berm, the flows would be dispersed along the top of the Younger Lagoon bluff through level perforated piping.

The new Delaware Avenue Extension would be 22 feet wide with unpaved shoulders and without curbs. The roadway would include a sidewalk from the Campus entry to McAllister Way, where it would connect to a proposed new sidewalk along McAllister Way near the CDFW facility. A linear bio-retention pond would be built along the side of the road for storm water treatment and infiltration.

IM 2.3.2 requires that at least 30 percent of the land area within the Middle Terrace development zone be maintained in a pervious state and free of impervious surfaces. Approximately 19 percent of the Middle Terrace development zone would be developed with impervious surfaces. Thus, the project is consistent with IM 2.3.2.

The CLRDP includes a number of provisions to manage storm water and other runoff (IM 7.1.1), meet water quality standards (IM 7.1.2), meet the flow requirements of the Drainage Concept Plan (IMs 7.1.3-7.1.5, and provide for groundwater recharge (IM 7.1.6). The analysis in Section 3.9 of UCSC's FEIR for this project regarding *Hydrology and Water Quality* found that the proposed project would meet the requirements of the above-cited implementation measures as well as the requirements of the Drainage Concept Plan. In addition, the surface of the parking stalls in the parking lots would be permeable, and the trails would be surfaced in permeable materials, consistent with the requirements of IM 7.1.13 regarding permeable hardscape. The project also includes drainage system interpretive signs, consistent with the requirements of IM 7.1.15. The natural vegetated drainage components of the project are consistent with the requirements of IM 7.1.16. The proposed project also includes drainage system monitoring and maintenance provisions, consistent with IMs 7.2.1-7.2.4. In total, the proposed project includes a

drainage system, including a variety of natural drainage features, which will maintain, enhance, and restore marine resources, consistent with the requirements of the CLRDP.

Storage Yard and Utility Yard

The proposed project includes development of a staging area located in the Campus' Upper Terrace area (Subarea 1) adjacent to Shaffer Road. The construction staging area would occupy about 58,000 square feet, which accounts for all of the developable area within the Upper Terrace Development Zone. After its use for construction staging has ceased, this area would be converted to an open-air storage yard. The storage yard would house items such as research boats and sea-land-type storage containers for marine research equipment used by researchers at the Campus. Development of the storage yard would require final grading of the yard prior to permanent surfacing. Figures 5.3 and 5.4 allow such development in this area of the Campus. Security lighting would be provided within the site (see "Lighting" section below for analysis). As required by IM 3.2.3, the proposed storage yard would include fencing and landscaping at the development zone boundary to screen noise, lights, and activities that might deter wildlife from moving through nearby wildlife corridors/buffers (that extend on either side of this area, west and east). The storage yard would be surrounded by a solid wooden fence just tall enough that the fence and surrounding landscaping (at maturity) is capable of screening these storage yard activity areas from view from within the surrounding wildlife corridors, which will be enhanced per the requirements of the CLRDP as part of the project. The fence would be no taller than 8 feet in any case. The way in which the fence and landscaping screening would interact to minimize fencing and limit public view impacts as required by the CLRDP can be assured by requiring final plans for the storage yard, including in terms of such fencing and landscaping, for Executive Director review and approval (see Special Condition 1).

The proposed project also includes development of a new centralized utility yard in Subarea 2, at the northernmost end of the Middle Terrace immediately north of the new campus main entry road. The proposed utility yard would be a graded, graveled area of about 11,400 square feet. This facility would provide secure space for stand-by generators. Natural gas, electrical distribution, communications, water, and sewer lines would be extended to the utility yard. A modular unit for temporary storage of regulated waste also would be sited in the utility yard. The footprint of the modular unit would be about 10 feet by 15 feet. Within the utility yard, each generator and storage tank would be sited on an individual concrete pad. The entire facility would be surrounded by a solid wooden fence just tall enough to screen these utility components (and no taller than 8 feet in any case, and as low as 4-6 feet) with a locked gate for security. It would also be screened from the new campus entry road and from the new pedestrian path (along the old road alignment) by tall shrubs such as willow and alder (if the area is wet) or other appropriate species, planted along and extending out from the fence line so as to help the facility blend into the site's natural aesthetic. Limited night lighting for security purposes is proposed within the yard (see "Lighting" section below for analysis).

Within Subarea 2, the CLRDP requires above-grade development, such as that now proposed, to be concentrated to the south of the subarea (i.e., south of the road) as much as possible (per CLRDP Figure 5.4). In addition, CLRDP IM 4.2.12 explicitly requires development in Subarea 2 to be sited and designed to minimize impacts to public views from the public trails in this area, including from the new pedestrian path along the old road alignment. These provisions emanate

from the Commission's desire in certifying the CLRDP to minimize development north of the access road as much as possible, both to better buffer the significant wetland and habitat areas north of the road, and to protect the open space views available north of the road, both from the trials as well as the vista from the road itself upon entering the Campus. These views are of protected habitat areas on Campus blending into agricultural fields extending to the west. Because the utility yard proposed is to the north of the road, it conflicts with these CLRDP requirements. Ideally, the utility yard would located south of the road, and the portion of the Subarea that is located north of the road would be used for other development that is not above ground (like storm water detention ponds). The University would prefer to use the area north of the road for the utility yard.

Provided the utility yard can be minimized in size and scale, oriented to minimize public view blockage, and otherwise screened through landscaping and limited fencing, the Commission can find it consistent with the CLRDP. It will still present as an unnatural element north of the road, but with screening it can be made to appropriately blend into the landscape as much as possible. See Special Condition 1.

3. Public Access Trails and Interpretive Panels

The CLRDP envisions an expanded network of public trails and controlled access trails on the Marine Science Campus that will allow visitors and other site users to walk to overlook points at the ocean and experience other natural resource areas on the site. The CLRDP contains a number of policies and implementation measures that provide for the development and provision of significant public access amenities, including a trail system throughout the site, a series of developed overlooks[5] at the ocean and Younger Lagoon, associated amenities such as benches and bicycle racks, and interpretive facilities including educational signage and outdoor exhibits. See Exhibit 3 for the CLRDP figures and IMs referenced below. See Exhibit 4 for applicable CLRDP Design Guidelines that pertain to trails and their amenities. See pages 12-14 of Exhibit 2 for the proposed location of the trails and interpretive signage and see page 20 of Exhibit 2 for examples of the proposed interpretive signage.

CLRDP Policy 6.1 requires that maximum public access to the coastal resources of the Campus and the adjacent shoreline and coastal area be provided consistent with public safety, habitat protection, and other requirements of the campus. IM 6.1.3 and IM 6.2.2 require the University to construct and maintain a public pedestrian and bicycle trail system on the Campus, and to locate these trails substantially similar to the configurations shown in Figure 5.6. IM 6.1.1 requires that trail access shall be provided free to the public from one hour before sunset until one hour after sunset. IM 3.2.5 requires the protection of habitat against degradation from human intrusion by the development of trails, the installation of interpretive signs, and the management of trail use. IM 6.1.7 requires that interpretive displays to educate the public regarding the habitats and research activities occurring on the Campus be provided on trails and at overlook areas.

[5] These overlooks were reviewed by the Commission under previous NOIDs submitted by UCSC (Overlook B in NOID-1 in 2009; Overlooks A, C, D, E, and F in NOID-5 in 2012). In both cases, the Commission concurred that the NOIDs were consistent with the CLRDP. Most of the improvements to these Overlooks have taken place, except for the installation of the interpretive panels. The University is awaiting the fabrication of these interpretive panels.

The project includes development of an integrated 1.2-mile pedestrian and bicycle trail system, in the general locations as shown on Figure 5.6, that will link the Campus' facilities and that will provide views and educational interpretation of coastal features, grasslands, wetlands, and the campus' habitat restoration projects. Trails will form a loop from the Campus entrance to the coastal bluff, along the bluff, and back through the Campus terraces, including through the building areas. The trails will be available for free access from one hour before sunrise to one hour after sunset. Minor barriers to restrict pedestrian movement to the trails (e.g., rope or cable and pole) may be installed where absolutely necessary based on identified use issues (and avoided otherwise), which will also serve to limit access into adjacent restored habitat areas, consistent with IM 3.2.5. All trails will be furnished with benches, trash cans, recycling bins, bike racks, and other trail amenities.

Portions of some of the trails would be located in areas designated "Research and Education Mixed Use." The overlooks and most of the trail improvements would be located in land designated as "Resource Protection Buffer." The De Anza Trail and the multiuse main bicycle/pedestrian trail would be located in land designated "Open Space." Trails and their associated amenities are allowable uses in these three CLRDP land use designations per CLRDP Figure 5.3.

Section 6.4 of the CLRDP specifically sets forth design guidelines for trails on the Campus including with respect to trail widths, trails materials and trail amenities. Major trails, such as the Central Campus Trail and Bike Path, may be up to 12 feet wide and may be constructed of concrete or asphalt given their higher "traffic" or use levels. Minor trails will be generally devoted to coastal access and interpretive walks and will be a minimum of six feet wide, narrower in the buffer to the YLR. These trails will be constructed of decomposed granite or similar naturalistic permeable materials to protect water quality and to maximize infiltration (consistent with IM 7.1.13). All trails will be ADA compliant, to the extent feasible. Other CLRDP implementation measures require native landscaping with appropriate native plants (IM 3.2.14), limited symbolic fencing to protect natural resources (IM 3.5.8 and Section 6.8.3), and interpretive information regarding the Campus' research activities and adjacent natural areas (IM 6.1.7). The proposed project includes trails that are consistent with the width requirements of Section 6.4. The proposed trail improvements also include ADA-compliant access paths made of pervious materials (except for Central Campus Trail and Bike Path), interpretive signage, minor fencing (e.g., rope or cable and pole) where absolutely necessary to protect natural resources based on identified use issues (and avoided otherwise), expanded landscaping areas with appropriate native plants, and amenities such as benches, bicycle racks, trash/recycling cans, etc., all consistent with the specific requirements of CLRDP Section 6.4 and the above-stated implementation measures.

Interpretive overlooks will provide small group opportunities for nature education. The proposed project includes one new overlook, Overlook G, and a new covered interpretive shelter at existing Overlook A (see Figure 2-3a). Overlook G, on the south side of the Central Campus Trail, would provide a viewpoint to the south to wetland W5 for bicyclists and pedestrians. The overlook would consist of a 6-foot by 10-foot pervious-paved area adjacent to the Central Campus Trail. The overlook would include a bench and interpretive signage related to the wetland and other natural features. At Overlook A, which provides a view of the same wetland

from the south, the proposed project would add a small covered shelter with interpretive signs/exhibits at the previously approved overlook site, to provide an outdoor learning space for larger groups for both self-guided and guided exploration. The shelter would be an open structure up to 400 square feet in size with simple roof and a wall or slatted fence on the prevailing wind side (west) and possibly a partial wall or slatted fence on the storm wind side (south) for wind protection.

In summary, the CLRDP envisions improvements to existing trails and development of new trails to provide visual and physical access to the natural and developed areas of the Campus, including the 72-acre Younger Lagoon Reserve, as well as to the surrounding ocean views. The proposed project includes a trail system that is consistent with the specific requirements of the CLRDP with respect to interpretive signage, ADA-compliant permeable access paths where feasible, native landscaping, as well as structural improvements such benches, bicycle racks, and other amenities. The project will develop all of the required trails (and remaining overlook improvements) required by the CLRDP. Thus, upon completion, public trail access to the Campus will be fully implemented as envisioned by the Commission in certifying the CLRDP. The proposed project will greatly benefit the public by improving access opportunities at the Campus. Thus, this aspect of the proposed project is consistent with the CLRDP.

4. Reconnection and Restoration of Wetlands

The CLRDP includes multiple provisions that require protection, enhancement, and restoration of the natural areas of the Campus outside of development zones, including specific requirements applicable to wetlands, including the terrace area wetlands that are now included in the Younger Lagoon Reserve. See Exhibit 3 for these provisions. See pages 36-38 of Exhibit 2 for the location of the wetlands in the Upper Terrace area and for the options for reconnecting the wetlands.

The historical functional values of the wetlands on the Upper Terrace of the Campus were diminished by decades of agricultural use prior to UCSC ownership. Under the CLRDP's Specific Resource Plan (SRP) Phase 1B, the hydrology of wetlands W1 and W2 would be integrated. Reconnecting W1 and W2 would increase water flow to W2 and remove the drainage function of W1 (currently confined to a linear ditch-like configuration that accelerates water flow from the Upper Terrace into Younger Lagoon). The goal of the hydrological restoration is to provide a better functioning wetland upland/transitional habitat and to better maintain California red-legged frog habitat at the northern end of wetland W2. SRP Phase 1B also would contribute to the establishment of appropriate native grass and herbaceous wetland species that would enhance habitat connectivity between these wetlands and Younger Lagoon; reduce the potential for erosion; and improve storm water quality in this area. The project would consolidate, expand, and enhance these wetlands as mandated by the CLRDP and its associated Resource Management Plan. Thus, as proposed, this component of NOID-6 is consistent with the certified CLRDP.

5. Sign Program

CLRDP Section 9.1.4 requires the University to design and install a coordinated "suite" of signs, including for parking areas and for all public access facilities. CLRDP Section 6.7.2 provides details on the signage design guidelines for the entire Marine Science Campus site, and requires a unified design theme wherein all Campus signs will use similar materials, colors, fonts,

layouts, etc., and will be fabricated of natural or natural looking materials that are compatible with the site character to the maximum extent feasible.

The proposed signage program for the Campus consists of three types of signage (see "Parking Program" below for a discussion of parking signs): Wayfinding/Directional/Informational, Regulatory, and Interpretive. See Exhibit 3 for the CLRDP figures and IMs referenced below. See Exhibit 4 for applicable CLRDP Design Guidelines with respect to signage. See page 14 for the proposed locations of (non-parking-related) signage. See pages 16-20 of Exhibit 2 for examples of the proposed (non-parking-related) signage.

Wayfinding signs would be installed or replaced throughout the Campus to facilitate public access to current and proposed buildings, interpretive features, and site amenities, such as the Seymour Marine Discovery Center, the CBB, parking lots, and trails. Signs with the Commission's wave and footprint symbol would be used to direct visitors to coastal overlooks. To protect habitat areas, signage would be installed to discourage pedestrians from leaving designated pathways. Regulatory signs convey information about speed limits, fire lanes, parking regulations, etc.. Interpretive signage would be installed throughout the Campus to help to develop the public's understanding of and appreciation for the MSC's natural resources and of the Campus' efforts to protect these resources.

The CLRDP requires that the University develop and implement a unified sign program intended to use similar materials, colors, fonts, figures, symbols, and layouts to convey information to Campus users. Such sign program is meant to provide internal consistency between and among Campus signs to facilitate ease of recognition and uniformity for the Campus, at the same time fitting into the natural character of the site. With the exception of the regulatory signs (and parking signs, which are discussed below under the section on the parking program), the proposed sign program will appropriately respond to CLRDP requirements. With respect to the regulatory signs, UCSC indicates it has little to no control over the design of these signs, and that they are required to look the way that they have been proposed. It is not clear whether there may be exceptions to rules for regulatory signs that would allow customization at the Campus to help these signs better fit within the site aesthetic. If such exceptions are available, then they should be required to be applied in this context. If they aren't, then everything possible must be done to help the signs blend as much as possible with the site aesthetic (e.g., using wood posts, framing such signs with similar materials as Campus signs, etc.). This consistency determination is conditioned to require evaluation of such exceptions for regulatory signs, and evidence that they are infeasible or can be implemented here, as well as applying all other possible measures to have such signs blend with the established unified sign design plan for the Campus. See Special Condition 3.

6. Parking Program

A key feature of the CLRDP's circulation plan is the development of parking for campus use and public coastal access. At the present time, other than the 18 limited use spaces in parking lot 202, parking on the site is available for free on a first-come, first-serve basis for persons working on site as well as visitors to it; parking is not assigned and permits are not required.[6] CLRDP Policy

[6] Lot 202, which was subject to NOID 1 as mentioned above, provides limited parking for University-owned and/or or service vehicles only. In addition, although not part of the Marine Science Campus per se, and not subject to the

5.3 limits parking on the Marine Science Campus at build-out to a total of up to 795 spaces, and the University may control almost all of this parking through the use of programmatic means (e.g., including through the use of parking permits and/or parking meters) to ensure that spaces are available for high-priority users such as visitors seeking coastal access and campus teachers, researchers, and staff. Without such controls, demand for parking by students could overwhelm capacity and result in parking shortages for higher priority users.

There are currently 137 existing parking spaces in the Lower Terrace Area. CLRDP Implementation Measures 5.3.5 and 5.3.6 and Figure 9.4 require that at least 10 dedicated public coastal access parking spaces and at least 40 dual use parking spaces (i.e., reserved exclusively for public coastal access parking or for parking by visitors to the Seymour Center) be provided in the Lower Terrace development zone, and also require that these parking spaces provide the easiest and most direct access to public coastal access amenities (such as coastal overlook areas and associated trails) and the Seymour Center. The University is proposing 10 dedicated public coastal access spaces and 40 dual use public coastal access spaces in Lot 201, consistent with the requirements of the CLRDP. The 40 dual use public coastal access spaces are proposed to be located directly adjacent to the Seymour Center, which will provide direct and easy access to the Seymour Center, consistent with the requirements of Figure 9.4. Implementation Measure 5.3.6 suggests (but does not require) that the 10 dedicated public coastal access spaces be located in the parking bay along the east side of McAllister Way, opposite the Ocean Health building. However, the University is proposing that these 10 parking spaces be located one parking bay east of the location suggested in IM 5.3.6. The University is proposing this location because this will group the 10 dedicated public coastal access parking spaces and the 40 dual use parking spaces together (as shown in Exhibit B), which will effectively orient the visitor toward the coastal access and Seymour Center amenities of the Lower Terrace area and will reduce the number of parking signs needed. This location will also provide direct and easy access to the public coastal access amenities in the Lower Terrace area. Thus, although not in the suggested CLRDP location, the location of the proposed dedicated public coastal access/dual use parking spaces can be found consistent with the requirements of the CLRDP.

In addition to the Lower Terrace parking, the proposed parking program also includes 5 dedicated public coastal access parking spaces in the Middle Terrace, and 15 dedicated public coastal access parking spaces at the Campus' entrance. Both of these are sited as required by the CLRDP.

Overall, the parking program provides 197 spaces for use by Campus employees and their visitors, as well as UC service vehicles. Parking management for all 267 spaces on the Campus is intended to be accommodated through a combination of pay station or metered spaces and permit controlled spaces, with enforcement provided by UCSC Parking Enforcement staff. Parking enforcement would operate 8am to 5pm on non-holiday weekdays only. During these hours, the parking fee for the proposed public coastal access and dual use visitor/public coastal access parking spaces would be $1.50 per hour (parking would always be free for visitors to the Seymour Marine Discovery Center and in the 15-space lot at the Campus' entrance). Other

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CLRDP, the parking lot at the federally owned in-holding parcel in the Middle Terrace, which is managed by the National Oceanic Atmospheric Administration, is restricted.

parking would be by University-issued permits, and not subject to the $1.50 per hour fee. All parking spaces would be designated by coordinated regulatory and informational signage. Existing unpermitted informal parking along McAllister Way would all be eliminated, and this area restored as open space and habitat buffer, as is required by the CLRDP. See Exhibit 3 for the CLRDP figures and IMs referenced below. See Exhibit 4 for applicable CLRDP Design Guidelines with respect to parking and parking signage. See pages 21-35 of Exhibit 2 for the locations of the proposed and existing parking lots, and for the proposed parking signage.

Unpermitted Parking Removed

There are three remaining issues with the proposed parking program: sign design and information, costs for parking, and currently unpermitted parking. With respect to the currently unpermitted parking, two areas along McAllister Way are being used for informal parking, specifically in the area on the west side of the road between the existing greenhouses and the Ocean Health Building parking lot in the Lower Terrace area, and on the east side of the road adjacent to the NOAA facility. CLRDP Section 9.2 states with respect to this parking: "Within one year of CLRDP certification, the University shall remove this parking area and shall restore the area impacted by it to a natural state consistent with this area's function as buffer for Younger Lagoon Reserve and Wetland W5." Under the proposed project, the use of these areas for informal parking would be abandoned, and the areas would be restored to their natural state with native plantings. Thus, this component of the project is consistent with CLRDP Section 9.2.

Sign Design and Information

With respect to sign design and information, the signs proposed not only clash with the Campus unified sign design program, they also clash with the intent of the CLRDP that signs be designed to blend in with the natural open space character. As proposed, these signs will detract from that character, and are inconsistent with the other signs proposed, only further exacerbating their impact in this respect. The proposed parking signs are based on the style and graphics that have been adopted and used in UCSC's main campus parking sign program. The proposed signs use bright blue and yellow colors against white backgrounds, are made of metal, and are not fabricated of natural or natural looking materials. According to UCSC, these parking signs require clear information for visitors, need to comply with regulations for enforcement efficacy, and are kept to a minimum to reduce visual impacts. As proposed, however, the signs are not consistent with the requirements of the CLRDP, including Sections 6.7.2 and 9.1.4. Such signs need to be made to conform with the unified sign design program (including in terms of colors, materials, fonts, etc.), and need to be sited and designed to limit their impact on views otherwise (e.g., keeping signs as small and low as possible, limiting absolute numbers of signs, utilizing pavement markings to avoid excessive signs, etc.). See Special Condition 3.

In terms of the information presented on the signs, one of the fundamental parking requirements of the CLRDP is that <u>all</u> parking on the Campus be available for free on a first-come first-serve and unrestricted basis during daylight hours before 8am and after 5pm on weekdays, and during all daylight hours Saturdays, Sundays, and State Holidays. The signs proposed are not adequate to convey this information to site users, and need to be supplemented so as to be clear on this point. See Special Condition 3. In addition, the signs proposed are keyed to permit types as opposed to parking types, which will make it more difficult for visitors to understand what is allowed versus not. By informing Campus users and visitors what <u>type</u> of parking is available in

each lot (e.g., coastal public access, visitor, permit, etc.) the effect of the disproportionate emphasis on permits is reduced while still providing necessary information. See Special Condition 3.

Parking Fees

In terms of the proposed fees for the public to park, CLRDP Implementation Measures 5.3.2 and 5.3.8 provide that during non-State holiday weekdays between the hours of 8:00 a.m. and 5:00 p.m., the University may use permits or meters to manage public coastal access parking, and that a nominal fee may be charged if authorized by a CLRDP development project that is authorized by the Commission, "provided such fee does not negatively impact public access." As indicated above the University proposes to impose a parking fee of $1.50 per hour[7,8] between 8:00 a.m. and 5:00 p.m. during non-holiday weekdays for public visitors to the Campus.

The University states that this $1.50 per hour parking fee is consistent with parking rates imposed in high public access areas in the City of Santa Cruz, such as on the municipal wharf, and metered parking near the Boardwalk, Cowell Beach, and the Santa Cruz Harbor. The University contends that the $1.50 per hour parking fee in these areas has not negatively impacted public coastal access given that there is full utilization of the parking spaces in these areas during peak summer periods. The University further notes that parking on the Campus will be free on weekends, before 8:00 a.m. and after 5:00 p.m. on weekdays, and on State holidays.

The coastal public access amenities on the Campus, however, are not comparable to the uses in the other areas of Santa Cruz mentioned above. Those areas in the City are significant visitor destinations with a wide variety of amenities available to visitors, such as beach use, volleyball courts, the Santa Cruz Beach Boardwalk amusement park, the Monterey Bay National Marine Sanctuary Discovery Center, and a wide variety of shops and restaurants, etc.. Campus amenities for coastal public access visitors (other than those entering the Seymour Center, for which parking will be free with paid admission) are much more low key and include the aforementioned trails and overlook areas that take in the beauty of the coast in this location and that include (or will include) benches for quiet sitting and contemplation, and bird watching activities in the Younger Lagoon Reserve.

Furthermore, parking in other locations in Santa Cruz near the Marine Science Campus is generally free. For example, parking along Delaware Avenue (the road that leads into the Campus) is free and provides access to more low key amenities such as the pathway that circles Antonelli Pond (bird watching and nature experience) and paths that lead into Natural Bridges State Beach and the Campus. Parking along nearby Swanton Road (which also provides pedestrian access into Natural Bridges State Beach) and along West Cliff Drive (which provides a coastal access path) is free with limited restrictions only in terms of disallowing overnight parking. Parking along Shaffer Road next to the Campus is also free, providing access to the trails of Moore Creek Preserve and the developed recreational trail connecting upcoast to Wilder Ranch State Park. These areas are more comparable and more relevant to determining parking

[7] Parking in Lot 201 would be free with paid Seymour Center entry fee.

[8] UCSC staff indicates that the $1.50 per hour parking fee will be adjusted by the university "from time to time," but has not provided any explicit schedule or criteria for such potential changes.

fees (if any are appropriate) in the coastal public access spaces of the Campus than those areas of Santa Cruz cited by the University. However, University staff contends that the parking fee of $1.50 per hour is very reasonable compared to other developed parking facilities, and that UCSC's parking facilities are paved, striped, lighted, have storm water controls, bio swale treatments, landscaping, etc., all of which require maintenance. UCSC also contends that its parking facilities are not comparable to the off-campus parking areas mentioned above because those constitute on-street parking supported by tax dollars, or unpaved roadside turnouts, such as at the Moore Creek Preserve.

A fundamental component of the Commission's certification of the CLRDP was that there would be impacts from the development program proposed, and these impacts would be mitigated through the requirements of the CLRDP, including with respect to providing parking, trails, and overlooks for public access users. In other words, the public parking is part of a suite of mitigations intended to proportionately offset impacts of Campus development under the CLRDP on coastal resources. In this context, such parking is required to be provided by UCSC, and the argument that new fees should be applied to pay for what is actually UCSC's mitigation commitment doesn't make sense.

In addition, CLRDP IM 5.3.8 allows a parking fee to be imposed only if such a fee does not negatively impact public access. Given that parking in the nearby vicinity that provides access to these cited lower-key amenities is free, the $1.50 per hour fee (equivalent to a quarter for every ten minutes) for coastal public access visitors to the Campus seems out of place and excessive. While this type of fee is charged in areas with significantly more public access amenities in Santa Cruz, it is not appropriate to include such a large fee in a location with fewer amenities. In terms of the explicit CLRDP requirement, it would also negatively impact coastal access to the Middle and Lower Terrace areas, including reducing its general availability, and including pricing out lower income public access users.

As such, the fee as proposed is inconsistent the CLRDP's fundamental mitigation framework and with IM 5.3.8. To remedy this, Special Condition 2 requires that the parking fee for general public coastal access parking on the Campus on non-holiday weekdays between 8:00 a.m. and 5:00 p.m. be $0.50 per hour. This parking fee amount is low enough that it should not hinder public access to the Campus amenities, including trails and overlooks, while still providing some income to UCSC for maintenance of the public parking areas. A two hour visit, which provides adequate time to take in the Campus trials and overlooks, would thus cost $1, which seems an appropriate barometer in this context. Should site amenities change, and perhaps most specifically if access to the beach is provided in the future,[9] then the components of the parking program, including the fee, may need to be adjusted to account for such changes. The $0.50 per hour parking fee strikes an appropriate balance between UCSC's revenue generation needs and the CLRDP's requirement that any fee avoid negatively impacting public access. Special Condition 2 also requires that any future increase in the parking fee or other changes in the parking program shall require development authorization through the NOID process.

[9] Younger Lagoon Beach is currently off-limits to general public access, but this limitation is subject to reevaluation under the CLRDP, and future reevaluation could open the beach to general public use.

Finally, among other things, IM 5.3.2 requires that parking space users who arrive before 8 a.m. on a non-holiday weekday be allowed to continue to park in coastal access parking spaces without being penalized for early arrival. According to University staff, Campus parking pay stations in the Lower Terrace would be programmed to allow for payment in time increments not based on actual time of day. Thus any coastal access visitor who arrives before 8:00 a.m. or stays after 5:00 p.m. on non-holiday weekdays will not be penalized by being required to pay for parking when it is free. This system has been shown to work on the main UCSC campus at the 50-meter swimming pool, where early morning swimmers often purchase parking permits only for "enforcement time" parking before parking enforcement hours begin. Thus, the NOID is consistent with IM 5.3.2 in this regard.

7. Lighting Plan

Lighting can have an adverse impact on wildlife habitats, such as those found in the Original Younger Lagoon. Thus, the CLRDP includes provisions to ensure that lighting used on the site minimizes impacts to sensitive areas. See Exhibit 3 for the CLRDP figures and IMs referenced below. See Exhibit 4 for applicable CLRDP Design Guidelines for lighting. See pages 14-15 of Exhibit 2 for the locations and types of proposed lighting.

CLRDP Policy 4.3 requires that development be sited and designed to ensure that direct impacts of lighting on wildlife and public views outside of development zones is limited to the maximum extent feasible. IM 4.3.1 requires that development adjacent to the Original YLR (i.e., the Lagoon itself and the directly adjacent uplands, but not the terrace lands that are now part of the YLR) be sited and designed so that light will not be visible from within the Original YLR. IM 4.3.2 requires that development be sited and designed so that activity and direct light is minimized in its intensity, to avoid impacts to nearby environmentally sensitive habitat areas. IM 4.3.3 requires that all lighting on the Campus be provided at the minimum levels necessary for safety. IM 4.3.4 requires that all exterior building lighting be located only at building entries and interior courtyards, but otherwise not be allowed unless necessary for safety, and also requires interior lighting to minimize glare that may be visible from the sensitive habitat areas of the Campus. IM 4.3.5 allows for street lighting only within the development zones of the Campus, and also limits trail lighting to that which is needed for safety, and also requires such lights to be low-height wooden bollards with all lighting directed downward. IM 4.3.7 limits sign lighting to the minimum necessary for signs that identify important destinations, restricted or dangerous areas. IM 4.3.6 allows parking lot and maintenance yard lighting only if it is the lowest lighting intensity necessary to provide safety and security, and also requires this lighting to be directed downward, and limits pole mounted lighting to a maximum of 12 feet in height.

The CBB and other development projects would increase the amount of exterior lighting on the Campus, which, if not appropriately limited and screened, could result in a deterioration of nighttime views, reduce the perceived open space boundary that separates these uses, and have impacts to wildlife located in the YLR and on the YLR terrace lands. For example, greenhouse lighting could adversely affect movements of nocturnal mammals and roosting birds in the Original YLR if light is spilled into this area, and storage yard and utility yard lighting could adversely affect wildlife movement in the CRLF corridors surrounding the Upper Terrace area and in and around the wetlands that constitute the northern portion of the Campus. To address this concern for the greenhouse, the walls and roofs of the greenhouses will be equipped with

appropriate shades, which will be used during periods of night lighting, or will be screened with earthen berms and vegetation designed and positioned in such a way as to exclude direct light from the greenhouses from spilling into the Original YLR during nighttime (see Utility and Storage Yard analysis below). The CBB, parking lots, and roadways include design elements and lighting intended to minimize light spill and the visibility of activity, including shielded lighting, non-reflective surfaces, and screening with vegetation and earthen berms where feasible and appropriate.

Exterior building lighting would be limited to entries and usable interior courtyards; no facade or accent lighting would be allowed except where necessary for safety. Streets would be lighted only within the development areas, while trails would only be lighted as needed for safety (i.e., at road and driveway crossings and at intersections of pedestrian paths with the Central Campus Trail and Bike Path) with low-height wood bollards and downward directed fixtures. Parking lot lighting would be provided at the lowest levels necessary for safety, and only those parking areas within the development zones would be lit. All lighting would be shielded to prevent light from spreading vertically or horizontally. Pole-mounted lights (12-feet in height) would be used only in parking lots C and D, at building entries, and at pedestrian crossings. The new parking lot for public coastal access users at the Campus entrance would not be used at night and would not be lighted. Sign lighting at the Campus entrance would be limited to the minimum necessary for readability and would be shielded and directed downward to avoid light spilling into adjacent habitat areas. Indoor lighting in the CBB building will be controlled by occupancy sensors. Also, the CBB is sited at a sufficient distance that light, even from second story windows, would not spill into the Original Younger Lagoon.

It is not clear how storage yard and utility lighting would work at night. These areas are relatively more remote than the CBB area, and located within larger areas of open space where lights and glares at night would be particularly problematic, including with respect to wildlife movement and corridors. Given that these are not proposed as nighttime use areas, it appears that these issues can be resolved by strictly limiting nighttime lights there, including using timers and/or motion sensing equipment to the degree feasible to ensure that nighttime lighting does not result in wildlife habitat impacts as directed by the CLRDP. See Special Condition 1.

D. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Section 13096 of the California Code of Regulations requires the Commission to make a specific finding that a permit application is consistent with any applicable requirements of CEQA. This requirement also applies to the Commission's review of NOIDs, based on Regulation Section 13550(d). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

The University, as the lead agency under CEQA, certified a Final EIR (FEIR) for the CLRDP in September 2004. In November 2006, the University certified an addendum to the FEIR to respond to changes in the CLRDP in the time since the original FEIR certification, including

changes stemming from Coastal Commission review of the CLRDP prior to certification.[10] On January 18, 2012, the University, again as the lead agency under CEQA, certified a FEIR for the Marine Science Campus projects that constitute NOID-6. In certifying the FEIR, the University found that the projects would not have significant adverse environmental impacts. This report has discussed the relevant coastal resource issues with the proposed amendment. All public comments received to date have been addressed in the findings above. All above findings are incorporated herein in their entirety by reference.

The Coastal Commission's review and analysis of land use proposals has been certified by the Secretary of Natural Resources as being the functional equivalent of environmental review under CEQA. The Commission has reviewed the relevant coastal resource issues raised by the proposed project, and has identified appropriate and necessary modifications to address adverse impacts to such coastal resources. All public comments received to date have been addressed in the findings above. All above findings are incorporated herein in their entirety by reference.

The Commission finds that only as conditioned will the proposed project avoid significant adverse effects on the environment, within the meaning of CEQA. As such, there are no additional feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse environmental effects that approval of the proposed project, as modified, would have on the environment within the meaning of CEQA. If so modified, the proposed project will not result in any significant environmental effects for which feasible mitigation measures have not been employed consistent with CEQA Section 21080.5(d)(2)(A).

APPENDIX A – SUBSTANTIVE FILE DOCUMENTS

1. CLRDP Appendix A – Resource Management Plan

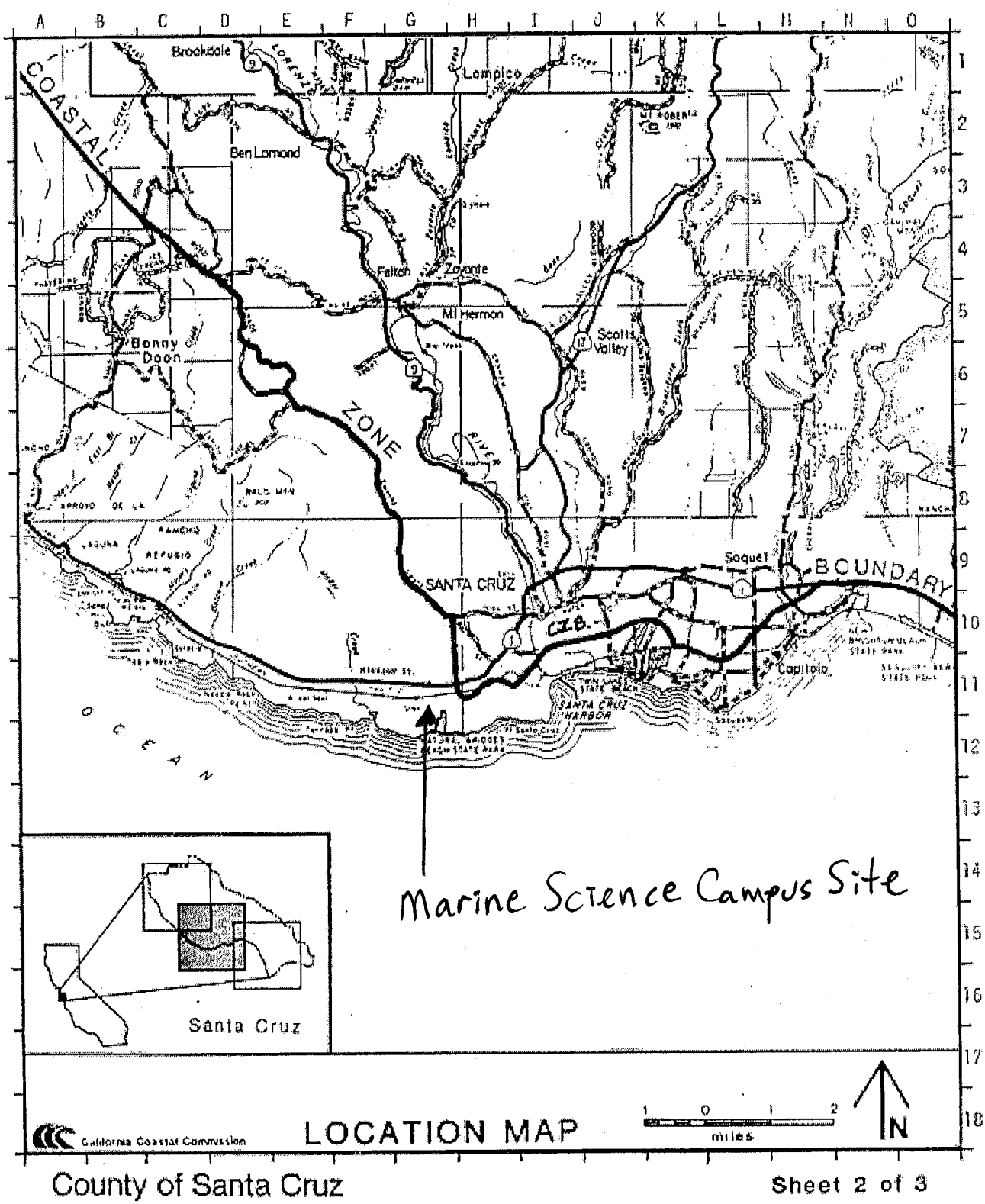
2. CLRDP Appendix B – Drainage Concept Plan

3. Terry Huffman, PhD., Huffman-Broadway Group, Inc., *Technical Letter Report, Reverification of CCC Wetlands and Corps Jurisdictional Boundaries, UCSC Marine Science Campus,* January 2011

4. Winzer and Kelly, *Marine Science Campus Final Grading and Drainage Master Plan*, April 2012

5. University of California at Santa Cruz Marine Science Campus Projects Final Environmental Impact Report, November 2011

[10] FEIR Addendum Number 1, dated certified November 29, 2006.

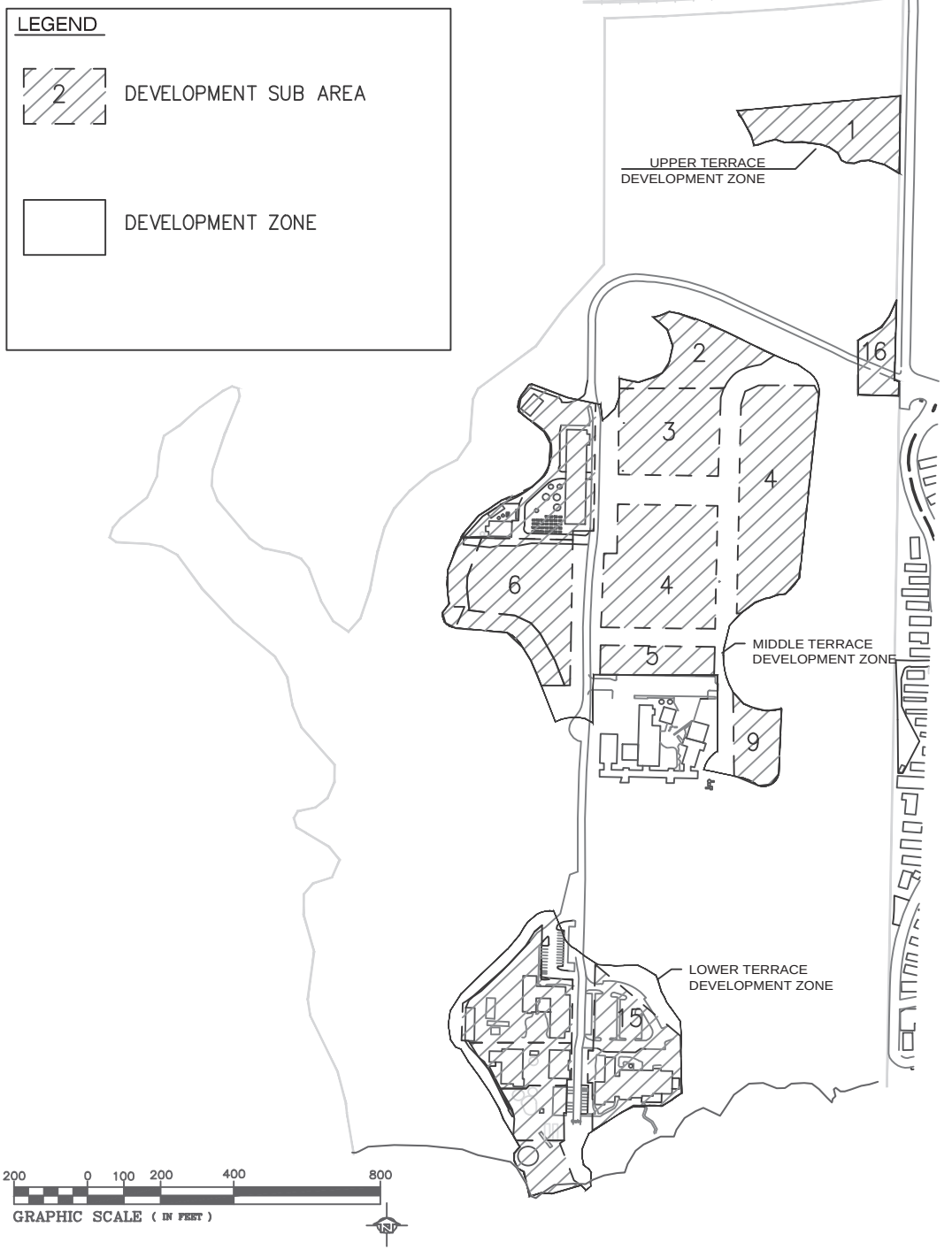


County of Santa Cruz

Sheet 2 of 3

Exhibit 1
UCSC CLRDP NOID-6
1 of 2

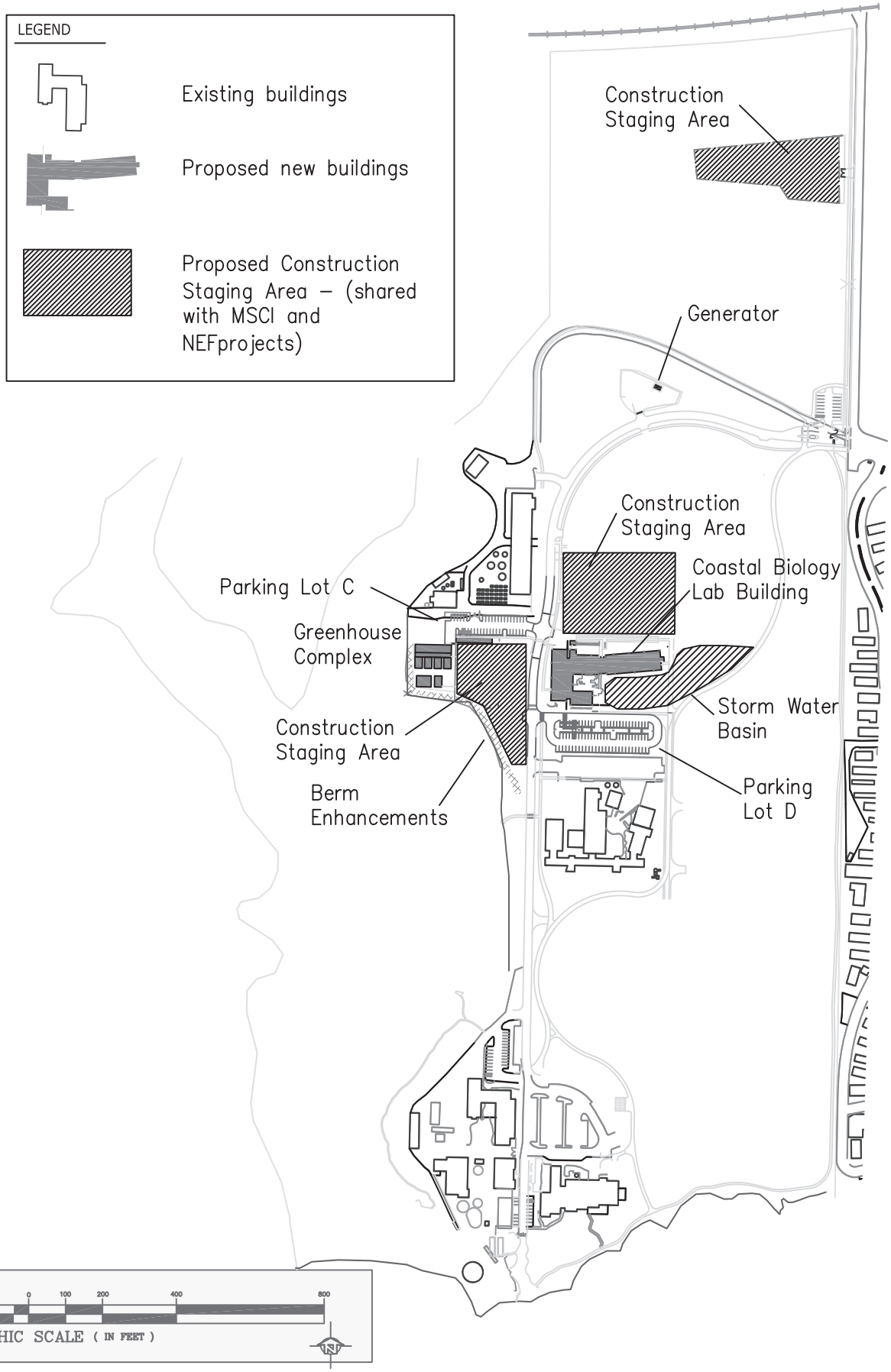
Exhibit 1
UCSC CLRDP NOID-6
2 of 2



UC Santa Cruz Marine Science Campus
Coastal Biology Building and
Infrastructure Improvements
Final Environmental Impact Report Nov. 2011

Marine Science Campus
Development Zones

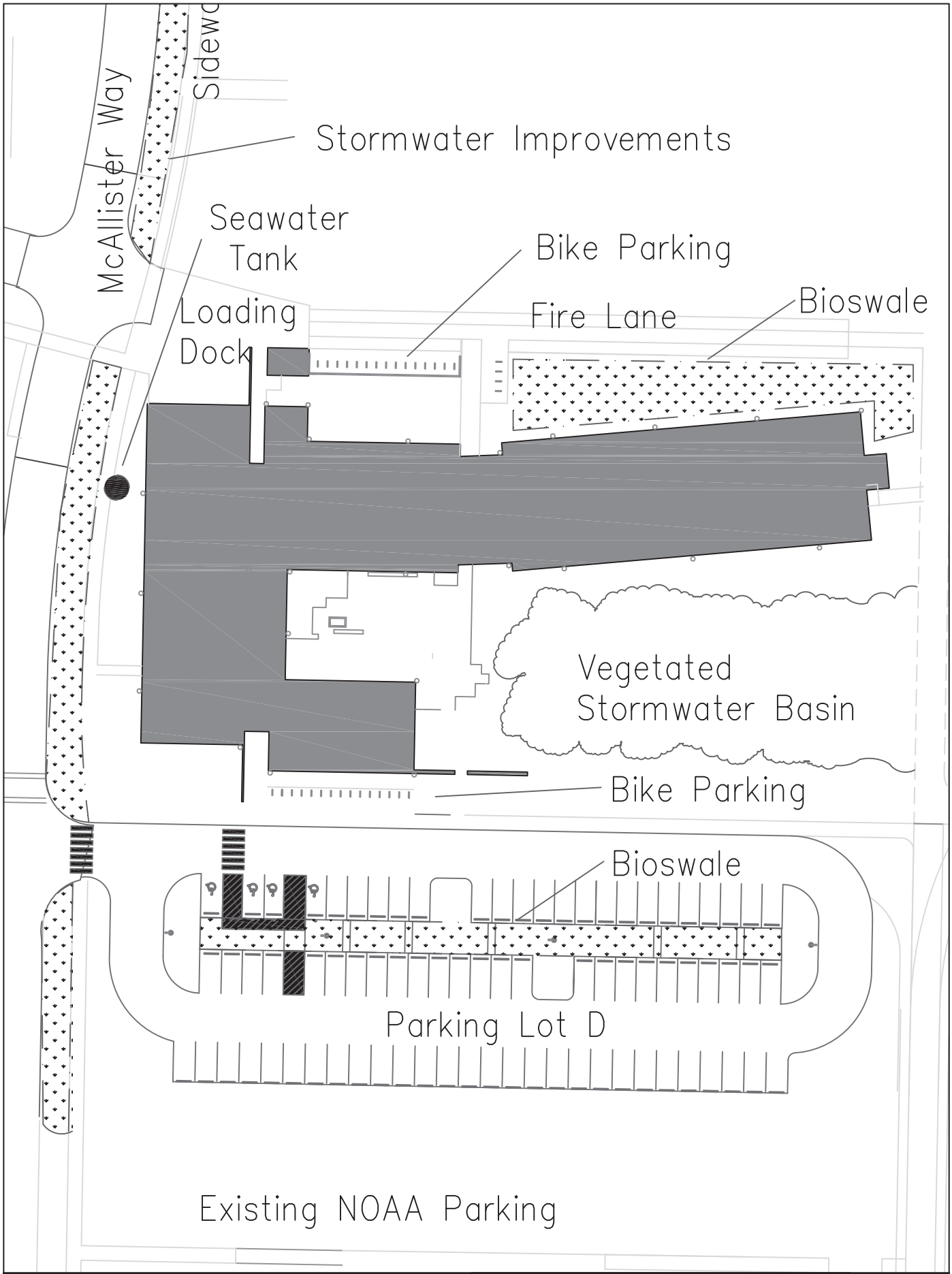
Figure 2-1



UC Santa Cruz Marine Science Campus
Coastal Biology Building and
Infrastructure Improvements
Final Environmental Impact Report Nov. 2011

Proposed CBB Project Elements

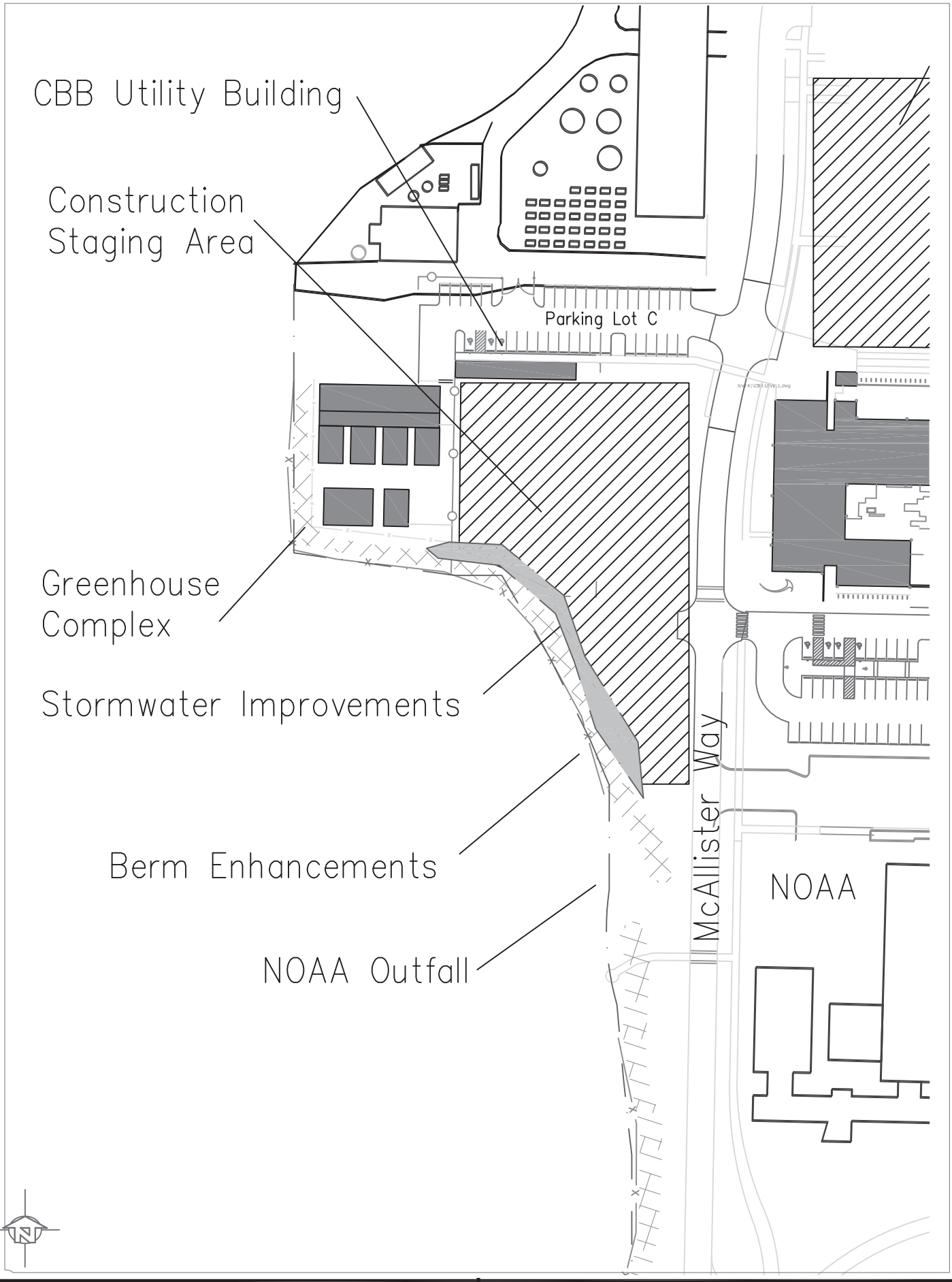
Figure 2-2a



UC Santa Cruz Marine Science Campus
Coastal Biology Building and
Infrastructure Improvements
Final Environmental Impact Report Nov. 2011

Proposed CBB Project Elements
CBB Lab Building

Figure
2-2b

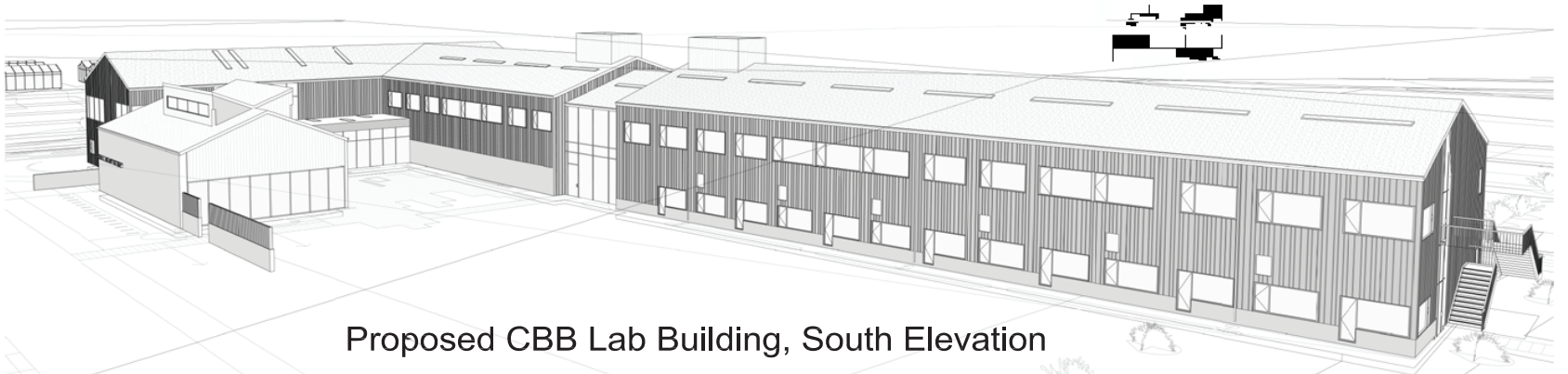


UC Santa Cruz Marine Science Campus
Coastal Biology Building and
Infrastructure Improvements
Final Environmental Impact Report November 2011

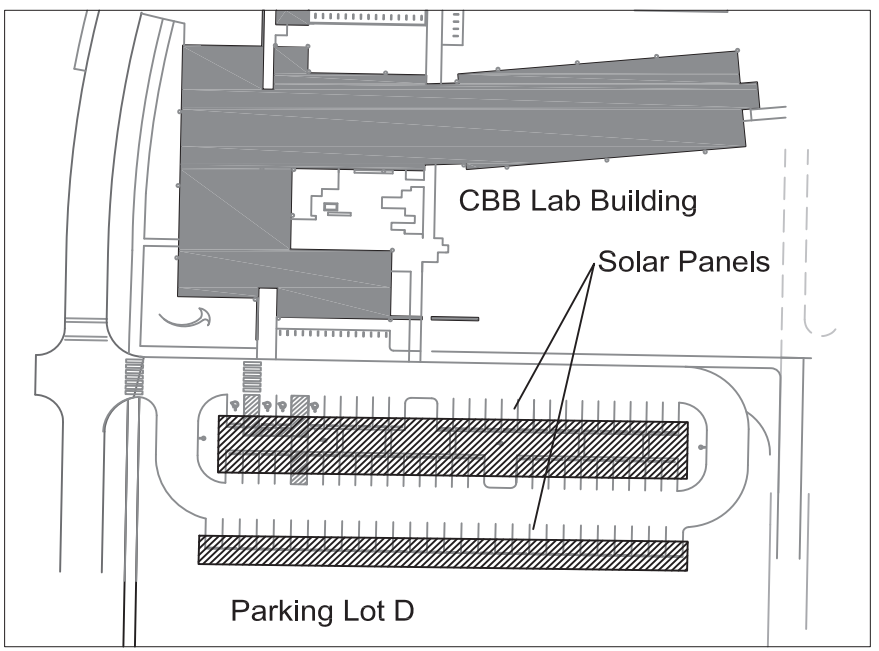
Proposed CBB Project Elements
Greenhouse Complex

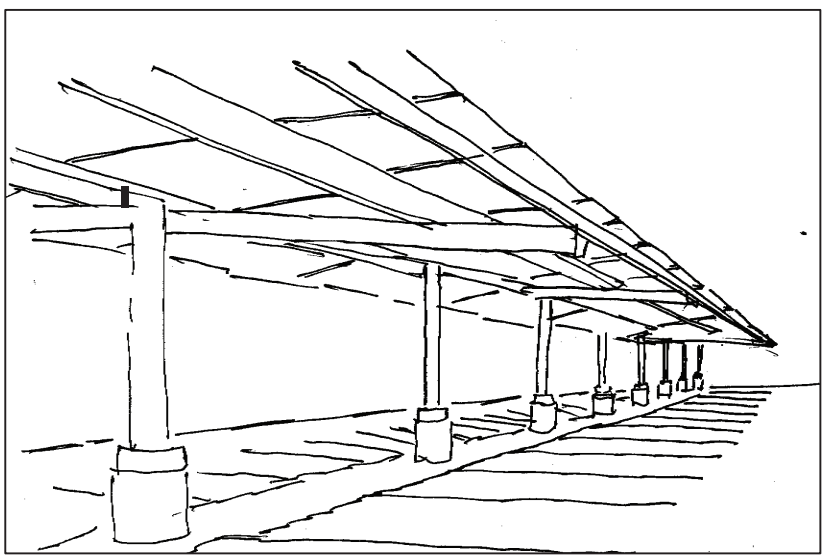
Exhibit 2
UCSC NOID-6
4 of 70

Figure 2-2c



Proposed CBB Lab Building, South Elevation





Proposed Parking Solar Panels -
Plan View & Schematic Elevation

UC Santa Cruz Marine Science Campus
Coastal Biology Building and
Infrastructure Improvements
Final Environmental Impact Report November 2011

Proposed CBB Lab Building
and Parking Solar Panels

Exhibit 2
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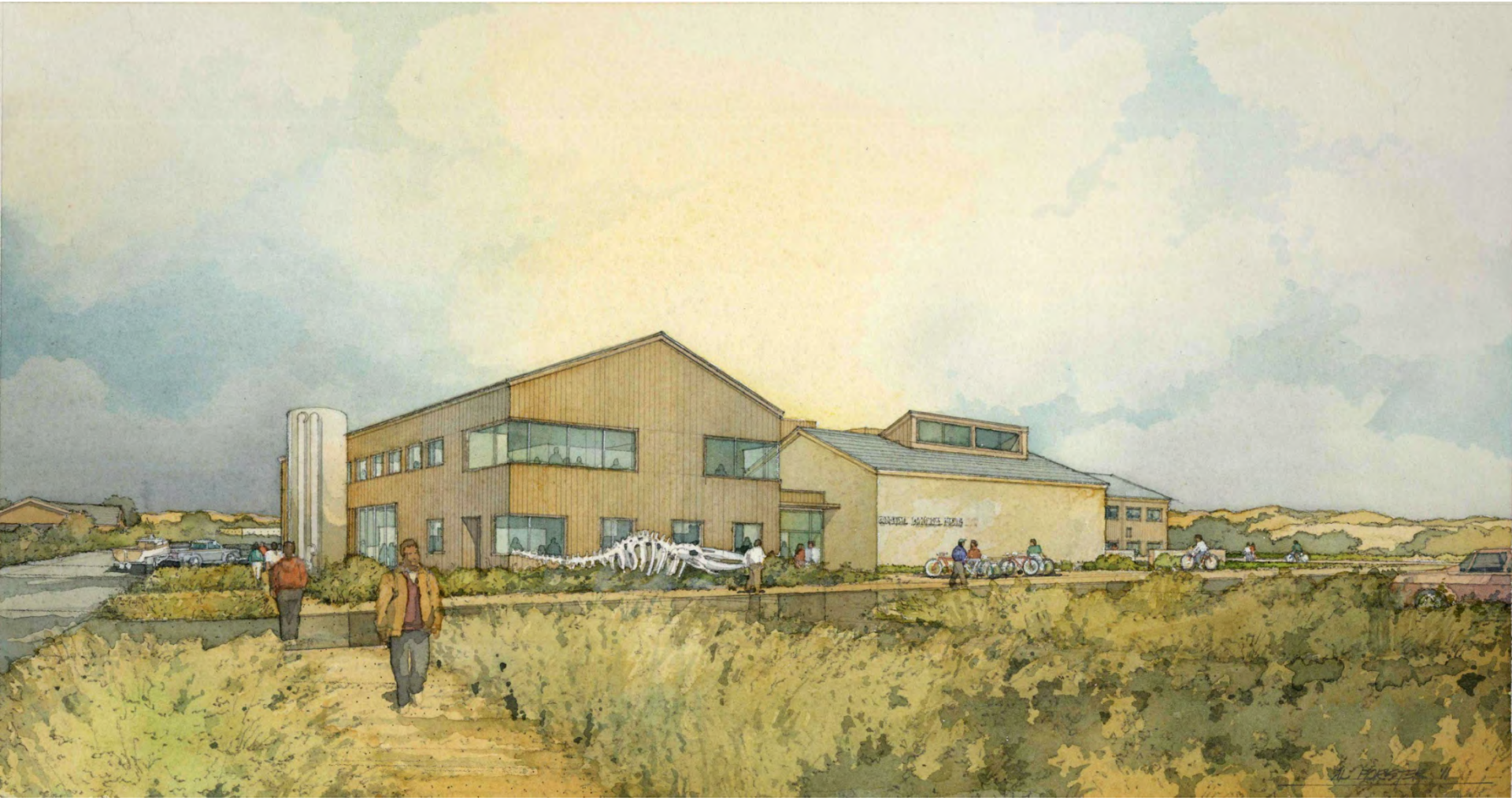
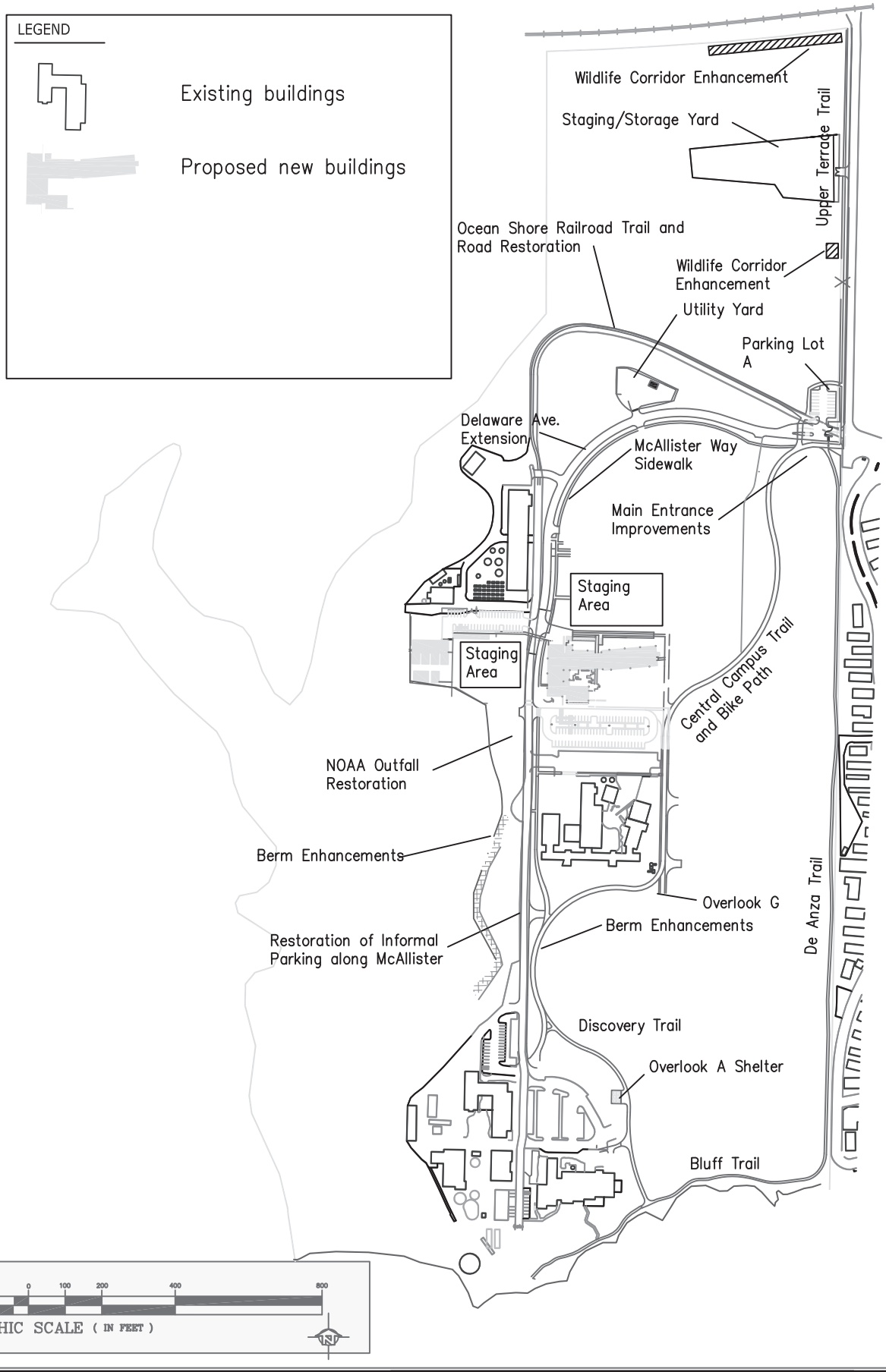
Figure
3-2d





UC Santa Cruz Marine Science Campus
Coastal Biology Building and
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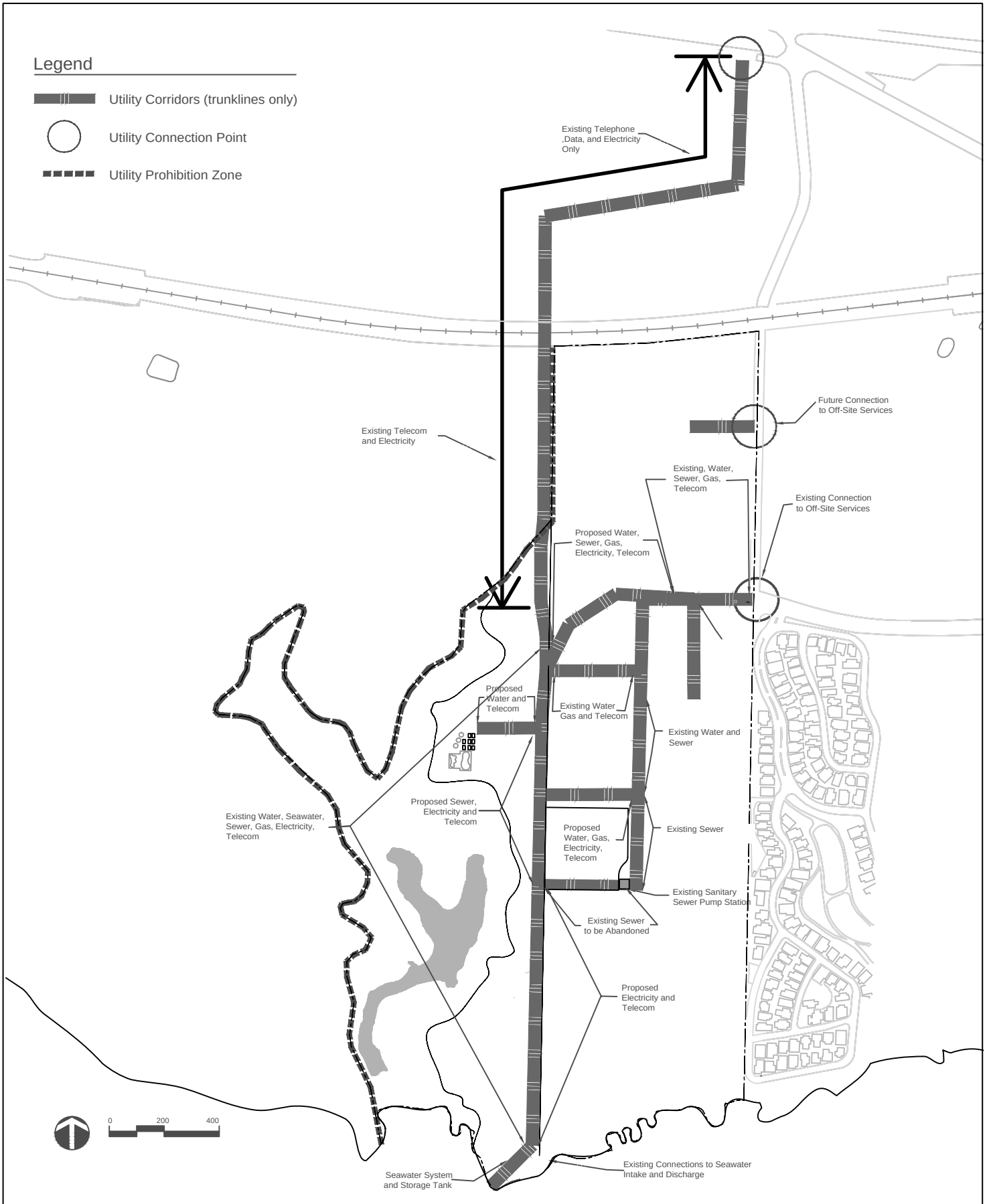
Proposed MSCI and NEF Project Elements
(See Figure 2-3b for utility corridors)

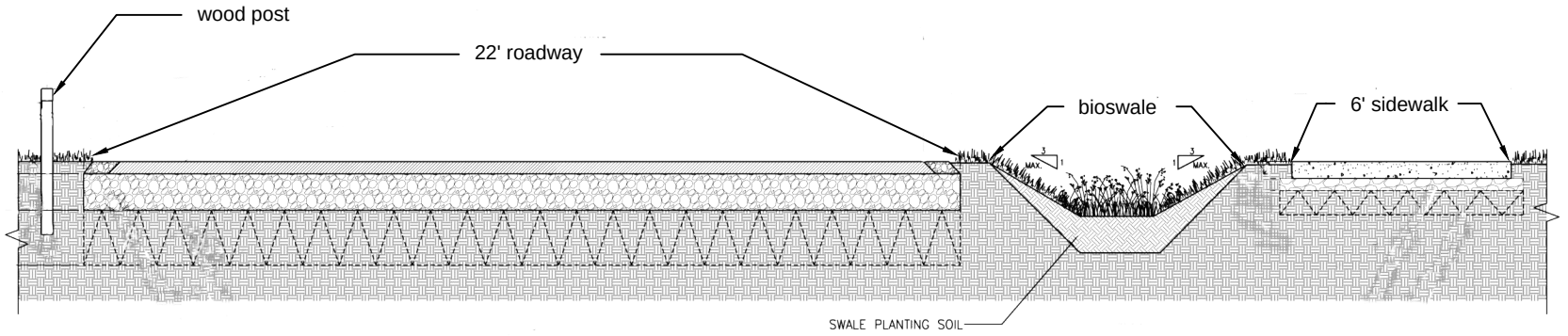
Figure 2-3a



UC Santa Cruz Marine Science Campus
Coastal Biology Building and
Infrastructure Improvement
Final Environmental Impact Report Nov. 2011

Proposed Utility Corridors

Figure 2-3b

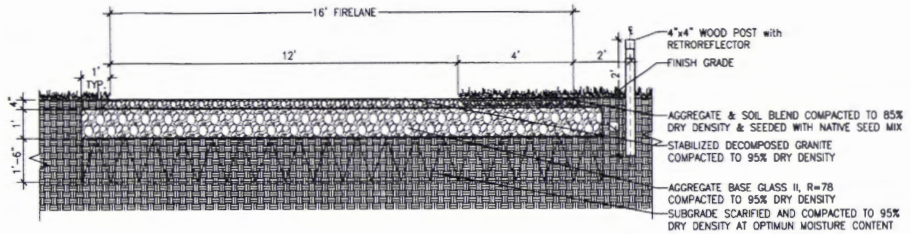


UC Santa Cruz Marine Science Campus
Coastal Biology Building and
Infrastructure Improvements
Final Environmental Impact Report Nov. 2011

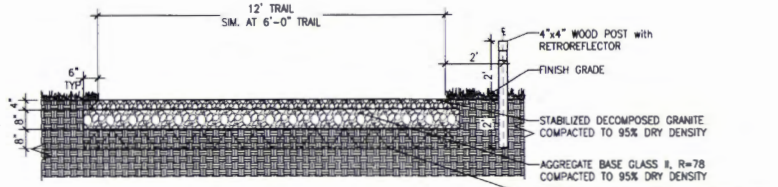
Typical Cross-section of New Roadway

Figure 2-4

2011-03-21 2:25 PM CRAMPTON
F:\WORK\10331\DRAW\PLOTSIL0.0.DWG

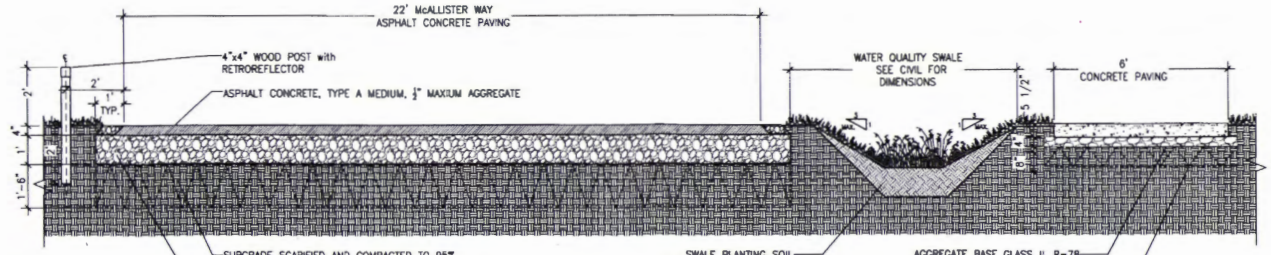


3 FIRELANE PAVING
NTS
SECTION



2 TRAIL PAVING
NTS
SECTION

NOTE:
CONFIRM ALL DEPTH & WIDTH OF PAVING SECTIONS WITH GEOTECHNICAL ENGINEER AND FIRE MARSHALL



1 McALLISTER WAY PAVING
1/2" = 1'-0"
SECTION

WALKER·MACY
Landscape Architecture, Urban Design & Planning
111 Sutter Street, Suite 2000, San Francisco, CA 94104
Phone: 415.433.4822 Fax: 415.433.7227

UNIVERSITY OF CALIFORNIA
PHYSICAL PLANNING AND CONSTRUCTION
Santa Cruz Campus
Santa Cruz, California

ISSUE & SCALE NOTES
ORIGINAL DRAWING
0 1"

RELEASE OF DOCUMENTS

MARINE SCIENCE CAMPUS
INFRASTRUCTURE SCHEMATIC DESIGN
UCSC PROJECT NUMBER 4933

LANDSCAPE SECTIONS

PROJ.NO: 10331.10.007
DRAWN: MC
CHKD: TC
DATE: MARCH, 2011
FIGURE NO:

L5.0

Exhibit 2
UCSC NOID-6
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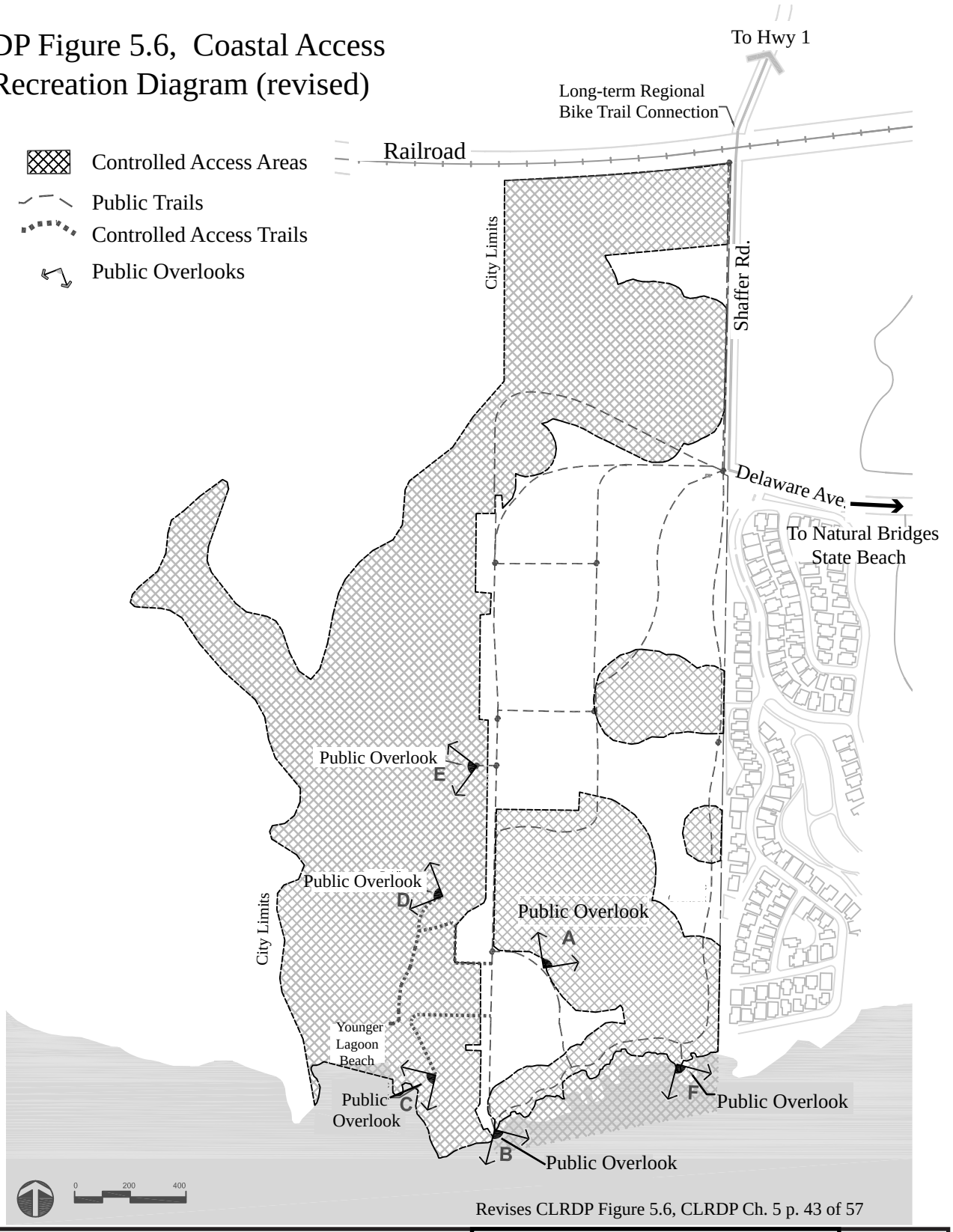
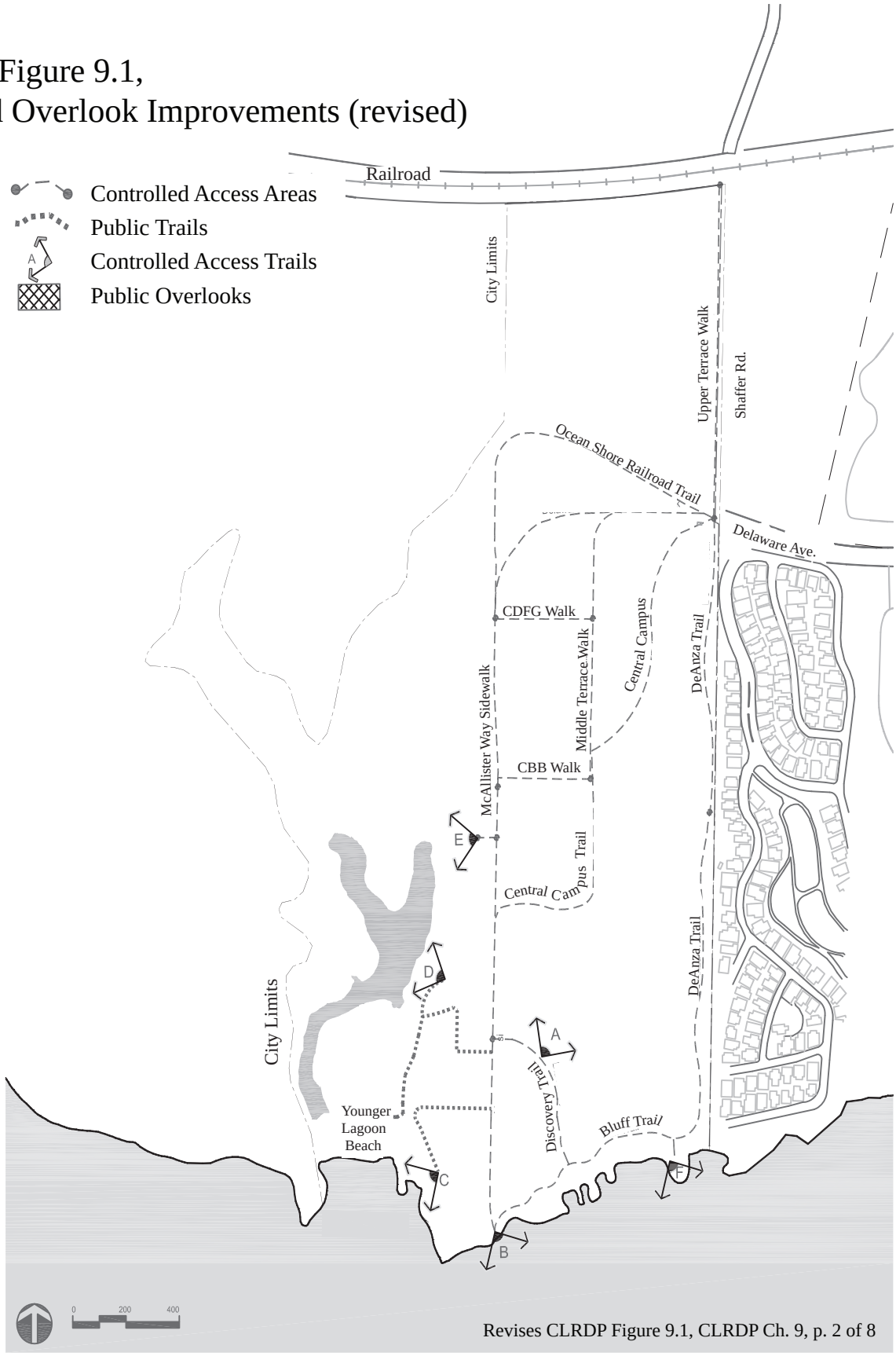
CLRDP Figure 5.6, Coastal Access and Recreation Diagram (revised)



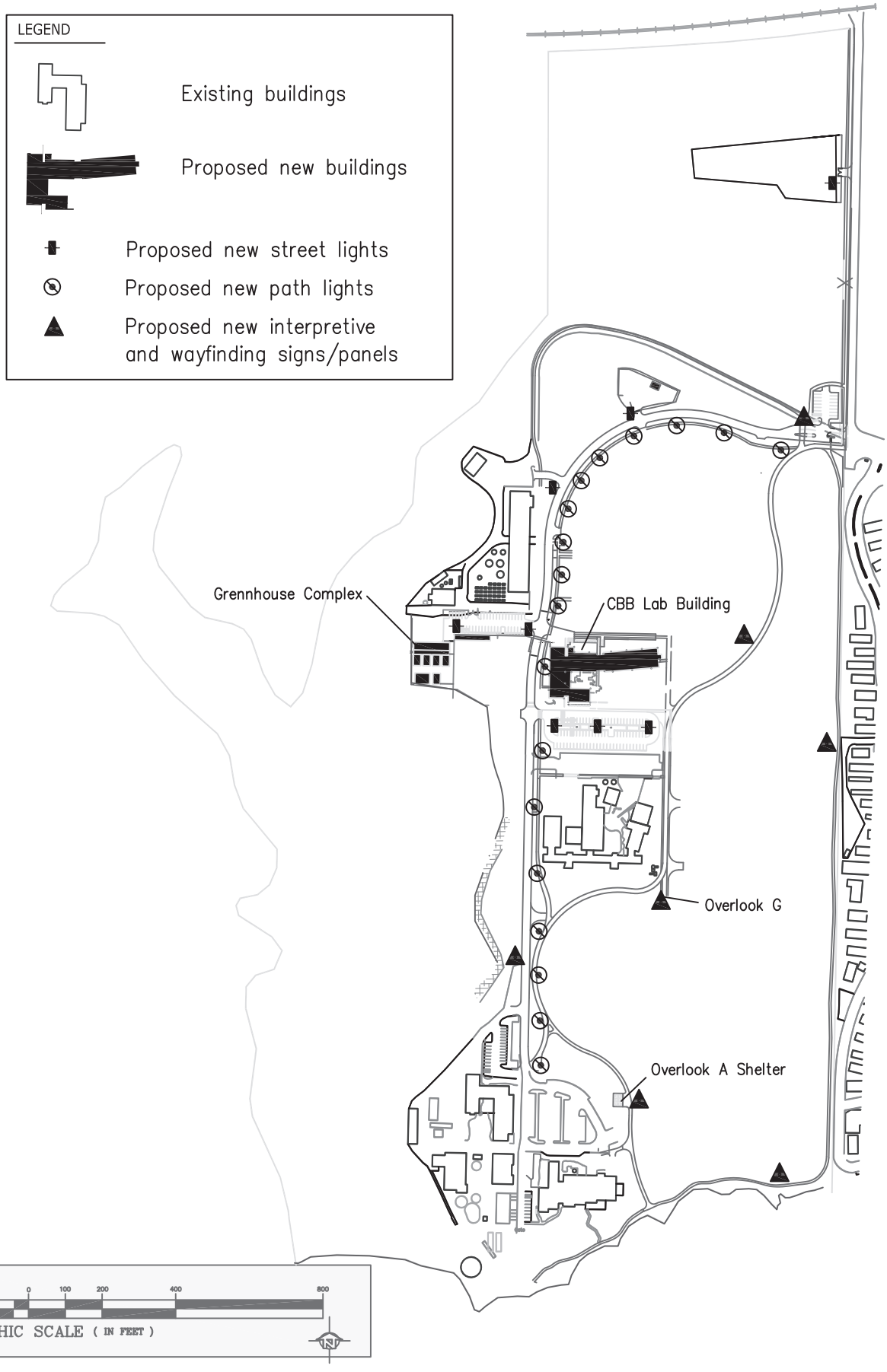
Revises CLRDP Figure 5.6, CLRDP Ch. 5 p. 43 of 57

UC Santa Cruz Marine Science Campus Coastal Biology Building and Infrastructure Improvements Final Environmental Impact Report November 2011	Proposed CLRDP Amendment 1, Action 6 : Revise CLRDP Figure 5.6 Trails	Figure A-5

CLRDP Figure 9.1,
Trail and Overlook Improvements (revised)



UC Santa Cruz Marine Science Campus Coastal Biology Building and Infrastructure Improvements Final Environmental Impact Report November 2011	Proposed CLRDP Amendment 1, Action 6: Revise CLRDP Figure 9.1 Trail Improvements	Figure A-7


LEGEND
Existing buildings
Proposed new buildings
Proposed new street lights
Proposed new path lights
Proposed new interpretive and wayfinding signs/panels
Grennhouse Complex
CBB Lab Building
Overlook G
Overlook A Shelter
200 0 100 200 400 800
GRAPHIC SCALE (IN FEET)
N

UCSC Marine Science Campus Lighting Program

The lighting program for the Marine Sciences Campus consists of site lighting (wayfinding/interpretive/safety) and security lighting (facility/safety)

The lighting will be designed to:

- Provide the lowest levels necessary to achieve safety and efficient wayfinding
- Avoid unnecessary light detrimental to plant and animal biology
- Avoid light spilling into natural areas
- Minimize artificial light interference with view of the coastal night sky
- Cut-off light fixtures shall be used to avoid light spilling
- Lighting shall be mounted as low as feasible to minimize visibility of light source
- Path light shall be low bollard type
- Fixtures shall align with the character of the campus (natural colors and materials)

Sample path light:

Sample parking lot/security light:

APPENDIX B6: UCSC Marine Science Campus Signage Program

The signage program for the Marine Sciences Campus would consist of three basic types of signs:

- Wayfinding/Directional/Informational
- Regulatory
- Interpretive

Wayfinding signs would be installed or replaced throughout the campus to facilitate public access to current and proposed buildings, interpretive features and amenities. Wayfinding signs may include locational identifiers or directional indicators to direct visitors to major buildings and programs including the Seymour Marine Discovery Center, parking lots, trails and overlooks, and other visitor amenities. A main wayfinding exhibit orienting visitors to the campus would be established at the main entrance to the campus, which may include maps and more detailed wayfinding and/or programming information. Other informational signs in this category may include those for posting hours or policies, safety warnings, restricted areas, etc. Wayfinding signage would have its own graphic theme of font, font color, and background.

Sign material would consist of:

Regal Bronze Alumalite planks or wood planks
Rough-cut redwood posts
Univers 67 Condensed Bold White type
Variations of above as necessary to accommodate information signs with dense text

The Wayfinding/Directional/Informational signage category includes:

- Campus directional signs
- Campus street signs
- Pedestrian wayfinding signposts
- Miscellaneous information

Campus Directional Sign

This sign is the primary communication medium for conveying directional information on the campus. These signs indicate the directions to each major building complex and activity center. Technical specifications: Regal Bronze Alumalite planks with annodized aluminum H channel with rough-cut 6x6 redwood posts; 4" Univers 67 Condensed Bold type.

Campus Street Sign

This sign uses the signature wayfinding color of the campus, helping differentiate McAllister Way on the Marine Science Campus (UC property) from Delaware Avenue (Santa Cruz City property).

Technical specifications: Regal Bronze Alumalite planks on 4" square steel posts painted to match. Reflective White Univers 67 Condensed Bold type with white border.

Wayfinding Signposts

This sign uses the signature wayfinding color of the campus. The signs indicate major destinations within the campus public trail and sidewalk system. Distances are provided for each destination in both miles (decimal) and meters.

Technical specifications: 4" redwood posts (painted to approximate Regal Bronze color of signs), approximately 4'6" high. White plastic signs with brown letters back-etched.

Coastal Access Signage

Using the same wayfinding color scheme, the MSC campus would use the signature "wave/footprint" signs directing visitors to coastal overlook points where appropriate. These signs would be posted on existing structures (e.g., fences, railings) or on separate wooden signposts, as needed.

Miscellaneous Informational Signage

Informational signs in this category may include those for posting hours or policies, safety warnings, restricted areas, etc. The photos below of two existing miscellaneous signs on the MSC illustrate the variety of information intended in this sign category. These and other existing signs on the campus that do not conform to the proposed new design standard will be replaced.

Existing signs to be replaced

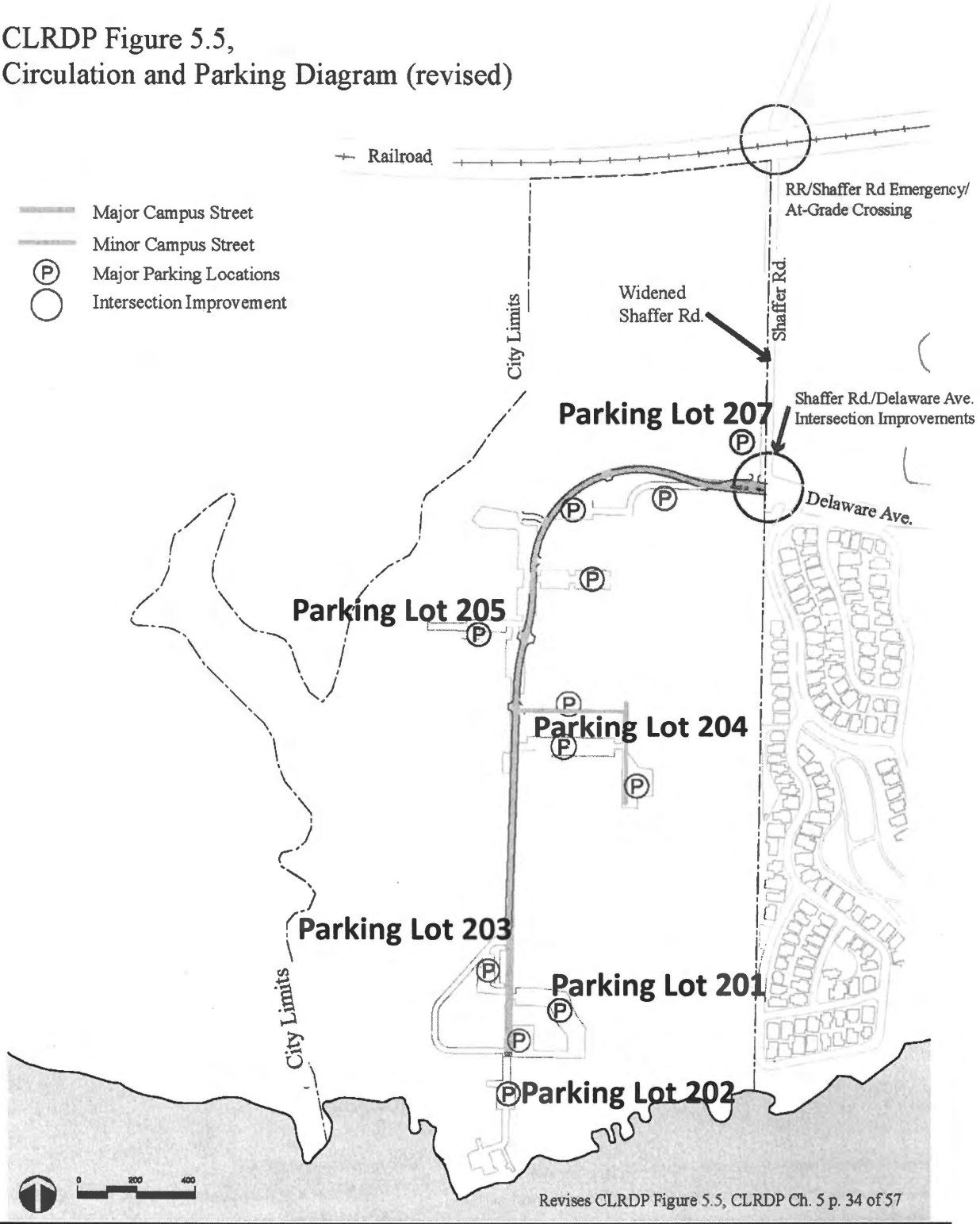
Regulatory Signage

Regulatory signs on the Marine Science Campus include those conveying information about speed limits, fire lanes, hazardous materials, parking regulations, etc. Regulatory signs governed by jurisdictional codes or enforcement policies would comply with current enforcement standards, for example parking-related signs will be consistent with parking signs used at the UCSC main campus to be consistent with enforcement standards. Other regulatory signs would be consistent with the design standards of Wayfinding signs. Below are illustrations of some code governed regulatory signs. Please see the section on the MSC Parking Program for examples of the parking regulation signs proposed.

Interpretive Signage

Interpretive signs on the MSC campus are proposed to cover a wide range of topics – from information about individual species to how the seawater system works to support marine research activities to restoration activities to broad ecological and geographical concepts. Interpretive panels may vary greatly in the details of both content and layout, but would maintain a consistent "look and feel" through a graphic theme to include a common font, a subject line prominently displayed within a color banner at the top of the panel, the facility and program logos included along the bottom edge, and a colorful mix of photos, illustrations, and/or text arranged uniquely for each panel in between.

CLRDP Figure 5.5,
Circulation and Parking Diagram (revised)



UC Santa Cruz Marine Science Campus Coastal Biology Building and Infrastructure Improvements Final Environmental Impact Report November 2011	Proposed CLRDP Amendment 1, Action 7: Revise CLRDP Figure 5.5 Circulation Routes	Figure A-9

Exhibit 2
UCSC NOID-6
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Middle Terrace Parking Lots

LOT 207

TOTAL SPACES:	15
FREE PARKING	13
DISABLED	2

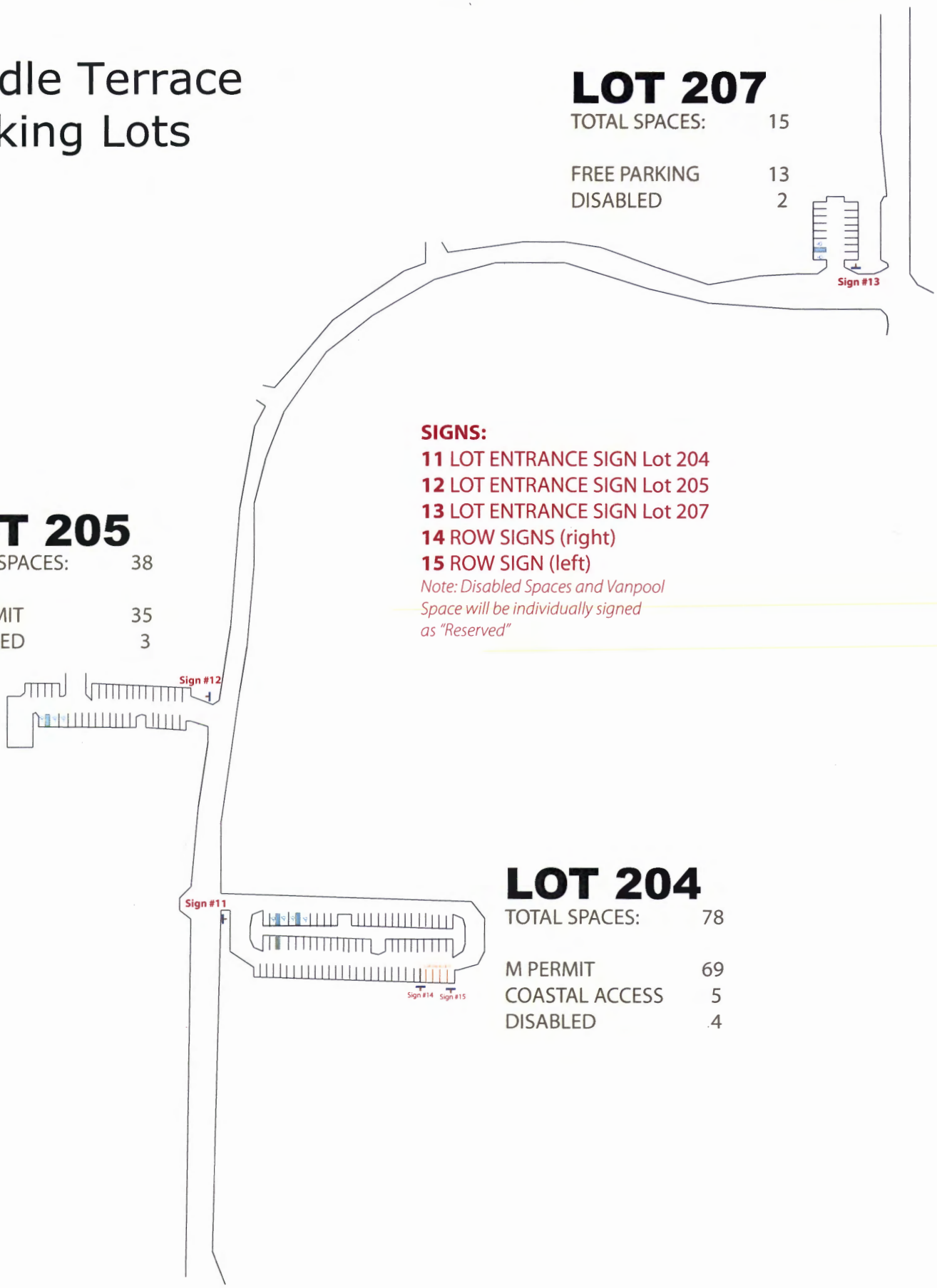
LOT 205

TOTAL SPACES:	38
M PERMIT	35
DISABLED	3

SIGNS:

11 LOT ENTRANCE SIGN Lot 204
12 LOT ENTRANCE SIGN Lot 205
13 LOT ENTRANCE SIGN Lot 207
14 ROW SIGNS (right)
15 ROW SIGN (left)

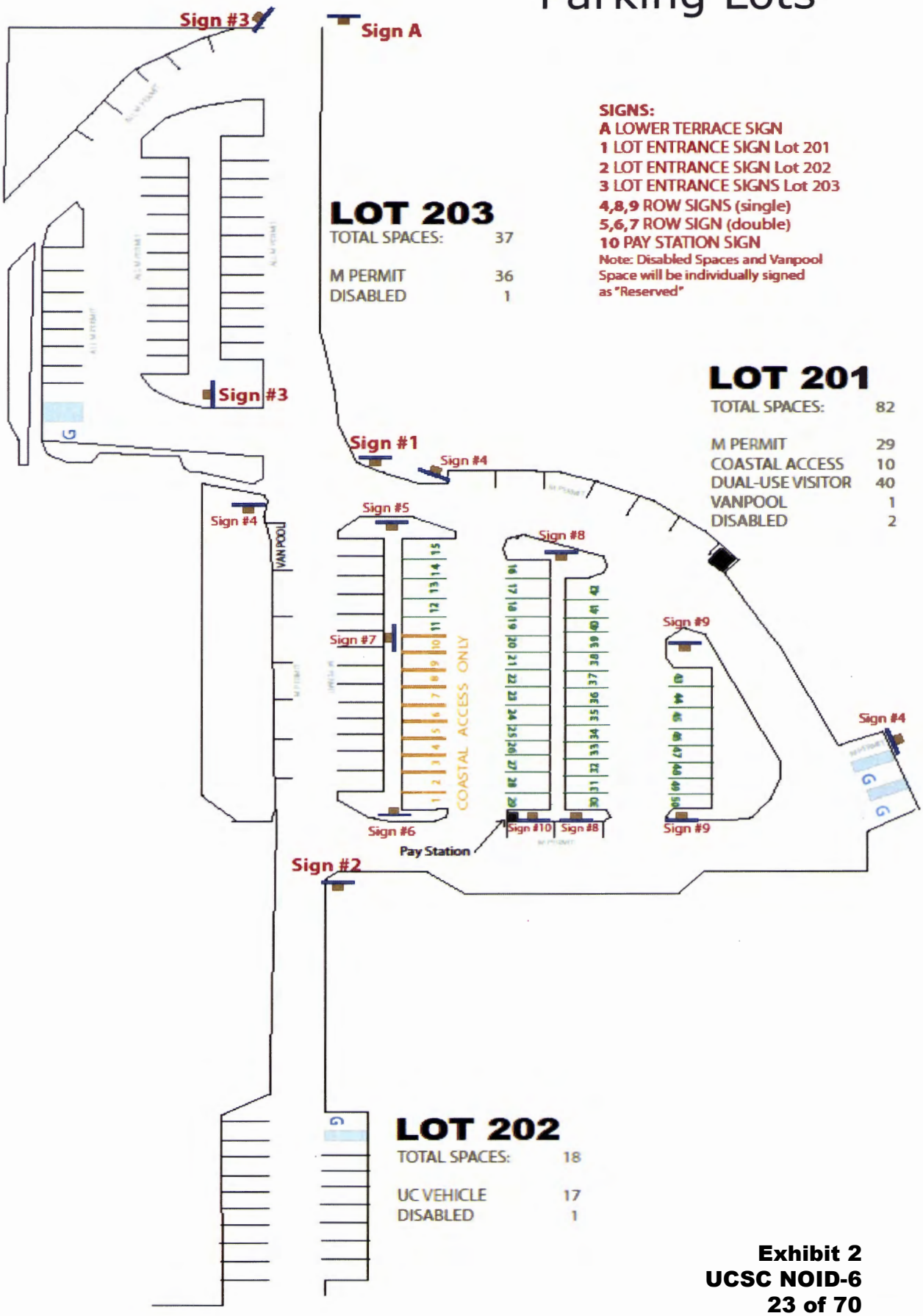
Note: Disabled Spaces and Vanpool Space will be individually signed as "Reserved"



LOT 204

TOTAL SPACES:	78
M PERMIT	69
COASTAL ACCESS	5
DISABLED	4

Lower Terrace Parking Lots



SIGNS:
A LOWER TERRACE SIGN
1 LOT ENTRANCE SIGN Lot 201
2 LOT ENTRANCE SIGN Lot 202
3 LOT ENTRANCE SIGNS Lot 203
4,8,9 ROW SIGNS (single)
5,6,7 ROW SIGN (double)
10 PAY STATION SIGN
Note: Disabled Spaces and Vanpool Space will be individually signed as "Reserved"

LOT 203

TOTAL SPACES:	37
M PERMIT	36
DISABLED	1

LOT 201

TOTAL SPACES:	82
M PERMIT	29
COASTAL ACCESS	10
DUAL-USE VISITOR	40
VANPOOL	1
DISABLED	2

LOT 202

TOTAL SPACES:	18
UC VEHICLE	17
DISABLED	1

24" W
24" H

24" W
24" H

ENTRANCE SIGN ARRAY 1

24" W
24" H

24" W
24" H

ENTRANCE SIGN ARRAY 2

24" W
24" H

24" W
24" H

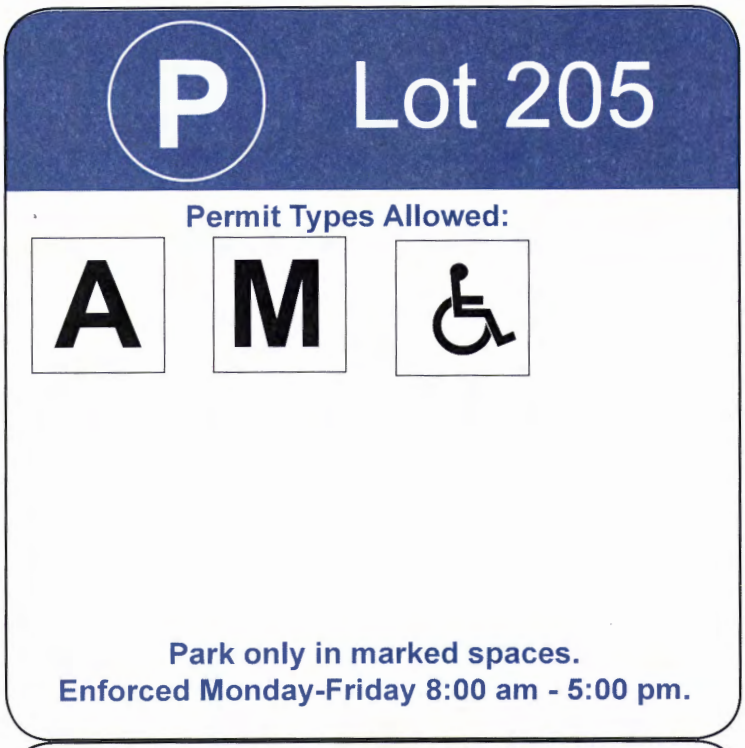
ENTRANCE SIGN ARRAY 3

24" W
24" H

24" W
24" H

ENTRANCE SIGN ARRAY 11

24" W
24" H



24" W
24" H

ENTRANCE SIGN ARRAY 12

24" W
24" H

24" W
24" H

ENTRANCE SIGN ARRAY 13

LOWER TERRACE ENTRANCE SIGN A

24" W
24" H

4" W
6" H
Pay Station
Decal

ROW (END) SIGN 4

12" W
12" H

ROW (END) SIGN 5

24" W
12" H

ROW (END) SIGN 6

24" W
12" H

ROW (END) SIGN 7

24" W
12" H

ROW (END) SIGN 8

12" W
12" H

ROW (END) SIGN 9

12" W
12" H

SIGN AT PAY STATION 10

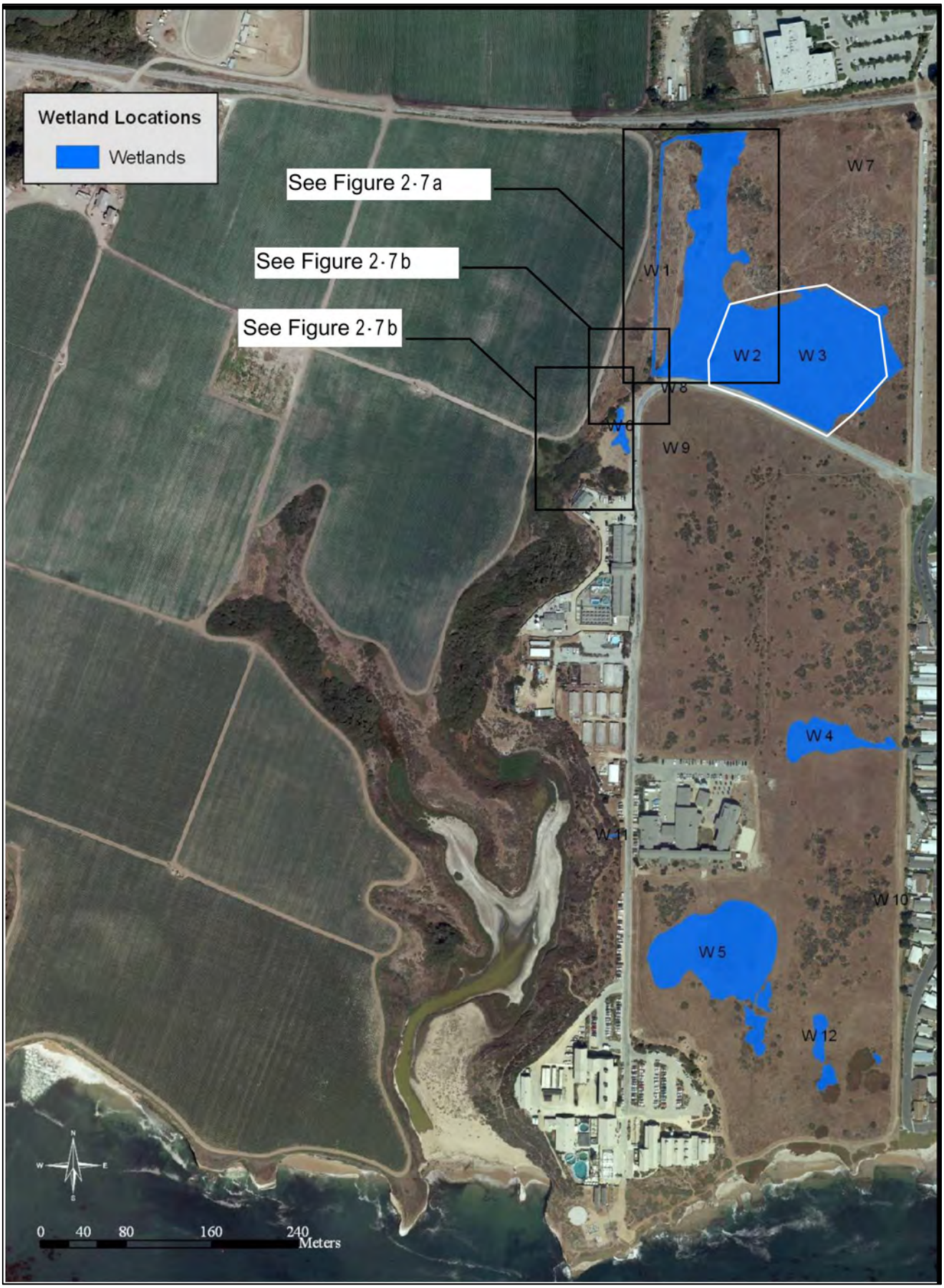
12" W
12" H

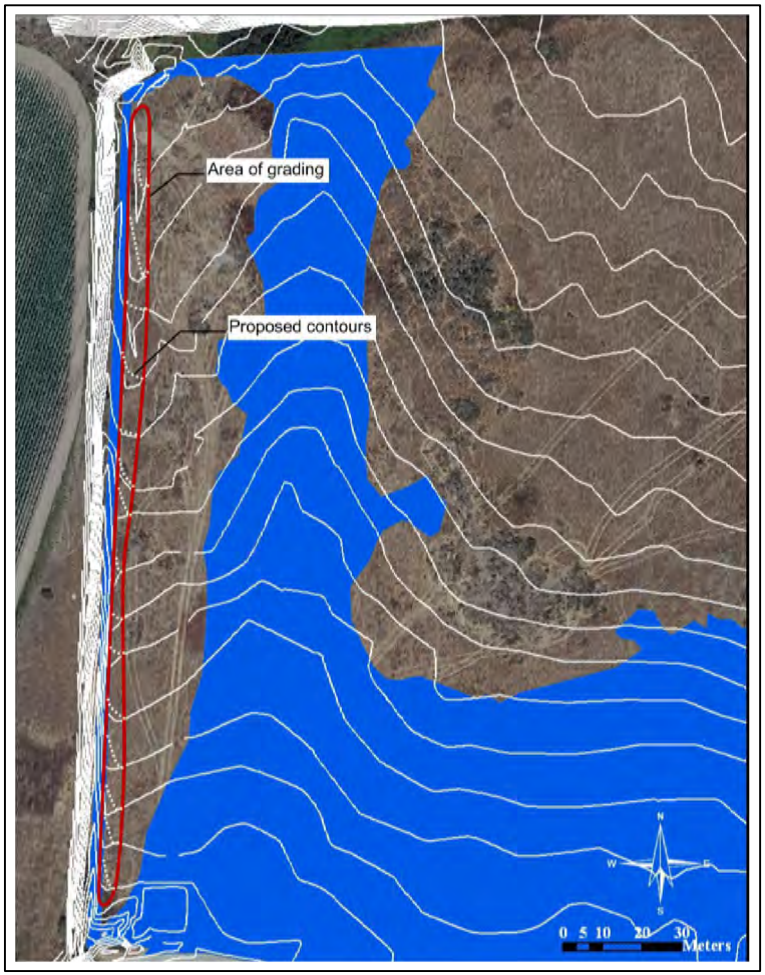
ROW (RIGHT) SIGN 14

12" W
12" H

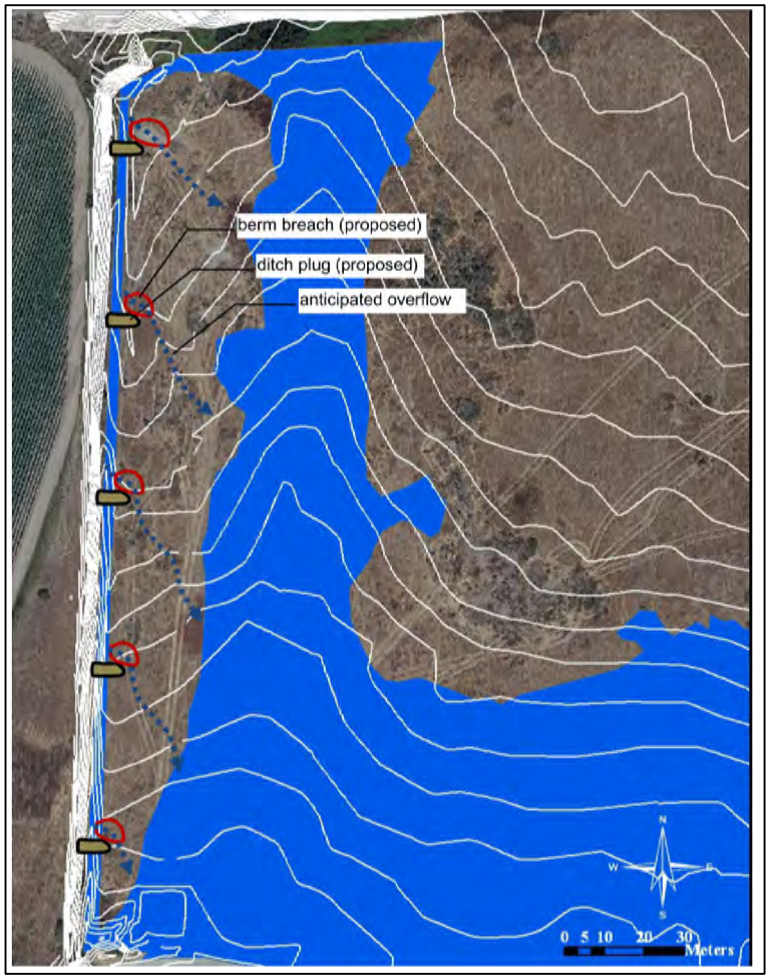
ROW (LEFT) SIGN 15

12" W
12" H


Wetland Locations
Wetlands
See Figure 2-7a
See Figure 2-7b
See Figure 2-7b
W 1
W 2
W 3
W 4
W 5
W 6
W 7
W 8
W 9
W 10
W 11
W 12
0 40 80 160 240
Meters



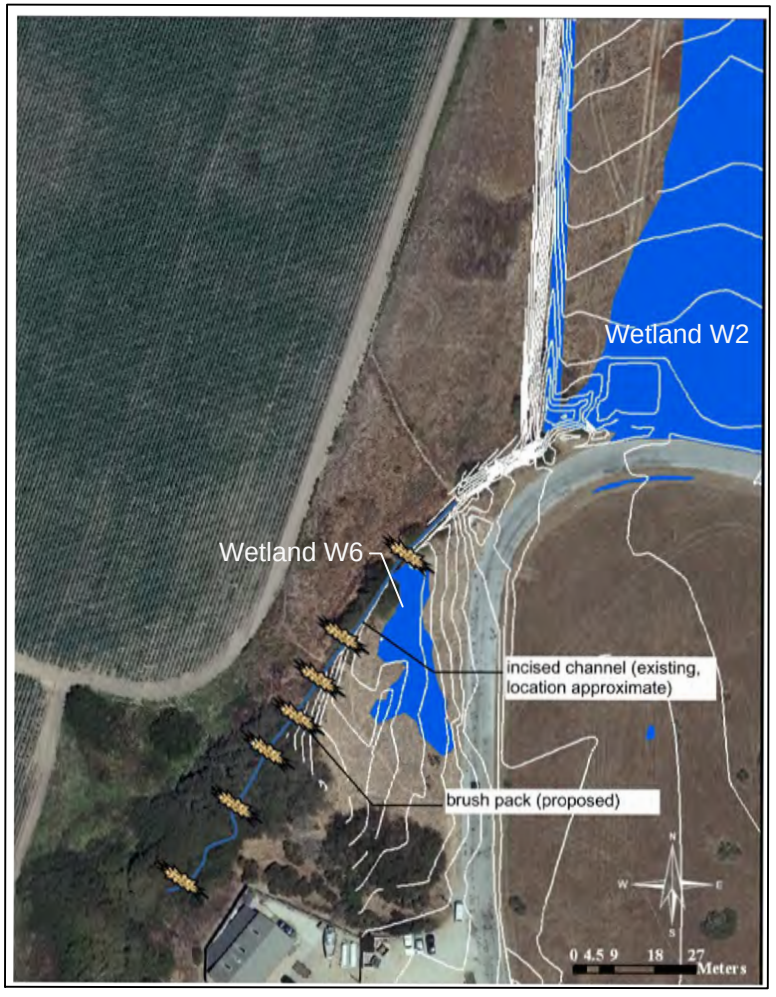
Option 1: Berm Removal



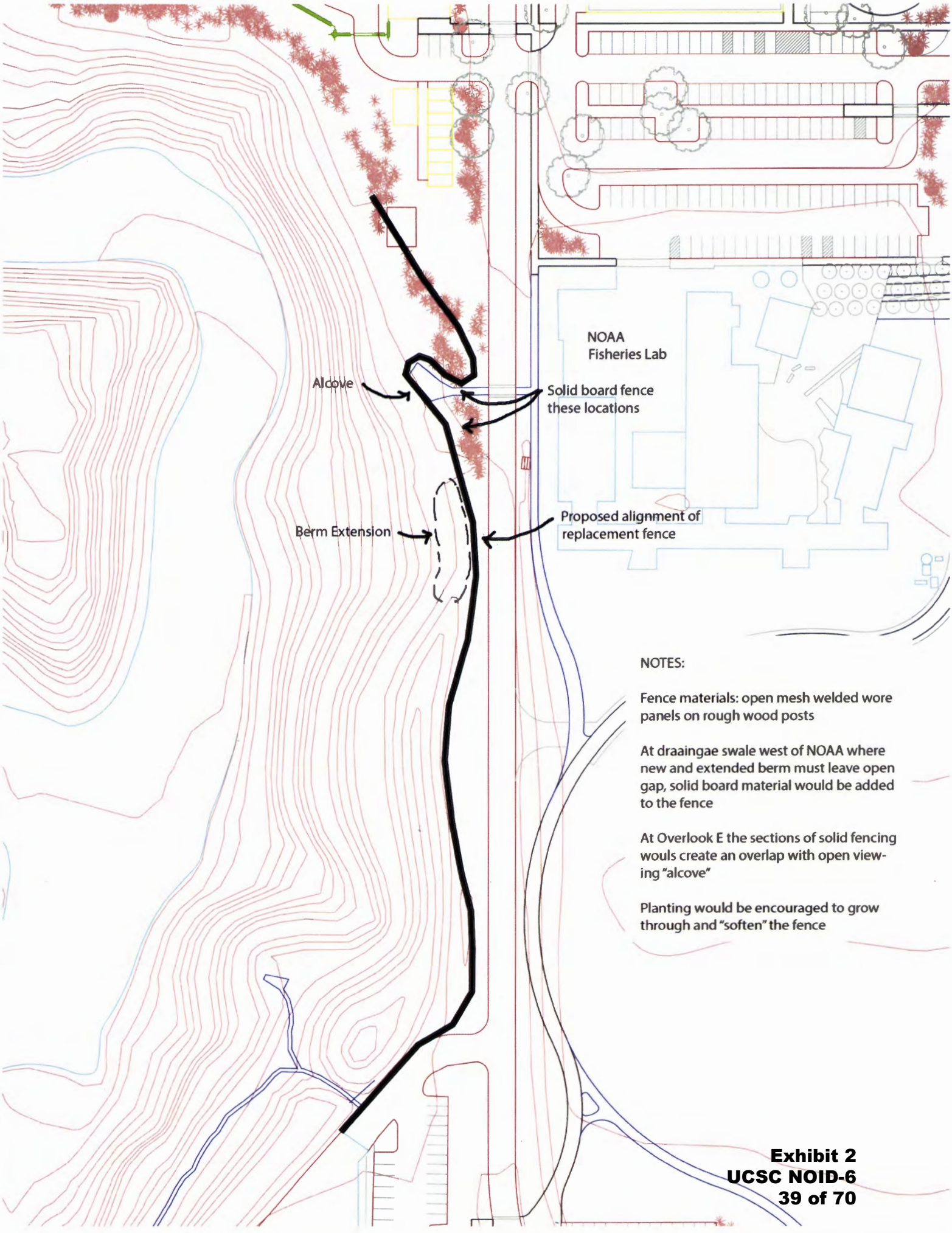
Option 2: Breach Berm

UC Santa Cruz Marine Science Campus Coastal Biology Building and Infrastructure Improvements Final Environmental Impact Report November 2011	Specific Resource Plan Phase 1B Options for Wetland W1 and W2 Reconnection	Figure 2-7

Flashboard Dam (large pond option)



Incised Channel Brush Packing



NOTES:

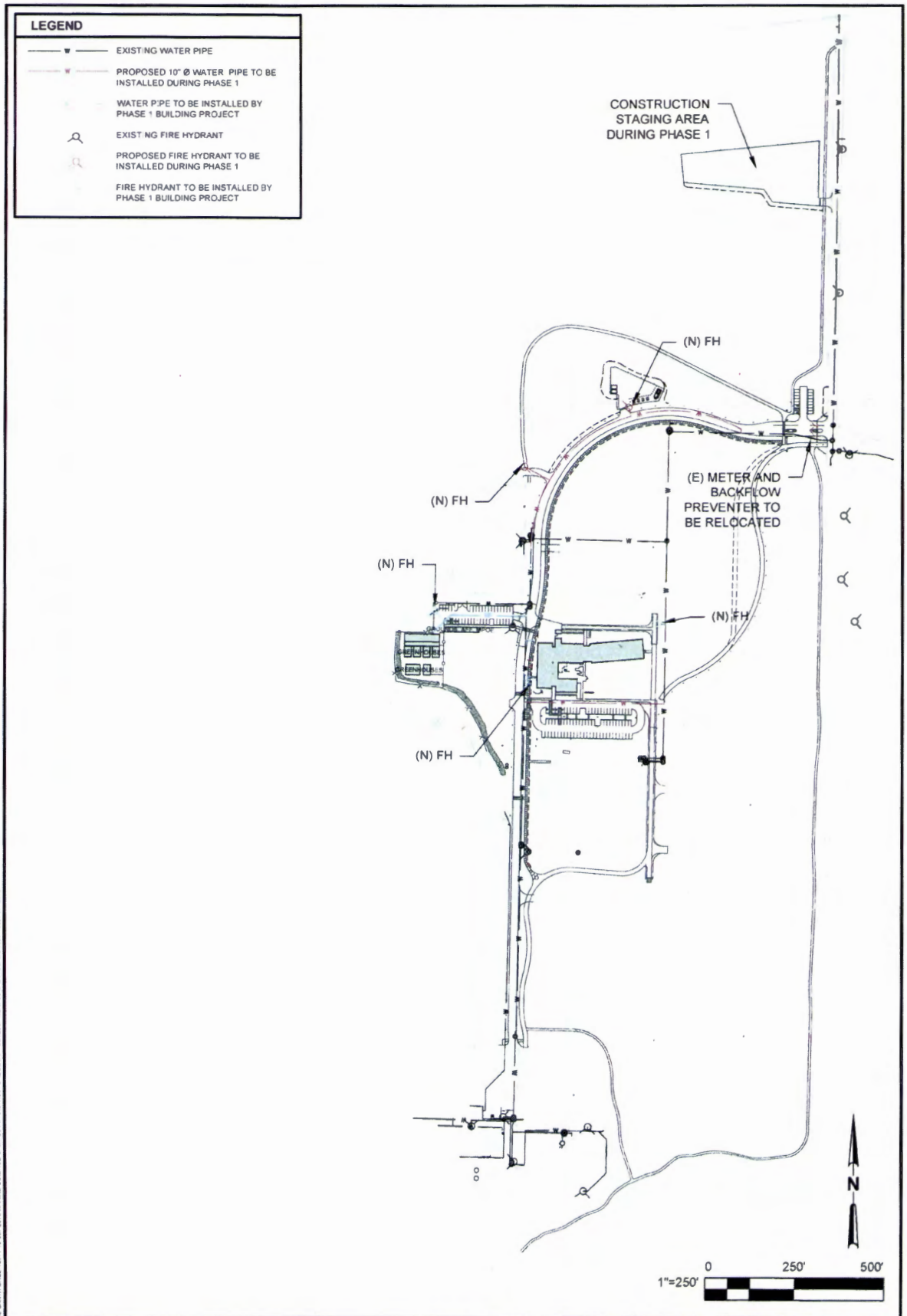
Fence materials: open mesh welded wore panels on rough wood posts

At draaingae swale west of NOAA where new and extended berm must leave open gap, solid board material would be added to the fence

At Overlook E the sections of solid fencing wouls create an overlap with open viewing "alcove"

Planting would be encouraged to grow through and "soften" the fence

Exhibit 2
UCSC NOID-6
40 of 70



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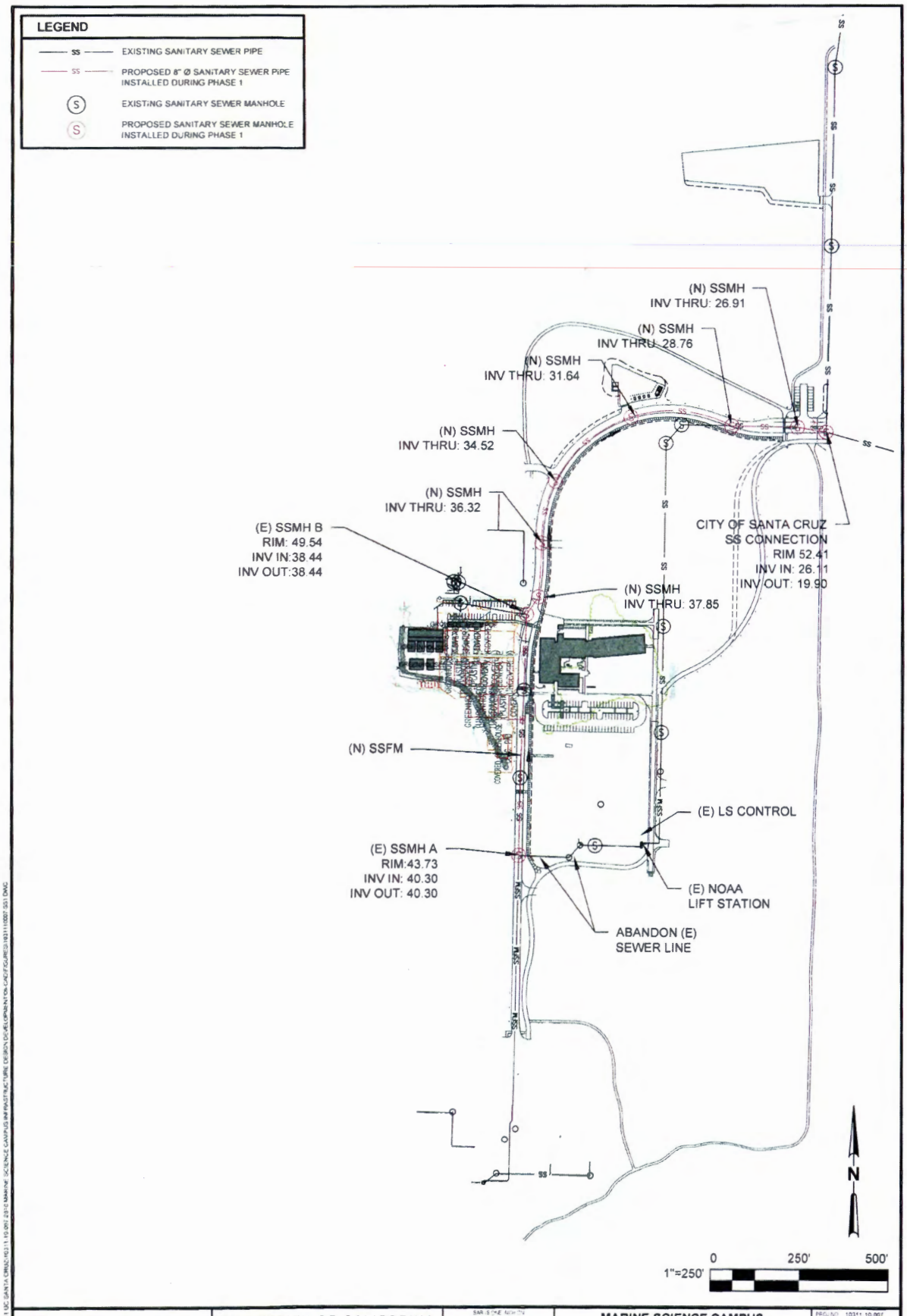
INFRASTRUCTURE SCHEMATIC DESIGN
UCSC PROJECT NUMBER 4933

PHASE 1:
WATER PLAN

PROJ NO 10511.19.007
DRAWN JW CHKD TS
DATE DECEMBER 2010
FIGURE NO
W1



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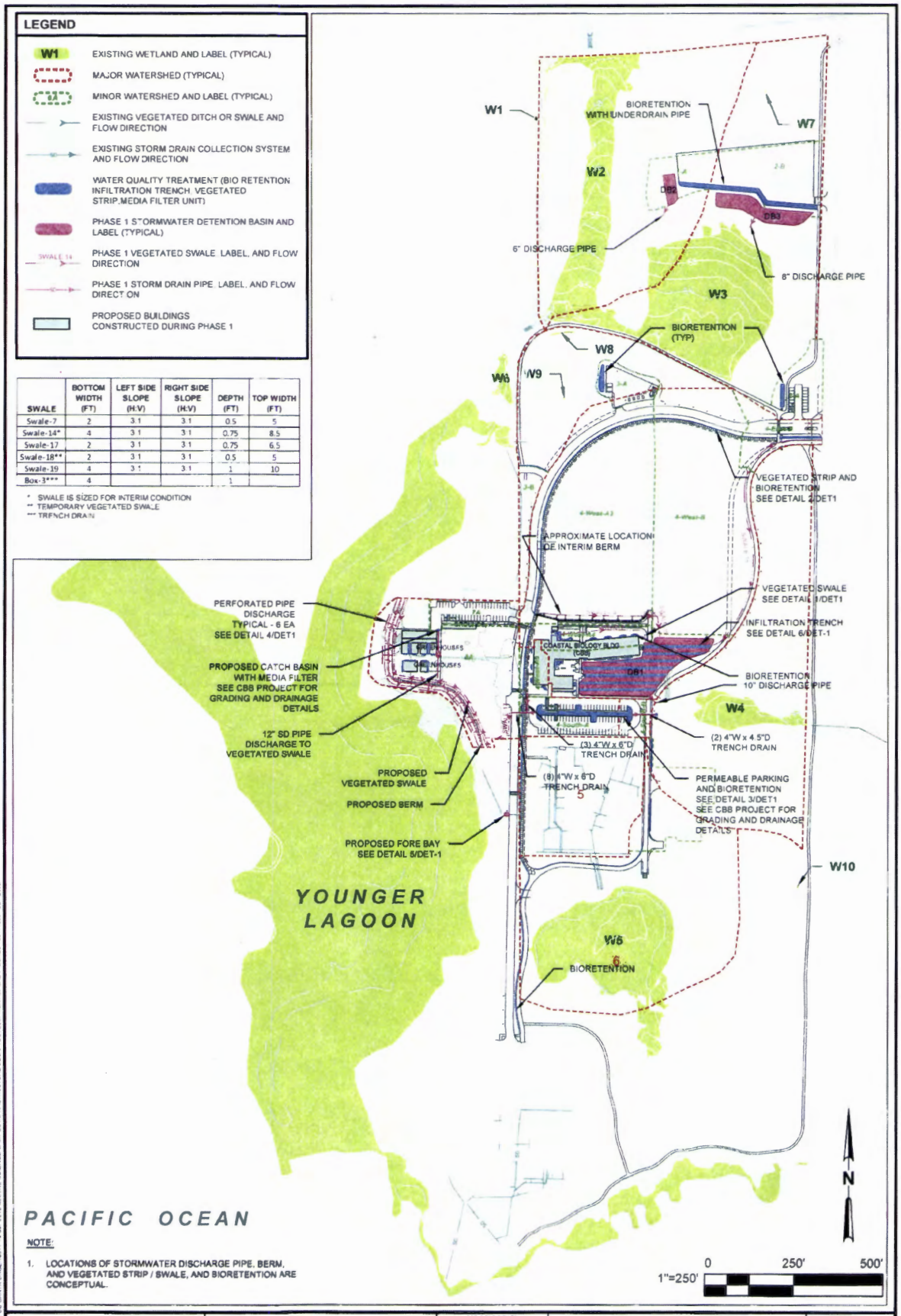
UCSC PROJECT NUMBER 4933

PHASE 1:
SANITARY SEWER PLAN

PROJ NO: 10311.10.007
DRAWN: JW CHKD: TS
DATE: DECEMBER 2010
FIGURE NO:



NOTE:

1. LOCATIONS OF STORMWATER DISCHARGE PIPE, BERM, AND VEGETATED STRIP / SWALE, AND BIORETENTION ARE CONCEPTUAL.

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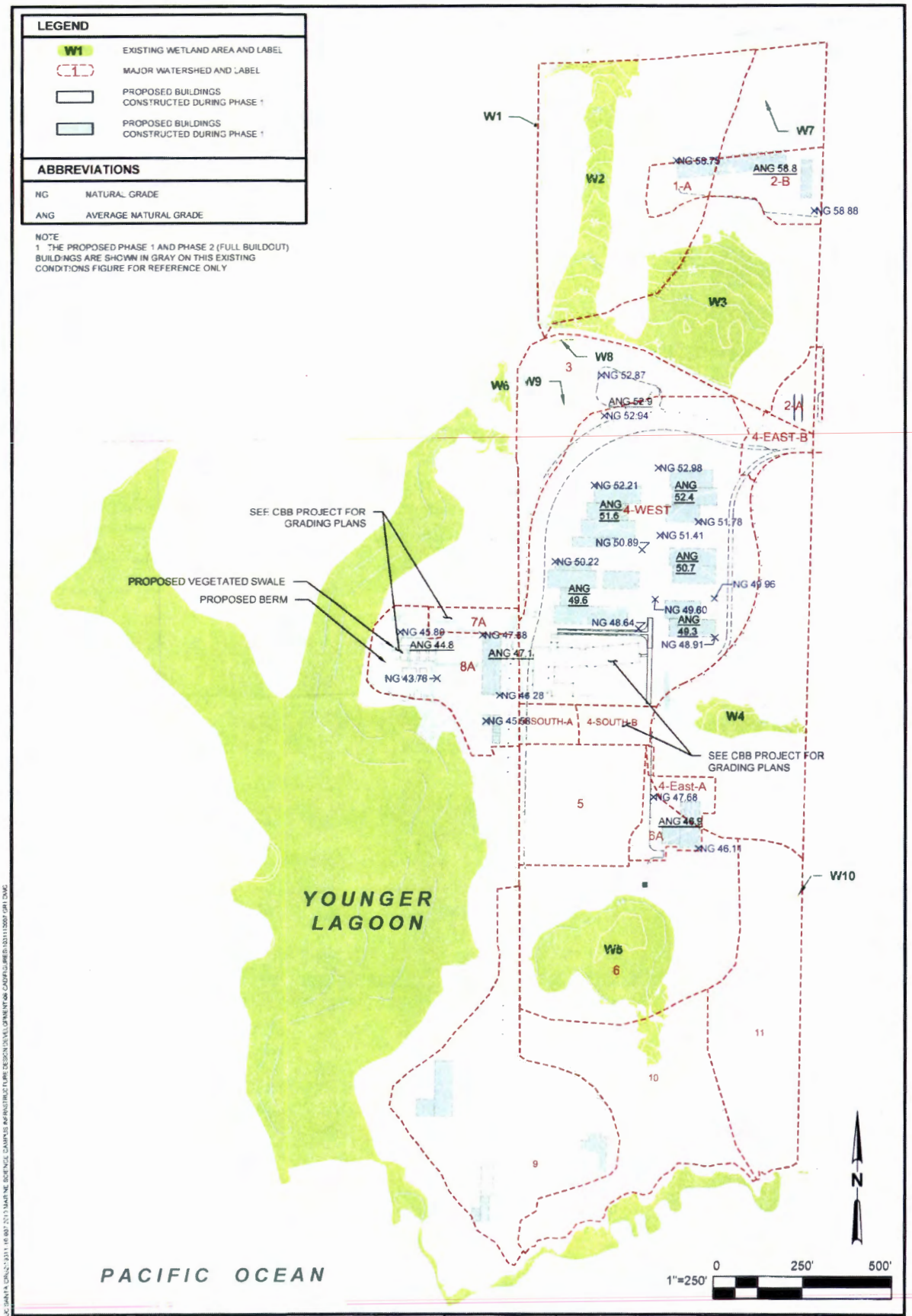
MARINE SCIENCE CAMPUS
INFRASTRUCTURE SCHEMATIC DESIGN
UCSC PROJECT NUMBER 4933

PHASE 1:
VEGETATED SWALE PLAN

PROJ NO: 10311-10-007
DRWN: TP CHKD: TS
DATE: DECEMBER 2010

SD1



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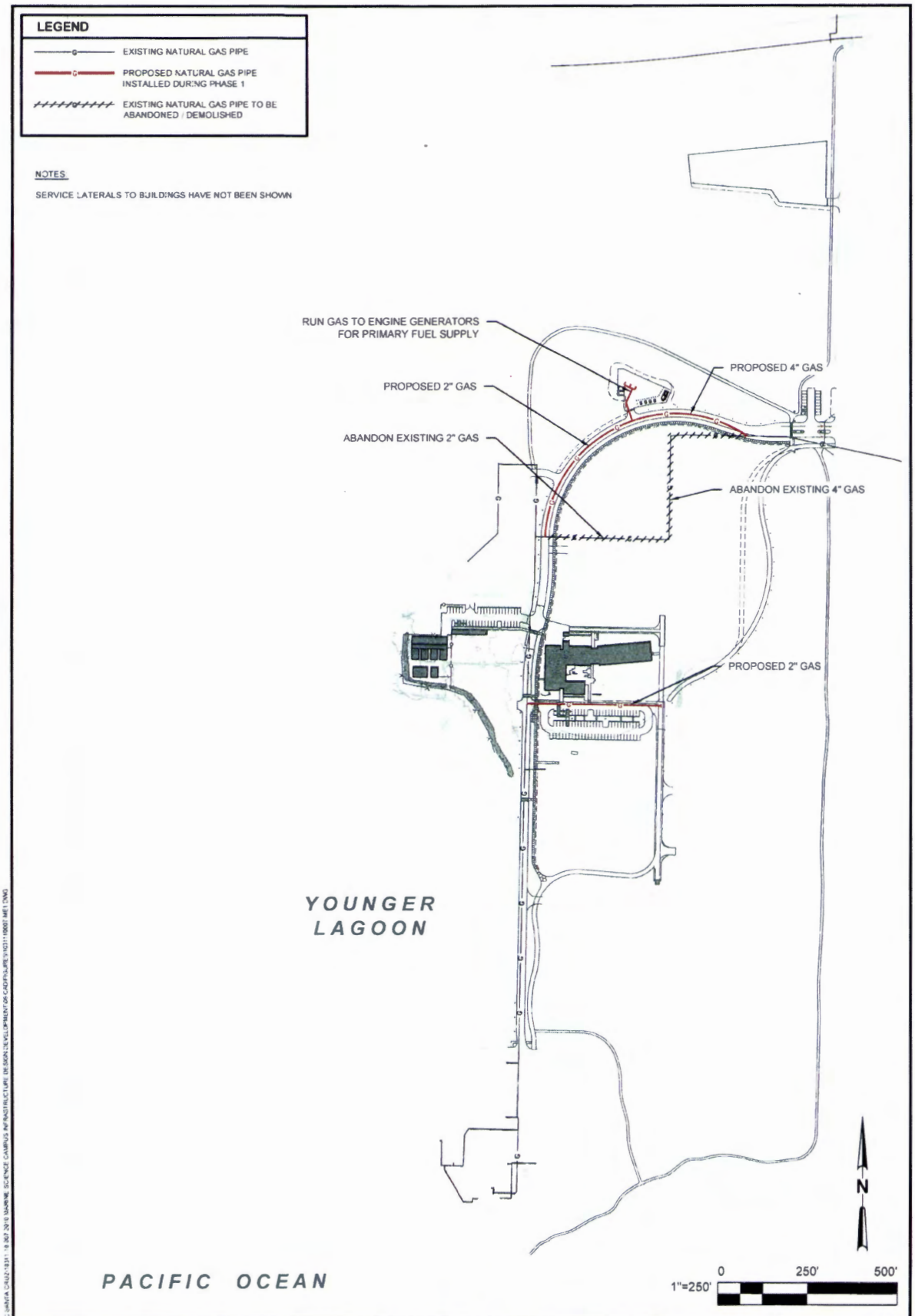
MARINE SCIENCE CAMPUS
INFRASTRUCTURE SCHEMATIC DESIGN
UCSC PROJECT NUMBER 4933

AVERAGE NATURAL GRADE

PROJ NO 18311-10-007
DRWN TP CHKD TB
DATE DECEMBER 2013



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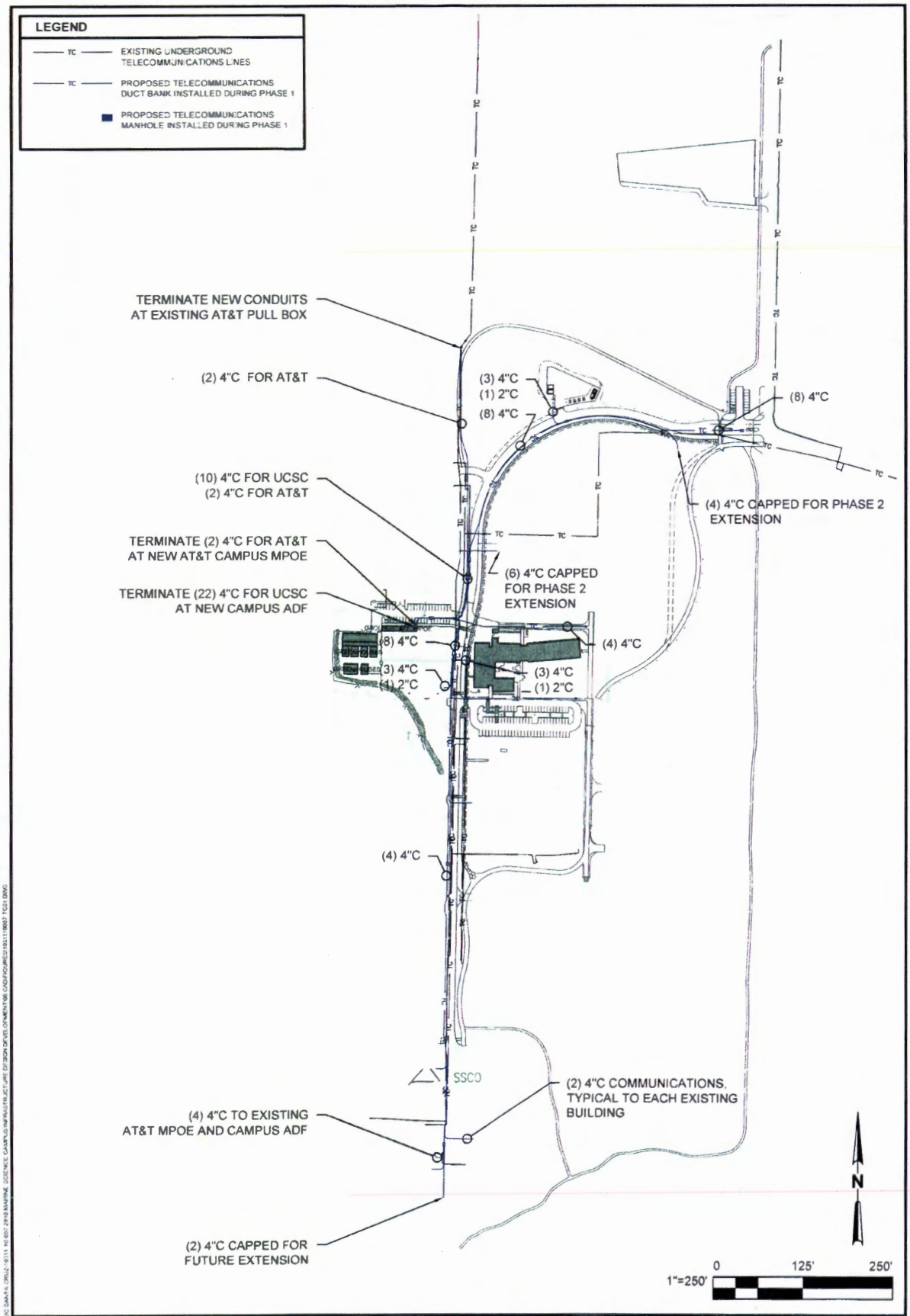
INFRASTRUCTURE SCHEMATIC DESIGN
UCSC PROJECT NUMBER 4933

PHASE 1:
NATURAL GAS

PROJ NO: 10311.10.007
DRAWN: TP CHKD: TB
DATE: DECEMBER 2010
FIGURE NO:
ME1



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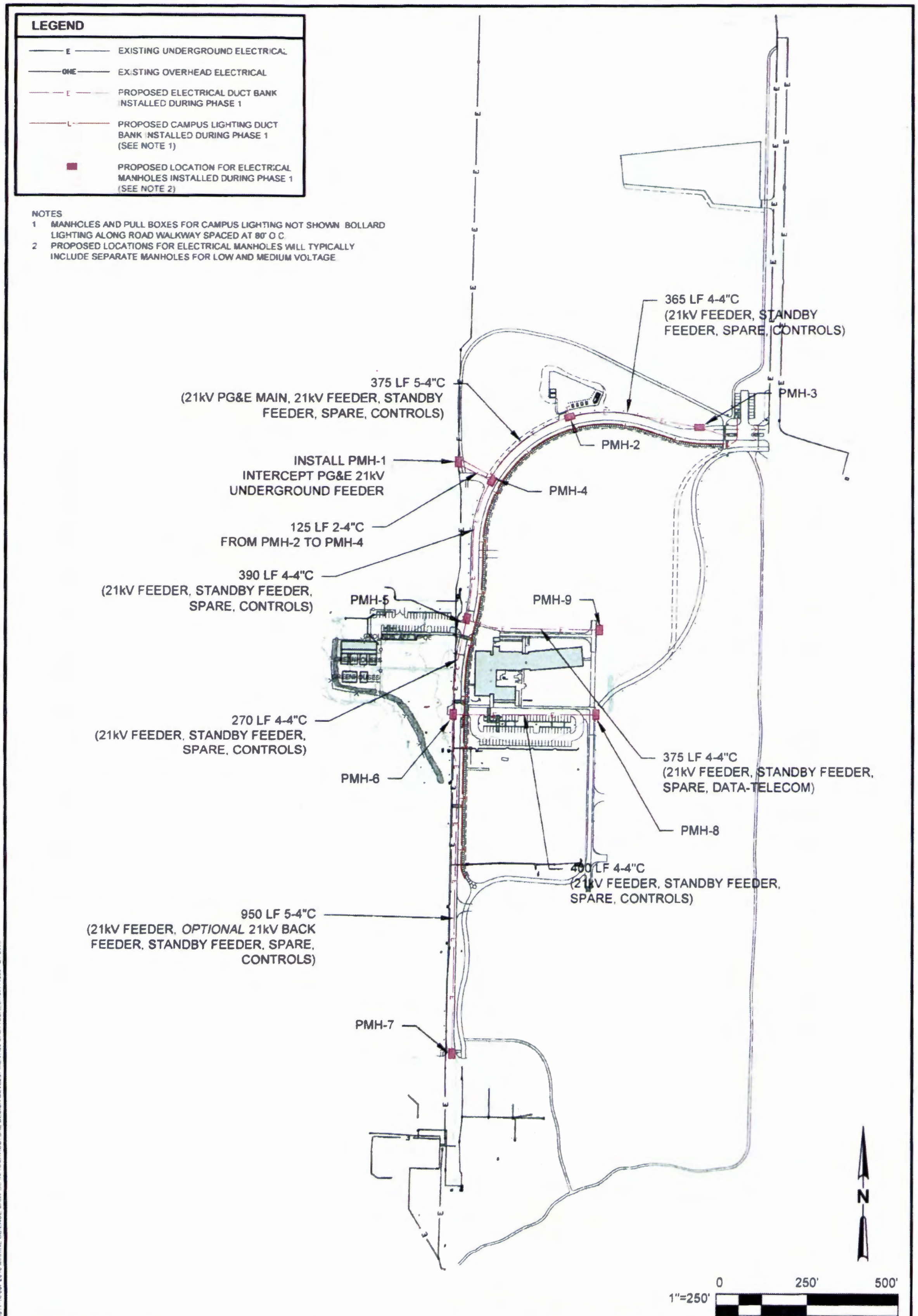
INFRASTRUCTURE SCHEMATIC DESIGN
UCSC PROJECT NUMBER 4933

PHASE 1:
TELECOMMUNICATIONS PLAN

PROJ NO: 10311.10.007
DRWN: CW | CHKD: CW
DATE: DECEMBER 2010
FIGURE NO:

Exhibit 2
UCSC NOID-6
46 of 70



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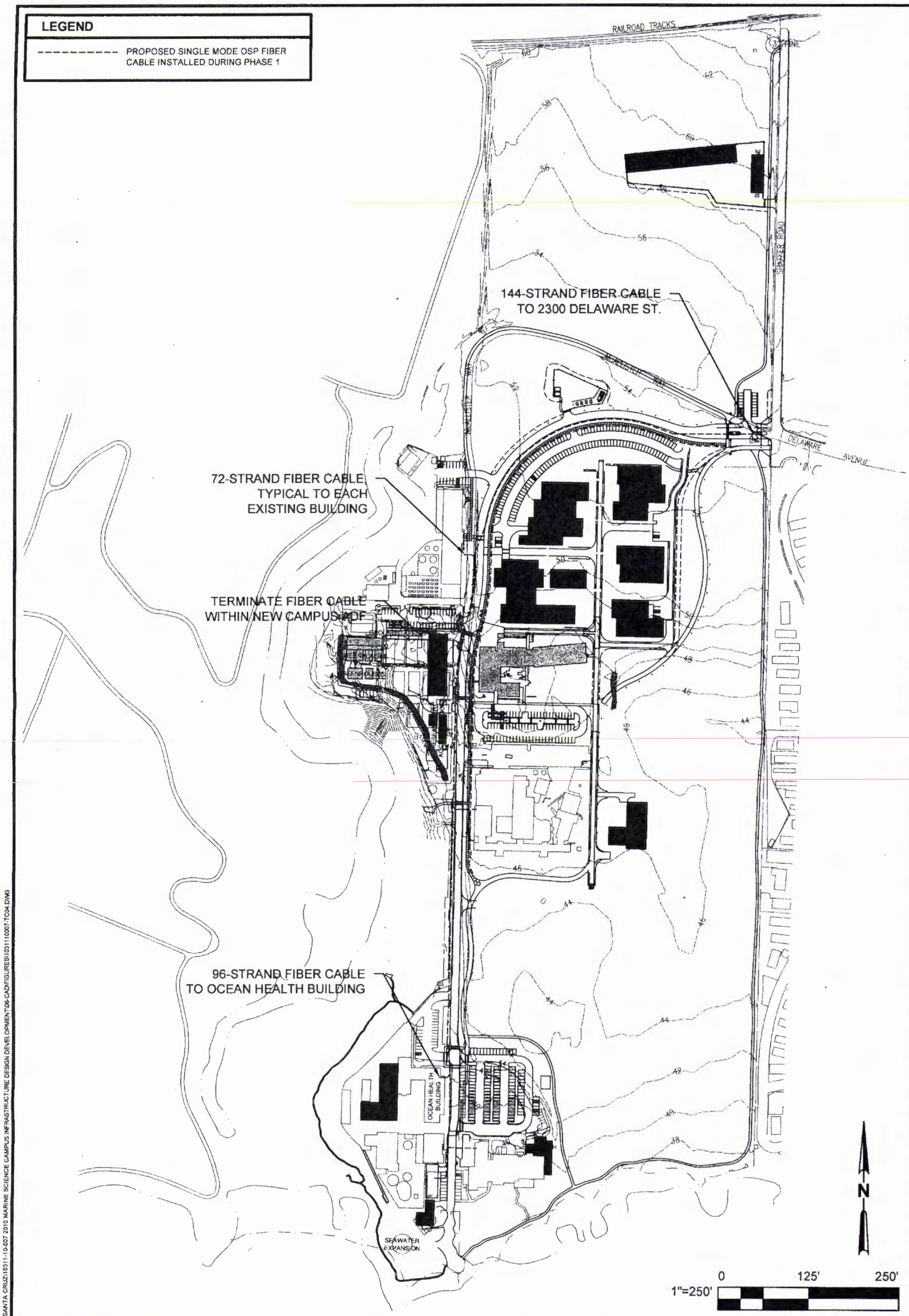
INFRASTRUCTURE SCHEMATIC DESIGN
UCSC PROJECT NUMBER 4933

PHASE 1:
ELECTRICAL PLAN

PROJ NO 10311-10-007
DRAWN AML | CHKD BD
DATE DECEMBER 2010
FIGURE NO E1



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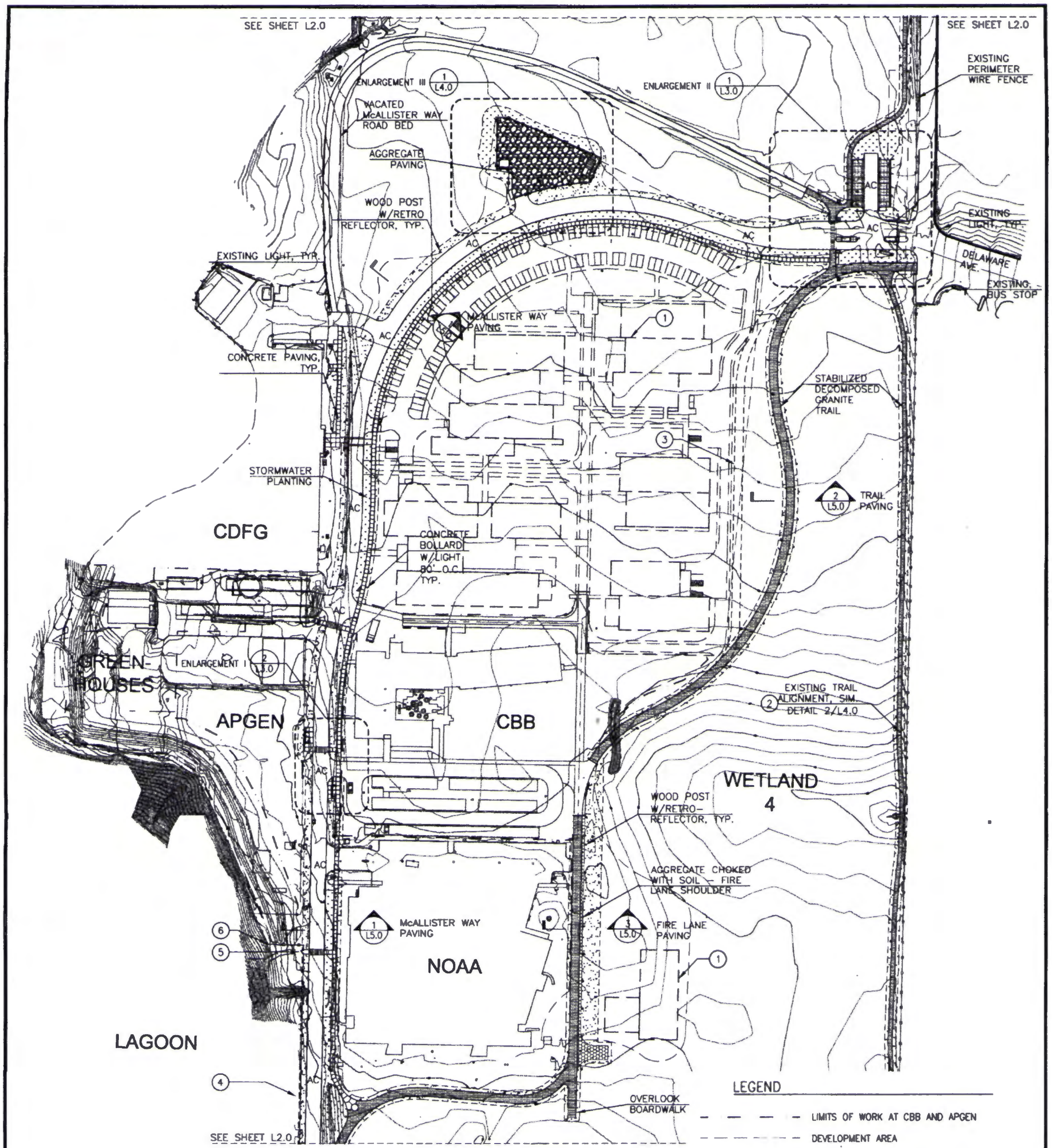
2011-03-21 3:16 PM TPHAM
\\CORP\WK\PROJECTS\SFO\10311 UC SANTA CRUZ\10311-10-007 2010 MARINE SCIENCE CAMPUS INFRASTRUCTURE DESIGN DEVELOPMENT\06-CAD\FIGURES\10311100007-TC04.DWG



LEGEND

- LIMITS OF WORK AT CBB AND APGEN
- DEVELOPMENT AREA
- CONCRETE PAVING
- AC ASPHALT PAVING - H20 RATED
- STABILIZED DECOMPOSED GRANITE PAVING
- AGGREGATE PAVING
- AGGREGATE CHOKED WITH SOIL - FIRE LANE SHOULDER
- PERMEABLE UNIT PAVERS
- STORMWATER PLANTING AREA
- NATIVE SEED MIX
- WIRE FENCE - MATCH EXISTING NON SIGHT-OBSCURING HELD 6" OFF FINISH GRADE
- WOOD FENCE SIGHT-OBSCURING HELD 6" OFF FINISH GRADE
- WOOD POST WITH RETROREFLECTOR

KEY NOTES

1. FUTURE PLAN DEVELOPMENT. ACTUAL PLAN MAY VARY
2. EXISTING TRAIL TO BE REGRADED TO 6-FOOT WIDTH AND RESURFACED WITH STABILIZED DECOMPSED GRANITE.
3. ALTERNATE TRAIL ALIGNMENT AT SUBAREA 8, UCSC TO CONFIRM.
4. REMOVE EXISTING CHAIN-LINK FENCE AND INSTALL NEW FENCE.
5. INSTALL 4-FOOT WIDE GATE AT FUTURE OVERLOOK LOCATION. INSTALL 90% OPAQUE SHADE CLOTH ON GATE.
6. END NEW FENCE. CBB PROJECT CONTINUES FENCE INSTALLATION TO GREENHOUSES.

N

SCALE
0' 75' 150' 225'
1" = 75'

2011-03-21 10:01 AM CRAMPTON
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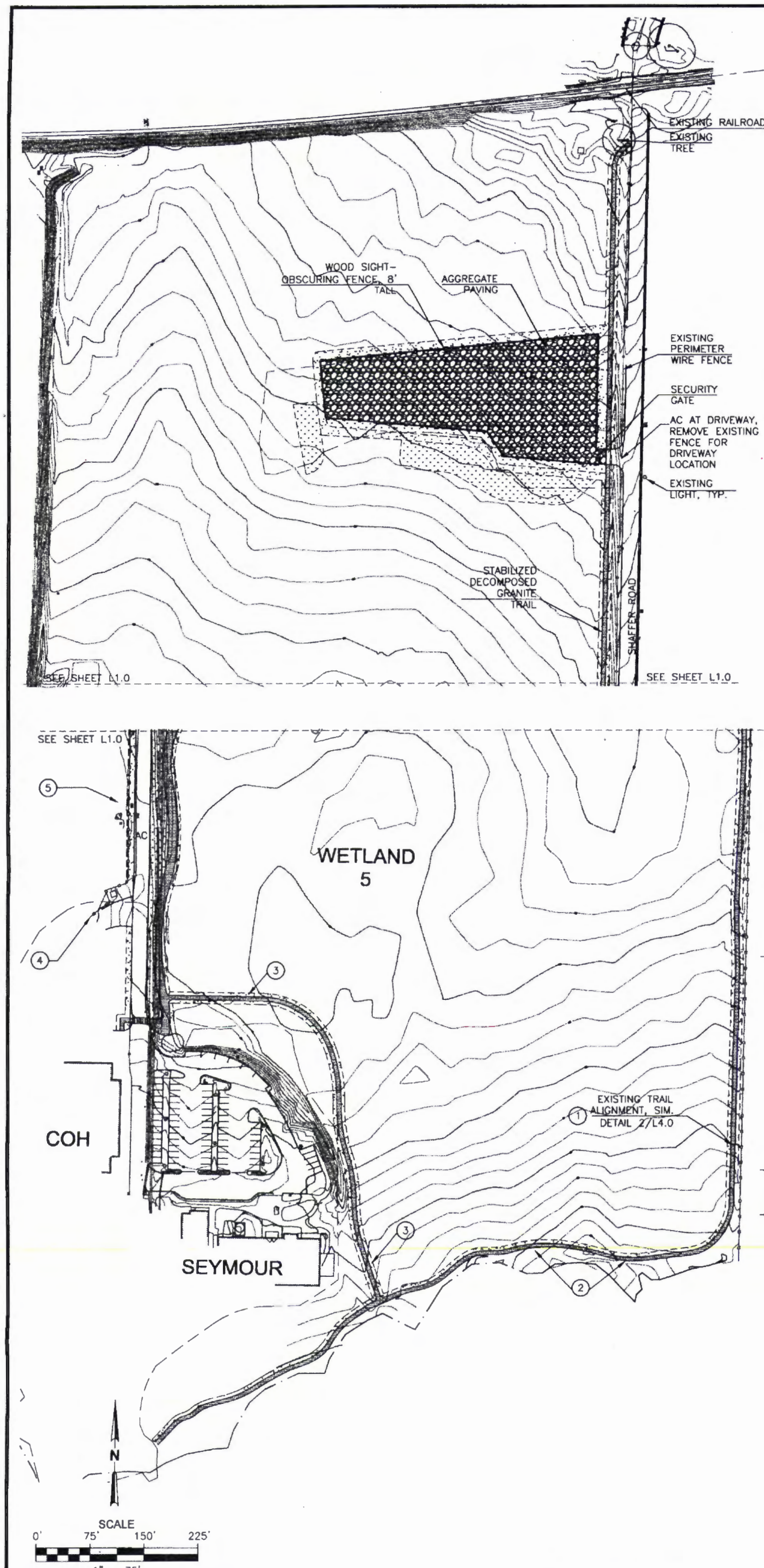
MARINE SCIENCE CAMPUS
INFRASTRUCTURE SCHEMATIC DESIGN
UCSC PROJECT NUMBER 4933

LANDSCAPE
SITE PLAN

PROJ NO: 10311-10-007	
DRWN: MC	CHKD: TC
DATE: MARCH, 2011	
FIGURE NO	
L1.0	



LEGEND

- LIMITS OF WORK AT CBB AND APGEN
- DEVELOPMENT AREA
- CONCRETE PAVING
- AC — ASPHALT PAVING - H20 RATED
- STABILIZED DECOMPOSED GRANITE PAVING
- AGGREGATE PAVING
- AGGREGATE CHOKED WITH SOIL - FIRE LANE SHOULDER
- PERMEABLE UNIT PAVERS
- STORMWATER PLANTING AREA
- NATIVE SEED MIX
- WIRE FENCE - MATCH EXISTING NON SIGHT-OBSCURING HELD 6" OFF FINISH GRADE
- WOOD FENCE SIGHT-OBSCURING HELD 6" OFF FINISH GRADE
- WOOD POST WITH RETROREFLECTOR

KEY NOTES

1. EXISTING TRAIL TO BE REGRADED TO 6-FOOT WIDTH AND RESURFACED WITH STABILIZED DECOMPSED GRANITE.
2. APPROXIMATELY 300-FEET OF EXISTING TRAIL TC BE ELEVATED (ROCK TURNPIKE) WITH WITH OPEN GRADED DRAIN ROCK TO ALLOW WATER MOVEMENT BELOW THE TRAIL PROFILE IN ORDER TO PREVENT LOCATIZED FLOODING OF THE TRAIL.
3. TRAIL ALIGNMENT PREDICATED ON FUTURE PARKING LOT AND BERM REALIGNMENT.
4. BEGIN NEW FENCE AT THE END OF EXISTING FENCE AT DRIVEWAY. INSTALL NEW FENCE 8-FEET FROM EDGE OF PAVING.
5. REMOVE EXISTING CHAIN-LINK FENCE AND INSTALL NEW FENCE.

2011-03-21 10:00 AM CRAMPTON
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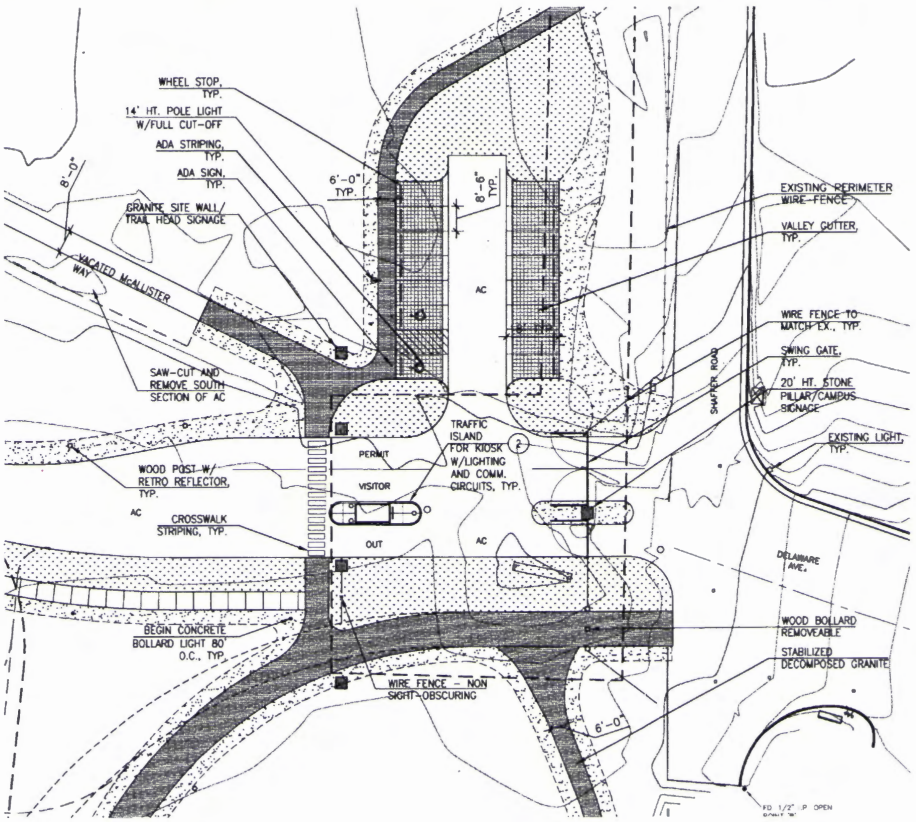
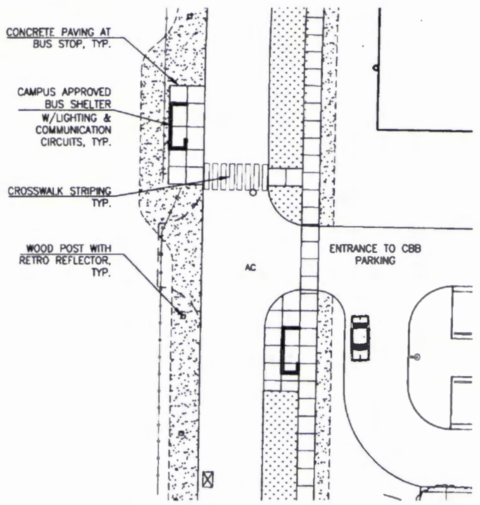
INFRASTRUCTURE SCHEMATIC DESIGN
UCSC PROJECT NUMBER 4933

LANDSCAPE
SITE PLAN

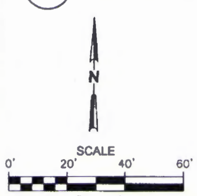
PROJ NO. 10311-10-007
DRWN MC CHKD TC
DATE MARCH, 2011
FIGURE NO.
L2.0



1 ENLARGEMENT II – MARINE CAMPUS ENTRY & PUBLIC PARKING – SUBAREA 16
SCALE: 1" = 20' – 0"
PLAN



2 ENLARGEMENT I – BUS STOPS AT CBB PARKING LOT
SCALE: 1" = 20' – 0"
PLAN



LEGEND

- LIMITS OF WORK FOR CBB, APGEN & GREENHOUSE
- DEVELOPMENT AREA
- CONCRETE PAVING
- AC — ASPHALT PAVING – H20 RATED
- STABILIZED DECOMPOSED GRANITE PAVING
- AGGREGATE PAVING
- AGGREGATE CHOKED WITH SOIL – FIRE LANE SHOULDER
- PERMEABLE PAVING
- STORMWATER PLANTING AREA
- NATIVE SEED MIX
- WIRE FENCE – MATCH EXISTING NON SIGHT-OBSCURING HELD 6" OFF FINISH GRADE
- WOOD FENCE SIGHT-OBSCURING HELD 6" OFF FINISH GRADE
- WOOD POST WITH RETRO REFLECTOR

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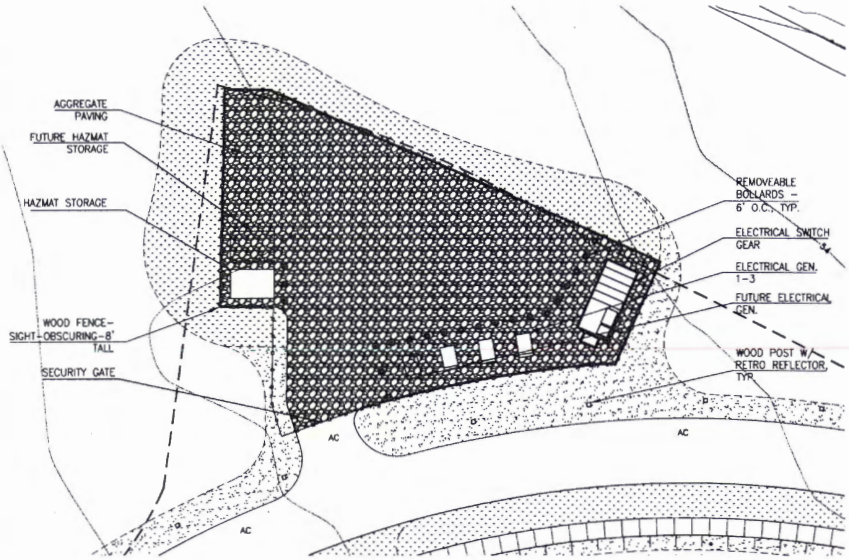
INFRASTRUCTURE SCHEMATIC DESIGN
UCSC PROJECT NUMBER 4933

LANDSCAPE
PLAN ENLARGEMENTS

PROJ NO: 10311-10-007
DRWN: MC | CHKD: TC
DATE: MARCH, 2011
FIGURE NO
L3.0

2011-03-21 10:12 AM CRAMPTON



1 ENLARGEMENT III – STORAGE YARD AND GENERATORS – SUBAREA 2

PLAN

LEGEND

- LIMITS OF WORK FOR CBB, APGEN & GREENHOUSE
- DEVELOPMENT AREA
- CONCRETE PAVING
- AC — ASPHALT PAVING – H20 RATED
- STABILIZED DECOMPOSED GRANITE PAVING
- AGGREGATE PAVING
- AGGREGATE CHOKED WITH SOIL – FIRE LANE SHOULDER
- PERMEABLE PAVING
- STORMWATER PLANTING AREA
- NATIVE SEED MIX
- WIRE FENCE – MATCH EXISTING NON SIGHT-OBSCURING HELD 6" OFF FINISH GRADE
- WOOD FENCE SIGHT-OBSCURING HELD 6" OFF FINISH GRADE
- WOOD POST WITH RETRO REFLECTOR

N

SCALE

0' 20' 40' 60'

1" = 20'

2011.03.21 2:24 PM CRAMPTON
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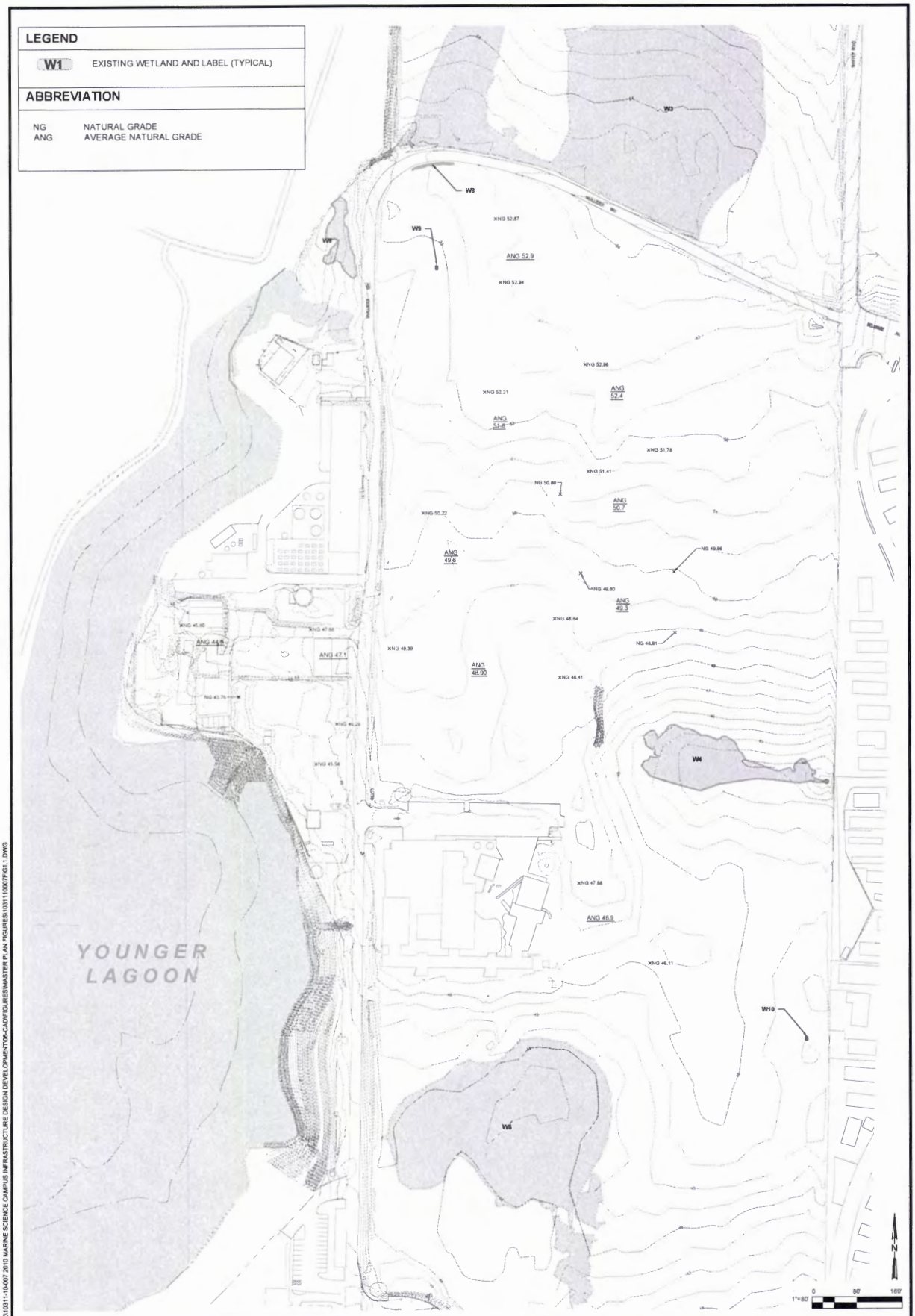
UCSC PROJECT NUMBER 4933

LANDSCAPE
PLAN ENLARGEMENTS

PROJ NO 10311-10-007
DRWN MC CHKD TC
DATE MARCH, 2011
FIGURE NO
L4.0



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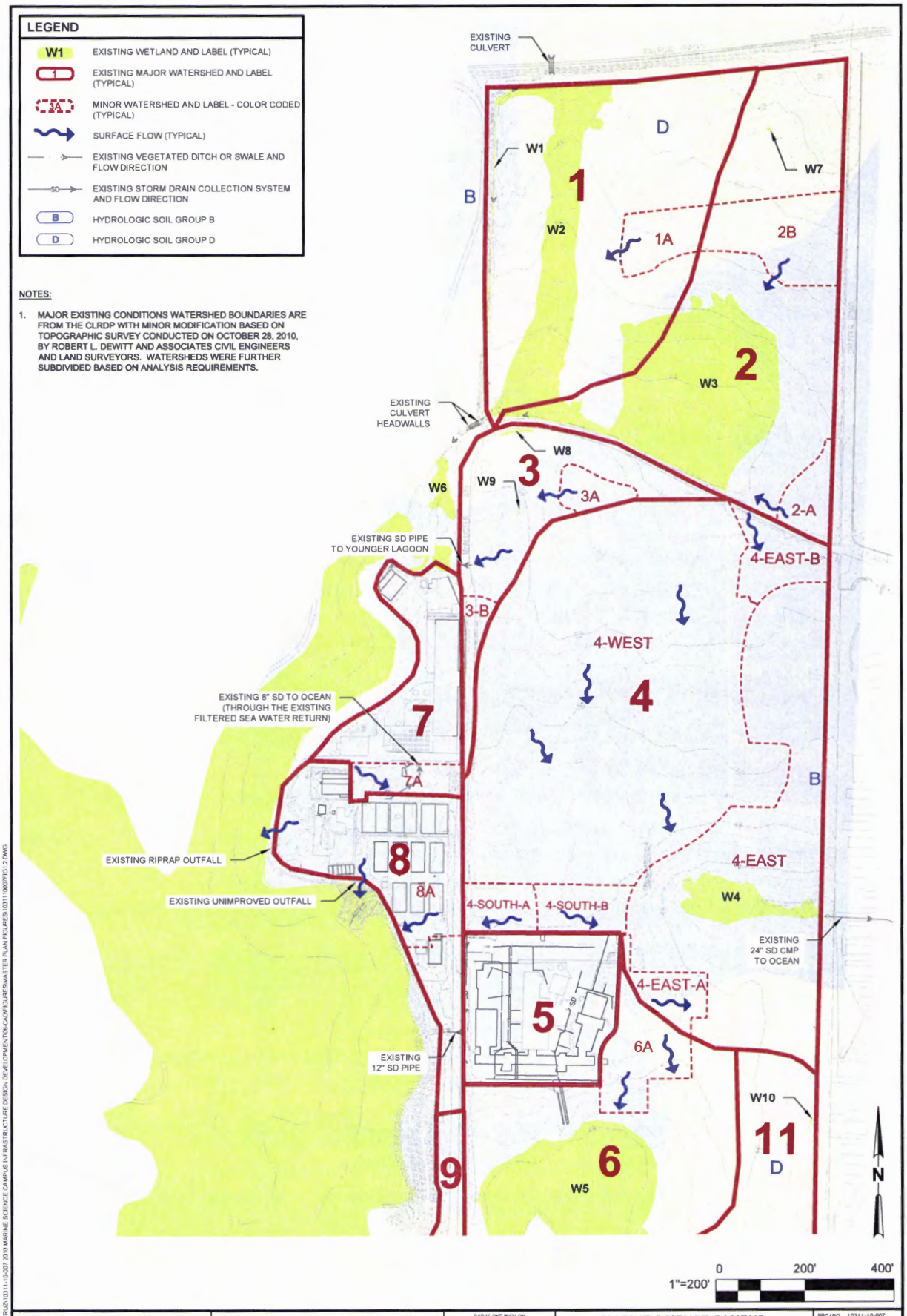
MARINE SCIENCE CAMPUS
FINAL GRADING AND DRAINAGE MASTER PLAN

EXISTING CONDITIONS

PROJ NO: 10311-10-007
DRWN: TP CHKD: TS
DATE: APRIL 2012

2012-04-16 3:14 PM TPHAM
P:\PROJECTS\10311 UC SANTA CRUZ\10311-10-007 2010 MARINE SCIENCE CAMPUS INFRASTRUCTURE DESIGN DEVELOPMENT\06-CAD\FIGURES\MASTER PLAN FIGURES\10311100071G1.1.DWG



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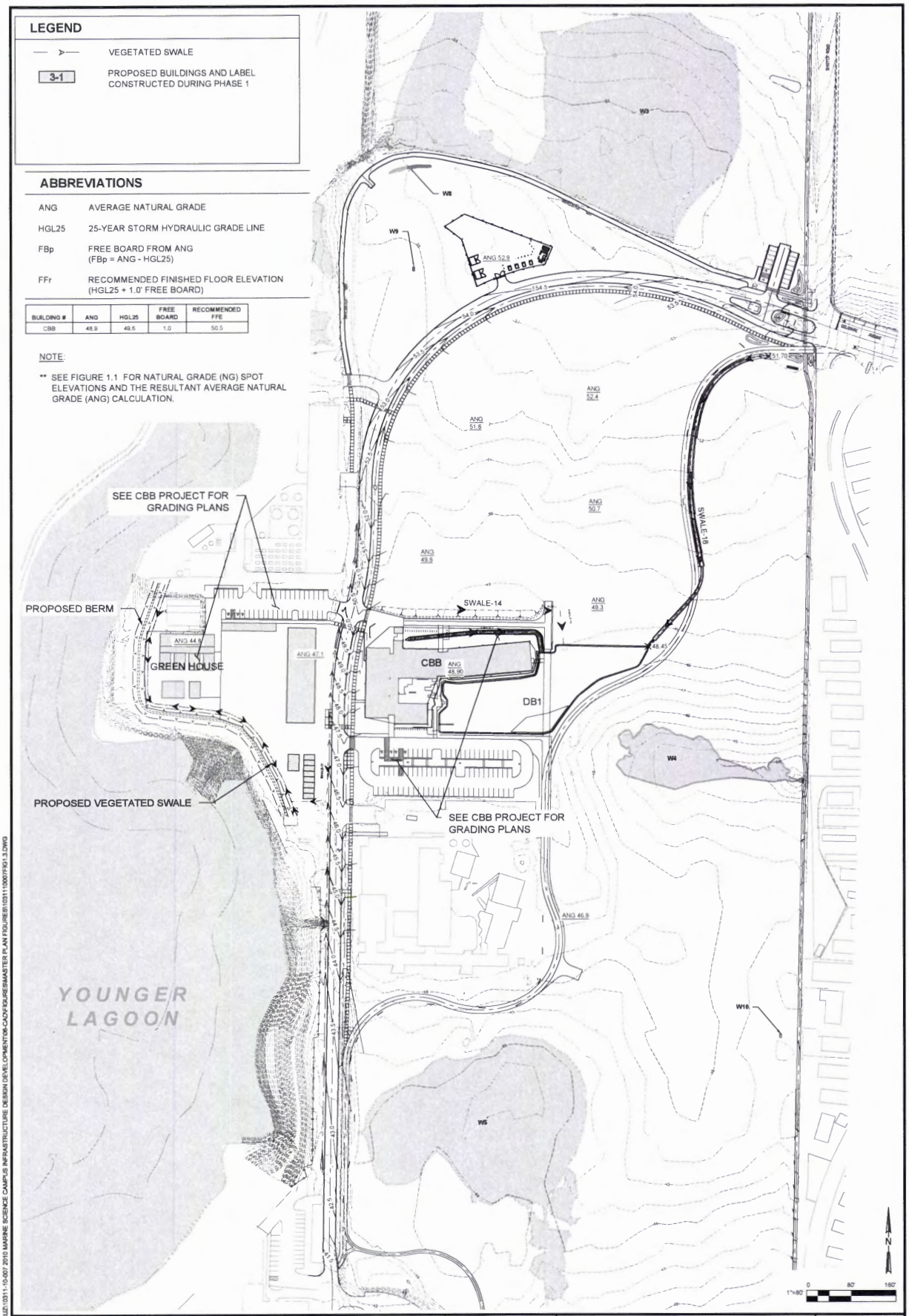
MARINE SCIENCE CAMPUS
FINAL GRADING AND DRAINAGE MASTER PLAN

EXISTING WATERSHEDS

PROJ NO 10311-10-007
DRWN TP CHKD TS
DATE APRIL 2012

Exhibit 2
UCSC NOID-6
54 of 70



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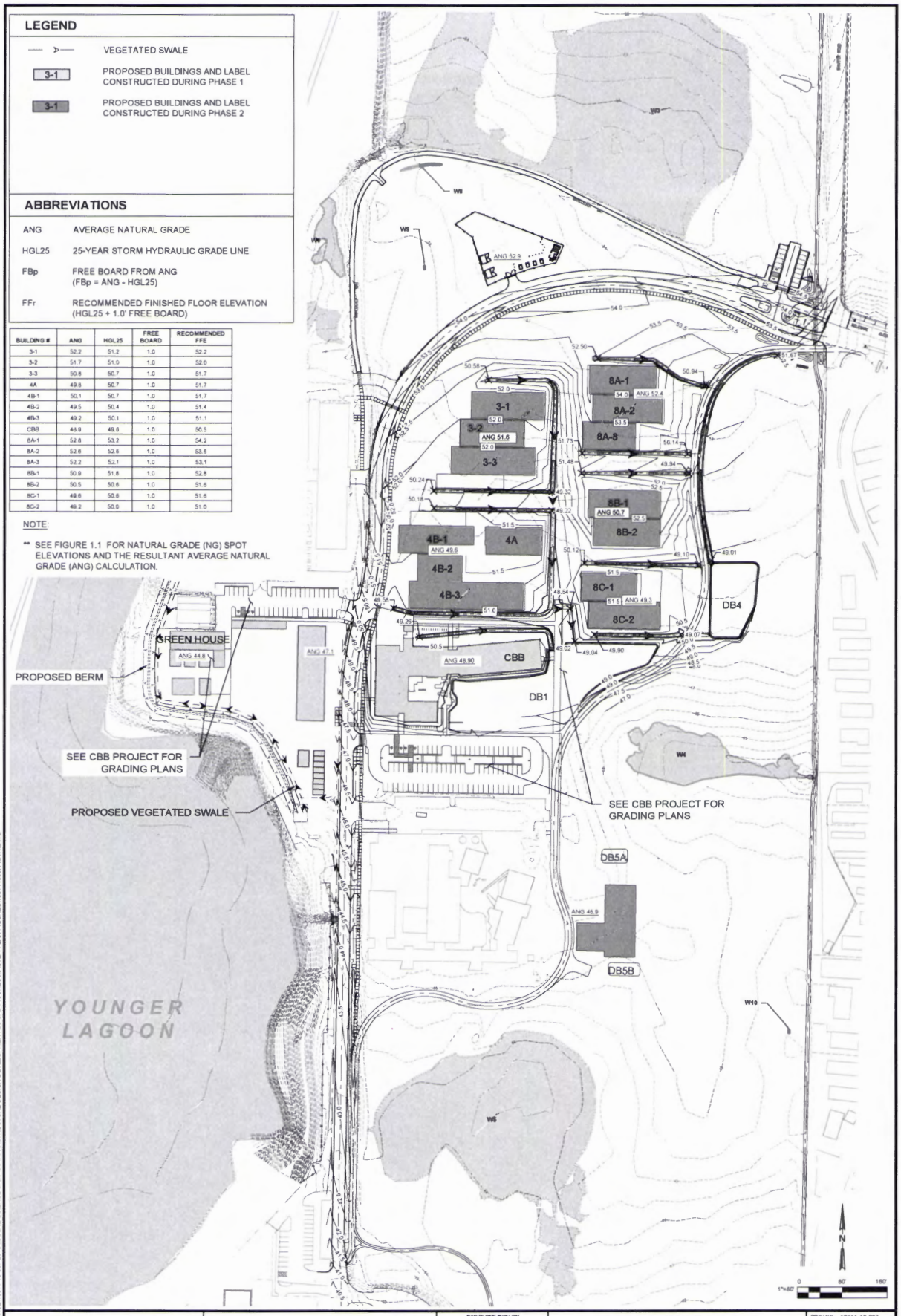
MARINE SCIENCE CAMPUS
FINAL GRADING AND DRAINAGE MASTER PLAN

PHASE 1
PROPOSED FINISHED GRADE

PROJ NO 10311-10-007
DRWN TP CHKD TS
DATE APRIL 2012

2012-04-18 4:04 PM TPHAM
P:\PROJECTS\2010\10311-10-007 2010 MARINE SCIENCE CAMPUS INFRASTRUCTURE DESIGN DEVELOPMENT\06-CAD\FIGURES\MASTER PLAN FIGURES\10311007FIG1.3.DWG



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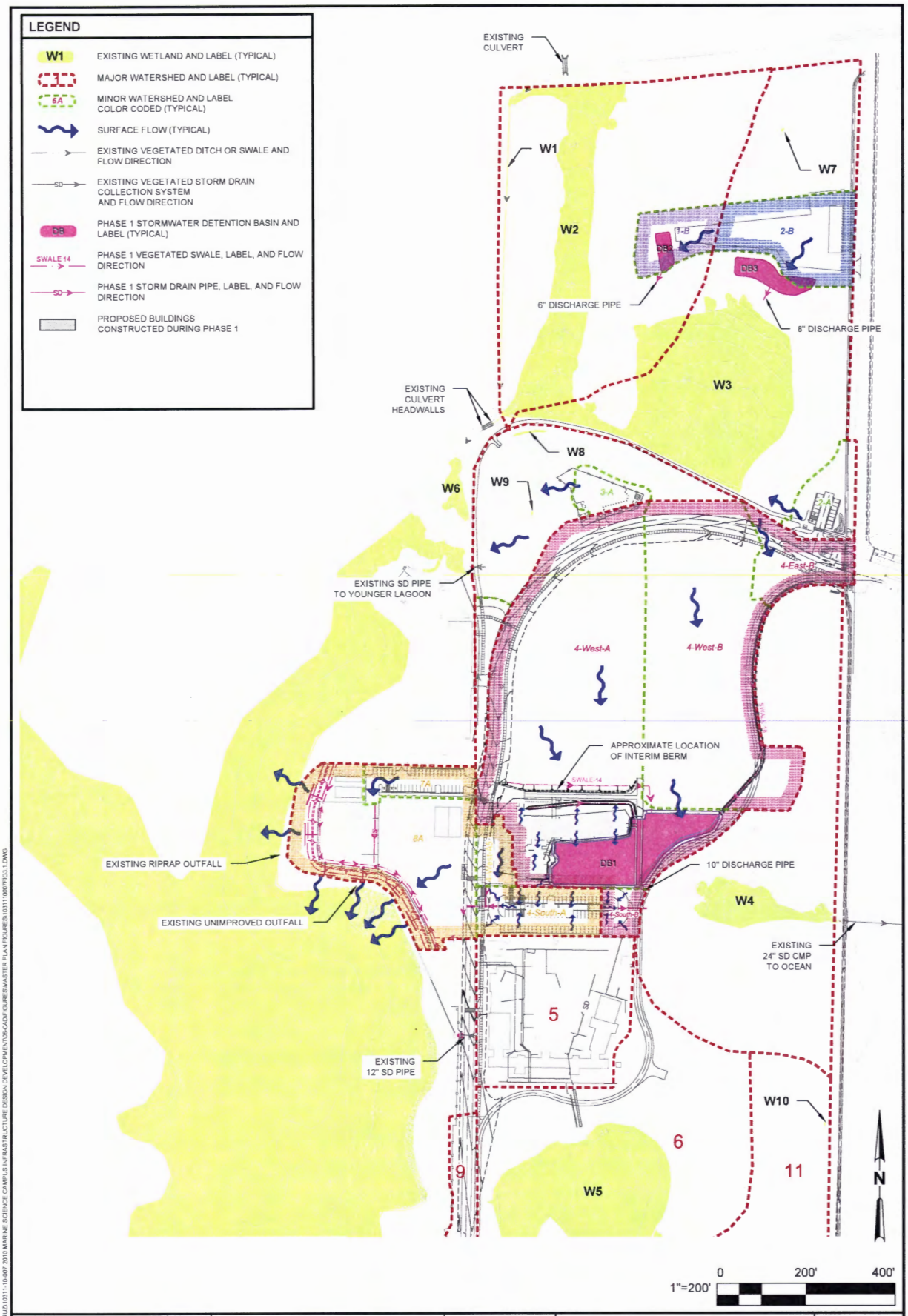
MARINE SCIENCE CAMPUS FINAL GRADING AND DRAINAGE MASTER PLAN

PHASE 2 PROPOSED FINISHED GRADE

PROJ NO 10311-10-007
DRWN TP CHKD TS
DATE APRIL 2012
FIGURE NO 4

2012-04-16 3:25 PM TPHAM
P:\PROJECTS\10311 UC SANTA CRUZ\10311-10-007 2010 MARINE SCIENCE CAMPUS INFRASTRUCTURE DESIGN DEVELOPMENT\04-CAD\FIGURES\MASTER PLAN FIGURES\10311100007FIG1.4.DWG



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MARINE SCIENCE CAMPUS
FINAL GRADING AND DRAINAGE MASTER PLAN

PHASE 1
PROPOSED DETENTION SYSTEM

PROJ NO: 10311-10-007
DRWN: TP | CHKD: TS
DATE: APRIL 2012
REVISED:

2012-04-16 2:35 PM TPHAM
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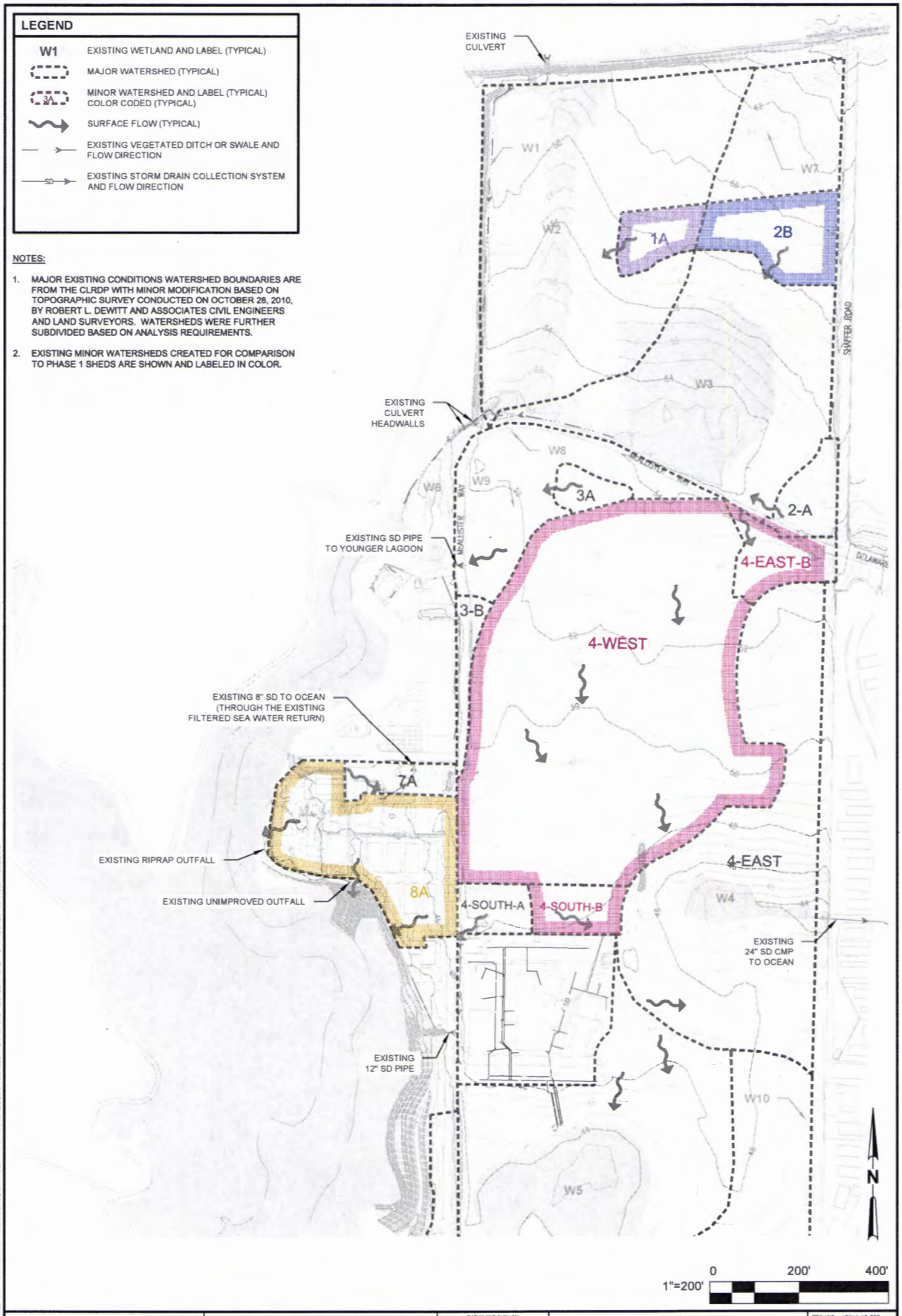

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EXISTING CONDITIONS COMPARISON TO PHASE 1

PROJ NO 10311-10-007
DRWN TP CHKD TS
DATE APRIL 2012
FIGURE NO. 3.2

2012-04-18 4:22 PM TPHAM
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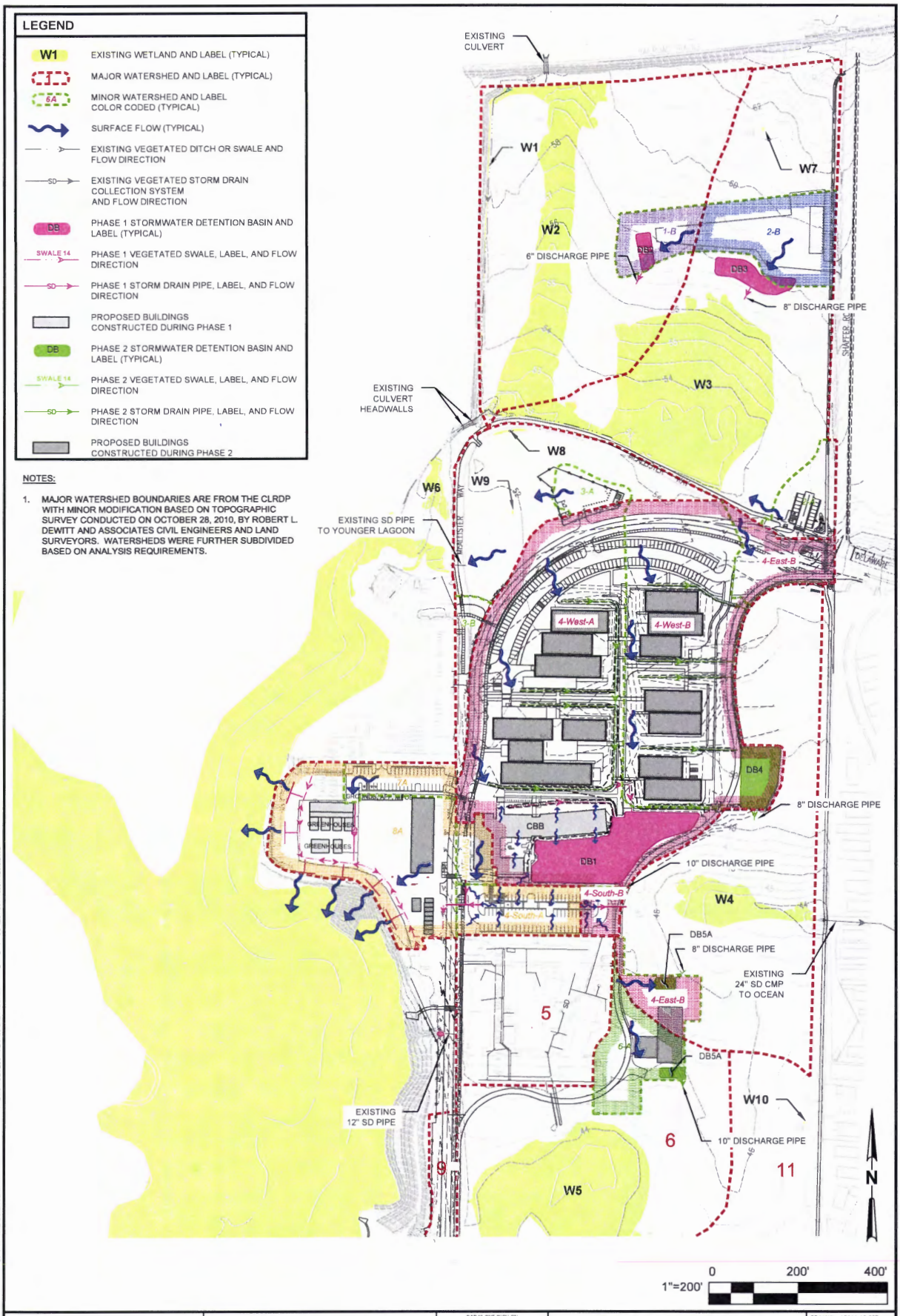

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PHASE 2
PROPOSED DETENTION SYSTEM

PROJ NO 10311-10-007
DRWN TP CHKD TS
DATE APRIL 2012

2012-04-16 4:15 PM TPHAM
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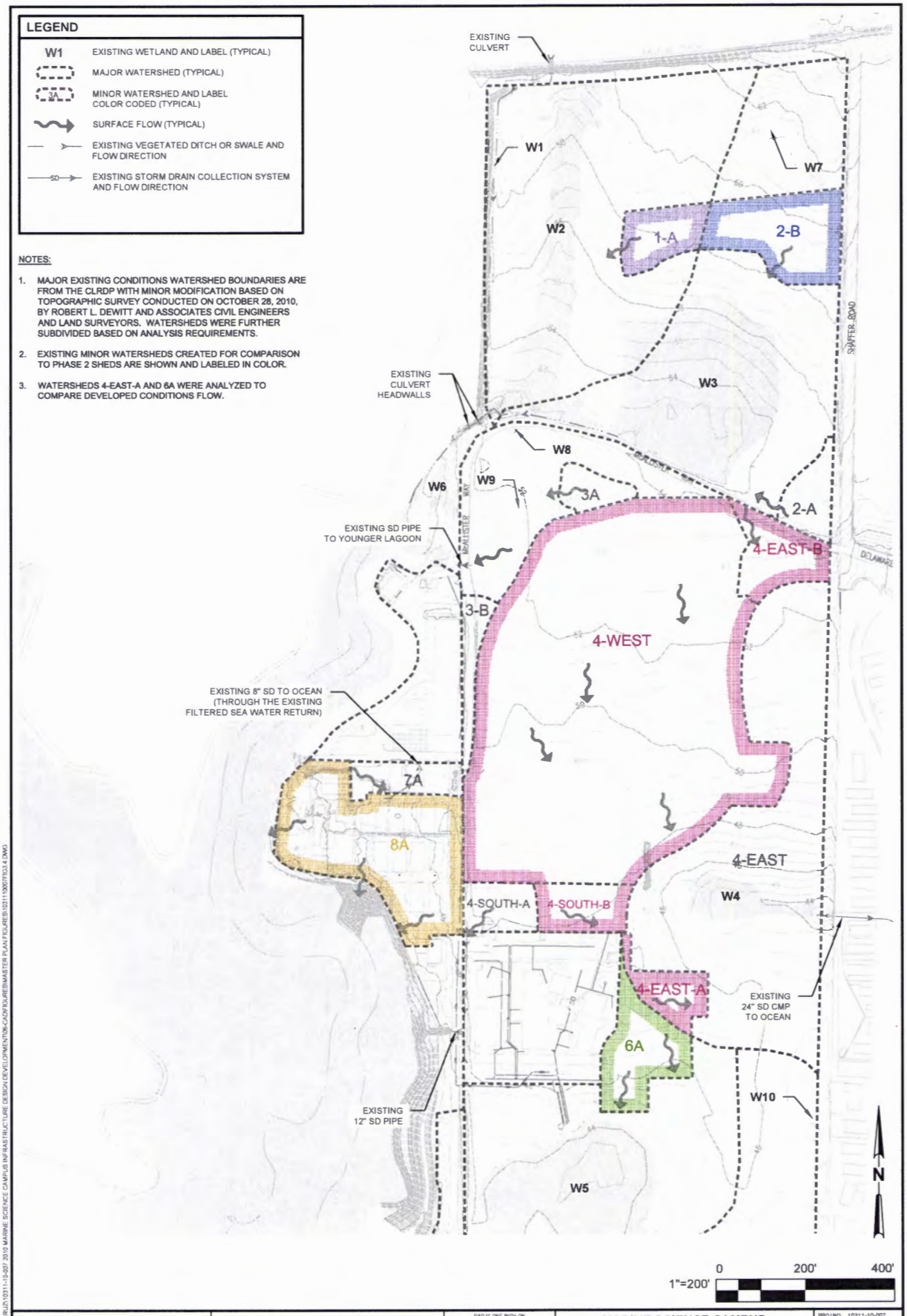

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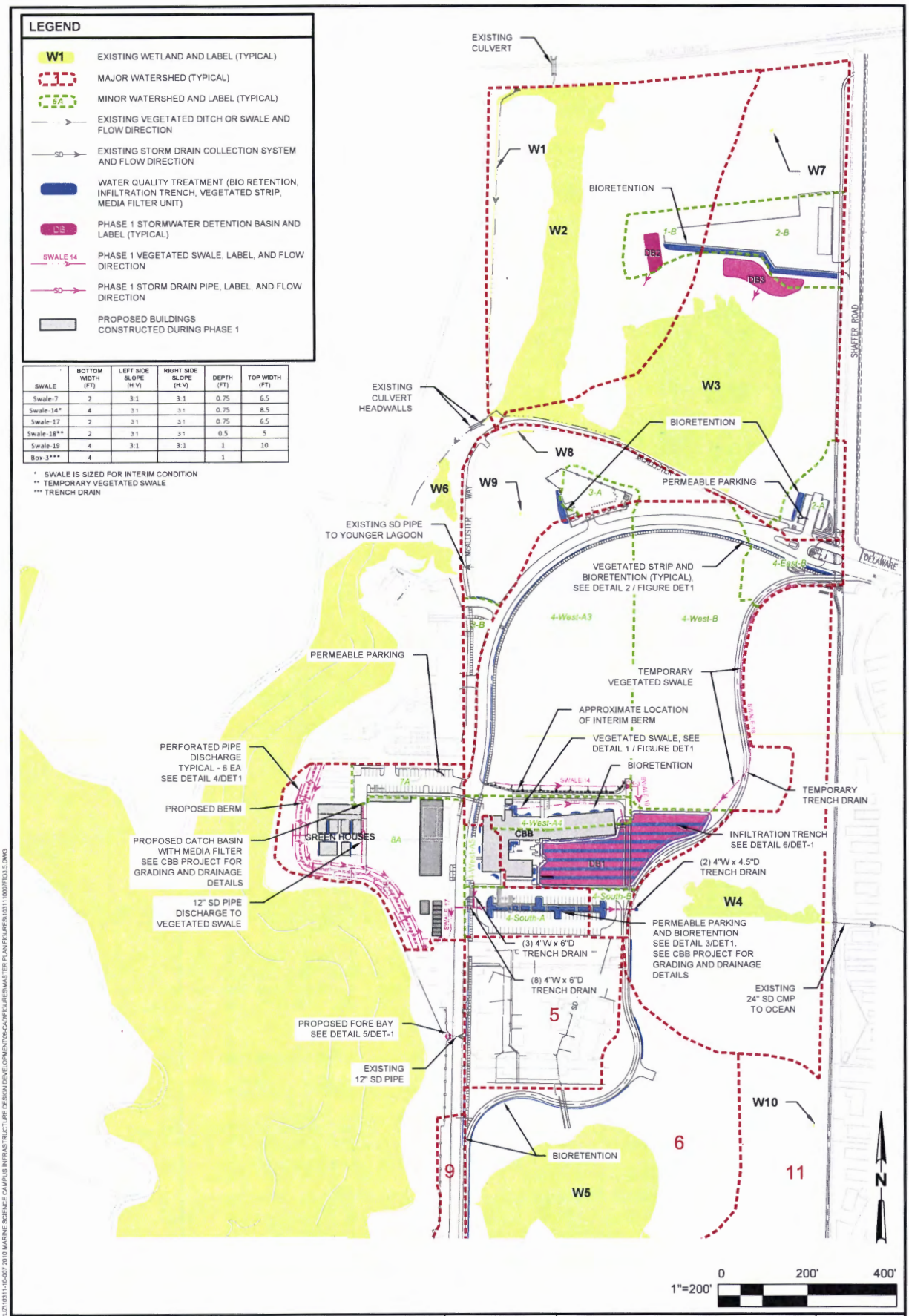
EXISTING CONDITIONS COMPARISON TO PHASE 2

PROJ NO	10311-10-007
DRWN TP	CHKD TS
DATE	APRIL 2012
FIGURE	

2012-04-16 4:23 PM TPHAM
P:\PROJECTS\10311 UC SANTA CRUZ\10311-10-007 2010 MARINE SCIENCE CAMPUS INFRASTRUCTURE DESIGN DEVELOPMENT\08-CAD\FIGURES\MASTER PLAN FIGURES\10311007FIG3.4.DWG



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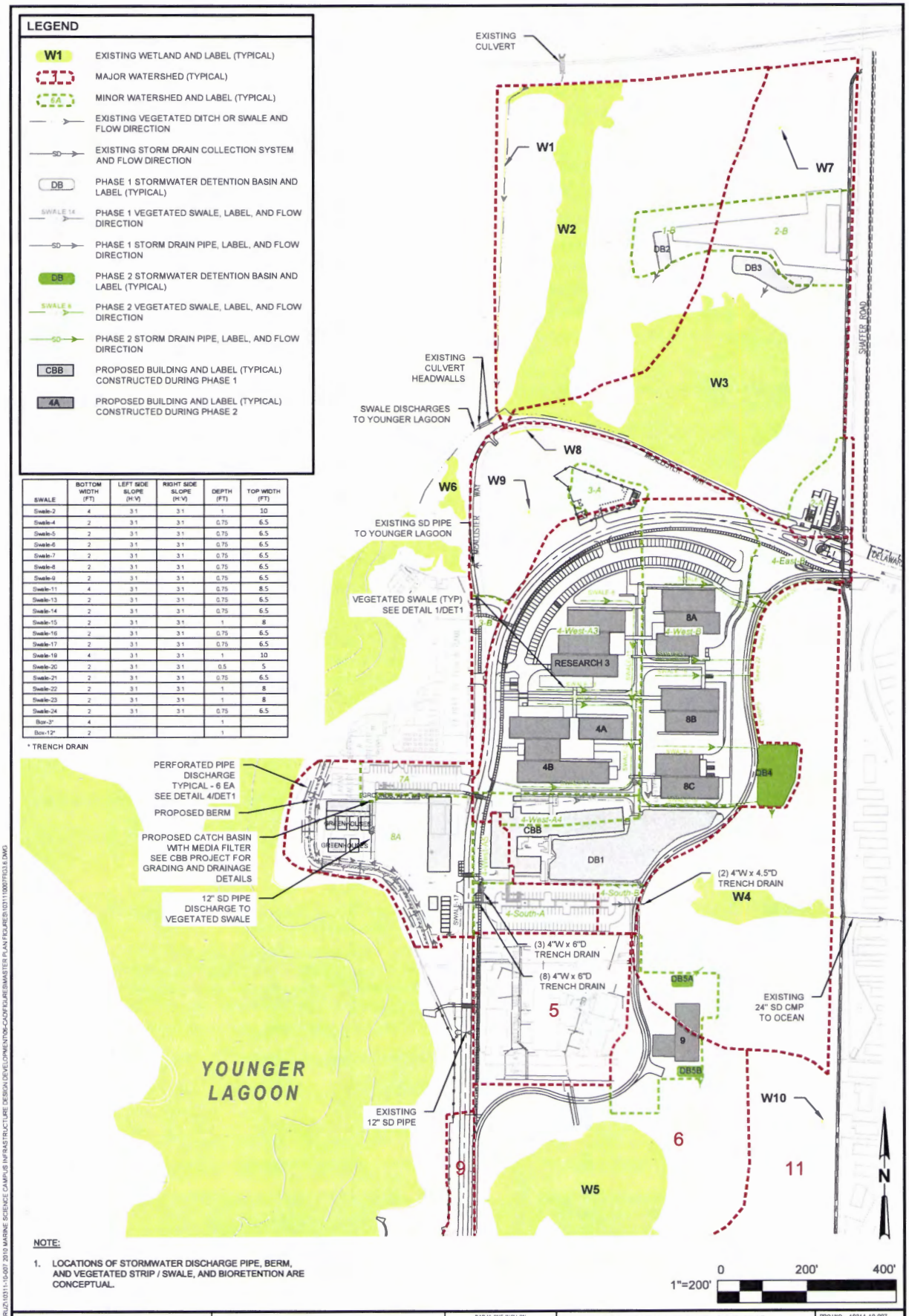
MARINE SCIENCE CAMPUS FINAL GRADING AND DRAINAGE MASTER PLAN

PHASE 1 PROPOSED CONVEYANCE AND WATER QUALITY SYSTEMS

PROJ NO: 10311-10-007
DRWN: TP | CHKD: TS
DATE: APRIL 2012



SWALE	BOTTOM WIDTH (FT)	LEFT SIDE SLOPE (H:V)	RIGHT SIDE SLOPE (H:V)	DEPTH (FT)	TOP WIDTH (FT)
Swale-2	4	3:1	3:1	1	10
Swale-4	2	3:1	3:1	0.75	6.5
Swale-5	2	3:1	3:1	0.75	6.5
Swale-6	2	3:1	3:1	0.75	6.5
Swale-7	2	3:1	3:1	0.75	6.5
Swale-8	2	3:1	3:1	0.75	6.5
Swale-9	2	3:1	3:1	0.75	6.5
Swale-11	4	3:1	3:1	0.75	8.5
Swale-13	2	3:1	3:1	0.75	6.5
Swale-14	2	3:1	3:1	0.75	6.5
Swale-15	2	3:1	3:1	1	8
Swale-16	2	3:1	3:1	0.75	6.5
Swale-17	2	3:1	3:1	0.75	6.5
Swale-19	4	3:1	3:1	1	10
Swale-20	2	3:1	3:1	0.5	5
Swale-21	2	3:1	3:1	0.75	6.5
Swale-22	2	3:1	3:1	1	8
Swale-23	2	3:1	3:1	1	8
Swale-24	2	3:1	3:1	0.75	6.5
Box-3*	4			1	
Box-12*	2			1	

* TRENCH DRAIN

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PHASE 2
PROPOSED CONVEYANCE SYSTEM

PROJ NO	10311-10-007
DRWN TP	CHKD TB
DATE	APRIL 2012
FIGURE NO	3.0

2012-04-16 2:26 PM TPHAM
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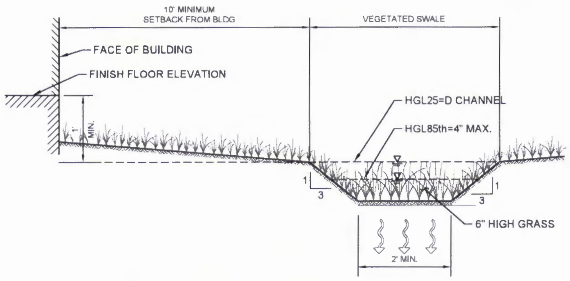
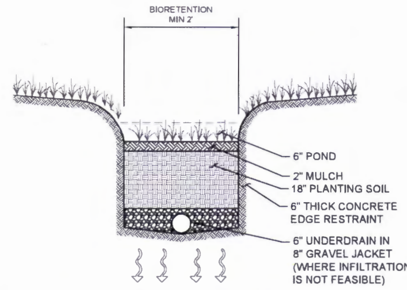
Exhibit 2
UCSC NOID-6
62 of 70



1 TYPICAL VEGETATED SWALE
SCALE: NONE



2 TYPICAL BIORETENTION
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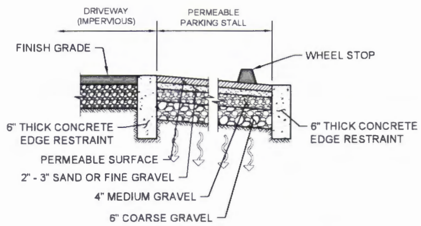

3 TYPICAL PERMEABLE PARKING
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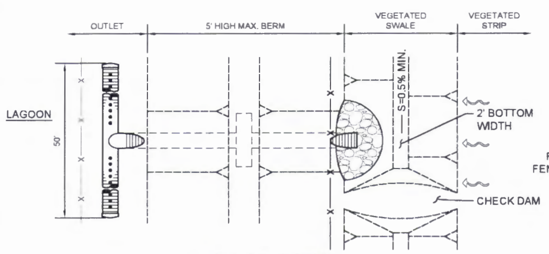
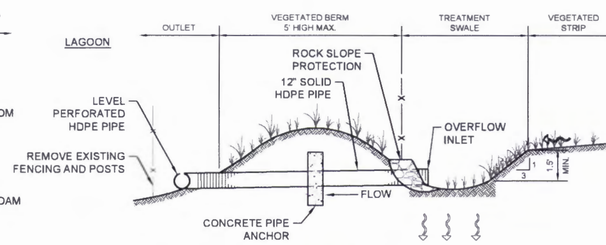
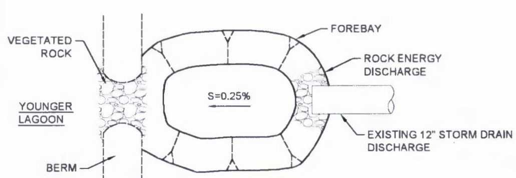


PLAN VIEW

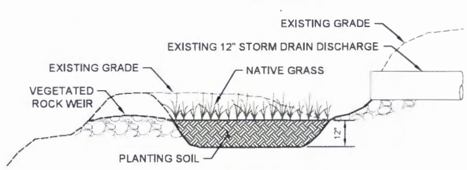


SECTION VIEW

4 TYPICAL DISCHARGE DETAIL
SCALE: NONE

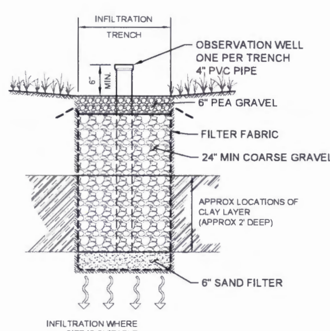


PLAN VIEW



SECTION VIEW

5 EXISTING STORM DRAIN DISCHARGE AND PROPOSED FOREBAY
SCALE: NONE



6 INFILTRATION TRENCH
SCALE: NONE

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DETAILS

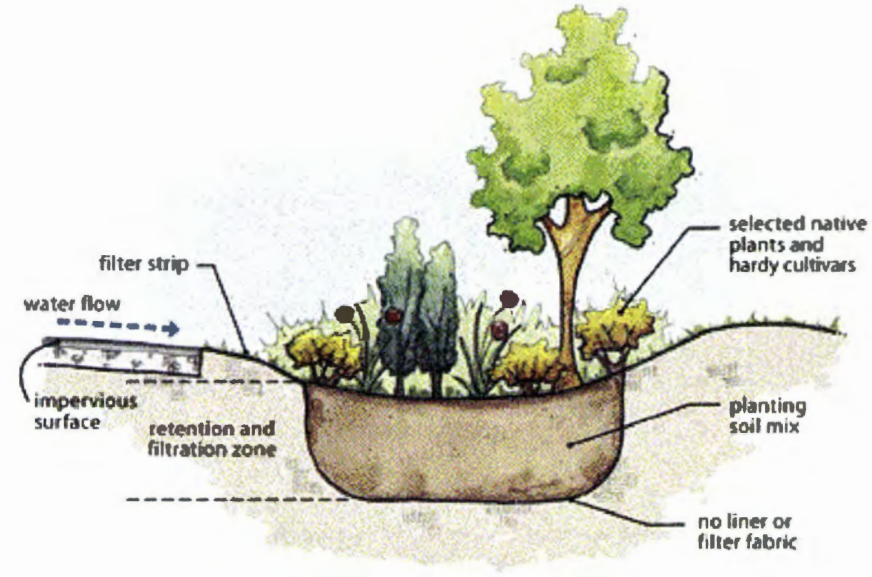
PROJ NO 10311-10-007
DRWN PS | CHKD TP
DATE APRIL 2012
DET1

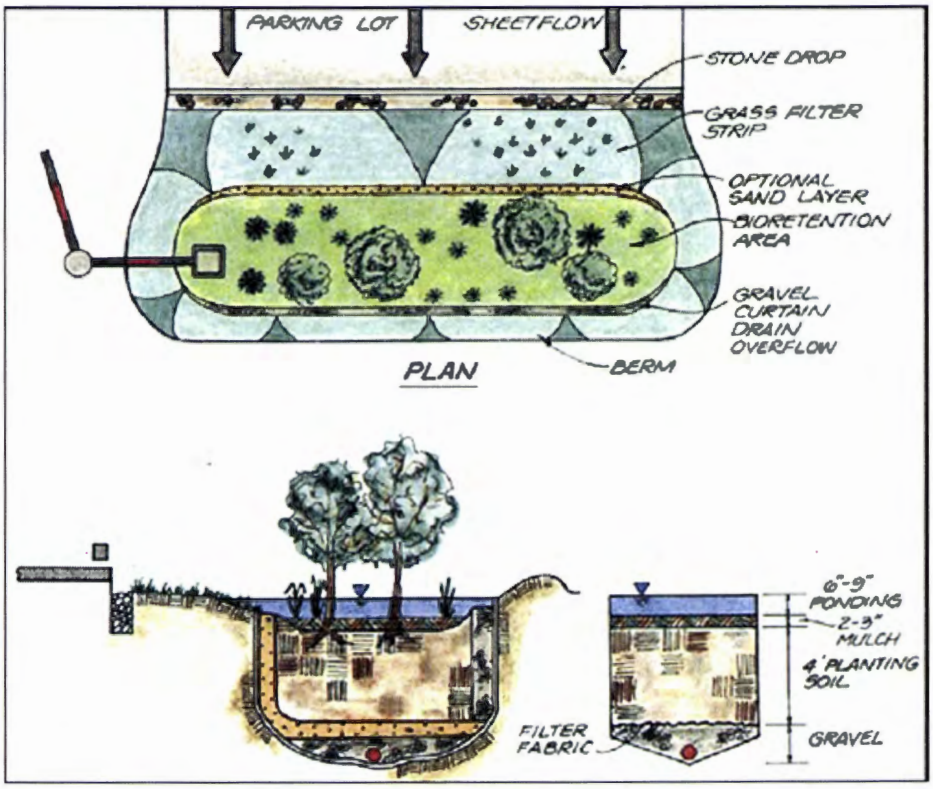
Exhibit 2
UCSC NOID-6
63 of 70

2012-04-16 2:25 PM TPHAM

Bioretention

Typical Bioretention Cross Sections





Permeable Pavement

Turf

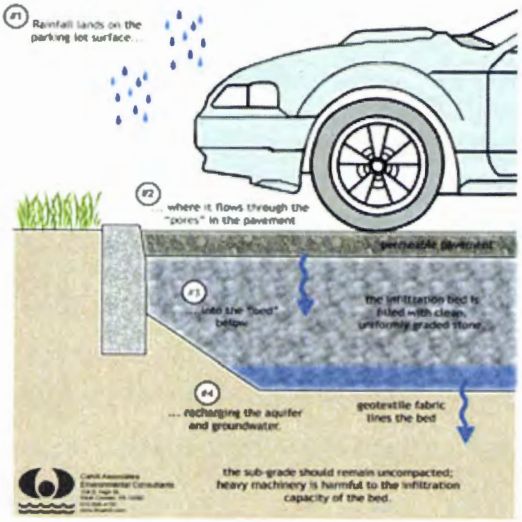


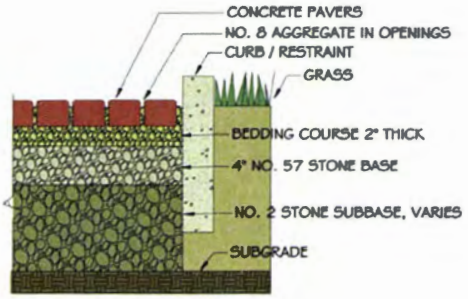
Unit Paver


Porous Asphalt


Pervious Concrete

Typical Permeable Pavement Section

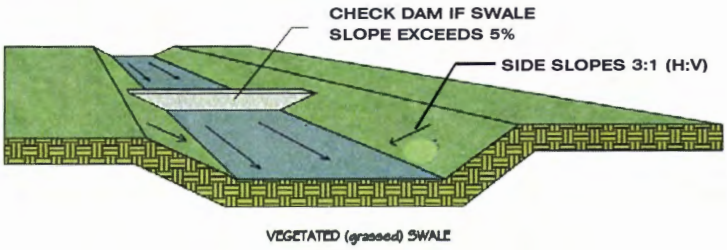




CONCRETE PAVERS

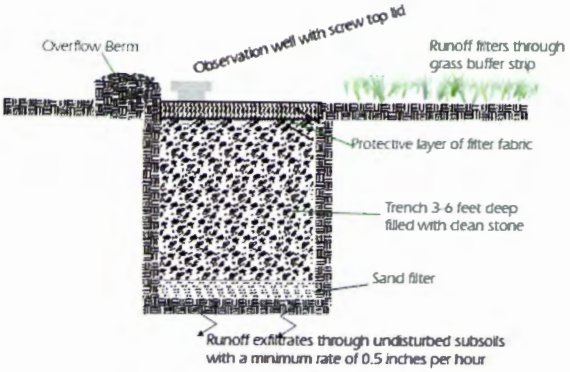
Vegetated Swale

Typical Vegetated Swale Cross Section



Infiltration Trench

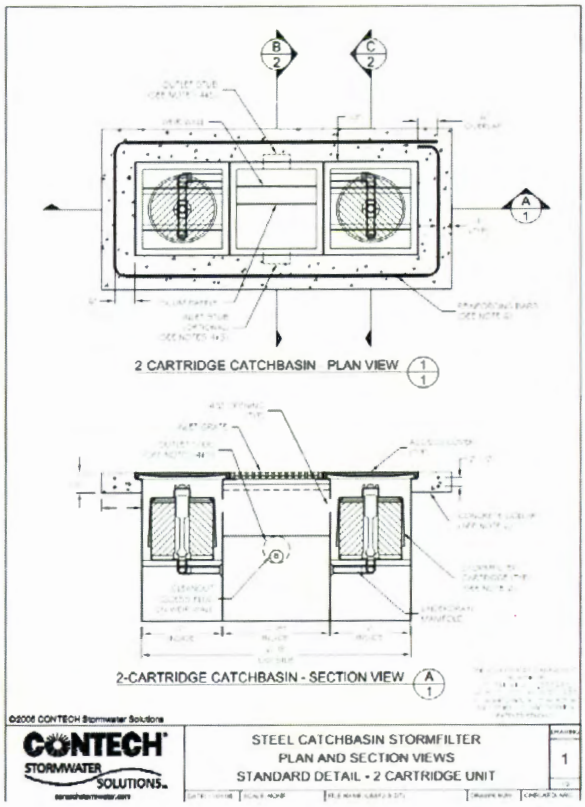
Typical Infiltration Trench Section

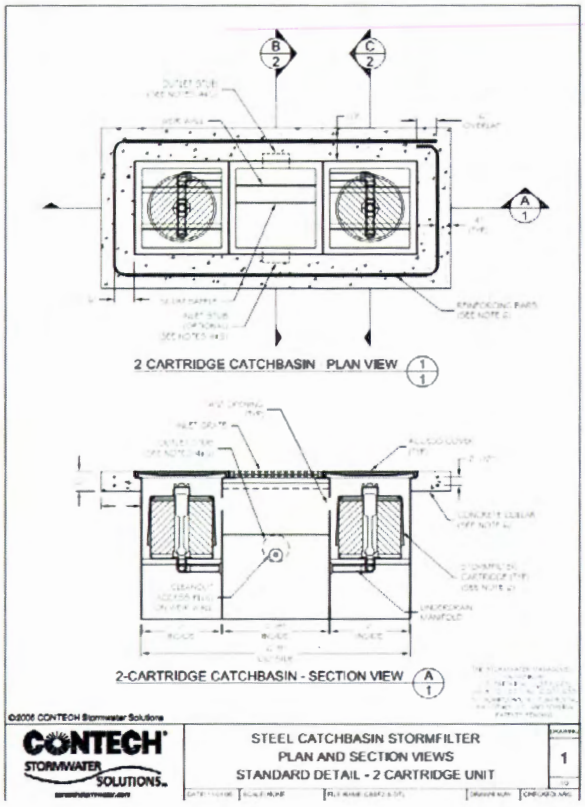


Media Filter

(Catch Basin StormFilter - Contech©)

Manufacturer's Details





5. LONG RANGE LAND USE DEVELOPMENT PLAN

The primary purpose of this chapter is to set forth a Long Range Land Use Development Plan for the Marine Science Campus. The building program, land use designations, diagrams, and policies in this chapter are an expression of the relevant provisions of Chapter 3 of the Coastal Act. This Long Range Land Use Development Plan reflects the planning objectives, program overview, design principles, and plan concepts discussed in Chapter 4 and should be considered and interpreted in light of the narrative and diagrams of that chapter. Chapter 7, Illustrative Campus Buildout Site Plan and Preliminary Designs, is based on this Long Range Land Use Development Plan, with the intervening design guidance of Chapter 6.

The Long Range Land Use Development Plan includes eight elements, which are presented in the sections that follow. These eight elements are:

5.1 Application of the Long Range Land Use Development Plan,

5.2 Land Use,

5.3 Natural Resource Protection,

5.4 Scenic and Visual Qualities,

5.5 Circulation and Parking,

5.6 Public Access and Recreation,

5.7 Hydrology and Water Quality, and

5.8 Utilities.

Each section is structured with a narrative introduction to the issue area, followed by policies that detail related requirements in that issue area, and then followed by implementation measures where necessary to help further define specific parts and/or aspects of the policy requirements.

As used in this chapter "may" is permissive in the sense that the activity or development in question is allowed under the CLRDP, provided all applicable requirements are met. "Shall" is mandatory. "Cumulative," "cumulatively," and "cumulative effect" mean the incremental effects of an individual project when reviewed in connection with the effect of past, current, and probable future projects.

5.1 Application of the Long Range Land Use Development Plan

This section sets forth the manner in which Long Range Land Use Development Plan shall be applied in order to ensure conformity with Chapter 3 of the California Coastal Act.

Development, as defined by the California Coastal Act and as that term is understood in this CLRDP, means:

> *On land, in or under water, the placement or erection of any solid material or structure; discharge or disposal of any dredged material or of any gaseous, liquid, solid, or thermal waste; grading, removing, dredging, mining, or extraction of any materials; change in the density or intensity of use of land, including, but not limited to, subdivision pursuant to the Subdivision Map Act (commencing with Section 66410 of the Government Code), and any other division of land, including lot splits, except where the land division is brought about in connection with the purchase of such land by a public agency for public recreational use; change in the intensity of use of water, or of access thereto; construction, reconstruction, demolition, or alteration of the size of any structure, including any facility of any private, public, or municipal utility; and the removal or harvesting of major vegetation other than for agricultural purposes, kelp harvesting, and timber operations which are in accordance with a timber harvesting plan submitted pursuant to the provisions of the Z'berg-Nejedly Forest Practice Act of 1973 (commencing with Section 4511). As used in this section, "structure" includes, but is not limited to, any building, road, pipe, flume, conduit, siphon, aqueduct, telephone line, and electrical power transmission and distribution line. (PRC Section 30106)*

5.1.1 Policies Governing Interpretation and Use of the Long Range Land Use Development Plan

Policy 1.1 Development Consistency

Development shall be deemed consistent with the CLRDP if it is consistent with the provisions of Chapters 5, 6, 7, 8, and 9, and Appendices A and B.

Implementation Measure 1.1.1 – Figures of Chapter 5. *Figures 5.1, 5.2, 5.3, and 5.4 show the kinds, locations, and maximum size and intensity of development allowed by this plan if such development is otherwise consistent with Chapters 5, 6, 7, 8, 9, and Appendices A and B. Development shall not be authorized unless it is of a type and location contemplated by Section 5.2. The locations of potential development and the maximum heights shown in Figure 5.4 shall be presumed consistent with Policy 4.1 and IM 4.1.1 with respect to protection of distant, non-campus public views (i.e., views from locations further than ¼ mile from the Campus boundaries), if such development is otherwise consistent with the CLRDP.*

Implementation Measure 1.1.2 – Lease Agreements. *Any lease or similar agreements between the University and tenants/affiliates (i.e., those entities occupying, using, or otherwise operating in Campus buildings and facilities, on Campus lands, etc.) shall include enforceable provisions that require the tenants/affiliates to fully abide by and implement the policies, implementation measures, required mitigation, required conditions, and other related provisions of this CLRDP that are applicable to the leased interest.*

Implementation Measure 1.1.3 – Federal Inholding and CLRDP. *Although the CLRDP is not the standard of review for development within the 2.5-acre federal inholding, the CLRDP does provide non-binding guidance should development be proposed there. Development within the federal inholding should be consistent to the maximum extent practicable with this CLRDP.*

Policy 1.2 University Commitments

Development shall be authorized by the University and allowed to commence only if all University commitments identified in this CLRDP, including but not limited to the improvements identified in Chapter 9, have been undertaken as provided for in this CLRDP, unless circumstances beyond the University's control have prevented such

implementation. Upon learning of any default on such a University commitment due to circumstances beyond the University's control, the Planning Director (UCSC) shall notify the Executive Director (CCC) of the manner in which the University proposes to remedy the default and a mutually acceptable schedule for monitoring and reporting progress on correcting the deficiency.

5.2. Land Use

This section sets forth the general plan for land use on the Marine Science Campus.

5.2.1. Building Program

The building program for the Marine Science Campus consists of eight program elements, and each of these is described below. Figure 5.1, Building Program (New Construction Only), sets forth the maximum allowable floor area for each building program element prescribed by this plan. Facilities that are ancillary to each of the eight program elements (such as outdoor patios, walkways, minor storage and service areas, etc.) are allowed as part of each element. Above ground ancillary facilities (e.g., storage sheds, etc.) shall be counted as part of the maximum square footages identified in each case, but ground-level ancillary facilities (e.g., walkways, patios, etc.) shall not.

Marine Research and Education Facilities

These are the major facilities associated with the operation of marine research laboratory and educational facilities and are limited to all existing facilities (except facilities specifically identified for removal in Figure 5.1 below), plus a total maximum of up to 254,500 additional square feet of facilities for the following uses:

- Laboratories, wet and dry, connected with the marine sciences,
- Teaching and seminar rooms associated with the marine educational or scholarly activities,
- Offices in support of the primary laboratory or educational activity.

Outdoor Research Areas

This includes existing outdoor research areas, plus a total maximum of up to 70,000 additional square feet of outdoor research area to be used in conjunction with marine research and education activities, including:

- Outdoor marine research pools,
- Other organized outdoor marine research facilities.

Support Facilities

These facilities provide places for scientists, faculty, students, staff, and visitors to meet, eat, and recreate, and are limited to:

- A seminar auditorium with a maximum of 350 seats, with a maximum of 5,000 square feet,
- Meeting rooms with a maximum of 200 seats total, with a maximum of 2,500 square feet total,
- Food service facilities, with a maximum of 3,500 square feet total,

- Paved and unpaved outdoor court sports areas (e.g., basketball and volleyball), with a maximum of 8,000 square feet total.

Short-Term Accommodations
The types of short-term accommodations allowed on the Marine Science Campus are limited to short-term researcher/student accommodations and overnight accommodations, solely for use by faculty, researchers, staff, students and visitors who are working on the Campus site or directly involved with University marine research and education programs that require their on-site presence on a regular and substantial basis. Facilities are limited to:

- A maximum of 30 rooms of researcher accommodations, with a maximum of 12,000 square feet total,

- A maximum of 10 rooms of overnight accommodations, with a maximum of 2,500 square feet total.

Caretaker Accommodations
Accommodations are allowed on the Marine Science Campus for on-site caretakers that provide security and facility oversight 24 hours a day. Facilities are limited to:

- A maximum of two caretaker units, with a maximum of 1,600 square feet total.

Equipment Storage and Maintenance Facilities
These include facilities and improvements that are required to service the campus, limited to:

- Centralized warehouse, maintenance and storage facilities, with a maximum of 37,500 square feet total,

- Open laydown yards, fenced or enclosed, with a maximum of 70,000 square feet total.

Public Access and Recreation Facilities
These include facilities for formal and informal active and passive recreation that serve campus occupants and visitors, such as trails, overlooks, and other improvements to support active and passive recreation and enjoyment by the campus population and visitors.

Seawater System
This includes all components of the seawater system, including: intake, treatment, storage, distribution, and discharge, and is limited to the existing system capacity, plus an additional 4,000 gallons per minute of capacity through a system expansion with a maximum of 12,000 square feet, where both interior space square footage and footprint square footage for structures without interior spaces are additive towards the 12,000 square feet maximum.

Parking Facilities
These include 191 existing parking spaces at the time of CLRDP certification, plus 604 additional parking spaces. Of the total number of spaces available on the Campus at any time, a minimum of 40 spaces shall be designated as dual use exclusively for access to the Seymour Marine Discovery

exclusively for public coastal access parking, per Policy 5.3 and its implementation measures. Parking facilities include all driveways and sidewalks necessary to access parking spaces.

Temporary Facilities

These are facilities that are allowed on the Campus on a temporary basis only. Any square footage associated with these facilities shall count towards the 254,500 square feet of facilities identified under Marine Research and Education Facilities above. These facilities are limited to:

- A temporary small-scale desalinization research facility has been permitted and may be constructed within Subarea #13 (only) provided such facility is removed and the disturbed area restored as described in the permit.

- Within the first seven years following the date of CLRDP certification, 11 existing greenhouses are allowed to remain in place within Subareas #6 and #7 (only) provided that within seven years of certification or by December 31, 2013, whichever comes sooner, either: (a) such greenhouses are removed and the disturbed area restored; or (b) such greenhouses are made to conform to all CLRDP requirements, including design guidelines.

- At the time of CLRDP certification, a temporary ground-level storage area existed in Subareas #6 and #7 in the area located between the greenhouses and **the original** Younger Lagoon Reserve. This temporary storage area is allowed to remain in place in that configuration and at that level of use (i.e., pre-CLRDP certification level and configuration) for the first five years following CLRDP certification provided that: (a) the perimeter of this area where it is adjacent to **the original** Younger Lagoon Reserve (i.e., generally its west and southwest sides) is planted with species appropriate to the upland Reserve landscape and capable of screening the area from view from the Reserve **(original YLR)** (e.g., an extension of the willows providing a similar screen to the north); and (b) such storage area is removed and the disturbed area restored, or such storage area is made to conform to all CLRDP requirements (including design guidelines), within five years of CLRDP certification or when it or the sites adjacent to it are redeveloped (i.e., the greenhouses and/or the avian facility) whichever comes first.

- Within the first five years following the date of CLRDP certification, temporary parking and/or ground-level storage areas may be allowed within the Middle Terrace development zone (only) provided that within five years of certification either: (a) such parking and/or ground-level storage areas are removed and the disturbed area restored; or (b) such parking and/or ground-level storage areas are made to conform to all CLRDP requirements, including design guidelines.

Campus Entrance Facilities

These are facilities that would be installed and/or upgraded in the Campus Entrance development zone adjacent to the intersection of Delaware Avenue and Shaffer Road, and are limited to an entrance kiosk (no taller in height than 12 feet as measured from existing grade, and no more than 125 square feet in size) and a gate that shall remain open during daylight hours but that can be closed during nighttime hours.

Fig. 5.1 Building Program (New Construction Only)

Program Element	*Maximum Quantity*	*Units*
NEW BUILDINGS		
Marine Research and Education Facilities		
Marine Research and Education Uses	254,500	sq ft (gfa)
Temporary Office Trailers (to be removed)	-3,000	sq ft (gfa)
Support Facilities	19,000	sq ft (gfa)
Short-Term Accommodations		
10 Visitor/Overnight Rooms	2,500	sq ft (gfa)
30 Researcher Rooms	12,000	sq ft (gfa)
Caretaker Accommodations		
2 Caretaker Housing Units (Replacement units only)	1,600	sq ft (gfa)
2 Temporary Caretaker Housing Units (to be removed)	-1,400	sq ft (gfa)
Campus Entrance Facilities		
Campus Entrance Kiosk	125	sq ft (gfa)
Equipment Storage and Maintenance		
Centralized Warehouse	37,500	sq ft (gfa)
SUBTOTAL NEW BUILDINGS	322,825	sq ft (gfa)
OUTDOOR DEVELOPMENT		
Outdoor Research		
Outdoor Research Area	70,000	sq ft
Equipment Storage and Maintenance		
Open Laydown Yards	70,000	sq ft
Seawater System		
4,000 GPM Seawater System Expansion	12,000	sq ft
SUBTOTAL OUTDOOR DEVELOPMENT	152,000	sq ft
ADDITIONAL PARKING	604	spaces

Note: For the purpose of this CLRDP, gross floor area (gfa) shall be derived using Outside Gross Area method OGSF50. OGSF50 = Basic Gross Area+50% of the reported Covered Unenclosed Gross Area. The Basic Gross Area is the sum of all areas, finished and unfinished, on all floors of an enclosed structure (i.e., within the environmentally controlled envelope) for all stories or areas which have floor surfaces. The Covered Unenclosed Gross Area is the sum of all covered or roofed areas of a building located outside the enclosed structure (i.e., the environmentally controlled envelope) for all stories or areas that have floor surfaces.

5.2.2. Land Use Designations and Diagram

Five land use designations have been created for the UCSC Marine Science Campus: 1) research and education mixed use, 2) resource protection, 3) resource protection buffer, 4) wildlife corridor, and 5) open space. Figure 5.2, Land Use Diagram, shows the geographic location of these designations on the Marine Science Campus. The full-size version of this diagram is included in a pocket behind the back cover of the CLRDP. Figure 5.3, Locational Restrictions for Building Program, provides additional control over the location of individual building program elements within the Research and Education Mixed Use designation. The intended effect of the designations established by this subsection, the location of these designations and of uses within these designations, and the uses allowed within each are set forth below.

Research and Education Mixed Use

The primary purpose of this land use designation is to accommodate existing permitted uses and the building program elements set forth in Subsection 5.2.1 above. The building program elements allowed in each of the four areas designated for Research and Education Mixed Use and their maximum allowed intensities are specified in Figure 5.1. Additionally, utilities, lighting, signage, trails, drainage facilities, and landscaping are allowed in this designation.

The distribution of building program elements among the Lower, Middle, and Upper Terrace development zones, as shown in Figure 5.3, reflects the allocation of developable campus land that directly borders the sea primarily to new development that is most coastal dependent: the seawater system, marine research and education, coastal public access and recreation, and limited parking related to these uses. The other building program uses, which support these more coastal-dependent uses, are precluded from the Lower Terrace. The one exception is the caretaker housing units, which may be located close to the outdoor research areas located in the Lower Terrace. In addition, temporary desalinization research and organic agriculture uses and development are allowed in this designation on an interim basis as described above. Campus entrance facilities are limited to the campus entry development zone.

Resource Protection

The primary purpose of this designation is to protect wetlands and Environmentally Sensitive Habitat Areas (ESHA). Areas that are identified in this CLRDP as Resource Protection include most of **the original** Younger Lagoon Reserve, intertidal areas along the coast, and the delineated seasonal wetlands on the upland terrace. Uses and development allowed in the Resource Protection designation shall include adequate measures to ensure that resources are protected against any significant disruption of habitat values and are limited to:

- Habitat creation, enhancement, and restoration,
- Scientific and educational study,
- Nature/interpretative study,
- Other resource-dependent activities,

- Public access, including trails and other access and recreation facilities and features shown in Figure 5.6 and/or described in Section 5.6,
- Existing underground utility corridors,
- Seawater systems located in the coastal cliff area,
- Fencing, berms, and vegetative screening,
- Interpretive panels and signage,
- Repair and maintenance of existing and future facilities authorized by the CLRDP, including: trails, underground utilities, and seawater systems.

No other uses or development are allowed.

Resource Protection Buffer

The primary purpose of this designation is to protect wetlands and environmentally sensitive habitat areas from impacts that would significantly degrade them, and to enhance wildlife corridors by providing additional area within which movement and protection of wildlife can occur. Areas identified in this CLRDP as Resource Protection Buffer are located adjacent to Resource Protection Areas and Wildlife Corridors, and the size of these buffers is 100 feet unless a different width is designated in Figure 5.2. Buffers are narrower where existing roads or other site features interfere, where the use of berms, fencing, vegetation, and building design can support a smaller buffer, and where differing elevations provide vertical separation. Buffers are also different for the designated wildlife corridors, where in conjunction with resource management measures a varying buffer ranging from 100 to 275 feet is provided. Uses and development allowed in the Resource Protection Buffer designation shall be sited and designed to prevent impacts that would significantly degrade the areas being buffered and are limited to:

- All uses and development allowed in areas designated Resource Protection,
- Existing (i.e., pre-CLRDP certification) streets and trails,
- The non-forebay portion of vegetated stormwater basins and the discharge attenuation swales located either (1) adjacent to the Upper Terrace development zone, or (2) adjacent to the northwestern corner of the Middle Terrace Development zone as described in Appendix B only, and repair and maintenance activities described in Appendix B necessary to ensure the proper function of such features,
- If it is infeasible to provide reasonable access to the southeastern corner of the Middle Terrace development zone (within the development zone boundary and/or through a portion of the NOAA Fisheries inholding), then the minimum amount of development incursion into the buffer that is necessary to provide such reasonable access provided such development includes measures to commensurately offset and buffer such incursion from Wetland W4 at least as well as the 100-foot buffer distance alone (e.g., including berming, vegetative screening, etc.).

No other uses or development are allowed.

Wildlife Corridor

The primary purpose of this designation is to facilitate wildlife movement along the northern and southern perimeters of the Upper Terrace development zone that, in tandem with the Resource Protection Buffer area applied to them, provide for enhanced wildlife movement between Resource Protection areas on the Marine Science Campus and habitat areas nearby, including the Moore Creek/Antonelli Pond complex located east of the project site and the Wilder Creek/Lagoon system to the west.

Uses and development allowed in the Wildlife Corridor designation shall include adequate measures to ensure that the wildlife corridors are protected against any significant disruption of habitat values and are limited to:

- All uses and development allowed in areas designated Resource Protection.

No other uses or development are allowed.

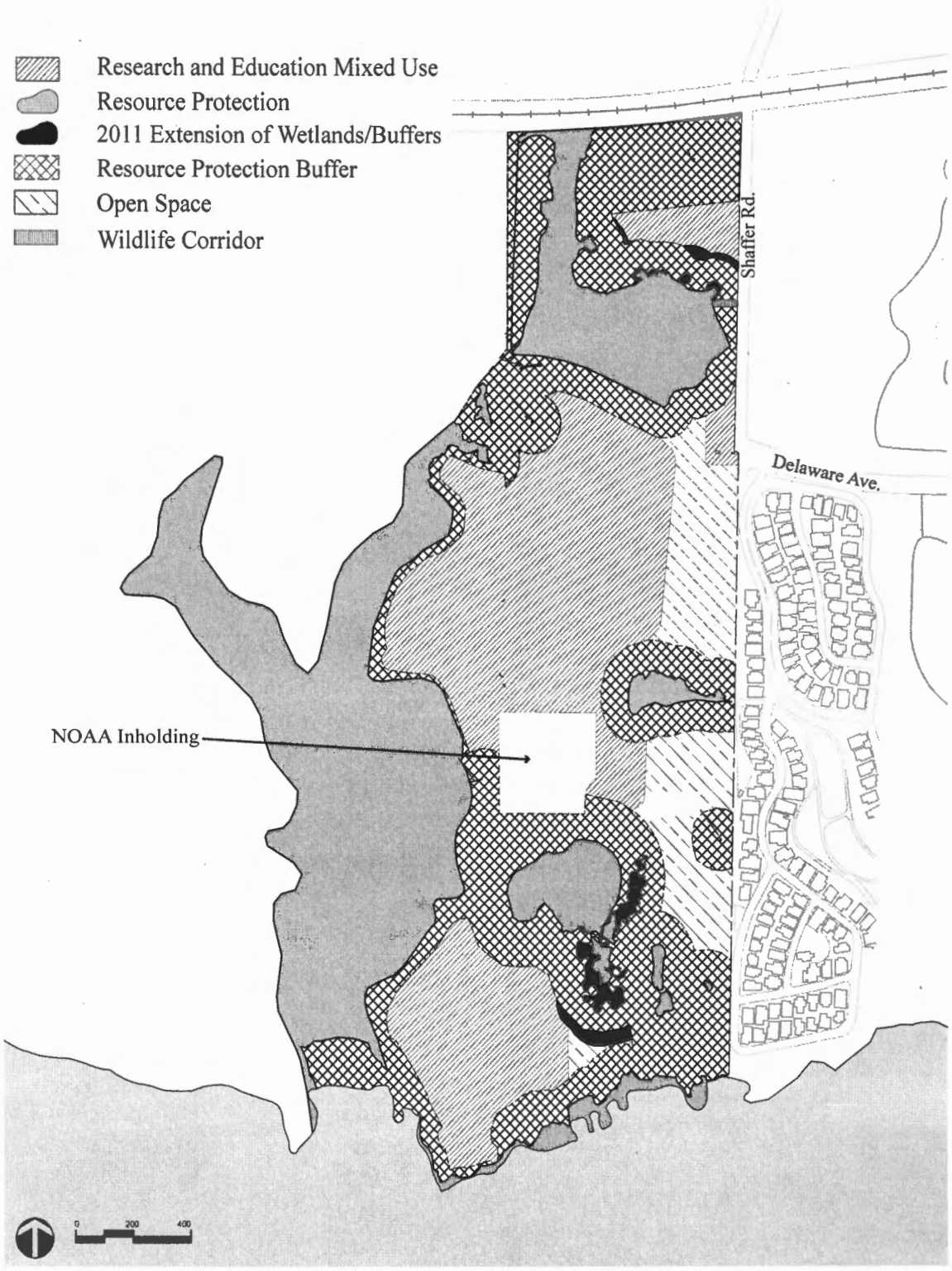
Open Space

The primary purpose of this designation is to maintain, restore, and enhance the scenic and visual quality and the grassland habitat value of the Marine Science Campus. Open Space areas include all other areas of the campus not contained in one of the above designations. These areas, along with Resource Protection, Resource Protection Buffer, and Wildlife Corridor areas, will be maintained as open space to allow continued views of the ocean, agricultural coastline, and northern hillsides from and through the campus, and to enhance and protect grassland habitat. Uses and development permitted in the Open Space designation are limited to:

- All uses and development allowed in areas designated Resource Protection Buffer,
- Streets, parking, and trails consistent with Sections 5.5 and 5.6,
- Lighting for safety and wayfinding.
- Vegetated stormwater basins and discharge attenuation swales, and repair and maintenance activities necessary to ensure the proper function of such features, consistent with Appendix B.

No other uses or development are allowed.

CLRDP Figure 5.2 Land Use Diagram (revised)



UC Santa Cruz Marine Science Campus Coastal Biology Building and Infrastructure Improvements Final Environmental Impact Report November 2011	Proposed CLRDP Amendment 1, Action 3: Revise CLRDP Figure 5.2 with 2011 Expansion of Wetlands and Wetland Buffers	Figure A-3

Fig. 5.3 Locational Restrictions for Building Program (see Figure 5.4 for subarea locations)

Program Element	*Lower Terrace Development Zone*	*Middle Terrace Development Zone*	*Upper Terrace Development Zone*	*Campus Entrance Development Zone*
Marine Research and Education	----------No locational restrictions----------			Not allowed
Outdoor Research Area	Limited to existing facilities, plus a combined total maximum of 10,000 square feet of additional outdoor research area	Limited to existing facilities, plus a combined total maximum of 60,000 square feet of additional outdoor research area in the Middle and Upper Terrace development zones together		Not allowed
Support Facilities	Limited to existing facilities	Not allowed in Subareas No. 6, 7, or 10	Not allowed	Not allowed
Short-term Accom-modations				
Researcher	Not allowed	Not allowed in Subareas No. 2 or 7	Not allowed	Not allowed
Overnight	Not allowed	Not allowed in Subareas No. 2, 6, 7, or 10	Not allowed	Not allowed
Caretaker Accom-modations	Not allowed in Subareas No. 2, 6, 7, 10 or 14		Not allowed	Not allowed
Equipment Storage and Maintenance Facilities	Limited to existing facilities, plus new facilities ancillary to allowed uses	Not allowed in Subareas No. 4, 5, 6, 7, 9, or 10		Not allowed
Public Access and Rec. Fac.	----------No locational restrictions----------			
Seawater System	----------No locational restrictions----------			
Parking Fac.	----------No locational restrictions----------			
Campus Entrance Fac.	----------Not Allowed----------			No locational restrictions

Note: *Fig. 5.3 does not supersede other CLRDP provisions that provide additional detail on where certain types of development and uses are allowed. Other CLRDP provisions remain in effect and must be understood in tandem with the locational restrictions identified here.*

5.2.3. *Land Use Policies*

Stable Urban/Rural Boundary

Policy 2.1 Maintaining a Stable Urban/Rural Boundary
Development and use of the site shall be carried out in a manner designed to limit urban development north and west of the campus.

Implementation Measure 2.1.1 – Oversizing of Utility Lines Prohibited. *Utilities on the campus shall be limited to the size necessary to serve only the projected needs of the campus.*

Implementation Measure 2.1.2 – Utility Prohibition Zone. *New sewer and/or water utility lines and/or expansion of existing lines shall be prohibited within the utility prohibition zone at the western edge of the Campus (see Figure 5.7).*

Policy 2.2 Strengthening the Urban/Rural Boundary through the Protection of Adjacent Agricultural Resources
The urban/rural boundary shall be strengthened by avoiding conflicts with adjacent agricultural uses.

Implementation Measure 2.2.1 – Setback of Development and Uses from Adjacent Agricultural Use. *All caretaker accommodations shall be located no closer than 500 feet from the western Campus property line. All other development and uses shall be located no closer than 300 feet from established crop lines (as shown on Figure 3.15) and no closer than 200 feet from the western Campus property line, whichever is the greater distance, except that existing (i.e., pre-CLRDP certification) development and uses (and/or redevelopment and/or reuse of same, including minor expansion of the California Department of Fish and Game facility); ancillary unoccupied structures that support research activities; and public access and recreation facilities and features shown in Figure 5.6 and/or described in Section 5.6 in these agricultural setback areas shall be allowed without restriction with respect to agricultural setback. Short-term accommodations may be located in the area between the 300-foot/200-foot setback and the 500-foot setback only if users of such accommodations are prohibited from staying in the accommodations for more than one week at a time.*

Policy 2.3 Designing for the Urban Edge
Development on the Marine Science Campus shall be sited and designed to sustain a logical transition from urban landscape to rural and agricultural landscape.

Implementation Measure 2.3.1 – Cluster Development. *Except for allowed drainage facilities, development shall be clustered within, and open space shall be preserved outside of, areas designated for Research and Education Mixed Use including through such means as building clustering, building articulation and scale reduction at the boundary of development zones, rural/agricultural building design, limited lighting, and vegetative and other screening of development, as well as by use of agricultural setbacks, habitat buffers, natural habitats, view corridors, and open space areas. Among other things, this siting and design approach is intended to reinforce the sense of urban edge created by the canyon topography of* **the original** *Younger Lagoon Reserve, existing development, and the Santa Cruz city limit.*

Implementation Measure 2.3.2 – Impervious Coverage. *At least 30 percent of land area within the Lower and Middle Terrace development zones shall be maintained in a pervious state and free of impervious surfaces. One hundred percent of the land area within the Upper Terrace and Campus Entrance development zones may be developed with impervious surface as long as water quality standards are met.*

Implementation Measure 2.3.3 – Windbreak~~/Screening Trees~~ Vegetation. *Development sited adjacent to windbreak~~/ screening trees~~* ***vegetation*** *shall include as part of it, installation of and long-term maintenance parameters for the designated windbreak~~/ screening trees~~* ***vegetation.***

Implementation Measure 2.3.4 – Buildout Planning. *Development shall not interfere with the ability to site and design future buildings and other development in a manner than can fully conform to the CLRDP, and shall not interfere with the University's ability to meet all commitments identified in the CLRDP.*

Implementation Measure 2.3.5 – Interim Weed Abatement Measures for Undeveloped Land Within Development Zones. *In conjunction with management measures RMP MM 1 and RMP MM 2 (see Appendix A), the University shall remove high priority weeds and control other weedy invasive annual grasses and herbs within the undeveloped portions of development zones until such time as the areas are developed.*

Short-Term and Caretaker Accommodations

Policy 2.4 Short-Term and Caretaker Accommodations
As demand presents itself, short-term and caretaker accommodations may be developed on the Marine Science Campus solely for use by Marine Science Campus users.

Implementation Measure 2.4.1 – Short-Term Accommodation Use Restrictions. *All short-term accommodations on the Marine Science Campus (researcher rooms and overnight accommodations) shall be solely for the use of faculty, researchers, affiliates, staff, students and visitors who are working on site or directly involved with Campus marine research programs that require their on-site presence on a regular and substantial basis. All such accommodations shall be for short-term rental or lease where users shall be limited to a maximum stay of up to one year for researcher rooms and up to 30 days for overnight accommodations and only as long as they remain directly involved with marine research programs that require their on-site presence on a regular and substantial basis. The eligibility, rental/ lease, and length of stay terms stated in this measure above shall be incorporated into, and made enforceable parts of, all rental or equivalent agreements applicable to Campus short-term accommodations.*

Implementation Measure 2.4.2 – Caretaker Accommodations. *A maximum of two caretaker units shall be allowed on the Campus, and these units shall be limited to locations in the Middle Terrace or Lower Terrace development zones, consistent with the additional restrictions set forth in Figure 5.3. All such caretaker units shall be designed to emulate adjacent marine research and education buildings (including an absence of publicly visible outdoor residential development and yard space) and shall be seamlessly integrated into adjacent marine research and education buildings. The two existing (at the time of CLRDP certification) temporary caretaker units and related development (e.g., fencing, decking, landscaping, etc.) in the Lower Terrace development zone do not conform to the above-described design parameters and shall be replaced by units that do conform concurrent with any development in the Lower Terrace development zone that involves the footprint of the temporary caretaker units. If the temporary caretaker units and related development have not been replaced as described herein within five years of CLRDP certification, then the exterior of the caretaker units (i.e., siding, roofs, windows, etc.) and all related development shall be modified at that time to emulate the design of adjacent marine research and education buildings as described above. This caretaker unit requirement specific to the Lower Terrace development zone shall be made a condition of approval of the first development project authorized pursuant to the certified CLRDP.*

Implementation Measure 2.4.3 – Use Conversion. *Short-term and/ or caretaker accommodations that have been constructed pursuant to CLRDP authorization may be converted to Research and Education Mixed Use uses.*

maximums provided for Marine Research and Education Facilities in Section 5.2 and Figure 5.1 provided that an equivalent square foot reduction in the Building Program maximums allotted for short-term and/or caretaker accommodations, respectively, is made an enforceable component of any such change in use.

Campus Land Uses Limited to Marine/Coastal Research and Education, Resource Protection, and Public Access

Policy 2.5 Ensuring Appropriate Land Uses on the Marine Science Campus
All development and uses on the Marine Science Campus shall be limited to marine/coastal research and education, resource protection, and public access development and uses, including primarily coastal dependent and coastal related development and uses. All other development and uses on the Marine Science Campus shall be prohibited.

5.3 Natural Resource Protection

This section sets forth plans, policies, and implementation measures related to the protection of natural resources on the Marine Science Campus.

5.3.1 Protection, Enhancement, and Restoration of Natural Resources

Land use decisions affecting the natural resources of the Marine Science Campus are guided by the overarching goal of the University to protect, maintain, enhance and restore the natural resources of the campus. For the Younger Lagoon Reserve (YLR) portion of the site, which is a component of the University's Natural Reserve System, decisions are also guided by the UCSC Natural Reserves office and the Natural Reserve System's additional goal of providing the best possible environment for coastal-dependent and coastal-related research and education activities that: 1) are supportive of the University of California, Santa Cruz campus' academic plan, 2) are consistent with the mission and goals of the University of California Natural Reserve System, and 3) serve the best interests of the citizens of California.

The plan for managing natural resources on the terrace portion of the Marine Science Campus is set forth in Appendix A, Resource Management Plan. It is the intent of the University through this Resource Management Plan to restore, enhance, and manage all areas located outside of defined development zones (except for streets and trails) as high-quality open space and natural habitat area. One important feature of the Resource Management Plan is the restoration of wetlands on the northwestern part of the site. The primary purposes of this wetland restoration program are to restore wetlands located in this part of the Marine Science Campus to their historic functional value, to enhance the area's suitability to serve as a corridor for wildlife movement to YLR, and to establish a stable boundary between wetlands and urban uses on this part of the Marine Science Campus.

The Resource Management Plan also contains measures designed to protect and enhance other seasonal wetlands, maintain open space areas, facilitate wildlife movement, protect special-status species, enhance public access, and provide long-term maintenance and monitoring of habitats.

The resource protection policies, implementation measures, and other provisions set forth below address both the terrace portion of the Marine Science Campus and Younger Lagoon Reserve. For the terrace portion of the site, the resource protection policies and implementation measures set forth below rely in some cases on the Resource Management Plan, and this plan in turn contains detailed management measures and other provisions to carry out the policies and implementation measures.

For the purposes of this CLRDP, environmentally sensitive habitat area (ESHA) is any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments. The following areas shall be considered ESHA, unless there is compelling site-specific evidence to the contrary:

- Any habitat area that is rare or especially valuable from a local, regional, or statewide basis.
- Habitat areas that contribute to the viability of plant or animal species designated or candidates for listing as rare, threatened, or endangered under State or Federal law.
- Habitat areas that contribute to the viability of species designated as Fully Protected or Species of Special Concern under State law or regulations.
- Habitat areas that contribute to the viability of plant species for which there is compelling evidence of rarity, for example, those designated 1b (Rare or endangered in California and elsewhere) or 2 (rare, threatened or endangered in California but more common elsewhere) by the California Native Plant Society.
- Areas that are designated as an Area of Special Biological Significance or a Marine Protected Area.

The term "wetland" is defined by Section 30121 of the Coastal Act as lands within the coastal zone that may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens.

It is clear that the Campus is home to significant natural resources, including wetland areas and ESHA areas (including wetlands that are ESHA). The Resource Protection designation has been applied to various resource areas. These include ESHA and wetland areas that were identified at the time of CLRDP certification. The dynamic nature of sensitive habitats and wetlands is recognized by the CLRDP, and the policies below also include the requirement that project areas be evaluated at the time of proposed development to determine whether circumstances that existed at the time of CLRDP preparation have substantially changed in a manner that would necessitate further protections for these resources.

It is also clear that there are certain designated resource and resource buffer areas in which the CLRDP envisions some amount of public access, and it will be important to appropriately balance such public access with resource protection. These include such areas as the realigned main Campus road area, the YLR and wetland overlooks, the trails extending through such areas, and the Younger Lagoon beach area. With respect to the latter specifically, the CLRDP provides for supervised access to this area, subject to an approved set of access parameters that are established through a development project review process on a five-year renewal cycle. The Younger Lagoon beach area boundary is located at the approximate location of the beginning of back beach dune morphology and significant vegetation (to the north), the toe of the bluffs to the east, the toe of the bluffs and the lagoon outlet to the west, and the Pacific Ocean to the south. Any five-year plan, including any use protocols or guidelines shall consider the entirety of the beach area, whether it ultimately allows or

disallows certain types of access to certain areas of it. The location of trail access to the beach area is shown in Figure 5.6. At the time of CLRDP certification, the entire beach area and its access trails were recognized as appropriate for supervised tours only (and it would not be open to any kind of general public access). This limitation was applied at that time in order to both protect beach area and adjacent resources within the Reserve and to allow for implementation of an applied research program within the Reserve. At the same time, the CLRDP recognizes that different access supervision parameters, whether more or less restrictive, may be the outcome of any subsequent required five-year review.

(original LRDP)

(original LRDP)

5.3.2 Natural Resource Protection Policies

General

Policy 3.1 Protection of the Marine Environment

Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Implementation Measure 3.1.1 – Seawater System. *The Campus seawater system may be maintained and may be expanded consistent with Subsection 5.2.1 to supply the Marine Science Campus with fresh seawater for research and education uses, provided such maintenance/expansion is consistent otherwise with the CLRDP and proceeds in a manner that maintains, enhances, and where feasible restores marine resources. Entrainment and impingement shall be avoided to the maximum extent feasible, and all development that increases the seawater intake flow rate beyond that that existed at the time of CLRDP certification shall include all feasible measures to avoid entrainment and impingement. In addition, any proposed expansion of the seawater system that increases the seawater intake flow rate capability beyond 2,000 gallons per minute or that requires new ocean intake pipelines shall include a comprehensive entrainment/impingement study necessary to determine the extent of entrainment/impingement caused by the intake. Such study shall include an evaluation of methods (including alternative projects and/or project designs) that could be used to avoid or minimize entrainment and impingement, and shall identify all underlying study assumptions and methodologies. Any entrainment or impingement that can not feasibly be avoided shall be mitigated at levels necessary to minimize adverse impacts.*

Implementation Measure 3.1.2 – Discharge of Drainage/Stormwater. *The Campus drainage system shall be maintained and may be expanded consistent with Section 5.7, provided such maintenance/expansion proceeds in a manner that maintains, enhances, and where feasible restores marine resources.*

Policy 3.2 Protection and Restoration of Habitat Areas

The biological productivity and the quality of coastal waters, streams, and wetlands, appropriate to maintain the optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through among other means minimizing adverse effects of wastewater discharges, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging wastewater reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural watercourses. Campus natural areas (i.e., areas outside of defined development zones) shall be protected, restored, enhanced, and managed as high-quality open space and natural habitat areas.

Implementation Measure 3.2.1 – Restoration of Wetlands on the Marine Science Campus. *As part of the University's comprehensive effort to manage natural resources on the Marine Science Campus, wetlands on the*

northern part of the site shall be connected, expanded, and restored to enhance their functional values. Such restoration program shall include integrating the hydrology of Wetlands W1 and W2 and expanding this consolidated area to provide enhanced biological values. The areas both east and west of the combined Wetland W1/W2 hydrologic corridor shall be restored as functioning wetland upland/transitional habitat, including as described in Appendix A (Resource Management Plan). The restoration program shall also enhance plant biology in Wetlands W1, W2, and W6 to create a consolidated north-south corridor for wildlife movement to YLR. As part of any development project involving wetland manipulation, a restoration plan shall be prepared consistent with this CLRDP including its Resource Management Plan (Appendix A) and submitted to the California Coastal Commission, California Department of Fish and Game, and the U.S. Fish and Wildlife Service for review and comment.

(original YLR)

Implementation Measure 3.2.2 – Management of Terrace Wetlands. *The terrace wetlands shall be protected and enhanced by improving surface water flow, removing non-native and invasive plants, promoting the abundance and diversity of native plant species through small-scale plantings, creating buffers, implementing the Drainage Concept Plan (Appendix B), controlling access by humans and non-native animals, and implementing other enhancement measures in accordance with the provisions of this CLRDP, including its Resource Management Plan (Appendix A).*

Implementation Measure 3.2.3 – Protection and Enhancement of Wildlife Movement. *Wildlife movement across the site shall be facilitated and enhanced by establishing two enhanced wildlife corridors and associated buffers adjacent to the Upper Terrace development area (as shown in Figure 5.2) that provide enhanced habitat value and wildlife connectivity in the area between Younger Lagoon Reserve and the Moore Creek/Antonelli Pond system east of the Campus. Conditions for wildlife movement in these areas shall be enhanced by eliminating invasive weeds, planting native species to provide better protective cover and visual screening for wildlife than existing vegetation, controlling access by humans and non-native animals, providing fencing/building elements at the development zone boundary that screen Upper Terrace development zone noise, lights, and activities from wildlife in the corridors/buffers, and other enhancement measures in accordance with the provisions of this CLRDP, including its Resource Management Plan (Appendix A). The University shall also coordinate with the owners of the properties immediately east of Shaffer Road and the City of Santa Cruz (in the case of Shaffer Road itself) to promote the extension of the wildlife corridors and wildlife corridor buffers across Shaffer Road and to Moore Creek/Antonelli Pond in the manner most protective of wildlife (see also parameters for wildlife corridors in the Resource Management Plan (Appendix A)).*

the original

Implementation Measure 3.2.4 – Management of Special Status Species Habitat. *Special status animal species and their habitats shall be protected, and their habitats enhanced consistent with the Resource Management Plan (Appendix A), including through protection and enhancement of wetland habitats (including for California red-legged frog) and grassland/scrub-grassland habitats outside of development zones (including for special status bird species), through protection from non-native predators, and through implementation of other enhancement measures in accordance with the provisions of this CLRDP.*

Implementation Measure 3.2.5 – Protect Habitat Areas From Human Intrusion. *Habitat areas on the Marine Science Campus shall be protected against degradation from human intrusion by developing trails and interpretive signs, managing trail use, and implementing other enhancement measures in accordance with the provisions of this CLRDP.*

Implementation Measure 3.2.6 – Natural Area Management. *The University shall restore, enhance, and manage all areas located outside of defined development zones (except for approved streets and trails) as high-quality open space and natural habitat area.*

Implementation Measure 3.2.7 – Management of Water Quality and Drainage Features. *Water quality shall be protected and enhanced and erosion shall be minimized by means including implementation of the Drainage Concept Plan contained in this CLRDP (see Appendix B). The vegetated stormwater basins, vegetated filter strips, vegetated swales, and other natural drainage features to be installed per the Drainage Concept Plan may exhibit ephemeral wetland and/or habitat characteristics over time, but their primary function is for water quality filtration and treatment, flow control, and infiltration. As such, maintenance within them on a regular basis is expected and necessary in this respect, and is allowed per this CLRDP (see maintenance parameters in the Drainage Concept Plan). It is the intent of the California Coastal Commission in approving installation of these drainage features that they not be treated as wetlands including for purposes of Implementation Measure 3.2.9, except that site specific mitigation measures other than setbacks may be required for development proposed adjacent to such features, to minimize impacts of construction and development on any sensitive resources identified pursuant to Implementation Measures 3.3.1 and 3.4.4.*

Implementation Measure 3.2.8 – Maintenance and Monitoring of Terrace Habitats. *Long-term maintenance and monitoring programs for the terrace habitats shall be developed and implemented in accordance with the provisions of this CLRDP.*

Implementation Measure 3.2.9 – Wetland Buffers. *Buffers for wetlands delineated at the time of CLRDP certification shall be as shown on Figure 5.2 and in no case shall they be reduced. For any new wetlands identified and delineated pursuant to Implementation Measure 3.3.1, development shall be sited and designed to minimize wetland impacts, and development shall be prohibited within a 100 foot buffer of any such wetlands unless it is development allowed within areas designated Resource Protection Buffer, except that a reduced or greater buffer distance may be applied if supported by a site-specific biological evaluation indicating that a reduced buffer would not result in a significant adverse effect to the wetland, or that a greater buffer distance is needed. To the extent that new wetland areas are identified pursuant to Implementation Measure 3.3.1 and the appropriate buffer area is not already designated Resource Protection Buffer on Figure 5.2, the Resource Protection Buffer designation shall be applied to the wetland buffer area.*

Implementation Measure 3.2.10 – Natural Areas Habitat Management. *Within six (6) months of CLRDP certification, the University in consultation with the Executive Director of the California Coastal Commission shall convene a scientific advisory committee (SAC) to guide the restoration, enhancement, and management of natural areas (i.e., all areas outside defined development zones, except for* **the original** *Younger Lagoon Reserve) on the Marine Science Campus (see Appendix A). Natural areas restoration, enhancement, and management may be completed in up to three phases corresponding to dividing the natural area into thirds (i.e., where Phase 1 accounts for at least one-third of the natural area, Phase 1 plus Phase 2 accounts for at least two-thirds, and all of the three phases together account for all of the natural area). All restoration, enhancement, and management activities shall be guided by Specific Resource Plans developed by the University in accordance with the SAC and the criteria contained in the Resource Management Plan (Appendix A) and current professional standards for such plans. The SAC shall be responsible for guiding development of Specific Resource Plans and shall complete its work on the Specific Resource Plan for Phase I restoration and enhancement efforts within four (4) months of convening. The content of Specific Resource Plans shall be consistent with the performance standards set forth in Appendix A, which may be adapted periodically based on findings from ongoing restoration work. The University shall file a Notice of Impending Development for Phase I work within one (1) year of CLRDP certification. All natural areas restoration and enhancement shall be completed within 20 years of CLRDP certification, with interim benchmarks that at least one-third of the restoration and enhancement shall be completed within seven years of CLRDP certification and that at least two-thirds shall be completed within 14 years of CLRDP certification.*

Implementation Measure 3.2.11 – CRLF Protection. *Surveys for California red-legged frog shall be conducted prior to authorization of any development project within 100 meters of an identified wetland resource. All authorized development shall include construction and post-construction safe passage and other mitigation measures (e.g., barriers along development perimeters) as appropriate.*

Implementation Measure 3.2.12 – USFWS Consultation Required. *Development project authorizations shall include either (1) evidence of authorization by the U.S. Fish and Wildlife Service, including but not limited to a Habitat Conservation Plan/incidental take permit; or (2) evidence from the USFWS that no authorization is required.*

Implementation Measure 3.2.13 – Rodenticides. *Rodents on the Campus may be controlled as necessary to maintain public health and safety. Rodenticide use shall be prohibited outside of developed areas within development zones. The impacts on non-target species from any rodenticide used on the Campus shall be minimized to the maximum extent feasible. Rodent control areas shall be reviewed for the potential presence of non-target species – including special-status species – and the rodent control methods tailored to minimize non-target species impacts. When chemical control is required, the use shall be guided by label restrictions and any advisories published by the California Department of Pesticide Regulation or the County Agricultural Commission. In areas occupied by burrowing owls, fumigants shall not be used unless specifically determined safe by a qualified biologist. If necessary, alternative methods of rodent control shall be determined by a qualified biologist. The rodenticide applicator shall remove carcasses of poisoned animals, when they are found, to minimize secondary toxic effects on raptors or other wildlife. Carcass survey and disposal shall be performed in the treated area and the area surrounding it beginning on the third day following the initial exposure of toxic baits. Any exposed carcasses shall be disposed of in a manner inaccessible to wildlife. Carcass surveys shall continue for at least five days after toxic baiting has ceased and thereafter until no more carcasses are found.*

Implementation Measure 3.2.14 – Non-Invasive Native Plant Species Required. *All landscaping and vegetation on the Campus (including restoration and enhancement plantings, screening vegetation, stormwater system plantings, ornamental plantings, and all other plant material) shall be limited to non-invasive native plant species that are appropriate to the habitat and region and that are grown from seeds or vegetative materials obtained from local natural habitats so as to protect the genetic makeup of natural populations. Horticultural varieties shall not be used. ~~Except for the planting of Monterey cypress, o~~Only locally collected seed, cuttings, and/or other propagules shall be used for landscaping. If feasible, materials should be collected from* ***similar habitats on the first and lower reaches of the second marine terraces along the coast of western Santa Cruz County and southern San Mateo County***

Policy 3.3 Use and Protection of Coastal Waters and Wetlands

The diking, filling, or dredging of open coastal waters and wetlands shall be permitted where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following: (1) incidental public service purposes, including but not limited to, burying cables and pipes or inspection of existing intake and outfall lines, (2) restoration purposes, and (3) nature study, aquaculture, or similar resource dependent activities. In addition, the diking, filling, or dredging of existing wetlands shall maintain or enhance the functional capacity of the wetland.

Implementation Measure 3.3.1 – Pre-development Evaluation of Wetland Conditions. *An evaluation of the development area shall be conducted prior to each development project. The evaluation shall include any changed site conditions that could affect wetland values protected by this CLRDP. A wetland evaluation shall be completed in the proposed development area (i.e., the proposed development footprint and a surrounding 200-foot buffer area) in consultation with the Executive Director, using the Coastal Act 30121 wetland definition. To the extent wetland areas are identified during this process that are not already designated Resource Protection on Figure 5.2, the Resource Protection designation shall be applied to the newly identified wetland area and uses and development limited in*

accordance with that designation (see Section 5.2.2, Resource Protection). For any newly identified wetland area, an appropriate buffer shall be established, based upon site-specific conditions in accordance with Implementation Measure 3.2.9.

Implementation Measure 3.3.2 – Update CLRDP With Respect to Wetlands. *For any wetlands and wetland buffers identified pursuant to implementation measures 3.3.1 and 3.2.9, the University shall amend the CLRDP to reflect the newly identified wetlands and wetland buffers, including all relevant CLRDP text, figures, and use and development restrictions applicable to those areas, and to remove those areas from development zones. The CLRDP amendment shall be submitted to the Coastal Commission before the effective date of the related development project authorization.*

Policy 3.4 Protection of Environmentally Sensitive Habitat Areas (ESHAs)
Environmentally sensitive habitat areas (ESHAs) shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas. Development in areas adjacent to environmentally sensitive habitat areas shall be sited and designed to prevent impacts that would significantly degrade those areas, and shall be compatible with the continuance of those habitat areas. ESHAs have been designated as "Resource Protection" in this CLRDP, and the uses and development allowed in this designation are identified in Section 5.2.2. ESHAs shall be buffered from urban uses as shown in Figure 5.2 and described in Section 5.2.2 (Resource Protection Buffer subsection).

Implementation Measure 3.4.1 – Additional Measures to Protect Habitat Areas. *Buffering of sensitive habitat areas shall also be achieved through development restrictions consistent with the policies and programs of this CLRDP, including those that regulate the location of windows, lighting, access, signage, and noise-generating equipment that would disrupt protected habitat values.*

Implementation Measure 3.4.2 – Noise Intrusion into Terrace ESHA. *Development shall be sited and designed so that noise sources are no closer than 100 feet from designated Resource Protection areas located in the terrace portion of the Marine Science Campus (other than development, such as paths, that may include minimal noise sources and that is planned and/or located within 100 feet of these areas and where measures are taken so that noise potentially audible from within these areas is limited to the maximum extent feasible). Use of Campus facilities shall occur in a manner that does not result in undue noise into designated terrace area Resource Protection areas. Noise shall be monitored periodically or upon complaint and appropriate noise attenuation measures shall be immediately implemented to lower any unacceptable noise generation.*

(original YLR)

Implementation Measure 3.4.3 – Noise Intrusion into YLR. *YLR shall not be exposed to noise generated by human activity on the terrace portion of the Marine Science Campus in excess of 60 dBA CNEL, as measured at the boundary of the YLR. For the purposes of this measure, "dBA CNEL" means a 24-hour energy equivalent level derived from a variety of single noise events, with weighting factors of 5 and 10 dBA applied to the evening (7pm to 10pm) and nighttime (10pm to 7am) periods, respectively, to allow for the greater sensitivity to noise during these hours.*

Implementation Measure 3.4.4 -- Pre-development Evaluation of ESHA Conditions. *An evaluation of the development area shall be conducted prior to each development project. The evaluation shall include changed site conditions that may affect ESHA values and new information that was not known at the time of the original ESHA determination. To the extent ESHA areas are identified during this process that are not already designated Resource Protection on Figure 5.2, the Resource Protection designation shall be applied to the newly identified ESHA and uses and development limited in accordance with that designation (see section 5.2.2, Resource Protection). For any newly identified ESHA area, an appropriate buffer shall be established, based on site-specific biological evaluation, and designated as Resource Protection Buffer.*

and development limited in accordance with that designation (see section 5.2.2, Resource Protection). For any newly identified ESHA area, an appropriate buffer shall be established, based on site-specific biological evaluation, and designated as Resource Protection Buffer.

Implementation Measure 3.4.5 – Update CLRDP With Respect to ESHA. *For any ESHA and ESHA buffers identified pursuant to implementation measures 3.4.4, the University shall amend the CLRDP to reflect the newly identified ESHA and ESHA buffers, including all relevant CLRDP text, figures, and use and development restrictions applicable to those areas, and to remove those areas from development zones. The CLRDP amendment shall be submitted to the Coastal Commission before the effective date of the related development project authorization.*

Younger Lagoon Reserve

Policy 3.5 Special Protection for the Original Younger Lagoon Reserve

The University recognizes the special biological significance of ***the original*** *Younger Lagoon Reserve for habitat value and for research and education and therefore shall continue to provide special protection for the property by retaining it as part of the University's Natural Reserve System and protecting it consistent with this CLRDP.*

Implementation Measure 3.5.1 – Protection and Enhancement of YLR Habitats. *The native plant and animal habitats of Younger Lagoon Reserve* ***(original YLR)*** *shall be protected and enhanced by controlling and removing non-native and invasive plant species, promoting the abundance and diversity of native plant species through small-scale plantings and re-vegetation of areas where exotics and/or invasives have been removed, implementing the Drainage Concept Plan (Appendix B), maintaining and installing fencing/barriers consistent with this CLRDP to control trespass from the terrace portion of the site into YLR* ***(original YLR)****, limiting access by humans (except access otherwise allowed by this CLRDP), prohibiting domestic pets, and other appropriate means that may become available.*

Implementation Measure 3.5.2 – Protection of Special Status Species in YLR. *Habitats for special status animal species that use Younger Lagoon Reserve* ***(original YLR)*** *shall be protected and enhanced.*

Implementation Measure 3.5.3 – Protection of YLR Resources. *The biological productivity and quality of YLR* ***(original YLR)*** *shall be protected, including by minimizing the effects of stormwater discharges and entrainment, controlling runoff, preventing depletion of ground water supplies, maintaining natural vegetation buffers areas and minimizing alteration of natural features.*

Implementation Measure 3.5.4 – Development of Monitoring and Maintenance Program. *Long-term maintenance and monitoring programs for Younger Lagoon Reserve* ***(original YLR)*** *shall be developed and implemented to assist in long-term preservation of species and habitats in accordance with the provisions of this CLRDP.*

Implementation Measure 3.5.5 – Siting of Windbreak~~/Screening Trees~~ **Vegetation.** *The windbreak~~/screening trees~~* ***vegetation*** *required by this CLRDP in connection with new development in the terrace portion of the site (see for example Section 6.5 and Figure 6.6) shall be sited to maximize their ability to screen terrace development as seen from Younger Lagoon Reserve* ***(original YLR)****.*

Implementation Measure 3.5.6 – YLR Manager Consultation. *Development shall not be authorized by the University without consultation with the YLR Manager. Development shall incorporate measures to address issues and impacts identified through the consultation.*

Implementation Measure 3.5.7 – Movement Not Visible From YLR **(original YLR).** *Movement associated with development (including within outdoor activity/ research areas and buildings, and including all windows in buildings) shall not be visible from within YLR* ***(original YLR).***

Implementation Measure 3.5.8 – Protective Measures for YLR **(original YLR)** in Middle Terrace. *In conjunction with building construction west of McAllister Way in the Middle Terrace development zone, the University shall construct and/ or plant protective barriers along the eastern edge of YLR* ***(original YLR)****in Development Subarea #7 and, if appropriate, extending south to connect to the existing berm. Such barriers may include fencing, dense vegetation, and/ or an earthen berm. If an earthen berm is developed, it shall be sized so that no soil importation is required from outside the Marine Science Campus (i.e., the soil required to construct it would be less than or equal to the amount of soil that becomes available within the campus as a result of grading to prepare development sites), unless importation of additional soil is necessary to ensure proper berm function/ configuration; and such soil is demonstrably clean and free of contaminants (including foreign seed stock). Any such berm shall be planted with native grasses and herbaceous shrubs consistent with CLRDP Appendix B, Resource Management Plan.*

Policy 3.6 Public Access to and within YLR (Original YLR)

Access to ***the original*** *Younger Lagoon Reserve may be controlled consistent with the need to protect YLR resources from disruption and degradation and to provide maximum public access consistent with the Coastal Act.*

Implementation Measure 3.6.1 – Provision of Controlled Access within YLR ***(Original YLR).*** *Physical access within YLR* ***(original YLR)*** *by authorized management, emergency, research, student personnel, and/ or docent-led general public consistent with the public access and recreation diagram and policies contained in this CLRDP shall be provided.*

Implementation Measure 3.6.2 –Visual Access to YLR **(Original YLR).** *Visual access to YLR* ***(original YLR)*** *shall be provided for the general public through overlooks (see Figure 5.5), at least one of which shall be available for unescorted (i.e., non-docent) public use.*

Implementation Measure 3.6.3 - Public Beach Access within YLR **(Original YLR).** *Supervised beach access to Younger Lagoon beach shall be provided to the general public consistent with and pursuant to a management plan for such access that is based on the best possible assessment of the capacity of the beach area to sustain use and the level of intensity of such use when considered in light of the fragility of the beach area and adjacent resources and ongoing research. Within six months of CLRDP certification, and at five-year intervals post-certification after that, the University shall submit a Notice of Impending Development to the Coastal Commission with all necessary supporting information for a development project to implement such a beach access management plan for the next five years. Each such management plan shall at a minimum include:*

- *A regular schedule of guided, educational tours to the beach area that is coordinated with and similar to other Marine Science Campus education and docent programs and designed to introduce visitors to the special aspects of beach ecology without causing deterioration of that ecology or loss of opportunity for feeding or breeding of beach dependent species. These tours may be weekly weather permitting, but shall be offered a minimum of two times per month.*

- *Identification of all parameters for beach access, including a clear depiction of the area within which such access is allowed, and a clear description of all related implementing measures (e.g., trail alignments, trail design, barriers/ fencing, signage, timing restrictions, supervision requirements, etc.). Access shall be by way of controlled*

vegetation from the lowest (nearest to the mean high tide line) occurring terrestrial plant to 10 meters inland into the strand vegetation; evidence of seed production by beach strand species in this zone; species composition and abundance of animal tracks (vertebrate and invertebrate) on the beach and adjacent beach dune area; and regular counts of feeding shorebirds on the beach.

- *An assessment of beach area resources and the effect of beach area use and activities (including authorized and unauthorized uses, research use, YLR activities, etc.) on such resources in the time since the last five-year review and overall in the time since at least CLRDP certification;*

- *A description of existing public access opportunities on the Campus, and the way in which such opportunities relate to the amount and type of supervised access provided to the beach area.*

Coastal Bluffs and Blufftops

Policy 3.7 Protection of Coastal Bluff and Blufftop Areas
New development that creates or contributes to erosion or geologic instability or that would require the construction of protective devices that would substantially alter natural landforms along the bluffs shall be prohibited. Coastal bluff and blufftop vegetation shall be expanded and enhanced in accordance with the provisions of this CLRDP.

Implementation Measure 3.7.1 – Bluff Setbacks. *New development shall be sited and designed in such a manner as to avoid the need for shoreline armoring over the development's lifetime, and shall include enforceable provisions for addressing any future bluff retreat/ erosion danger to the development without shoreline armoring (e.g., moving the development, removing the development, etc.). Development within 100 feet of the top edge of the coastal bluff shall be prohibited other than: existing buildings and streets; existing and proposed access and recreation amenities (see Section 5.6 and Figure 5.6); infrastructure improvements necessitating a near bluff edge location contemplated by the CLRDP (i.e., seawater system facilities); minor non-building research infrastructure (e.g., marine mammal pools); habitat restoration/ enhancement; and directly related minor structures (such as irrigation, public safety fencing, etc.) that are consistent with the CLRDP.*

Implementation Measure 3.7.2 – Coastal Bluff and Blufftop Area Protection and Enhancement Measures. *The coastal bluff environment of the Marine Science Campus shall be protected and enhanced in accordance with the provisions of this CLRDP, including through University enhancement and management of the 100-foot bluff setback area identified in implementation measure 3.7.1 pursuant to the Resource Management Plan (Appendix A).*

Implementation Measure 3.7.3 – Protecting Existing Development from Coastal Erosion. *Shoreline armoring shall be allowed only as a last resort to protect structures existing at the time of CLRDP certification that are in danger from erosion, and only if: (a) less-environmentally damaging alternatives to armoring are not feasible (including relocation of endangered structures); and (b) the armoring has been sited, designed, and accompanied by measures to proportionately mitigate any unavoidable negative coastal resource impacts (on views, sand supply, public access, etc.).*

Agricultural Resources

Policy 3.8 Protection of Adjacent Agricultural Resources
The University shall minimize and, where possible, avoid conflicts with adjacent agricultural uses.

Implementation Measure 3.8.1 – Cooperation. *The University shall work cooperatively with the adjacent agricultural users to identify means of minimizing or avoiding any potential use conflicts (including the improvement of water quality in YLR), and to implement mutually acceptable conflict-avoidance strategies.*

Implementation Measure 3.8.2 – Agreement to Indemnify and Hold Harmless. *Prior to start of construction of any CLRDP facilities located north of the designated Lower Terrace Development Zone, the University shall offer to enter into an agreement substantially in conformance with the pre-CLRDP certification agricultural hold harmless and indemnity restrictions that apply to the Marine Science Campus, to indemnify and hold harmless the owners, lessees, and operators of the property from liability and costs resulting from the effect of normal and necessary farm operations upon the Marine Science Campus and its employees, students, agents, and invitees.*

Cultural Resources

Policy 3.9 Conservation of Cultural Resources
Reasonable mitigation measures shall be required, including those that may be identified through consultation with appropriate Native American representatives, where development would adversely impact archaeological and/or paleontological resources.

Implementation Measure 3.9.1 -- Construction Monitoring. *Should archaeological and/or paleontological resources be encountered during any construction on the Marine Science Campus, all activity that could damage or destroy these resources shall be temporarily suspended until qualified archaeologist/paleontologists and Native American representatives have examined the site and mitigation measures have been developed that address and proportionately offset the impacts of the project on archaeological and/or paleontological resources. Development shall incorporate measures to address issues and impacts identified through any archaeologist/paleontologist and/or Native American consultation.*

Hazardous Materials Management

Policy 3.10 Hazardous Materials Management
The Marine Science Campus environment shall be protected from contamination caused by the transportation, storage, and use of petroleum products and hazardous materials.

Implementation Measure 3.10.1 – Hazardous Materials Management. *The University, through the Office of Environmental Health and Safety, shall manage the use, and in the event of spillage the containment and cleanup of, hazardous materials and petroleum on the UCSC Marine Science Campus in compliance with federal and state regulations related to the storage, disposal, and transportation of hazardous substances.*

Implementation Measure 3.10.2 – Protective Measures for Laydown Yard. *The University shall install appropriate features around the perimeter of that part of any laydown yards that are dedicated to the maintenance and servicing of heavy equipment to ensure that hazardous materials do not enter the stormwater drainage system, watercourses, and/or groundwater. (See also Implementation Measure 7.1.12)*

Air Quality and Energy Consumption

Policy 3.11 Energy Efficiency in New Construction
Sustainable practices shall be used in the design, construction, and use of campus facilities.

Implementation Measure 3.11.1 – Energy Efficiency in New Construction: *Sustainable design, technology and construction practices shall be incorporated into, and sustainably produced materials shall be used in the construction of new facilities.*

Implementation Measure 3.11.2 – Energy Efficiency in Use: *New development shall incorporate sustainable practices into ongoing facility use (including in typical daily operations, special events, ongoing maintenance, etc.).*

Policy 3.12 Air Quality and Energy Conservation through Land Use and Transportation Controls.

Land use and transportation controls shall require energy conservation and shall ensure good air quality.

Implementation Measure 3.12.1 – Air Quality and Energy Conservation through On-Campus Short-Term Accommodations. *As demand presents itself, short-term accommodations may be provided consistent with Policy 2.4 and its accompanying implementation measures to reduce travel demand to the Marine Science Campus.*

Implementation Measure 3.12.2 - Air Quality and Energy Conservation through Controlling Travel Mode Split. *The University shall work to achieve a 40 percent travel mode split consistent with Policy 5.2 and its accompanying implementation measures, in order to limit the number of single-occupant vehicles traveling to the Marine Science Campus.*

Implementation Measure 3.12.3 – Air Quality and Energy Conservation through Parking Control. *Parking shall be controlled consistent with Section 5.5 (including Policies 5.3, 5.4, and 5.5 and their accompanying implementation measures) to discourage automobile trips to the Marine Science Campus.*

Implementation Measure 3.12.4 – Air Quality and Energy Conservation through Alternative Transportation. *The University shall promote walking, bicycle use, and transit use consistent with Sections 5.5 and 5.6 to encourage energy efficient forms of travel.*

Implementation Measure 3.12.5 – Air Quality and Energy Conservation through Transportation Demand Management. *Transportation demand shall be managed consistent with Policy 5.8 and its accompanying implementation measures to encourage alternatives to automobile, and particularly single-occupant automobile, transportation for site users and visitors.*

Natural Resource Protection Analysis

Policy 3.13 Natural Resource Protection Analysis Required

For new development that may significantly affect natural resources, individually or cumulatively, the Project Report and other supporting information identified in Chapter 8 shall describe the manner in which the proposed development is consistent with and implements the natural resource protection provisions of this CLRDP, including those in Section 5.3 (Natural Resource Protection), Chapter 9 (Capital Improvement Program), and Appendix A (Resource Management Plan). The Project Report supporting information shall also include a long-term program for monitoring potentially affected natural resources and for maintaining consistency with CLRDP standards.

Policy 3.14 Permanent Protection

The University hereby establishes as a guiding CLRDP principle its intent to protect, in perpetuity, Campus natural areas (i.e., all areas outside of development zones) from development other than the low-intensity uses and development allowed in the Resource Protection, Resource Protection Buffer, Open Space, or Wildlife Corridor land use designations.

Designation of these natural areas to a Research and Education Mixed Use land use designation (or any subsequent and similar future CLRDP land use designation) shall be prohibited.

Implementation Measure 3.14.1 - Natural Areas Protection. *Within two years of CLRDP certification, all Campus natural areas (i.e. all areas outside of the four designated development zones) shall be incorporated into the University of California Natural Reserve System as an integral part of Younger Lagoon Reserve. Within two years and six months of CLRDP certification, the University shall submit to the Coastal Commission an amendment to the CLRDP to update it with respect to the revised configuration of Younger Lagoon Reserve and the natural areas. In addition, if any area within the four designated development zones as they are configured at the time of CLRDP certification is subsequently excluded from the designated development zones in the future (pursuant to Implementation Measures 3.3.1, 3.3.2, 3.4.4, and 3.4.5), then such area shall likewise be incorporated into Younger Lagoon Reserve within the same time frames and pursuant to the same parameters identified above with respect to the initial Reserve incorporation, but timed from the date that the required CLRDP amendment (required pursuant to Implementation Measures 3.3.2 and 3.4.5) is certified by the Coastal Commission.*

5.4. Scenic and Visual Qualities

This section sets forth plans, policies, and implementation measures related to maintaining scenic and visual qualities on the Marine Science Campus.

5.4.1. Scenic Corridor Protection

The Land Use Diagram (Figure 5.2) and Development Subareas (Figure 5.4) have been designed so that development and open space areas are located in such a manner as to protect significant public view corridors to the ocean, the agricultural coastline, and surrounding hillsides. Siting and design parameters, including regulation of building heights and maximum scale, are also required to protect on- and off-site public views of the site, including protecting the visual character of the site itself.

5.4.2. Scenic and Visual Resource Policies

Policy 4.1 Protection of Scenic Views

New development at the Marine Science Campus shall be sited and designed in a manner that protects public views, including the public view corridors depicted in Figure 3.16, and that limits development outside of the four Campus development zones to the maximum extent feasible.

Implementation Measure 4.1.1 – Location of Development. *The University shall cluster development on the Marine Science Campus as shown in Figures 5.2 and 5.4 so as to leave ample open space that protects identified public views, including identified public view corridors.*

Policy 4.2 Protection of Scenic Quality

New development at the Marine Science Campus shall be sited and designed to be compatible with existing Campus development and surrounding areas.

Implementation Measure 4.2.1 – Design Standards and Illustrative Campus Buildout Site Plan. *Decisions on siting, materials, height, clustering, and other aspects of project design shall be consistent with Chapter 5 and Chapter 6 and shall be guided by the Illustrative Campus Buildout Site Plan and the preliminary parameters for selected projects in Chapter 7. With respect to the development of the public overlooks, such overlooks shall be sited*

and designed consistent with the preliminary parameters identified in Chapter 7 unless alternative siting and design would result in both better public overlook value and better coastal resource protection.

Implementation Measure 4.2.2 – Alteration of Natural Landforms. *Development shall be sited and designed to minimize the alteration of natural landforms.*

Implementation Measure 4.2.3 – Building and Other Structure Heights. *Buildings on the Marine Science Campus shall be no more than two stories tall and shall be no higher, as measured from natural grade to the top of the roof, than the maximum height limits specified in Figure 5.4, except that laboratory buildings located within the Middle Terrace development zone may be as high as 36 feet above natural grade subject to Implementation Measure 4.2.4, and the Phase II wing of the Ocean Health building may be up to 36 feet in height. Except for temporary structures, flat roofs shall be prohibited. Mechanical equipment and any associated screening structures that extend above the roof shall be limited to the maximum extent feasible in height and bulk. Screening structures (or portions thereof) shall only be used where such structures will provide better public viewshed protection than leaving such equipment unscreened. If it is not feasible to keep such equipment and/or structures below the maximum height (e.g., by reducing their number and/or size, by locating at a lower elevation than the roof peaks, by reducing building heights, etc.), then such equipment and structures shall not exceed maximum height limits by more than 5 feet, their aggregated length shall not exceed 25 percent of the length of the building's ridgeline, and their aggregated horizontal footprint shall not exceed 25 percent of the area of the aggregate horizontal footprint of the roof. Those portions of buildings that are located nearest the perimeter of the development zones shall be stepped down in height relative to the building to avoid uniform massing at the maximum height limits on the perimeter of development zones (see also Chapter 6). All other (i.e., non-building) structures shall be no higher as measured from natural grade to the topmost element than the maximum height limits specified in Figure 5.4.*

Implementation Measure 4.2.4 – Laboratory Buildings. *Laboratory buildings located within the area limited to 30-foot heights may be as high as 36 feet above natural grade if it is not feasible to meet the 30-foot height limit due to the vertical clearance necessary for specialized laboratory requirements (for mechanical systems, ductwork, etc.).*

Implementation Measure 4.2.5 – Maximum Building Gross Square Footage. *Individual new buildings shall not exceed 20,000 gross square feet in the Lower Terrace development zone, shall not exceed 37,500 gross square feet in the Upper Terrace development zone, and shall not exceed 40,000 gross square feet in the Middle Terrace development zone.*

Implementation Measure 4.2.6 – Maximum Additional Gross Square Footage in Lower Terrace. *New building development in the Lower Terrace development zone after the CLRDP is certified shall not exceed 40,000 gross square feet in total, exclusive of structures that are part of the seawater system.*

Implementation Measure 4.2.7 – Construction Materials. *Stained vertical wood siding, roughcast concrete, high-quality shingle roofing, and other materials with compatible appearances (e.g., stone, wood, cor-ten steel, etc.) shall be used for the exterior of all buildings and other structures to ensure design compatibility among all buildings on the Marine Science Campus.*

Fig 5.4 Development Subareas

Legend

#1 Development Subarea

Development Zone Boundary

[1] Subarea No.	[2] Subarea Size	Max. No. of Stories	Max. Height	[3] Max. Building Coverage
1	59,000	[4] 1	[4] 30	64%
2	44,900	1	[5] 18	30%
3	69,500	2	[6] 30	60%
4	105,500	2	[6] 30	60%
5	26,000	2	[6] 30	60%
6	73,000	1	[7] 24	40%
7	34,500	--	[8] 10	--
8	116,000	2	[4] 30	40%
9	27,500	2	24	40%
10	79,000	2	24	40%
11	62,000	2	[9] 24	40%
12	30,000	2	24	40%
13	23,500	1	15	40%
14	20,000	--	[10] 6	--
15	77,500	1	24	40%
16	20,500	--	[11] 12	125 sf
	868,400			

Notes:

[1] Building development outside of subareas is prohibited. Development outside of subareas shall be limited to at-grade development (e.g., streets, parking areas, etc.) unless it is an above-grade development explicitly identified as appropriate in this CLRDP (e.g., an earthen berm extension); where any associated above-grade elements (e.g., fencing, light standards, etc.) shall not exceed the scale, including the heights, established for such elements in the CLRDP.

[2] Subarea boundaries are approximate within 10 percent plus or minus; actual boundaries will be field verified when development is proposed.

[3] Parking shall be allowed anywhere in the development zone provided it is consistent with all provisions of the CLRDP. Coverage associated with parking and with outdoor reasearch area, laydown, and storage does not apply towards maximum building coverage calculations. Maximum building coverage must also be understood in relation to maximum square footages in Section 5.2 that also apply, and in relation to other CLRDP provisions that might further limit development.

[4] A small portion of the warehouse (i.e. up to 20% of footprint) may be two stories high and a max of 36 feet in height.

[5] Above-grade development shall be concentrated to the south as much as possible.

[6] Building height may extend to 36 feet for buildings with ventilated lab space per IM 4.2.4; mechanical equipment enclosures may extend up to five feet above the maximum height in certain circumstances per IM 4.2.3.

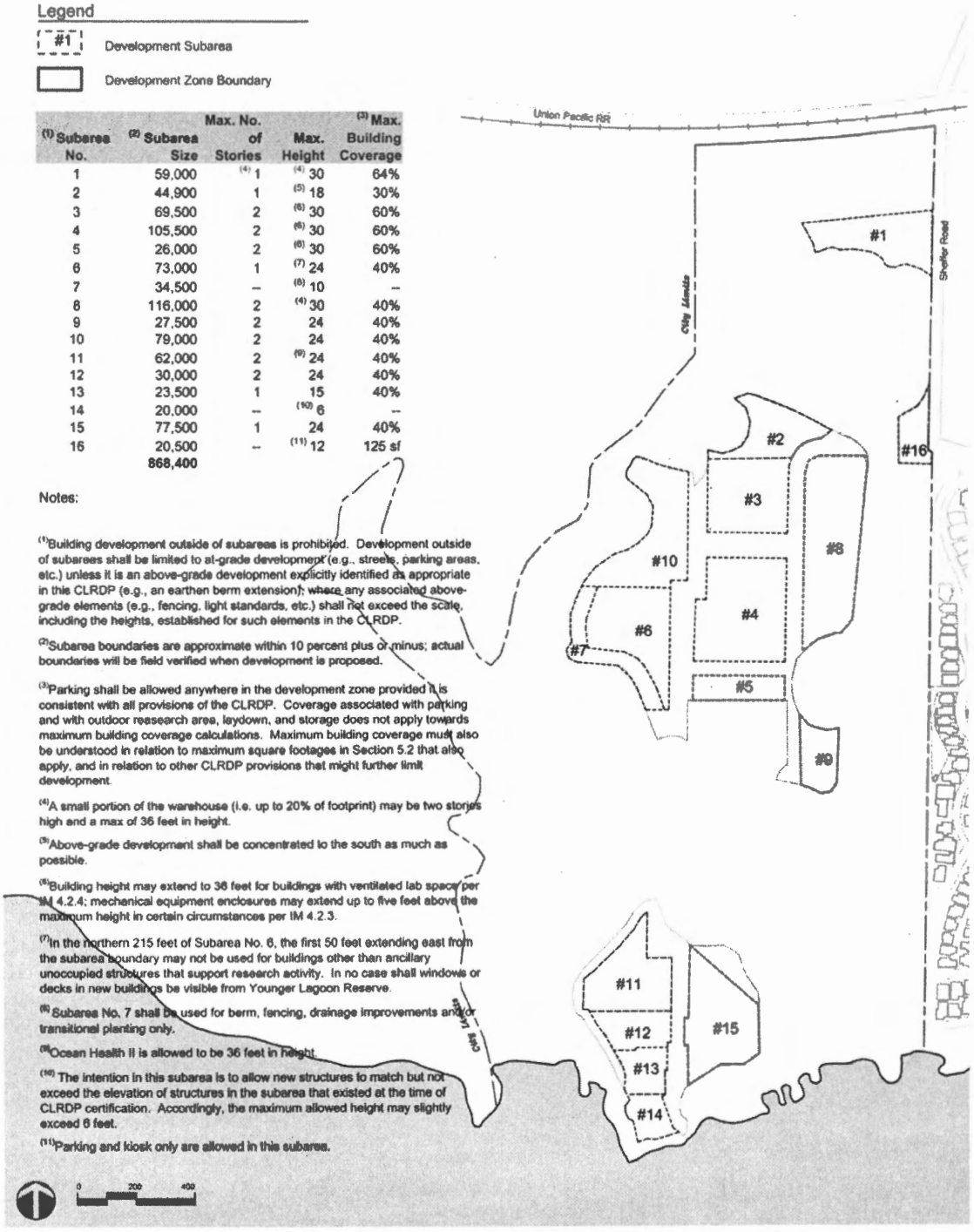
[7] In the northern 215 feet of Subarea No. 6, the first 50 feet extending east from the subarea boundary may not be used for buildings other than ancillary unoccupied structures that support research activity. In no case shall windows or decks in new buildings be visible from Younger Lagoon Reserve.

[8] Subarea No. 7 shall be used for berm, fencing, drainage improvements and/or transitional planting only.

[9] Ocean Health II is allowed to be 36 feet in height.

[10] The intention in this subarea is to allow new structures to match but not exceed the elevation of structures in the subarea that existed at the time of CLRDP certification. Accordingly, the maximum allowed height may slightly exceed 6 feet.

[11] Parking and kiosk only are allowed in this subareas.



Implementation Measure 4.2.8 – Building Setbacks. *New buildings on the Marine Science Campus shall be located no closer than 15 feet from campus streets and no closer than 20 feet from the pavement edge of Shaffer Road, as improved per Implementation Measure 5.1.3.*

Implementation Measure 4.2.9 – Building Length Limitations. *New building sections constructed on the Marine Science Campus shall not exceed 175 feet in continuous building length adjacent to a street or parking area.*

Implementation Measure 4.2.10 – Placement of Utility Lines Underground. *All utility lines on the Marine Science Campus shall be located underground.*

Implementation Measure 4.2.11 – Windbreak~~/Screening Trees~~ **Vegetation**. *The windbreak/~~screening trees~~ **vegetation** required by this CLRDP in connection with new development in the terrace portion of the site (see Section 6.5 and Figure 6.6) shall be sited to screen development from public view without interfering with that portion of the public view not encumbered by development (e.g., maintaining ocean/horizon views over and around buildings).*

Implementation Measure 4.2.12 – Development in Northernmost Portion of Middle Terrace. *Development in that portion of the Middle Terrace development zone that is located in development Subarea #2, as identified in Figure 5.4, shall be sited and designed to minimize impacts to public views as seen from the Group 2 public trail segments, as identified in Figure 9.1.*

Implementation Measure 4.2.13 – Development Along Edge of Lower Terrace. *Development in that portion of the Lower Terrace development zone that is located in Subareas #13 or #14, as identified in Figure 5.4, shall be limited to low intensity uses and facilities sited and designed to minimize impacts to public views as seen from trails and other access and recreation facilities and features shown on Figure 5.6 and/or described in Section 5.6. Development located in Subarea #14 shall be limited to the seawater system, circulation, and public access improvements and shall not exceed the elevation of the existing seawater facilities. Development in Subareas #13 and #14 shall not significantly block public views and shall, if located within the footprint of the berm (along the western edge of the zone), be no taller than the top of the berm at the time of CLRDP certification.*

Implementation Measure 4.2.14 – Building Development West of McAllister Way in Lower Terrace. *Building development in that portion of the Lower Terrace development zone that is located west of the location of McAllister Way at the time of CLRDP certification shall be limited to uses that integrally relate to existing development or research activities in the development zone, need a location adjacent to YLR **(original YLR)**, or otherwise require a more isolated location.*

Implementation Measure 4.2.15 – Building Development West of McAllister Way in Middle Terrace. *Development in Subarea #6 shall be limited to uses that would benefit from a more isolated location, and development in Subarea #7 shall be limited to extension of the pre-CLRDP certification earthen berm, overlook improvements, natural drainage system components, fencing, and/or landscaping.*

Implementation Measure 4.2.16 – Building Development Outside of Subareas Prohibited. *Building development located outside of the subareas shown in Figure 5.4 shall be prohibited. Development located outside of subareas and inside of development zones shall be limited to at-grade development (e.g., streets, parking areas, etc.), unless it is an above-grade development explicitly identified as appropriate in this CLRDP (e.g. an earthen berm extension), where any associated above-grade development and structures (e.g., fencing, light standards, etc.), shall not exceed the scale, including the height, established for such development and structures in the CLRDP.*

Policy 4.3 Visual Intrusion and Lighting

Development shall be sited and designed so that the impacts of activity and direct light on wildlife and public views outside of development zones is limited to the maximum extent feasible.

Implementation Measure 4.3.1 – Visual Intrusion into YLR **(Original YLR)**. *Development adjacent to* YLR ***(original YLR)****shall be sited and designed so that activity and direct light will not be visible from within* YLR ***(original YLR)****.*

Implementation Measure 4.3.2 – Visual Intrusion into ~~Terrace ESHA and Other Areas Outside of Development Zones~~ **YLR (Terrace Lands)**. *Development shall be sited and designed so that activity and direct light that may be visible from outside of development zones is limited to the maximum extent feasible, and so that any activity and/or direct light that is unavoidably visible is minimized in its intensity. In determining the measures needed to limit visual intrusion to the maximum extent feasible, the University shall consult with the manager of Younger Lagoon Reserve and the California Department of Fish and Game.*

Implementation Measure 4.3.3 – All Lighting. *Lighting on the Marine Science Campus shall be provided at the lowest footcandle levels necessary to achieve safety and efficient navigation.*

Implementation Measure 4.3.4 – Building Lighting. *Exterior lighting shall be located only at building entries and usable interior courtyards. No other exterior lighting of buildings, such as façade or accent lighting, shall be allowed, except where necessary for safety. Interior lighting shall be located so as to minimize the potential for light and glare to be visible from within Resource Protection, Resource Protection Buffer, and Wildlife Corridor areas and be consistent with the Uniform Building Code.*

Implementation Measure 4.3.5 – Street and Trail Lighting. *Streets on the Marine Science Campus may only be lighted within the development zones of the campus. Trails shall be lighted only to the extent needed for safety. Only low-intensity lights attached to low-height, wood bollards (i.e., up to 36" maximum height) shall be used for trail lighting, and all trail lighting shall be downward directed.*

Implementation Measure 4.3.6 – Parking Lot and Maintenance Yard Lighting. *Lighting in parking lots and maintenance yards shall be the lowest lighting intensity levels necessary to provide safety and security. All parking lot and maintenance yard lighting shall be full cut-off type lighting and shall be downward directed. Pole mounted lighting shall be limited to the maximum extent feasible (in number, height, and bulk) and shall not exceed 12 feet in height.*

Implementation Measure 4.3.7 – Sign Lighting. *Sign lighting on campus shall be limited to signs identifying important destinations, restricted areas, and/or dangerous terrain. All sign lighting shall be the minimum necessary to achieve design objectives. No backlighting of signs or use of neon shall be allowed.*

Implementation Measure 4.3.8 – Lighting Plan Required. *New development that includes lighting shall be authorized by the University only if it includes a lighting plan that details the manner in which the development individually and cumulatively is consistent with and implements the lighting parameters of this CLRDP, including Policy 4.3 and its implementing measures, and including long-term lighting system monitoring and maintenance.*

5.5. Circulation and Parking

This section sets forth plans, policies, and implementation measures related to circulation and parking on the Marine Science Campus.

5.5.1 Circulation and Parking Discussion

The development of circulation and parking facilities on the Marine Science Campus is primarily guided by the objectives, design principles, and land use concepts of Chapter 4 and by the policies of Chapter 5. Design standards for campus streets and parking are set forth in Chapter 6 (Section 6.2, Campus Street Design and Section 6.3, Parking Design). The location of campus streets is explicitly identified in the next section, which includes Figure 5.5, Circulation and Parking Diagram. The location of parking facilities is not explicitly identified in this section, because such siting is more dependent upon how the Campus develops over time and the relationship of buildings, streets, and other Campus facilities to potential parking lot locations.

New Main Campus Street and Abandonment of Part of Former Access Road

One key feature of the circulation plan for the Marine Science Campus is a new main access street section mostly located east of the existing Campus Street (see Figure 5.5) and the abandonment of a section of McAllister Way/Delaware Avenue Extension between Shaffer Road and the California Department of Fish and Game facility. This abandonment will take place concurrent with the construction of the new portion of the campus street shown in Figure 5.5. The majority of the existing pavement along this alignment will be removed except for a curvilinear portion of it that will remain to become a public access pathway. The roadbed fill will be retained to maintain terrace wetland hydrology, and the disturbed areas will be replanted with appropriate wetland and wetland buffer plant species.

Parking for Campus Use and Public Access

Another key feature of the circulation plan is the development of parking for campus use and public coastal access. Parking on the Marine Science Campus is limited at buildout under this CLRDP to a total of up to 795 spaces, and the University may control almost all of this parking through the use of programmatic means (e.g., including possibly parking permits and/or parking meters) to ensure that spaces are available for high-priority users such as visitors seeking coastal access and campus teachers, researchers, and staff. Without such controls, demand for parking by students could overwhelm capacity and result in parking shortages for higher priority users.

Parking to be provided on the Campus is purposefully limited so as to avoid covering large portions of the Campus with parking areas (thus better protecting on-site resources) and to reduce Campus reliance on automobile transportation (thus reducing its attendant adverse impacts on and off-site). Because of this parking space limitation, and because ~~all~~ Campus parking demand ~~is to be accommodated on site,~~ **may not impact public parking or coastal access on streets adjacent to the MSC,** the CLRDP includes aggressive transportation demand management programs designed to bring Campus users to the Campus by means other than automobiles, and if by automobile, by alternatives to the single-occupant vehicle automobile. To ensure that parking controls and parking space limitations have the minimum impact on public coastal access, the CLRDP policies in Section 5.5.3 below also include provisions for dedicated and shared public coastal access parking areas.

Shaffer Road Improvements

The University intends to improve the Shaffer Road/Delaware Avenue Intersection and that portion of Shaffer Road extending to the Upper Terrace development zone (where part or all of a shared laydown and warehouse facility is contemplated). These improvements will be coordinated with the City of Santa Cruz and with property owners across Shaffer Road from the campus, to the maximum extent feasible. Improvements to Shaffer Road will be limited to those necessary to serve Campus development.

The driveway entrance into the Upper Terrace development zone will be located in the center of the zone (e.g., as shown on Figure 7.2) so as to avoid the wildlife corridor and buffer areas both to the north and south of the development zone. Campus development does not require Shaffer Road to be extended north across the railroad tracks. Nonetheless, the City of Santa Cruz (which provides emergency services to the Campus) has indicated its desire to have secondary emergency access to the Marine Science Campus via Highway 1 and Shaffer Road, and accordingly, the University will collaborate with the City of Santa Cruz on the construction of an emergency grade crossing over Union Pacific Railroad (UPRR) tracks to connect the northern segment of Shaffer Road and Highway 1 with the Marine Science Campus. Alternatively, given the location of the wildlife corridor south of the railroad right-of-way and given the existing and potential uses of the railroad right-of-way itself (including potential public trail use), the City of Santa Cruz could choose to abandon the northern-most portion of the Shaffer Road (between the Upper Terrace development zone and the railroad tracks) and instead re-grade, replant, and reconfigure this paved road area as a habitat corridor enhancement.

In any event, where Shaffer Road intersects designated wildlife corridors and their buffers, improvements to the road will include measures to ensure habitat connectivity (such as adequately sized culverts under the roadbed to allow wildlife to safely move from one side of Shaffer to the other). These improvements will be coordinated with the owners of the property between Shaffer Road and Moore Creek/Antonelli Pond to ensure that the habitat corridor is properly aligned from one side of Shaffer Road to the other.

5.5.2. Circulation and Parking Designations and Diagram

Two circulation designations have been created for the UCSC Marine Science Campus: Major Campus Street and Minor Campus Street. Figure 5.5, Circulation and Parking Diagram, shows the specific geographic location of these designations on the Marine Science Campus. The intended effect of these designations and the circulation uses allowed within them are set forth in this section. Other symbols on the diagram include "Major Parking Locations" and "Intersection Improvement." The specific location of these developments will be determined in conjunction with specific future building authorizations, subject to the requirements of this CLRDP.

Major Campus Street

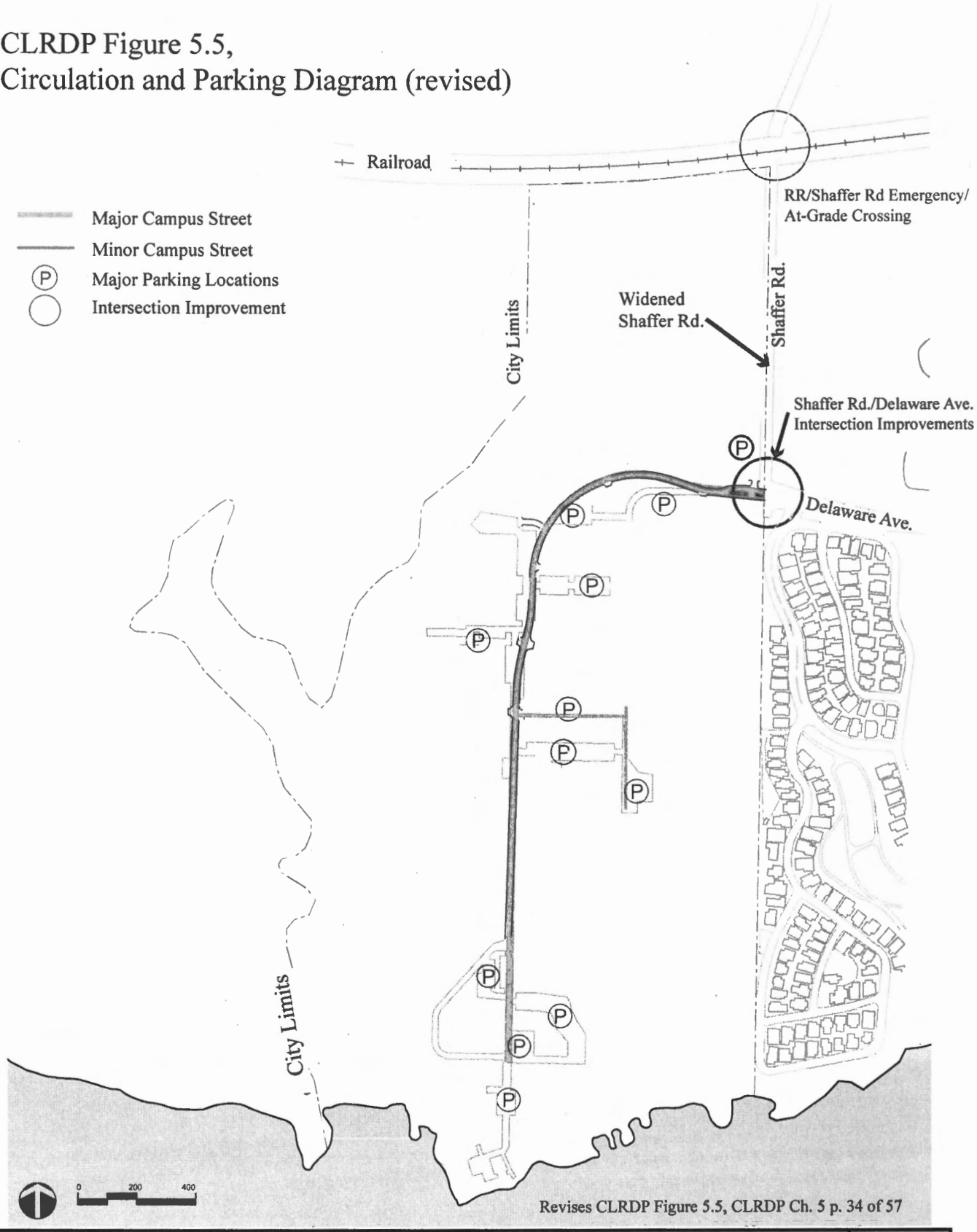
The primary purpose of this circulation designation is to accommodate access to the Marine Science Campus by motor vehicles. Bicyclists and pedestrians may use all campus streets at times as well, but separated multi-use trails are provided specifically for bicyclists and pedestrians (see Section 5.6 that follows). The type of circulation facility allowed in the Major Campus Street designation is limited to paved, public-use corridors with two undivided travel lanes (one each direction) and within development zones, limited on-street parking. The maximum allowable width of the corridor is 22 feet wide to allow regular traffic movement and meet emergency vehicle requirements. Bicycles, cars,

trucks and other road vehicles will share the facility without formal bike lanes or center stripe. Typically, curbs will not be provided on Major Campus Streets.

Minor Campus Street

The primary purpose of this circulation designation is to provide motor vehicle access to parking areas and buildings that cannot be directly accessed with Major Campus Streets. The type of circulation facility allowed in the Minor Campus Street designation is limited to paved, public-use corridors with two undivided travel lanes (one each direction) and within development zones, on-street parking. The maximum allowable width of the travel lanes is 22 feet wide to allow regular traffic movement and meet emergency vehicle requirements. Bicycles, cars, trucks and other road vehicles will share the facility without formal bike lanes or center stripe. Typically, curbs will not be provided on Minor Campus Streets.

CLRDP Figure 5.5,
Circulation and Parking Diagram (revised)



UC Santa Cruz Marine Science Campus Coastal Biology Building and Infrastructure Improvements Final Environmental Impact Report November 2011	Proposed CLRDP Amendment 1, Action 7: Revise CLRDP Figure 5.5 Circulation Routes	Figure A-9

5.5.3. Circulation and Parking Policies

Auto Circulation

Policy 5.1 Vehicular Access
Roadways on the campus shall provide adequate site access for regular users and visitors, while minimizing impacts on the natural environment.

Implementation Measure 5.1.1 – New Circulation System. *The University shall construct a new circulation system for the Marine Science Campus as shown in Figure 5.5.*

Implementation Measure 5.1.2 – Improve Shaffer Road/Delaware Avenue Intersection. *The Shaffer Road/Delaware Avenue intersection, at the entrance to the campus, shall be improved in conjunction with other road and development activities, in order to improve the functioning of this intersection (for vehicles, pedestrians, and bicyclists) and its safety.*

Implementation Measure 5.1.3 – Shaffer Road Improvements. *The University shall cooperate with the City of Santa Cruz to evaluate the permanent closure of Shaffer Road between the Upper Terrace development zone and the railroad tracks and conversion of the closed road section into an integral part of the wildlife corridor and its buffer located along the northern portion of the Marine Science Campus. Adjacent to the Marine Science Campus, those sections of Shaffer Road to remain open may be improved the minimum extent necessary to provide access to development authorized in the Upper Terrace development zone.*

Implementation Measure 5.1.4 – Access for Wildlife Across Shaffer Road (Upper Wildlife Corridor). *The University shall construct adequate passage (e.g., bridge, underpass, box culverts, etc.) across Shaffer Road north of the Upper Terrace development zone that is specially designed to facilitate wildlife movement, potentially including abandonment of the paved roadway section and reconfiguration of the road area as a habitat corridor. The driveway entrance into the Upper Terrace development zone shall be located in the center of the zone (e.g., as shown on Figure 7.2) so as to avoid the designated wildlife corridor and buffer areas that will be established both to the north and south of the development zone. For work undertaken by the University off its property, the University shall actively pursue and obtain all necessary permissions from any owner of land on which construction will occur. The University shall consult with the United States Fish and Wildlife Service during the design of the Shaffer Road wildlife passage.*

Implementation Measure 5.1.5 – Access for Wildlife Across Shaffer Road (Lower Wildlife Corridor). *The University shall construct adequate passage (e.g., bridge, underpass, box culverts, etc.) across Shaffer Road south of the Upper Terrace development zone that is specially designed to facilitate wildlife movement. For work undertaken by the University off its property, the University shall actively pursue and obtain all necessary permissions from any owner of land on which construction will occur. The University shall consult with the United States Fish and Wildlife Service during the design of the Shaffer Road wildlife passage.*

Implementation Measure 5.1.6 – Use of Former Access Road. *The existing (at the time of CLRDP certification) portion of McAllister Way/Delaware Avenue Extension between Shaffer Road and the California Department of Fish and Game facility, shall be abandoned as a campus street and restored as a public trail and habitat buffer area (i.e., the majority of the existing pavement shall be removed in this area except for a curvilinear portion of it that will remain to become a public access pathway; the roadbed fill elevation shall be retained to maintain terrace wetland hydrology; and the disturbed areas shall be replanted with appropriate wetland and wetland buffer plant species). The University shall consult with the U.S. Fish and Wildlife Service and the Executive Director at the time*

of proposed restoration to evaluate management measures to protect California red-legged frog, such as a prohibition on bicycle use of the trail or construction of safe passage corridors.

Implementation Measure 5.1.7 – Emergency Access. *The University shall, in conjunction with planned building construction on the Marine Science Campus as described in the CLRDP, collaborate with the City of Santa Cruz on the construction of an emergency grade crossing over Union Pacific Railroad (UPRR) tracks to connect the northern segment of Shaffer Road and Highway 1 with the Marine Science Campus. The purpose of this crossing would be to provide secondary, emergency-only, ingress and egress for the site. Bollards would be installed to restrict normal traffic.*

Travel Mode Split

Policy 5.2 Travel Mode Split
The University shall pursue a goal of having at least 40 percent of all person-trips to the Marine Science Campus made using alternatives to the single-occupant automobile.

Implementation Measure 5.2.1 – Encourage Alternatives to the Single-Occupant Vehicle. *The University shall enforce policies and implement measures to encourage alternatives to the single-occupant automobile.*

Implementation Measure 5.2.2 – Alternatives to the Single-Occupant Vehicle. *As part of each development project, the University shall clearly identify the methods to be used to encourage non-single-occupancy vehicle trips for that development in order to meet CLRDP circulation and parking requirements individually and cumulatively.*

Parking

Policy 5.3 Parking for Campus Use and Public Coastal Access
The University shall provide designated parking spaces for faculty, staff, students, and visitors to the Marine Science Campus and the adjacent shoreline. Parking on the Marine Science Campus shall be limited to a maximum of 795 spaces.

Implementation Measure 5.3.1 – All Campus Users Off-Hour Parking. *Campus parking areas shall be available on a free, first-come, first-serve, and unrestricted (i.e., no permits, meters, or other applied management requirement or restriction) basis during daylight hours (i.e., one-hour before sunrise to one hour after sunset) before 8:00 am and after 5:00 pm each weekday, and during all daylight hours on Saturdays, Sundays, and State holidays. Exceptions to this policy may be implemented in order to provide parking management in support of a limited number of special events occurring at the Marine Science Campus, provided such exceptions do not substantially impact public coastal access.*

Implementation Measure 5.3.2. Public Coastal Access Parking. *Public coastal access parking spaces shall be available on a free or low-cost (see implementation measure 5.3.8), first-come, first-serve basis during daylight hours (i.e., one-hour before sunrise to one hour after sunset) for the exclusive use of general public access visitors to the site and not for use by any others, including not for use by: (a) University or Campus affiliate staff, researchers, students, or their visitors; (b) Campus residents or their visitors, and/or (c) visitors to University or Campus affiliate facilities. Public coastal access parking spaces may be time limited provided such time limits are not for less than a three-hour length of stay; overnight parking in these spaces shall be prohibited. During non-State holiday weekdays between the*

hours of 8:00 am and 5:00 pm only, the University may use permits, meters, or other similar methods for managing such public coastal access parking spaces (except for public coastal access parking spaces in the Campus Entrance development zone where such parking shall be provided without such encumbrances) provided such methods are easily understood and followed (including that points of acquisition for any required placards, permits, meter slugs, etc. are conveniently located and operated with respect to public access visitors) and provided such methods provide an easy means of allowing parking space users who arrived prior to 8:00 am to continue to park in the public coastal access parking spaces without being penalized for early arrival. All public coastal access parking spaces are to be provided pursuant to the timing identified in Figure 9.4.

Implementation Measure 5.3.3 – Campus Entrance Public Coastal Access Parking. *A minimum of fifteen public coastal access parking spaces shall be provided adjacent to the intersection of Shaffer Road and Delaware Avenue in the Campus Entrance development zone.*

Implementation Measure 5.3.4 – Middle Terrace Public Coastal Access Parking. *A minimum of five public coastal access parking spaces shall be provided: (1) in that portion of subarea 9 (Figure 5.4) that is adjacent to any Campus support facilities in subarea 9 and that provides the easiest and most direct access to the public trails extending outside of the Middle Terrace development zone; or (2) in a location that provides the easiest and most direct access to Overlook E (Figure 9.1) and the public trail connection to Overlook E.*

Implementation Measure 5.3.5 – Lower Terrace Dual Use Parking (Public Coastal Access Parking and Discovery Center Parking). *A minimum of forty parking spaces in the Lower Terrace development zone shall be available and reserved exclusively for public coastal access parking and for parking by visitors to the Seymour Marine Discovery Center.*

Implementation Measure 5.3.6 – Lower Terrace Public Coastal Access Parking. *A minimum of ten public coastal access parking spaces shall be provided in the Lower Terrace development zone in a location that provides the easiest and most direct access to public coastal access amenities (e.g., in the parking bay along the east side of McAllister Way opposite the Ocean Health Building).*

Implementation Measure 5.3.7 – Parking Demand Satisfied On-Campus. ~~*All parking demand shall be satisfied on Campus, and n*~~*New development shall include adequate and enforceable measures to ensure that* ~~*all*~~ *parking demand* ***associated with CLRDP development does not impact public parking or coastal access on streets adjacent to the MSC, including Delaware Avenue.*** ~~*is satisfied on Campus.*~~

Implementation Measure 5.3.8 – Free and/or Low Cost Public Coastal Access Parking. *Public coastal access parking spaces shall be available at no cost unless a Campus parking program is authorized as a development project pursuant to this CLRDP that requires a nominal fee for all or portions of such parking (except for public coastal access parking in the Campus Entrance development zone, where parking fees are prohibited), and only if such fee does not negatively impact public access.*

Policy 5.4 Parking Supply

The University shall regulate existing parking and develop new parking on the Marine Science Campus to ensure that parking spaces are provided in an amount commensurate with the requirements of Policy 5.3 and its implementation measures, and the demand created by new development.

Implementation Measure 5.4.1 – Development of New Parking. *New parking shall be developed as demand warrants up to a maximum of 795 spaces Campus wide. No new parking spaces shall be developed until existing parking spaces in a given development zone are greater than or equal to 90 percent utilized (on average). The parking*

supply requirements of Policy 5.3 and its implementation measures shall be satisfied pursuant to the timing identified in Figure 9.4.

Implementation Measure 5.4.2 – Lease Agreements. *The University shall ensure that lease agreements entered into with tenants on the UCSC Marine Science Campus include provisions that require them to fully abide by and implement the circulation and parking policies, implementation measures, and other related standards contained in this CLRDP.*

Implementation Measure 5.4.3. – Distribution and Intensity of Parking. *Parking shall be distributed among the four development zones as necessary to meet facility demand within each zone. Parking areas shall be designed to provide small, discrete parking areas.*

Policy 5.5 Parking Management

Parking on the Marine Science Campus shall be managed by UCSC Transportation and Parking Services (TAPS) or its equivalent, which will administer parking permits, operate shuttle service, disseminate commuter information, and monitor parking utilization annually. TAPS may regulate parking on the UCSC Marine Science Campus through the use of parking permits and time-limited parking in a manner consistent with this CLRDP.

Implementation Measure 5.5.1 – Permits Required. *With the exception of public coastal access parking spaces provided at the campus entrance at the intersection of Shaffer Road and Delaware Avenue, parking permits shall be required for the use of each parking space on the UCSC Marine Science Campus between the hours of 8:00 am and 5:00 pm each non-holiday weekday, provided a parking program that defines the permit distribution and use framework for the Campus has been authorized as a development project. Meters may be used in lieu of permits.*

Implementation Measure 5.5.2 – Public Coastal Access Parking. *Dedicated parking for public coastal access shall be clustered close to coastal access points (see also Policy 5.3 and its implementation measures and Figure 5.5), and clear signage and related measures (e.g., stencils, etc.) shall be provided to indicate that each such public coastal access parking space is for public coastal access parking only.*

Implementation Measure 5.5.3 – Carpools and Vanpools. *Reserved parking spaces may be set-aside for persons traveling to the site in registered carpools or vanpools. TAPS may institute reduced parking permit fees for carpool and vanpool users if necessary to achieve consistency with Policy 5.2.*

Implementation Measure 5.5.4 – Parking Management Strategy for Special and/or Temporary Events. *The University shall develop a strategy for managing parking demand for occasional special and/or temporary events, including rescue operations at the Marine Wildlife Center. Such strategy shall not substantially impact public coastal access and shall only be implemented if it is consistent with the parking policies, implementation measures, and other related standards contained in this CLRDP, and such strategy is authorized as a development project.*

Implementation Measure 5.5.5 – Entrance Kiosk. *The University may install a small information kiosk at the entrance to the UCSC Marine Science Campus to ensure campus security, provide parking permits, direct visitors, and control access during special events. Such kiosk shall be no taller in height than 12 feet as measured from existing grade and no more than 125 square feet in size.*

Implementation Measure 5.5.6 – Parking Limitation Seaward of Whale Skeleton. *Parking in the area extending seaward from the northern edge of the Younger Building and the northern edge of the whale skeleton (at the northwest corner of the Marine Discovery Center) shall be limited to: University-owned vehicles that are typically parked without movement for longer periods of time and that are not typically moved in and out of parking spaces*

multiple times during the course of a day, and service vehicles that cannot feasibly park elsewhere and still provide the required service. All other parking in this area (including but not limited to parking for University staff and visitors) shall be prohibited. In all cases, parking in this area shall be developed, identified, assigned and used in a manner designed to limit vehicular ingress and egress as much as possible to ensure that public access in and through this area is protected and enhanced (see also Overlook B enhancements as described in Section 7.2.6).

Implementation Measure 5.5.7 – Parking Enforcement. *The University may only enforce parking regulations on the Marine Science Campus consistent with this CLRDP.*

Pedestrian and Bicycle Facilities

Policy 5.6 Promotion of Bicycle Use and Walking

The use of bicycles and walking as a means of traveling to, from, and on the Marine Science Campus shall be promoted and accommodated with all development. (Note: see also Section 5.6 that follows for policies and implementation measures relevant to pedestrian and bicycle facilities on the Campus.)

Implementation Measure 5.6.1 – Sheltered and Secured Bike Parking. *Sheltered and secured bicycle storage facilities within buildings and/or within ancillary facilities associated with buildings shall be provided for all employees that bicycle to work and that use that building. Buildings and related facilities shall be designed and constructed to provide for an amount of sheltered and secured bicycle storage space adequate to accommodate the estimated number of bicyclist employees, and shall include adequate expansion space and provisions to accommodate any increased demand for such secure employee bicycle storage (up to and including the number of employees for any particular building). Each such secure bicycle storage parking space shall be accessible without moving another bicycle, may be configured vertically (e.g., with hooks for hanging bicycles), and shall include adequate space to allow room for maneuvering.*

Implementation Measure 5.6.2 – Bike Parking Outside Buildings. *Secure bicycle racks shall be provided that are conveniently located near the entrances to all buildings on the UCSC Marine Science Campus. Such racks shall be provided at a ratio of at least one bicyole parking space for every ten building users (where all fractions of bicycle parking spaces are rounded to the next highest whole number). Each bicycle parking space shall be accessible without moving another bicycle (i.e., generally allow for 2 feet by 6 feet for each bicycle parking space), and shall include adequate space to allow room for maneuvering (i.e., an aisle at least 5 feet wide behind all bicycle parking spaces).*

Implementation Measure 5.6.3 – Personal Lockers and Showers. *Lockers and showers shall be provided in conjunction with new building development, in convenient locations for regular users (i.e., not the general public) of the building who choose to bike or walk to the Marine Science Campus. Lockers shall be provided at a ratio of one locker for every twenty building users, and showers shall be provided at a ratio of one shower for every fifty building users (where all fractions of lockers and/or showers are rounded to the next highest whole number). The University may provide the required number of lockers and showers in individual buildings based upon the number of users of each such building, or may provide them in a centralized location or locations within each development zone provided the same ratio of lockers and showers is provided overall within each development zone and are conveniently located for users.*

Implementation Measure 5.6.4 – Coordinated Marketing with City of Santa Cruz. *The University shall coordinate with the City of Santa Cruz to identify and market bike routes that bike riders can use to travel to the Marine Science Campus.*

Implementation Measure 5.6.5 – Crosswalk Design. *Pedestrian and multi-use trail crossings shall be designed and constructed with crosswalks and signage that ensure public safety, trail continuity, and site aesthetics (e.g., this includes locating crosswalks at intersections or parking area entrances and the use of raised crosswalks, pressed asphalt*

pavement with integrated color to differentiate pedestrian crossings from other pavement treatments, low-intensity pavement-integrated lights, striping, different materials, combinations of all of these, etc.). Crossings shall be designed to maintain safety and trail continuity in a manner that is also consistent with CLRDP design guidelines.

Implementation Measure 5.6.6 – Siting Buildings for Ease of Access. *Buildings shall be located in a manner to be easily and conveniently accessible to one another; to paths and roadways; and especially to bus and shuttle stops. Siting shall occur in a manner that promotes pleasing and convenient pedestrian access throughout the Campus.*

Transit

Policy 5.7 Promotion of Transit Use

Adequate University and other public transit shall be provided to meet the 40 percent travel-mode split goal of the CLRDP, and the use of such transit as a means of traveling to and from the Marine Science Campus shall be promoted.

Implementation Measure 5.7.1 – Extension of Santa Cruz Municipal Transit District Transit Services. *The University shall work with SCMTD to increase the frequency of transit service to points adjacent to the UCSC Marine Science Campus as demand warrants and as necessary to meet the CLRDP's 40% travel-mode split goal. The University shall also encourage SCMTD to extend its service onto the Marine Science Campus.*

Implementation Measure 5.7.2 – Expansion of Shuttle Services. *The University shall provide shuttle service connecting the UCSC Marine Science Campus to the UCSC Main Campus as demand warrants and as necessary to meet the CLRDP's 40% travel-mode split goal. Shuttles shall be scheduled to correspond with classes, and class schedules will be developed in coordination with TAPS to minimize operational demands.*

Implementation Measure 5.7.3 – Physical Infrastructure for Transit. *As part of the development of the Marine Science Campus circulation system, paved areas for bus turnarounds and covered transit stops for bus and shuttle riders shall be developed at logical locations throughout the Marine Science Campus concurrent with the construction of new roadways, sidewalks, and related circulation improvements in a manner that is consistent with CLRDP design guidelines.*

Transportation Demand Management (TDM) Coordination

Policy 5.8 TDM Coordination

The University shall coordinate ridesharing to and from the Marine Science Campus and promote all available forms of alternative transportation to site users and visitors.

Implementation Measure 5.8.1 – Carpool and Vanpool Services. *The University shall provide services and programs to promote carpools and vanpools.*

Implementation Measure 5.8.2 – TDM Coordination. *The University shall implement and provide ongoing coordination of a TDM program. TAPS will be responsible for all aspects of transportation management on the UCSC Marine Science Campus, including: parking permit issuance, organization of carpools and vanpools, special event access planning, and enforcement of parking regulations. TAPS and the University shall be prohibited from enforcing and/or managing parking and transportation inconsistent with the provisions of this CLRDP.*

Implementation Measure 5.8.3 –Transportation Information. *The University shall widely disseminate transportation information to visitors, staff, faculty and students at the Marine Science Campus through the UCSC*

Web page. Printed information shall also be made available at central locations on the Marine Science Campus, and new users of the site shall be given an introductory package of information as part of their orientation to the site. All such TDM and other transportation materials shall include clear description of the CLRDP provisions of Section 5.5, including the travel-mode split requirements for the Campus; available shuttle, SCMTD bus, and other alternative transportation programs (including schedules, costs, etc.); availability of secured bicycle storage facilities within buildings for employees; availability of lockers and showers; Campus maps with appropriate facilities identified; etc.

Traffic Impacts on City Streets

Policy 5.9 Impacts Offset

New development shall include the payment of fair-share fees and/or commitment to construct necessary transportation upgrades attributable to the development's impact on City transportation infrastructure. The City of Santa Cruz shall be consulted regarding any fair-share fees and/or transportation infrastructure upgrades.

Circulation and Parking Plan

Policy 5.10 Circulation and Parking Plan Required

New development shall be evaluated with respect to individual and cumulative parking and circulation supply and demand relative to the Campus and immediately surrounding areas in a circulation and parking plan, and shall be required to provide adequate parking and circulation improvements to meet the provisions of this CLRDP. New development shall be authorized by the University only if the circulation and parking plan details the manner in which the development individually and cumulatively is consistent with and implements the circulation and parking parameters of this CLRDP, including those in Section 5.5 (Circulation and Parking) and Chapter 9 (Capital Improvement Program), and including long-term monitoring, maintenance, and management of same.

5.6. Public Access and Recreation

This section sets forth plans, policies, and implementation measures related to public access and recreation on the Marine Science Campus.

5.6.1. Public Access and Recreation Designations and Diagram

Four-public access designations have been created for the UCSC Marine Science Campus: 1) Public Trails, 2) Public Overlooks, 3) Controlled Access Areas, and 4) Controlled Access Trails. Figure 5.6, Public Access and Recreation Diagram, shows the geographic location of these designations on the Marine Science Campus. The intended effect of these designations and the way in which they affect access on the Marine Science Campus are set forth in this section.

Public Trails

The primary purpose of this public access designation is to provide pedestrian and bicycle access to scenic areas of the campus where access restrictions are generally not needed for protection of coastal resources, public safety, or maintenance of security of sensitive University activity. Public trails shall be sized as appropriate for their anticipated use, but shall be a minimum of six (6) feet wide and in some cases shall follow street alignments. If the trail follows a street alignment, it shall be separated from the street by a minimum 5-foot strip of vegetation designed to buffer trail users from vehicles. Public trails shall be constructed of compacted decomposed granite or similar

be separated from the street by a minimum 5-foot strip of vegetation designed to buffer trail users from vehicles. Public trails shall be constructed of compacted decomposed granite or similar materials. Boardwalks, stairs, and/or bridges may be utilized if appropriate (e.g., where trails cross habitat features, uneven topography, etc.). Public access to these trails shall be free from restrictions, except those regarding hours of use and domestic animals set forth in the policies of this subsection. The public trails are provided to allow for low-intensity use that will not significantly disrupt the habitat values of Campus resource protection areas.

Public Overlooks

The primary purpose of this public access designation is to provide points of visual access to the ocean, **the original** Younger Lagoon Reserve, and the seasonal pond north of Seymour Marine Discovery Center. Some overlooks are located in controlled access areas, and the provisions of that designation also govern access to such overlooks. All overlooks except overlooks C and D are available for general public use during daylight hours. Overlooks shall include interpretive signs and related information. Illustrative plans for the design of new and improved overlooks on the Marine Science Campus are presented in Chapter 7.

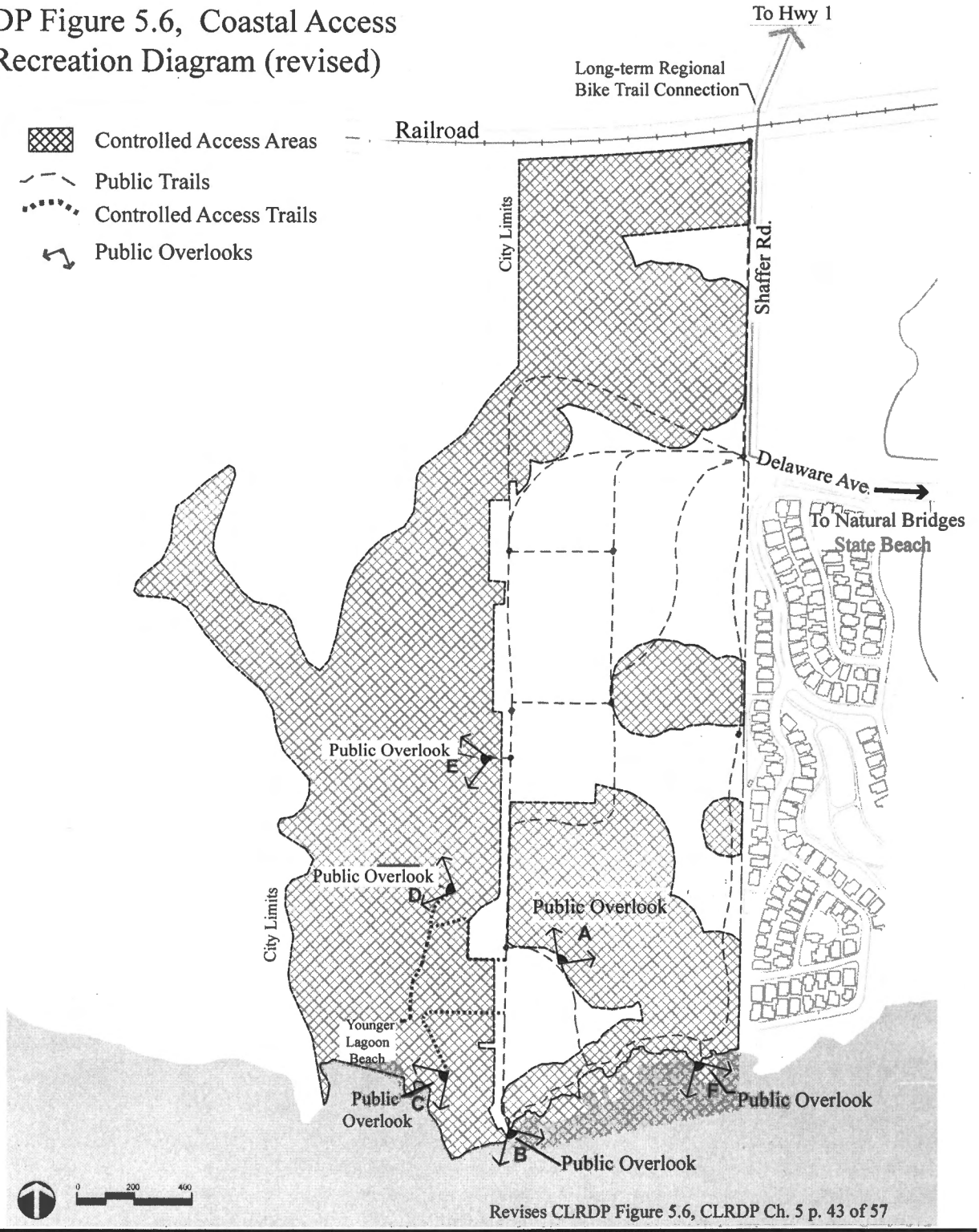
Controlled Access Areas

The primary purpose of this designation is to provide pedestrian access to scenic and coastal resource areas of the Marine Science Campus in a manner consistent with safety, security, and protection of sensitive coastal resources and research areas. Controlled access areas may be accessed only by authorized personnel for scientific or educational purposes; by authorized personnel for the construction, repair, or maintenance of facilities; by authorized visitors; by members of the public as part of a supervised tour; and, where Public Trails extend through Controlled Access Areas as shown on Figure 5.6, by the general public. For the Younger Lagoon beach area specifically, supervised access shall be allowed within this controlled access area consistent with and pursuant to a management plan for such access. The Controlled Access Area designation applies to portions of the Marine Science Campus that contain environmentally sensitive habitat and/or resource buffers or within which sensitive outdoor research activity is undertaken.

Controlled Access Trails

The primary purpose of this public access designation is to provide pedestrian access to overlooks and the Younger lagoon beach area that are located in Controlled Access Areas of the Marine Science Campus. Because the overlooks exist or are to be sited in areas that include sensitive coastal resources, research facilities and activities, and steep ocean cliffs, use of the overlook trails shall be limited to authorized personnel for scientific or educational purposes or for the construction, repair, or maintenance of facilities. Because access to the Younger Lagoon beach area is only allowed consistent with and pursuant to a management plan for such access, use of the beach access trails shall be subject to the provisions of such management plan. These areas may also be accessed by members of the public as part of a supervised tour or education program (e.g., those conducted by Seymour Marine Discovery Center or Younger Lagoon Reserve staff of the terrace areas and Younger Lagoon beach). Controlled Access Trails shall be ADA compliant (unless topography and/or sensitive natural resources preclude compliance) and constructed of compacted decomposed granite or similar materials.

CLRDP Figure 5.6, Coastal Access and Recreation Diagram (revised)



UC Santa Cruz Marine Science Campus Coastal Biology Building and Infrastructure Improvements Final Environmental Impact Report November 2011	Proposed CLRDP Amendment 1, Action 6 : Revise CLRDP Figure 5.6 Trails	Figure A-5

5.6.2. *Public Access and Recreation Policies*

Policy 6.1 Public Access to the Marine Science Campus

Maximum public access to the coastal resources of the Marine Science Campus and the adjacent shoreline and coastal area shall be provided consistent with public safety, fragile coastal resources, implementation of the educational and research missions of the Campus, and security of sensitive facilities and research activities on the site.

Implementation Measure 6.1.1 – Free Public Access for Visitors. *Free public visitor access to the Marine Science Campus shall be provided during at least daylight hours (i.e., one hour before sunrise until one-hour after sunset). Modest fees may be charged only for access to the Seymour Marine Discovery Center and similar University facilities with developed educational and/ or visitor-oriented programs.*

Implementation Measure 6.1.2 – Public Access Parking. *The University shall construct, provide, and maintain parking spaces that are available to the public consistent with the provisions of Section 5.5, Circulation and Parking, to facilitate public coastal access to the Marine Science Campus and the adjacent shoreline and coastal area.*

Implementation Measure 6.1.3 – Public Access Trails. *The University shall construct, provide, and maintain a public pedestrian and bicycle trail system to facilitate safe and passable public access within, along, and through the Marine Science Campus. The locations of these trails shall be substantially similar to those shown in Figure 5.6. All trails and associated facilities shall be clearly signed for public use."*

Implementation Measure 6.1.4 – Public Access Overlooks. *The University shall construct, provide, and maintain at least six overlooks to provide the public with visual access to natural resources on and adjacent to the Marine Science Campus such as Younger Lagoon Reserve and the ocean. The locations of these overlooks shall be substantially similar to those shown in Figure 5.6, and the University shall be guided by the illustrations contained in Chapter 7 of this CLRDP as it designs the overlooks.*

Implementation Measure 6.1.5 – Docent-Led Tours and Education Programs for the Public. *The University shall seek to support and enhance public appreciation of coastal resource values through educational programs and docent-led tours of the site. The Seymour Center shall continue as the site of educational programs on the marine environment for school groups and other members of the public. As resources are available, these programs shall continue to include docent-led tours of the coastal terrace and bluff, the Younger Lagoon Reserve overlooks, and the Younger Lagoon beach.*

Implementation Measure 6.1.6 – Educational Programs for Pre-College Students. *The University is committed to increasing understanding and interest in marine science among pre-college students. To further that objective, short-term immersion marine science education programs for these students and their teachers shall be implemented at the Marine Science Campus, in cooperation with other agencies and entities.*

Implementation Measure 6.1.7 – Interpretive Information. *Opportunities for interpretation of the activities occurring at the Campus shall be provided as appropriate. In addition to developed Campus programs, such opportunities shall include interpretive displays, signs, and facilities designed to be easily accessible at and adjacent to public use areas, such as accessways, trails, and overlooks.*

Policy 6.2 Management of Public Access

All public access to the Marine Science Campus shall be managed to maximize public access and recreation opportunities while also ensuring the security of research and marine facilities on the site, the protection of wildlife populations and other natural resources, and public safety.

Implementation Measure 6.2.1 – Public Use Hours for the Marine Science Campus. *General public access to the Marine Science Campus shall be allowed during daylight hours (i.e., one-hour before sunrise to one hour after sunset).*

Implementation Measure 6.2.2 – Public Trail Continuity. *Public trails shall follow the alignments shown in Figure 5.6, with minor alignment adjustments as necessary to ensure trail continuity. Examples of situations where such minor adjustments may be necessary include: moving the trail inland if erosion of the coastal bluff threatens the trail; adjusting the trail alignment if the final location of campus buildings and/or facilities dictates adjustment to enhance trail connectivity and use values; adjusting the trail alignment to avoid significant disruption to the habitat values of resource protection areas; and temporary detours in response to construction, temporary special events, etc.*

Implementation Measure 6.2.3 – Access to Resource Protection Areas. *Public access to designated Resource Protection areas shall be managed to protect against disruption of habitat values. The general public may use CLRDP-designated roads, trails, overlooks, and the Younger Lagoon beach area within Resource Protection areas consistent with the provisions of this CLRDP. Only authorized personnel shall be allowed outside of such areas, except that public access may be gained with the University's written authorization. Authorization shall be granted only on a temporary basis and only for personnel necessary for activities consistent with uses allowed by the CLRDP. The University may use a combination of devices to protect natural resources in designated Resource Protection areas (including fences, walls, berms, and vegetation) provided such devices are consistent with the provisions of the this CLRDP.*

Implementation Measure 6.2.4 – Access to Resource Protection Buffer Areas. *Public access to designated Resource Protection Buffer areas shall be managed to protect against significant degradation of Resource Protection areas. The general public may use CLRDP-designated roads, trails, overlooks, and the Younger Lagoon beach area within Resource Protection Buffer areas consistent with the provisions of this CLRDP. Only authorized personnel are allowed outside of such areas, except that public access may be gained with the University's written authorization. Authorization shall be granted only on a temporary basis and only for personnel necessary for activities consistent with uses allowed in the CLRDP. The University may use a combination of devices to protect designated Resource Protection Buffer areas (including fences, walls, berms, and vegetation) provided such devices are consistent with the provisions of the this CLRDP.*

Implementation Measure 6.2.5 – Access to Coastal Bluffs. *The University shall provide access to the coastal blufftop edge through existing, enhanced, and new trails and overlooks as shown in Figure 5.6. Except for trails identified in Figure 5.6, the University shall limit access down the face of the bluff to the rocky intertidal area to authorized personnel trained to use rope ladders. The University may install and maintain bluff-top signs in this area warning of the danger of traversing the bluff face and of occupying the rocky intertidal area or surf below. The University may use a combination of devices to protect the coastal bluffs in this area from human intrusion (including fences, walls, berms, and vegetation), provided such devices are consistent with the provisions of this CLRDP.*

Implementation Measure 6.2.6 – Access to Laboratories and Research Areas. *The University shall provide public access to laboratories and research areas in the Upper, Middle, and Lower Terrace development zones through supervised tours only. Public access to these areas shall be limited as necessary to ensure that the research and marine facilities of the site remain secure. The University may use a combination of devices to protect such laboratories and research areas (including fences, walls, berms, and vegetation) provided such devices are consistent with the provisions of this CLRDP.*

Implementation Measure 6.2.7 – Caretaker Residence and Lab Security. *The University may maintain a caretaker residence and undertake appropriate measures consistent with this CLRDP to maintain security in public and non-public areas on the campus. The University may, if needed, establish a controlled entryway at Delaware Avenue and Shaffer Road, provided that all implementing development (e.g., kiosks, gates, etc.) is consistent with the provisions of this CLRDP, and provided that any gates/barriers to public access remain open and/or are not present during daylight hours.*

Implementation Measure 6.2.8 – Bicycles on the Marine Science Campus. *The use of bicycles on the trails, roads, and parking areas of the Marine Science Campus shall be allowed, except on "Controlled Access Trails."*

Implementation Measure 6.2.9 – Domestic Pets. *Cats and dogs and other domestic pets shall not be kept on or brought temporarily onto the Marine Science Campus. The University shall ensure that information regarding this domestic pet prohibition is disseminated to all Campus users, and that it is strictly enforced.*

Implementation Measure 6.2.10 – Public Access Signage. *Signage and other media shall be used to provide visitors with information about coastal resources, identify the location of public trails, overlooks, parking, and other Campus access and recreation amenities, and warn of dangers in the environment. Signage shall also be provided to identify Controlled Access Trails, with information about supervised tours. Signs shall be located, at a minimum: at each trailhead (i.e., where visitors enter the Marine Science Campus); at each trail intersection with another trail or an overlook; at each overlook; at each public coastal access parking area; and at intervals along trails no more than 200 feet apart. Trail signs specifically shall be placed so as to be visible to trail users coming from either direction (e.g., back-to-back signs). Brochures or other media describing Campus public access amenities shall be consistent with all CLRDP provisions and shall be made available at convenient locations for visitors to the Campus (i.e., Campus entrance at Delaware Avenue, Seymour Center, public coastal access parking areas, overlooks, etc.).*

Implementation Measure 6.2.11 – Off-Campus Trail Connectivity. *Public trails on the Marine Science Campus shall be designed to connect to and seamlessly integrate with trails that are located at the boundary of the Campus (see Figure 5.6). Such connecting trail locations at the Campus boundary include existing connections at Delaware Avenue and at the seaward end of De Anza Mobile Home Park, and future connections at the railroad tracks bordering the north of the Campus and to the upcoast Younger Ranch property bordering the west of the Campus and Younger Lagoon Reserve should public access be provided and/or allowed on these adjacent properties.*

Implementation Measure 6.2.12 – Maintenance of Existing Public Access. *Public access resources existing at the time of CLRDP certification, including trails, overlooks, parking, and signage, shall, at a minimum, be maintained in their existing condition until such time as they may be enhanced pursuant to the provisions of this CLRDP.*

Implementation Measure 6.2.13 – Public Access to Younger Lagoon Beach. *The University shall provide public access to the Younger Lagoon Beach area consistent with and pursuant to an approved management plan pursuant to Implementation Measure 3.6.3.*

Policy 6.3 Public Access and Recreation Plan Required

New development that affects public access and recreation shall be authorized by the University only if it includes a public access and recreation plan that clearly details the manner in which the development individually and cumulatively is consistent with and implements the public access and recreation parameters of this CLRDP, including those in Section 5.6 (Public Access and Recreation) and Chapter 9 (Capital Improvement Program), and including long-term monitoring, maintenance, and management of same.

5.7. Hydrology and Water Quality

This section sets forth plans, policies, and implementation measures related to hydrology and water quality on the Marine Science Campus and, as applicable, offsite.

5.7.1. Drainage Concept Plan

The governing plan for hydrology and water quality on the Marine Science Campus is the Marine Science Campus Drainage Concept Plan (Drainage Concept Plan), which is included as part of this CLRDP as Appendix B. The Drainage Concept Plan recognizes that stormwater and other runoff from the Marine Science Campus ultimately enters important natural resource areas on and adjacent to the site, including **the original** Younger Lagoon Reserve, terrace wetlands, and the Monterey Bay National Marine Sanctuary. Stormwater runoff is vital to the maintenance of habitat values in wet areas on Campus, but with development of the site there is also potential for harm caused by increased energy flows, altered flow regimes, and urban pollutants.

Overall, the implementation of the Drainage Concept Plan should be a significant improvement over the existing (at the time of CLRDP certification) drainage system for the Marine Science Campus. First, the plan calls for the correction of various then-existing drainage deficiencies on the Marine Science Campus (e.g., the deposition of eroded soil caused by historical erosion problems on the bluffs of Younger Lagoon Reserve adjacent to the NOAA inholding) early in the implementation of this CLRDP.

Second, the plan protects sensitive habitat areas from the effects of future development by using a combination of natural drainage systems and engineered filtration systems. The natural systems, which are referred to as Best Management Practices (or BMPs) will be used in series, where possible, connecting vegetated filter strips to grassy swales that are in turn connected to vegetated stormwater basins. Each of these mechanisms serves to filter and treat stormwater and other runoff so the quality of water leaving the system should be of relatively high quality. In addition to providing a high level of water quality, these natural systems will augment groundwater supplies by providing ample opportunities for groundwater recharge. Natural systems will be supplemented with engineered filtration system BMPs that will be used in parking lot and other vehicular use areas, and in maintenance/laydown areas, to ensure cleansing of runoff prior to it entering the natural systems in series, including ultimately the vegetated stormwater basins. The "in ground" natural and engineered treatment and filtration systems will also be supplemented by source control (such as a Campus-wide stormwater educational program, use of less polluting materials, etc.) and operational BMPs (such as regular maintenance, street sweeping/vacuuming, etc.). Thus, the Drainage Concept Plan represents a state of the art "treatment train" BMP approach that is both sensitive to the site design aesthetic and designed to produce the highest possible quality of site runoff possible.

The Drainage Concept Plan has six key components:

- Use of natural and engineered treatment/filtration BMPs in concert with source control and operational BMPS in a "treatment train" approach designed to effectively remove typical urban pollutants from site runoff and to allow the filtered and treated runoff to be used to maintain and enhance habitat areas.

- Maintenance of pre-development drainage peak flows in the post-development drainage system.
- Treatment of stormwater and other runoff to meet defined water quality success criteria (including the requirements set forth in "California's Management Measures for Polluted Runoff," Section 6217 (g) of the Coastal Zone Amendment and Reauthorization Act, and the Central Coast Region Basin Plan).
- Maintenance of BMPs and monitoring of filtered and treated stormwater and other runoff to ensure that the drainage system is able to provide effective control of water quantity and quality consistent with plan objectives.
- Maintenance of groundwater recharge at pre-CLRDP levels to the maximum extent practicable.
- Correction of erosion and sedimentation problems in **the original** Younger Lagoon Reserve caused by drainage from the terrace portion of the site.

Policies and implementation measures upon which the Drainage Concept Plan is based are provided below. In carrying out the Drainage Concept Plan, decisions are to be guided by, and achieve consistency with these policies and implementation measures, and the Drainage Concept Plan.

5.7.2. *Drainage Management Policies*

Policy 7.1 Productivity and Quality of Coastal Waters

The Marine Science Campus shall be developed and used in a manner that shall sustain and, where feasible, enhance and restore, the biological productivity and quality of coastal waters on and adjacent to the Campus through controlling, filtering, and treating runoff and other non-point sources of pollution, preventing depletion of groundwater supplies and substantial interference with surface water flow, encouraging wastewater reclamation, and maintaining natural vegetation buffer areas that protect riparian habitats.

Implementation Measure 7.1.1 – Management of Stormwater and Other Runoff. *The stormwater and other runoff drainage system on the Marine Science Campus shall be sited and designed using a combination of good site planning, source control, and filtration/treatment best management practices (including engineered storm water treatment systems) to achieve water quality objectives, as detailed in the Drainage Concept Plan (Appendix B). Low Impact Development (LID) BMP strategies and techniques shall be used in all system design (e.g., maximizing infiltration in BMP design, reducing the hydraulic connectivity of impervious surfaces, etc.). The drainage system shall be designed to filter and treat (i.e., to remove typical and expected urban runoff pollutants) all site runoff prior to its use for on-site habitat enhancement, infiltration, and/or landscape irrigation, and/or prior to its discharge otherwise. The drainage system shall be sized to accommodate the volume of runoff produced from all applied water (such as for irrigation) and from each and every storm and/or precipitation event up to and including the 85th percentile 24-hour runoff event for volume-based BMPs. Drainage shall be directed to vegetated stormwater basins through vegetated filter strips and swales to further improve water quality prior to its discharge to receiving areas. The drainage system for equipment/vehicle use areas (i.e., parking lots, maintenance and laydown areas, etc.) shall also include engineered treatment systems and/or equivalent systems designed to filter and treat contaminants expected to be present in the runoff relating to the specific type of equipment/vehicle use.*

Implementation Measure 7.1.2 –Water Quality Standards. *Stormwater and other site runoff shall be filtered and treated to the extent necessary to meet the minimum water quality requirements set forth in the Drainage Concept Plan.*

Implementation Measure 7.1.3 – Pre- and Post-Development Flows. *The University shall develop and manage a drainage system on the Marine Science Campus that maintains pre-development drainage patterns and peak flow rates for up to the 25-year return storm in the post-development drainage system to the maximum extent feasible, provided that accommodating such flows does not require drainage system sizing that exceeds 85th percentile storm event requirements (see Appendix B). The one exception to this flow pattern standard is drainage from Basin 10, part of which shall flow to Basin 9 to avoid construction of a new outfall over the coastal bluff (see Drainage Concept Plan in Appendix B).*

Implementation Measure 7.1.4 – Pre-Development Drainage Patterns Defined. *"Predevelopment drainage patterns" means the pattern of stormwater and other runoff flows prior to certification of this CLRDP, as identified in Drainage Concept Plan.*

Implementation Measure 7.1.5 – Pre-Development Drainage Peak Flow Rates Defined. *"Pre-development drainage peak flow rates" means the estimated rates at which stormwater and other runoff flowed on the site assuming the site was covered in grassland vegetation, as estimated in the Drainage Concept Plan, with the exception that for drainage Basins 5 and 9 only, it means the estimated rates at which stormwater flowed on the site prior to certification of this CLRDP, as estimated in the Drainage Concept Plan.*

Implementation Measure 7.1.6 – Groundwater Recharge. *The University shall develop and manage a drainage system on the Marine Science Campus that maintains groundwater recharge at pre-CLRDP levels to the maximum extent practicable through the use of infiltration (e.g., in the vegetated stormwater basins and swales).*

Implementation Measure 7.1.7 – Seawater System. *Seawater pumped onto the site shall be contained and discharged so as not to impact freshwater resources and upland habitats on the Marine Science Campus.*

Implementation Measure 7.1.8 – Irrigation and Use of Chemicals for Landscaping. *Any water used for landscape irrigation on the Marine Science Campus shall not be applied in a manner that would cause significant erosion. Any use of chemicals for fertilizer and/or weed and pest control shall be limited to the maximum extent feasible, including as required by the Drainage Concept Plan, and any chemicals unavoidably used shall not enter habitat areas or the ocean in concentrations sufficient to harm wildlife and/or to degrade habitat.*

Implementation Measure 7.1.9 – Wastewater. *All wastewater generated on the Marine Science Campus shall be discharged to the City of Santa Cruz's sanitary sewer system.*

Implementation Measure 7.1.10 – Elements of the Stormwater Treatment Train. *The University has identified six primary treatment BMPs in the Drainage Concept Plan (Appendix B) to be used as appropriate in every project-specific drainage plan developed for the Marine Science Campus. Wherever possible, these BMPs shall be used in series as a treatment train, but any combination may be used, depending on what is appropriate in any particular drainage basin, provided a subset of these six BMPs and/or a substitution (of an equally effective BMP) for one or more of them would provide equal or better water quality and other resource protection. In every case, engineered stormwater treatment systems shall be installed as part of the treatment train where areas subject to vehicular-type pollutant generation (e.g., parking lots, maintenance areas, laydown areas, etc.) are tributary to the treatment train.*

Implementation Measure 7.1.11 – Runoff Containment for Laydown Yard and Food Service Washdown Areas. *Any laydown yard and/or maintenance areas shall include designated areas for maintenance and servicing of equipment, and all such activities shall be confined to these areas. All runoff within such designated areas and within any food service washdown areas (in all development zones) shall be contained. The perimeter of these areas shall be constructed so as to completely contain runoff (i.e., curbs, berms, shower drains, etc.), and the contained area shall be plumbed to the sanitary sewer. The sewer connection in these areas shall be equipped with shutoff valves and these areas shall be covered (e.g., roofs or awnings) in such a manner as to minimize discharge of high volume stormwater flows to the sanitary sewer.*

Implementation Measure 7.1.12 – Location of Treatment Train Components. *Vegetated stormwater basins (except for the forebay) and associated outlet conveyance swales may be sited outside of development zones where such components are: 1) consistent with the Drainage Concept Plan and other CLRDP requirements, 2) sited and designed to minimize resource impacts, 3) designed to minimize landform alteration by utilizing multiple, small vegetated basins (rather than a large, single basin) that closely mimics the existing topographic features, 4) minimized in area to the maximum degree possible, 5) located as far from the resources being buffered and as close to the development zone as possible (unless a different location would result in better resource protection), and 6) limited to areas designated Open Space on Figure 5.2 except in areas adjacent to the Upper Terrace development zone and adjacent to the northwestern corner of the Middle Terrace development zone where these allowed components may also be allowed within the Resource Protection Buffer designation in two limited instances (that are described in the Drainage Concept Plan).*

Implementation Measure 7.1.13 – Permeable Hardscape. *Hardscape development (such as roads, parking areas, paths, patios, etc.), where appropriate for water quality protection purposes, shall include permeable materials (e.g., permeable pavement/concrete, turfblock, etc.) to maximize infiltration. At a minimum, all parking areas shall be surfaced with porous/permeable materials.*

Implementation Measure 7.1.14 – Ocean Discharge. *In addition to any National Pollutant Discharge Elimination System (NPDES) requirements, all ocean discharge shall be subject to the monitoring, maintenance, and water quality standards and requirements identified in the Drainage Concept Plan.*

Implementation Measure 7.1.15 – Drainage System Interpretive Signs. *All drainage improvements shall include as part of them interpretive signs and facilities designed to explain the reason for and the operation of the selected treatment train drainage system components applicable to both the individual development and the Campus overall.*

Implementation Measure 7.1.16 – Design of Vegetated Stormwater Basins. *Vegetated stormwater basins shall be created by constructing low-profile natural looking berms to enclose a land area within which non-native and invasive plant species shall be removed and native grasses and other suitable native vegetation capable of enhancing water quality shall be planted consistent with the Resource Management Plan (CLRDP Appendix A). Any portions of such vegetated stormwater basins that are located outside of development zones shall be considered an integral part of the natural open space area within which restoration and management shall apply pursuant to the Resource Management Plan (CLRDP Appendix A), and within which other development is prohibited. The berms to be used to create the enclosed areas defining the vegetated stormwater basins shall be no higher than 18 inches from natural grade and shall be no steeper than a three-to-one grade. The berms shall include natural looking spillway areas designed to accommodate the release of detained runoff that exceeds the maximum capacity of the vegetated stormwater basins in a non-erosive manner.*

Implementation Measure 7.1.17 – Designation of Treatment Train. *All development projects that include new drainage system components (e.g., development of vegetated filter strips, swales, and stormwater basins) or that*

result in new drainage inputs to established drainage system components shall clearly identify the drainage system components that are designed to accommodate project drainage and address CLRDP water quality requirements. These components shall be considered a "BMP treatment train" for purposes of CLRDP water quality monitoring (see Appendix B). For each BMP treatment train so identified, its final discharge point and a representative initial input point shall be designated for purposes of CLRDP water quality monitoring.

Policy 7.2 Long-Term Maintenance and Monitoring

The University shall maintain and monitor the drainage system for stormwater and other runoff on the Marine Science Campus to provide control of water quantity and quality in a manner which maintains the quality and biological productivity of coastal waters and habitats on and adjacent to the Campus.

Implementation Measure 7.2.1 – Drainage System Monitoring and Maintenance. *The University shall regularly inspect and maintain Marine Science Campus drainage systems, and shall regularly monitor system discharge, consistent with the requirements of the Drainage Concept Plan to ensure that the integrity of the drainage system is maintained, to verify that the drainage system is improving the quality of the water draining from the site, and to ensure that discharge has been adequately filtered and treated to meet CLRDP water quality objectives.*

Implementation Measure 7.2.2 – Stormwater System Natural Features Maintenance. *The vegetated stormwater basins, vegetated filter strips, vegetated swales, and other natural drainage features to be created per the Drainage Concept Plan may exhibit wetland and/or habitat characteristics over time, but their primary function is for water quality filtration and treatment, flow control, and infiltration. As such, maintenance within them on a regular basis is expected and necessary in this respect, and is allowed per this CLRDP (see maintenance parameters in the Drainage Concept Plan).*

Implementation Measure 7.2.3 – Drainage System Sampling. *The University shall sample stormwater runoff within, and discharges from, each development zone (i.e., Upper, Middle, and Lower Terrace, and Campus Entrance) on the Marine Science Campus and in YLR in a manner consistent with the Drainage Concept Plan. Stormwater shall be tested to ensure that the BMPs incorporated into the drainage system are functioning consistent with the Drainage Concept Plan. If discharge water quality does not meet the objectives set forth in the Drainage Concept Plan, the University shall take action to determine the cause and make modifications as necessary to address the identified water quality issue and to meet the required water quality objectives. The results of stormwater sampling shall be made available to researchers investigating the performance of BMPs in California.*

Implementation Measure 7.2.4 – Long-Term Maintenance of Stormwater System. *The University shall regularly maintain all components of the campus drainage system, as specified in the Drainage Concept Plan.*

Policy 7.3 Drainage Discharge Points

The number of individual drainage discharge points shall be as specified in the Drainage Concept Plan. The University shall make improvements to them as necessary to correct existing erosion and/or other problems detrimental to maintenance of beneficial hydrology or water quality. Additional discharge points not identified in the Drainage Concept Plan shall not be created unless required to replace an identified discharge point, the improvement of which would cause a significant impact on the environment, and unless the creation of a new discharge point would have less impact than improving the existing discharge point.

Implementation Measure 7.3.1 – Discharge to **the original** Younger Lagoon Reserve. *Stormwater discharge facilities that discharge into* ***the original*** *Younger Lagoon Reserve shall be designed to accommodate the 100-year storm event if otherwise consistent with the provisions of this CLRDP, including the Drainage Concept Plan.*

Implementation Measure 7.3.2 – Discharge Siting and Design. *All discharge points shall be sited and designed to minimize resource impacts.*

Policy 7.4 Drainage Plan Required

New development that alters drainage patterns shall be authorized by the University only if it includes a drainage plan that details the manner in which the development individually and cumulatively is consistent with and implements the stormwater and other runoff parameters of this CLRDP, including the Drainage Concept Plan, and including long-term drainage system monitoring and maintenance.

5.8. Utilities

This section sets forth plans, policies, and implementation measures related to utilities on the Marine Science Campus.

5.8.1. Utilities Program

The utilities program for the Marine Science Campus consists of six program elements, and each of these is described below. The Utilities Diagram is discussed in a subsequent section. All utilities are to be located underground (note see also Section 5.4).

Water System

Increased water supplies will be provided to the Marine Science Campus through expanded water lines in designated utility corridors. As in most new developments, the driving factor in sizing water mains will be the anticipated demand from fire suppression facilities within the system (hydrants and building sprinklers). Domestic use is expected to have a negligible impact to the sizing of new water infrastructure. The on-site water system will be expanded as necessary to support the fire suppression demands of new structures in terms of size and proximity. New mainline pipe sizes within the campus are expected to be 6, 8 or 10 inches in diameter, depending on projected fire flows, but in all cases are going to be limited to the minimum size necessary to serve Campus development only. New water mains will be located within campus roadways and utility corridors. There will likely be two connections to the City system: the existing connection at the intersection of Delaware Avenue and Shaffer Road and possibly a second connection in Shaffer Road at the entrance to the Upper Terrace development zone. City owned water facilities surrounding the site are of sufficient size to support the site. The City-owned 12-inch water main in Delaware Avenue at Shaffer Road provides water to the site at a static pressure of 90 pounds per square inch (PSI). The 10-inch water main in Shaffer Road at the railroad tracks will provide water to the site at a static pressure of 80 PSI. Tests indicate that fire flows of 2,500 GPM are achievable at both locations. No major off-site construction is required to provide water services to the site. There are currently no restrictions for water purchase through the City of Santa Cruz at the time of CLRDP certification, but there may be subsequent to that time and the University will need to closely coordinate with the City concerning potential effects of Campus demands on the municipal water supply. Water demand calculations are based on the estimated wastewater demands with an additional 10 percent for non-recovery. Peak hourly demand is estimated to be 5 times average hourly demand.

Seawater System

Expanded seawater capacity may be provided to the Marine Science Campus through utility corridors as shown in Figure 5.7. The demand for seawater on the Marine Science Campus is projected to be 6,000 GPM at full development of the CLRDP building program, and the capacity of the system is limited to this size. Any additional capacity would likely be provided via the reconstruction of the existing intake lines or the construction of new intake lines at the southern edge of the site, near the existing lines. However, this CLRDP also requires that entrainment and impingement be avoided to the maximum extent feasible, and alternative seawater system designs may be necessary to meet such requirements. In any case, an increase in intake capacity would also likely be accompanied by expanded seawater storage tanks, filtration and treatment facilities, and distribution improvements. Seawater systems will be designed with containment against possible spillage into resource protection areas.

Sanitary Sewer System

Sewer service to new development in the Lower Terrace will connect to the existing force main that connects to the Middle Terrace. No upgrade to this force main is necessary, but upgrades to an existing pump station adjacent to NOAA fisheries lab may be necessary. In the Middle Terrace, new development will connect to either the existing 8" gravity line extending north of the NOAA lab or to an existing 8" gravity line extending from the Fish and Game area south and east to the lift station at the NOAA lab. In the Upper Terrace, new development will connect to an existing gravity line in Shaffer Road. According to City of Santa Cruz officials, some City-owned off-site facilities downstream of the project are approaching capacity and will require upsizing to facilitate future projected demands (including the sewer pump station on Delaware). Wastewater treatment will continue to occur at the City's treatment plant at Neary Lagoon. There were no service or capacity restrictions at the wastewater treatment plant at the time of CLRDP certification, but there may be service restrictions and capacity issues subsequent to that time and the University will need to closely coordinate with the City concerning potential effects of Campus demands on the municipal wastewater treatment system.

Electrical System

Expanded electrical service will be provided to the Marine Science Campus through the PG&E electrical grid. The existing underground utility corridor at the time of CLRDP certification, which is located along the western edge of the site, will likely be used to accommodate projected electrical power needs (see also below). Improvements to off-site power lines may be required and could be accomplished by pulling new conductors through existing conduit or by replacing existing conduit with larger conduit. On-site improvements will consist of new transformers and the extension of underground services from existing and new transformers to new buildings. New meters may be required in some instances. There are no electrical service restrictions at the time of CLRDP certification, but there may be service restrictions subsequent to that time and the University will need to closely coordinate with PG&E concerning potential effects of Campus demands on the electrical grid.

The telephone, data, and electricity utility corridor is located outside of City limits, outside the Campus, and bisects the habitat corridor extending from Younger Lagoon along the western portion of the site, including an area identified for habitat enhancement. As such, maintaining and expanding utilities within it presents some concern regarding the urban-rural boundary and habitat protection. Therefore, for telephone, data, and electricity utility upgrades, which require significant ground disturbance, the University shall assess the alternative of re-routing all utilities out of this utility

corridor and/or adding the needed additional capacity through an alternative route. If found to be feasible and less environmentally damaging, the additional capacity shall be accommodated through an alternative route and the rerouting of the lines and any necessary utility abandonment measures (such as pulling out utility lines and restoring affected habitat area) shall be included within the University's development authorization.

Natural Gas System

Expanded natural gas service will be provided to the Marine Science Campus from PG&E's underground gas main in Delaware Avenue at the intersection of Shaffer Road (along the same utility alignment shared by water and sewer). At the time of CLRDP certification, no major off-site improvements are required to accommodate this demand. On-site improvements will include the extension of underground gas service to new buildings from existing gas mains. There are no natural gas service restrictions at the time of CLRDP certification, but there may be service restrictions subsequent to that time and the University will need to closely coordinate with PG&E concerning potential effects of Campus demands on the natural gas system.

Communication Systems

Expanded telephone and data service will be provided to the Marine Science Campus as needed to accommodate CLRDP building program needs. The existing underground utility corridor at the time of CLRDP certification, which is located along the western edge of the site, may be used to accommodate projected telephone and data service needs. As detailed above, communication utilities may instead be re-routed out of the western utility corridor. At the time of CLRDP certification, no major off-site improvements are necessary to accommodate increased demand. On-site improvements will include the extension of telephone and data lines through new underground conduits to new buildings.

5.8.2. Utilities Designations and Diagram

Three utility designations have been created for the UCSC Marine Science Campus: 1) Utility Corridor, 2) Utility Connection Point, and 3) Utility Prohibition Zone. Figure 5.7, Utilities Diagram, shows the geographic location of these designations on the Marine Science Campus. The intended effect of these designations is set forth in this subsection.

Utility Corridor

The primary purpose of this utility designation is to accommodate the utility program elements set forth in Subsection 5.8.1 above. The University will route all utility trunk lines related to the elements of the utility program described above through areas designated as "Utility Corridor" in the Utilities Diagram shown in Figure 5.7, and all lines will be sized to meet CLRDP building program needs consistent with resource protection.

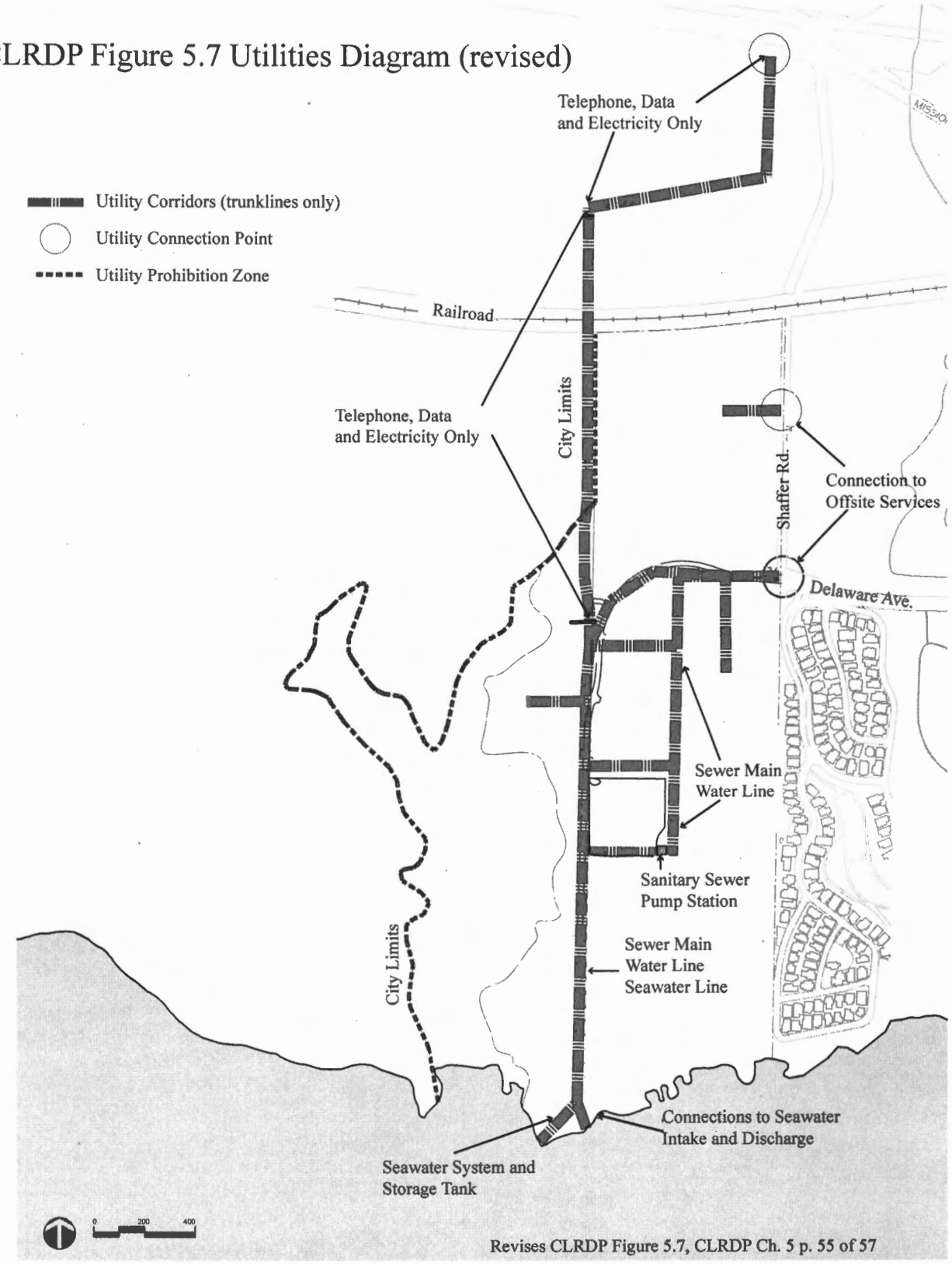
Utility Connection Point

The primary purpose of this utility designation is to prescribe the location at which sewer and water utilities will be connected to City sewer and water lines.

Utility Prohibition Zone

The primary purpose of this utility designation is to create an area through which the extension or expansion of sewer and water utilities to areas outside the City of Santa Cruz or otherwise beyond the Campus to the west is prohibited.

CLRDP Figure 5.7 Utilities Diagram (revised)



UC Santa Cruz Marine Science Campus Coastal Biology Building and Infrastructure Improvements Final Environmental Impact Report November 2011	Proposed Addenum 1, Action 8: Revise CLRDP Figure 5.7 Utilities Routes	Figure A-11

5.8.3. Utilities Policies

Policy 8.1 Provision of Public Works Facilities

New or expanded public works facilities shall be designed and limited to accommodate only needs generated by development or uses consistent with this CLRDP. Where existing or planned public works facilities can accommodate only a limited amount of new development, services to coastal dependent land use, essential public services and basic industries vital to the economic health of the region, state or nation, public recreation, commercial recreation, and visitor-serving land uses shall not be precluded by other development.

Implementation Measure 8.1.1 – Sizing of Utilities. *Utilities and services to and on the Marine Science Campus, including water, sanitary sewer service, stormwater systems, and electrical and communication lines, shall be sized consistent with and limited to accommodating only the building program set forth in this CLRDP.*

Implementation Measure 8.1.2 – Seawater System. *The University may maintain and may expand its seawater system to provide fresh seawater consistent with this CLRDP. The capacity of the seawater system shall be consistent with the building program set forth in Figure 5.1 of this CLRDP.*

Policy 8.2 Protection of Biological Productivity and Quality of Coastal Waters When Providing Public Works Facilities

The biological productivity and quality of coastal waters, streams, and wetlands appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained when providing public works facilities.

Implementation Measure 8.2.1 – Installation of New Utility Lines and Related Facilities. *New incidental public underground utility lines and related incidental public facilities shall be allowed below wetlands and riparian corridors only when there is no feasible less environmentally damaging alternative and where feasible mitigation measures have been provided to both minimize adverse environmental effects and to commensurately offset any unavoidable effects.*

Implementation Measure 8.2.2 – Seawater System. *The seawater system shall be operated in a manner that will protect against spillage and that will sustain the biological productivity and quality of coastal waters, streams, and wetlands.*

Implementation Measure 8.2.3 – Evaluation of Western Utility Corridor. *Development that requires or includes telephone, data, and/or electricity utility upgrades that require significant ground disturbance within the utility corridor along the western boundary of the site shall include an analysis detailing the measures necessary to re-route all utilities out of this utility corridor and/or adding the needed additional capacity through an alternative route. If found to be feasible and less environmentally damaging, the additional capacity shall be accommodated through an alternative route and, if feasible, the existing lines shall be rerouted. Any necessary utility abandonment measures (such as pulling out utility lines and restoring affected habitat area) shall be included within the University's development authorization.*

Policy 8.3 Water Conservation Required

New development shall include water conservation measures that reduce water use. Such conservation measures shall be applied to both interior water use (e.g., including but not limited to, ultra low-flow plumbing fixtures, flow restrictors, hot water re-circulation pumps, water pipe insulation, Energy-Star rated appliances, etc.) and exterior water use (e.g., including but not be limited to, drought tolerant landscape species, drip irrigation, cistern collection for irrigation, rain sensitive irrigation systems, overflow prevention mechanisms, automatic shutoff nozzles, etc.). The City of Santa Cruz shall be consulted regarding necessary water conservation measures.

Policy 8.4 Impacts to City Water and Sewer Systems Offset

New development shall include the payment of fair-share fees and/or commitment to construct necessary water and sewer system upgrades attributable to the development's impact on City water and sewer utility infrastructure. The City of Santa Cruz shall be consulted regarding any fair-share fees and/or water/sewer system upgrades.

Policy 8.5 Utility Plan Required

New development that requires utilities shall be authorized by the University only if it includes a utility plan that details the manner in which the development individually and cumulatively is consistent with and implements the utility parameters of this CLRDP, including Section 5.8 (Utilities), and including long-term monitoring and maintenance of same.

6. Design Guidelines

The purpose of this chapter is to provide design guidance for development on the UCSC Marine Science Campus that implements the design principles and land use concepts of Chapter 4 and is consistent with the policies and measures of Chapter 5. Campus development shall be consistent with the design guidelines of this Chapter. This Chapter contains eight subsections that address specific areas of design. These include:

6.1. Building Design

Since the inception of the Marine Science Campus, care has been taken to design facilities that fit the site character. The original Long Marine Lab buildings were designed with natural board and batten siding and sloping roofs and in a number of respects resembled typical coastal rural and agricultural (or farm) buildings. More recently, additions to the campus have somewhat modernized this appearance, while still retaining the general shape, design, and form of building massing.

6.1.1. Intent

The intent of the building design guidelines is to establish a building design aesthetic at the Marine Science Campus that is sympathetic to the enduring qualities of the vernacular coastal, rural and agricultural architecture, similar to the original Long Marine Laboratory buildings. An overriding objective is to limit the visual impact of buildings to the maximum extent feasible consistent with program needs. This is to be achieved by limiting building mass and height, using vernacular architectural forms such as the coastal barn as inspiration, and using materials and colors traditionally seen in the coastal rural setting. The coastal barn form should be the primary inspiration and is the foundation of these guidelines. In addition, design elements that could impact Younger Lagoon Reserve (YLR) and other habitat areas should be avoided.

6.1.2. Building Design Guidelines

The following guidelines are intended to reinforce the conception of the site as a transition zone between the rural, open-space, agricultural, and State Park coastal landscape to the west and north and the developed urban fabric to the east. Figure 6.1 depicts coastal rural and agricultural architecture.

Fig. 6.1 Coastal Rural and Agricultural Architecture

Building Arrangements

L-shaped or U-shaped forms lend themselves to creating the types of informal arrangements that typify the coastal form. As shown in Figure 6.2, these configurations will also provide the opportunity to create useful, sheltered outdoor space.

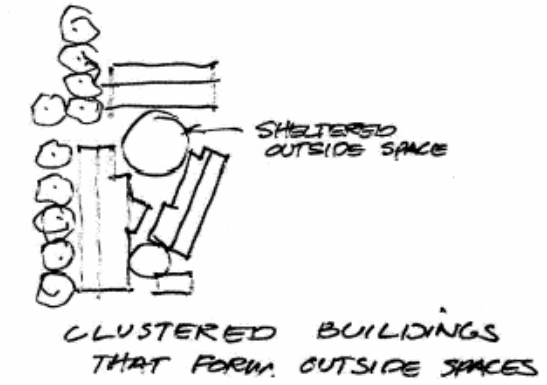


Fig. 6.2 Building Arrangements

Buildings shall be designed to encourage interaction among its inhabitants. Circulation, both vertical and horizontal, can be opportunities for interaction. Stairs should be designed to foster communication by being enjoyable places, providing access to daylight and views. Appropriately scaled stairs and landings can become places for chance meetings and encourage interaction among colleagues. Active public spaces should be located adjacent to outdoor spaces and pedestrian routes and pathways.

Although buildings will be clustered to encourage interaction, appropriate building scale and separation is also important so that development within each development zone is not perceived simply as a large mass of buildings both from within and from public views of the campus. In order to achieve the proper scale for CLRDP development on the Campus, and the proper scale within development zones, Figure 5.4 establishes development subareas within which building height and development intensity are regulated, the intended effect of which is to generally limit building heights, decrease building heights at the edge of building zones and to provide scale compatibility with existing buildings and the site overall. This is particularly important in the Lower Terrace

development zone due to the limited additional area allotted for new development and the substantially built up nature of this node. In all cases, the CLRDP prescribes a maximum square footage for new buildings, and requires that scale compatibility be achieved.

Furthermore, when the program requires a building to be a large form, it shall be articulated as a primary form, supported by smaller, secondary forms. In addition, this type of articulation shall apply to building elements at the perimeter of Campus development zones. This will help to break down the perceived bulk of buildings and Campus development nodes overall and give both scale. The overall effect should be one of buildings that have evolved over time and in harmony with their natural environment.

Outdoor Spaces and Courts

The windy climate of this site dictates that courts and occupied outdoor patio spaces are ideally situated on the lee side (east and north) of the building. Smaller patio spaces are preferable to large or monumental spaces as they are more likely to remain protected from the wind.

Building Profile

Existing buildings on the Marine Science Campus are a range of sizes with most being one-story from 12 feet up to a maximum of 24 feet above grade (usually less) in height. There are also two, two-story buildings, and these are the largest buildings on the site at 36 feet above grade in height (see Figure 6.3). In some cases, Campus buildings include even taller articulated elements above rooflines to screen mechanical equipment. The scale and massing of future facilities shall be consistent with the existing site character, as well as the desire to foster interdisciplinary interaction and a sense of community among the research, student and staff population.

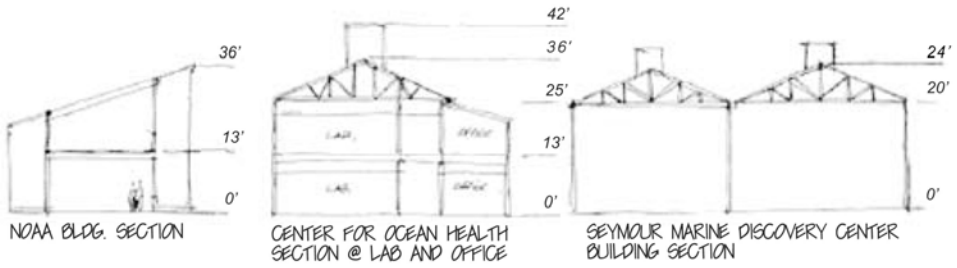


Fig. 6.3 Existing Building Heights

As prescribed in Chapter 5, buildings on the Marine Science Campus are limited to a maximum of two stories and maximum height of up to 30 feet (and up to 36 feet in certain circumstances for certain lab buildings) to minimize their perceived bulk and to allow good access to daylight and views. First floor levels should be as close to the existing grade as possible. Many support facilities, such as warehouse and storage buildings will be only one story and less than the maximum height and will tend to cluster at the edges of the development zones. Also, height limits are highest in the middle of development zones and lowest nearest the edges and the coastline. The resulting stepped profile of development (lowered and articulated building elements nearest the perimeter of development zones, as well as on the perimeters of individual buildings/complexes) recognizes the

scenic value of the site in the coastal zone, particularly nearest the shoreline. It establishes a visual form and massing of development that is compatible with this transition from the urban city edge of industrial and residential uses. Figure 6.4 shows the building profile for a typical maximum height lab building on the Marine Science Campus.

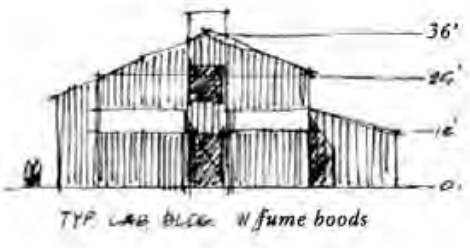


Fig. 6.4 Typical Lab Building Profile

Materials and Color

Construction materials will relate strongly to the vernacular style of coastal architecture. Stained vertical wood siding, roughcast concrete and high-quality shingle roofing are generally required. The existing Long Marine Laboratory buildings on site typify the required styles of material and color. Subdued, natural colors that offer little contrast to the surrounding environment are required, although building features such as windows and doors may have small color variations to enhance the building design. Differing colors shall harmonize rather than offer stark contrasts.

Exterior Walls: Siding materials shall be vertical board and batten construction of western red cedar or redwood with an integral stain finish, unless a different exterior treatment is deemed more in keeping with the site character and aesthetic.

Exterior Metals: The coastal environment is highly corrosive. Metals shall be corrosion resistant materials such as bronze, copper, stainless steel, cor-ten steel, or pre-finished aluminum. Selection of railing, doorframe, window, and roofing materials should reflect the special challenges posed by this site.

Exposed Concrete: Prominently exposed concrete surfaces such as the edges of a foundation wall will be board-formed or rough-finished (textured not smooth).

Base Floors/Foundation: First floors shall be concrete slab on grade over engineered fill with spread footing foundation, or supported on drilled piers with grade beams if required.

UC Green Building Policy

Effective July 2004, all University capital improvement projects must meet the standards set out in The Regents' Green Building Policy. At the time of CLRDP certification, this policy included the following green building standards and system-wide clean energy standards. Within regulatory and programmatic requirements and budget constraints, new buildings should strive for "Silver" and

must achieve the equivalent of at least a LEED "Certified" rating. The buildings must also outperform Title 24 energy requirements by 20%.

Temporary Greenhouses

Eleven existing temporary greenhouses shall be made to meet all applicable design and design-related guidelines as much as practicable, but are allowed to be inconsistent with some such guidelines provided reasonable attempts to meet such guidelines are applied, and provided such temporary facilities are made to conform to all CLRDP requirements, including design guidelines, or are removed and the disturbed area restored within seven years of CLRDP certification, or by December 31, 2013, whichever comes sooner.

6.2. Campus Street Design

This section sets forth design guidelines for streets on the Marine Science Campus.

6.2.1. Intent

The intent for the design of streets at the Marine Science Campus is to make the streets and the vehicles traveling along them as unobtrusive within the overall site environment as possible. Various strategies, ranging from planting to gentle berming, can be employed to achieve this goal. Figure 6.5 shows a section of how a typical campus street would be developed under the CLRDP.

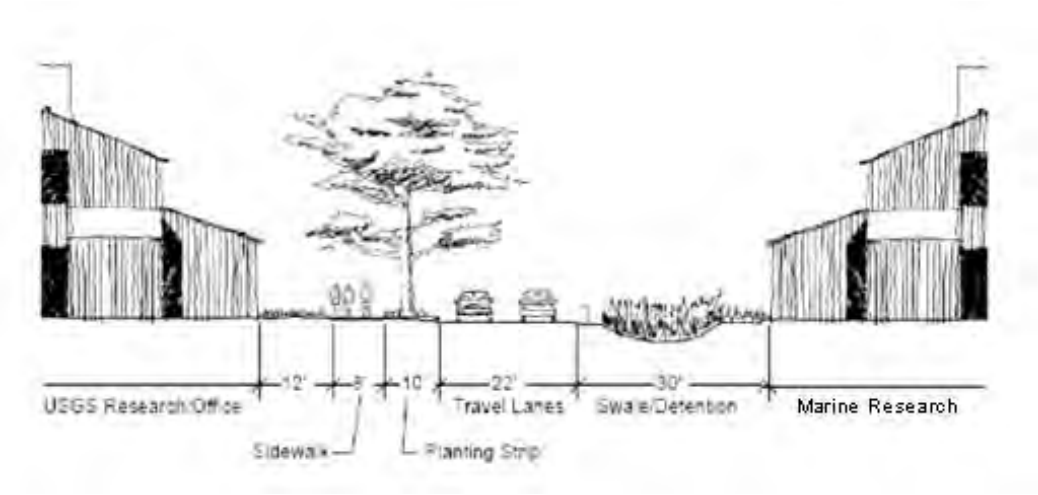


Fig. 6.5 Section of Typical Campus Street

6.2.2. Street Design Guidelines

The following design guidelines shall apply to street development on the Marine Science Campus.

- All streets shall be designed to accommodate two-way traffic flow. Pavement widths shall be no greater than 22 feet wide to minimize pavement area and to help reduce speeding. This maximum width may be increased by the minimum amount necessary if required to accommodate turning radii for large trucks and trailers accessing the site.

- All streets shall be constructed without curbs.
- Pavement edges in most areas shall be marked and off road movement discouraged through the use of a combination of landscaping, rope/cable and pole barriers, and small bollards or rails constructed of natural materials placed at regular intervals along both sides of the street. Outside of development zones, any such measures to keep vehicles on roads shall be limited to the maximum extent feasible and shall be sited and designed to match the natural grassland character of the surrounding natural area.
- Streets shall be surfaced with asphalt or other similar materials, and may include permeable sections (e.g., permeable pavement/concrete, turfblock, etc.) to enhance infiltration.
- Drainage swales shall be used adjacent to streets to filter drainage, regulate stormwater flows, and provide an attractive seasonally wet landscape feature, except where infeasible because of the potential for damage from automobiles accessing parking or building driveways.

6.2.3 Setbacks from Streets and Parking Lots

The following design guidelines shall apply to setbacks from streets and parking lots on the Marine Science Campus.

- Setbacks of facilities from roads and between buildings shall be sized to accommodate the CLRDP building program, to promote a compact development pattern within the development zones, and to diminish the perceived bulk of buildings and building clusters. Where surface drainage swales and basins are provided, building setbacks shall be increased appropriately. Setbacks shall be measured from the edge of roadway pavement or the parking area pavement edge.

- Buildings shall be located no closer than 15 feet from Campus Streets and parking lots. Building setbacks shall be increased to up to 30 feet where necessary to accommodate drainage swales and basins. The maximum continuous building length along a street setback line shall not exceed 175 feet.

6.3. Parking Design

This section sets forth design guidelines for parking areas on the Marine Science Campus.

6.3.1. Intent

The intent for the design of parking areas at the Marine Science Campus is to minimize their visual impact, protect water quality, limit the negative effects of associated noise and lights, integrate parking into overall site appearance, and utilize materials that will result in the least environmental impact.

6.3.2. General Parking Area Design Guidelines

The following general design guidelines shall apply to parking area development on the Marine Science Campus.

- All parking areas and/or individual parking spaces shall be located only within the four designated development zones

- Parking areas on the Marine Science Campus shall be located and designed to minimize their visual impact to natural resource areas and to users and visitors of the site.

- Parking shall be distributed around the site in discrete parking areas rather than in large lots to help minimize the visual impacts of these features, to minimize the disruption to groundwater recharge during storm events, and to promote convenience for campus users.

- All parking shall be screened from view with planting or gentle berms or located within building clusters where they will not be visible from a distance.

- Wheel stops may be used to keep cars on pavement and in designated parking areas.

6.3.3. Specific Parking Area Design Guidelines

In addition to the general guidelines above, specific guidelines for particular elements of parking areas on the campus also apply and include the following:

Parking Area Drainage

Drainage from the parking areas shall be contained by natural materials (wood, concrete, and stone) that can be used as edge treatments (e.g., headers) as necessary to guide drainage to filtered outlets and control erosion of the pavement edge.

- Two types of surfaces are to be used for parking areas on the Marine Science Campus. All permanent parking areas shall be surfaced with porous/permeable materials (e.g., porous pavement/concrete, turfblock, etc.) to enhance infiltration.

- Temporary or overflow parking areas may be covered in gravel or decomposed granite, or left in a weedy ruderal (mowed) state.

Parking Area Screening

Parking areas shall be screened to minimize public view impacts through a variety of means depending upon the location of the parking on the site and the characteristics of the surrounding area. Appropriate strategies include:

- Gentle berms with native grasses in grassland areas.

- Native shrubs and small trees adjacent to Resource Protection Buffers or other areas where similarly-scaled materials exist in order to cause the parking and its screening to recede into the surrounding background.

Temporary Parking Areas/Ground-Level Storage Areas

The University may develop temporary parking and/or ground-level storage areas during the first five years after CLRDP certification. These temporary facilities shall be designed to meet all applicable design and design-related guidelines as much as practicable, but are allowed to be

inconsistent with some such guidelines provided reasonable attempts to meet such guidelines are applied, and provided such temporary facilities are made to conform to all design guidelines or are removed and the affected area restored within five years of CLRDP certification (see also Section 5.2.1).

6.4. Trail Design

This section sets forth design guidelines for trails on the Marine Science Campus.

6.4.1. Intent

Walks and trails on campus have two primary and overlapping uses: 1) daily use by site faculty, staff and students to access site facilities, and 2) visitor use for coastal access, docent-led tours, and informal interpretive walks.

The intent of the design of trails at the Marine Science Campus is, like streets, to make them as unobtrusive and natural appearing as possible while also providing functional pedestrian and bicycle circulation that is attractive to use in all seasons and weather conditions, thereby encouraging people to walk and bike to and on the site rather than traveling by car.

6.4.2. General Design Guidelines for Trails

The following general design guidelines shall apply to trail development on the Marine Science Campus.

Trail Widths

Trail widths will vary between 6 feet (at a minimum) and 12 feet (at a maximum) depending on location and function, except for controlled access trails that may be narrower than 6 feet if topography and/or sensitive natural resources preclude such width, and if the trails are still wide enough to accommodate the expected level and type of access. The larger widths should be limited to those direct routes between campus facilities that may see higher levels of pedestrian and bicyclist use. In general, narrower trail widths will be used outside of development zones.

Trail Materials

Materials utilized in trail construction shall be commensurate with their intended use and appropriate for their location. Material choices include, but are not limited to: concrete, pavers, asphalt, stabilized aggregate, compacted aggregate, wood boardwalks, and mulch topping.

Trail Amenities

Trails shall include benches, trashcans, recycling bins, bike racks, and similar amenities at appropriate locations. The intent is not to duplicate the amenities that are provided at Campus buildings, overlooks, and trailheads, but rather to ensure that convenient facilities for trail users are provided along trails. In addition, the intent is to provide for minor destination and stopping points along trails themselves that both take advantage of natural features for viewing and interpretation (such as the terrace wetlands, ocean, etc.), and that provide defined resting/stopping points in general. All trails

shall include such amenities as appropriate when considered in light of facilities available near the trail and destination points along the trail.

6.4.3. Specific Trail Design Guidelines

In addition to the general guidelines above, specific guidelines for specific trail types and uses at the campus also apply.

- Major trails shall be up to 12 feet wide and in most cases will follow roadways. Low-level lighting may be provided. Higher traffic routes may be constructed of concrete or asphalt.
- Minor trails are generally devoted to coastal access, docent-led tours, and interpretive walks and shall be a minimum of six feet wide, except in the buffer to Younger Lagoon Reserve, where the width of trails may be narrower (provided the trails are still ADA compliant, if feasible) to avoid major slope alterations. Minor trails that are located in open space areas will be constructed of decomposed granite or similar naturalistic materials. Boardwalks may be utilized if appropriate. No night lighting shall be provided unless needed for safety. Minor barriers to restrict pedestrian movement to the trails (e.g., rope and pole) may be installed if needed.
- If the trail follows a street alignment, it shall be separated from the street by a minimum five-foot strip of vegetation designed to buffer trail users from vehicles.
- Benches and associated trail amenities shall be provided, at a minimum, at locations adjacent to each terrace wetland and near the western Campus boundary oriented to the west.
- Campus trails should be viewed as a system of interwoven trails providing access both internal to the Campus as well as connecting to adjacent trails and accessways off the Campus. Trail continuity shall be maintained, including by the use of dedicated street crossings, and trails shall be located where they are most convenient to Campus users while avoiding coastal resource impacts.
- In certain circumstances, more significant structural components may need to be built into trails to avoid resources and/or to ensure their proper function. For example, avoidance of habitat, including wildlife corridors and their buffers, may require a raised trail and/or other habitat passageway in some circumstances.
- Except for signs identifying use parameters for the trail, and except for the ensuring that the gate is open during daylight hours (i.e., one hour before sunrise until one-hour after sunset), improvements to the beach access trail (from the ocean overlook to the beach fronting Younger Lagoon) are a discretionary and conditional requirement. Such trail improvements may be pursued as public access demand and use patterns dictate. Improvements shall be required when significant obstacles to continued public access are documented. The University shall evaluate trail demand for this segment on at least a yearly basis, and shall include said evaluation (including recommendations for improvements as necessary to meet CLRDP requirements) in all Public Access and Recreation Plans required by Chapter 5.

6.5. Landscape Design

The appropriate use of plant materials will be one of the most important considerations in the success of the Marine Science Campus. Plantings are a primary element of the character of the coastal rural/agricultural landscape. Therefore, planting applications have been carefully considered.

6.5.1. Intent

The intent of this section is to provide guidelines for landscaping natural drainage features and areas adjacent to, connecting, and within development zones. Where new planting in these areas is proposed at the Marine Science Campus the intent is:

- To use plant material (for both natural and ornamental areas) that is native to the Northern and Central California coast, and if possible native to the Terrace Point area.
- To plant material that is drought tolerant, non-invasive, low maintenance, and fire retardant.
- To plant native materials that are from the same gene pool.

6.5.2. Planting Design Guidelines

Guidelines for planting in and adjacent to developed areas and in areas serving a drainage function are discussed below. Figure 6.6, Landscape Design, generally illustrates the concept for siting landscape design elements for the developed areas of the Marine Science Campus. Figure 6.6 is not intended to represent the only way to realize the landscape concepts, but rather it is intended to provide a generalized illustration of how the concepts would be applied to developed areas of the site.

Stormwater Basins, Swales, and Filter Strips

Vegetated stormwater basins, swales, and filter strips to be installed for site drainage are intended to reinforce the natural dendritic pattern of the coastal landscape that is both naturally occurring and found along rural roadways. These new drainage features will be planted with materials that will assist in the treatment of stormwater runoff (including, as appropriate, plant species that are capable of improving particulate settling and uptake of dissolved contaminants) and that are also complementary to the surrounding rural/natural environment (see also Appendix B, Drainage Concept Plan, for additional specific planting and other related design guidance).

Windbreak/Screening ~~Trees~~ Vegetation

~~Trees~~**Tall native shrubs or other appropriate native plants** will be planted in rows as windbreaks on the Campus whose purpose is to reinforce views, provide visual screening of buildings and parking, enhance site aesthetics, and mitigate winds.

Tall native shrubs or trees shall be used at windbreaks. Trees that are not native to the site ~~A single species~~, such as Monterey Cypress, ~~is preferred for the windbreaks, but multiple complementary species, such as~~ Monterey Pine, Bishop Pine, Gray Pine, Torrey Pine, **and** Western Hemlock, ~~may~~ **shall not** be used ~~if the same general effect can be achieved~~. **A single species is preferred.** If multiple species are used on the site, individual rows of ~~trees~~ **plants** (or sets of rows in parallel) shall still be mono-species unless a mixture of species better satisfies the purpose of the windbreak plantings and other CLRDP requirements. ~~Major tree species~~ **Vegetation** that ~~are~~ **is** planted as windbreaks will generally be used in strategic locations associated with building groupings and shall only be placed in a north/south linear orientation. ~~They~~ **Windbreaks** shall not be planted in an east/west direction or used to completely surround or screen individual buildings, as planting ~~trees~~ in such a manner is not typical of the rural/agricultural coastal landscape. Furthermore, such an

application would reduce the legibility of the ~~trees~~ **windbreaks** as major landscape "structure" and reduce the opportunity to focus views to the ocean, the Monterey Peninsula, or major inland features. **Existing Monterey cypress, which are not native and are invasive, may be removed and replaced with native trees, tall shrubs or other appropriate native vegetation in conjunction with earthen berms as needed to obtain appropriate height.**

Transitional Landscape

The transitional landscape area is defined as the area within development zones that is within 50 feet of the development zone perimeter. Development consistent with the CLRDP is not precluded within the transitional landscape area and planting in the transitional landscape area is intended to:

- Reduce the perceived scale of buildings.
- Provide a planted buffer between buildings and natural areas.
- Provide additional shrub and tree cover for wildlife habitat.

Where buildings are low scaled (up to 15 feet), plantings in the transition zone shall be an extension of the surrounding landscape, extending to the foundation of the building (depending upon the design of the building). This will be true in both areas adjacent to open grassland areas and in areas with taller vegetation such as adjacent to Younger Lagoon. In these areas, buildings shall be designed to appear as an integral feature of the landscape (see also design guidelines for buildings).

Elsewhere, where taller buildings are adjacent to major site natural areas and open spaces, the transition zone shall contain small trees and large shrubs whose primary purpose is to reduce the apparent height of the building. Strong continuous simple masses of plantings similar to those found throughout the rural coastal landscape shall be used.

It is not intended that plantings form a full-height visual screen around all tall buildings or building groups on the campus. This would depend on large-scale trees, which would take many years to grow to achieve their goal. Furthermore such treatment would be out of character with prevailing coastal rural character and would block views from within the buildings on campus.

Rather it is envisioned that transitional plantings will range in height from 3-12 feet, thereby reducing the apparent scale of buildings by visually "removing" and/or mottling the ground floor as seen from on and off site. These transitional plantings will also generally be tallest nearest the buildings with the height of species generally "ramping down" to shorter and shorter species as the transitional plantings extend toward the surrounding natural areas and open spaces (and approximating the height/density of plantings in this regard upon reaching the outward edge of the transitional planting area). This is typically seen in large-scale buildings throughout the Northern California coastal region. Plant species shall be limited to locally-collected native species. Individual specimen trees may also be used in the transitional landscape area to reduce the apparent scale of a building, or to provide a screen or break in the façade or corner at a strategic location. A group of no more than three trees should be used for this purpose. Tree species used should be similar to those utilized for the windbreak/screening ~~trees~~ described above.

Finally, transitional plantings in the Upper Terrace development zone shall be chosen for their ability to effectively screen development (including associated noise, lights, and activity) to ensure it does

Ornamental Landscape

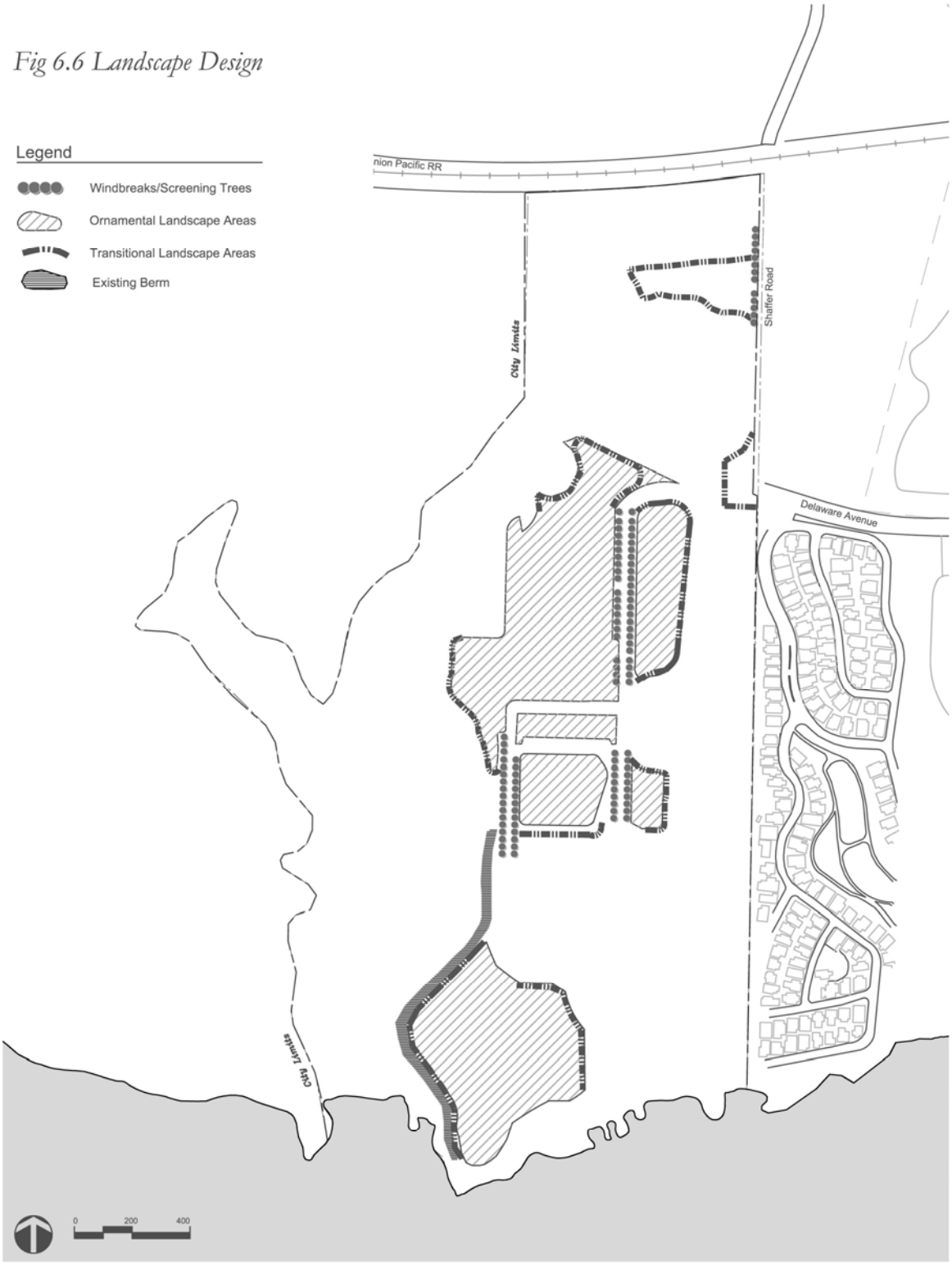
The use of native plant species is required for all plantings. A wide variety of native plant materials is appropriate to the ornamental landscape of the courtyards and spaces on the campus as appropriate. There are two primary considerations in the selection of ornamental plant materials for use in these locations:

- Non-invasive plants shall be chosen that will not be inclined to spread beyond the confines of their selected location. This is important from both an ecological perspective and a design perspective in order to insure that the landscape that is internal to campus building cluster areas has a different character from the landscape that is outside the building clusters.
- Plant materials shall be appropriate to the rural, open space, State Park, and agricultural coastal character and to the native vegetation character of the terraces.

Open Spaces within Development Zones

Open space areas within development zones areas are more traditional grassed areas within which more active recreational use is to be accommodated on the Campus. Some of these areas may be large enough as to be used by Campus users as general play areas for both passive (e.g., picnicking, reading, sunbathing, etc.) and active (such as frisbee, soccer, football, running, etc.) outdoor games and activities and shall be landscaped with native grasses to accommodate such uses while also providing for a transition at their perimeter to surrounding landscaping/uses.

Fig 6.6 Landscape Design



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6.6. Lighting Design

This section sets forth design guidelines for lighting on the Marine Science Campus.

6.6.1. Intent

The intent of lighting design on the campus is to:

- Provide the lowest levels necessary to achieve safety and efficient wayfinding. This approach will avoid light that is detrimental to plant and animal biology and therefore be consistent with the character of the site and adjacencies to the natural habitat areas.
- Avoid spilling light into natural habitat areas, particularly Younger Lagoon Reserve, and surrounding neighborhoods.
- Minimize artificial light interference with views of the coastal night sky.

6.6.2. General Lighting Design Guidelines

The following guidelines apply generally to lighting throughout the site:

- Lighting on the Marine Science Campus shall be at the lowest luminosity levels necessary to provide for safety and efficient navigation.
- All light fixtures shall have cut-off or indirect fixture types with no visible source of light.
- Lighting shall be mounted at as low a height as feasible to avoid light spill and visibility of the light source. Light sources shall be sited and designed so that lighting, including light spill from individual fixtures, glare, etc. is confined within development zones to the maximum extent feasible.
- Bollard-type lighting (low-intensity, downward directed lights attached to low-height bollards) shall be used for site lighting where appropriate (e.g., trails, walkways, etc.)
- If the exteriors of buildings are to be lighted, spot lighting, direct flood lighting or indirect feature lighting shall be used.
- Fixtures shall be consistent with the rural, open space, agricultural, and overall campus character; overly dramatic light designs are inappropriate.
- All site lighting (including pole-mounted, bollard and low-level lighting) shall be of uniform design throughout the site and constructed predominantly of natural or natural looking materials.
- A vocabulary of standard lighting details shall be established for selection and use by all new projects on site.

6.6.3. Specific Lighting Design Guidelines

In addition to the general guidelines above, specific guidelines for specific areas and features also apply.

Building Facilities Lighting

- Exterior lighting shall only be located at entries and usable interior courtyards. No other exterior lighting of buildings, such as façade or accent lighting, shall be allowed, except where necessary for maintaining safety.
- Accent lighting of ornamental plantings, exhibits, and other features may be allowed, provided it is wholly within the building cluster or courtyard and does not illuminate areas outside development zones.
- Interior lighting that is visible outside of development zones may be allowed. However, its visibility and intensity shall be limited to the maximum extent feasible, including locating lighting sources so as to minimize the potential for light and glare to be visible from outside of development zones.

Street Lighting

- Streets shall be lighted only within the development zones of the campus and where needed for maintaining safety.

Parking Area Lighting

- Lighting in parking lots shall be the lowest levels necessary to provide safety and security.
- Only parking areas within the development zones shall be lighted.
- Bollard lighting is preferred. If bollard lighting is not appropriate, and pole lighting is required to achieve safety and efficient navigation, such pole top lighting shall be limited to the maximum extent feasible (in number, height, and bulk) and shall have cut-off type fixtures on a pole not to exceed 12 feet in height.

Pathway Lighting

- Pathway lighting shall only be located on primary pathways connecting major development areas within the development zones.
- Low height bollards (i.e., up to 36") made of natural or natural looking materials shall be used.
- A single unified bollard light design shall be used throughout the site except within individually designed internal building sites or clusters, where alternatives that are compatible with the courtyard design are allowable.

Special Area and Feature Lighting

- Unique lighting treatments may be provided in selected areas of the site. These include the campus entry, critical arrival points, and maintenance yards.
- Site entry lighting shall only be used to light the identity signage and the kiosk/gate area at the corner of Shaffer Road and Delaware Avenue.

- In maintenance yards and equipment lay-down areas, lighting may be pole mounted or wall mounted units. All lighting shall be cut-off type lighting designed to contain light in the work area without "spillover."

6.7. Signage Design

This section sets forth design guidelines for signage on the Marine Science Campus.

6.7.1. Intent

The intent of signage on the Marine Science Campus is to control traffic, provide directions for visitors, identify buildings, denote pedestrian pathways, inform regarding restricted areas, and to educate campus users and visitors about the natural history and character of the site and surrounding area and the research and related activities occurring at the Campus. In addition, it is intended that signage be the minimum amount necessary to convey information to site users in order to minimize the visual impact of signage and avoid clutter on the site.

6.7.2. General Signage Design Guidelines

The following guidelines apply to signage throughout the site:

The Campus shall use a unified sign design theme wherein all Campus signs shall use similar materials, colors, fonts, figures, symbols, layouts, and other associated sign elements. Campus signs may be categorized by sign types (e.g., trail signs, building signs, street signs, interpretive signs, informational signs, etc.) provided all Campus signs are consistent with the overall Campus theme. All signs within a sign type shall be similarly designed to facilitate ease of recognition (for example, sign types may use the same letter type and size, employ the same pallet of materials, and be installed at the same height). Signs shall be designed to fit with the natural character of the site. In addition, signage shall be:

- Fabricated of natural or natural looking materials that are compatible with site colors and site character to the maximum extent feasible and that have limited areas of contrasting materials and color (i.e., materials such as stone, wood, cor-ten steel, etc.).

- Integrated with architecture or other site features to the maximum extent feasible.

- Consolidated so as to limit the number of freestanding poles or other structures devoted exclusively to signage.

- Part of a coordinated hierarchy of information and related design elements such as sign size, text size, and color.

- A coordinated system color, size and style throughout the entire campus with the exception of specific internal building clusters and courtyards, where approved unique designs may be appropriate.

- A standard design or set of designs may be developed to meet these requirements for signs used on the Marine Science Campus.

6.7.3. Sign Lighting

Sign lighting on campus shall be limited to signs identifying important destinations, restricted areas, or where needed for safety. All sign lighting will be the minimum necessary to achieve design objectives. No backlighting of signs or use of neon shall be allowed.

6.8 Fencing/Barrier Design

This section sets forth design guidelines for fencing and other barriers on the Marine Science Campus.

6.8.1 Intent

Fencing and barriers are to be used only where necessary and must be designed and installed in a manner than interferes as little as possible with the open space and rural aesthetic of the campus. Fencing/barriers may be deemed necessary on the Marine Science Campus to protect natural resource areas and buffers from damage caused by human activity and intrusion, to assure public safety in the vicinity of coastal bluffs where steep cliffs and heavy surf pose a hazard, to protect laboratories and research areas from unauthorized access, and to protect areas adjacent to streets from unauthorized access by motor vehicles. Where fencing and/or barriers are installed, these should be as unobtrusive as possible.

6.8.2. General Fencing/Barrier Design Guidelines

The rule for any fencing and other barrier design on the Marine Science Campus is that its design be responsive to its purpose and need. The following standards shall be a part of all fencing and/or barrier design on the site:

- Fencing may be solid where it is necessary to screen development (including associated noise, light, and activity) from resource areas that would be significantly disrupted by development (e.g., natural resource areas or outdoor research areas on the site, such as portions of Younger Lagoon Reserve, the wildlife corridors and their buffers, marine mammal pool areas, etc.). Otherwise, fencing and/or barriers shall be see-through.

- Fencing and barriers shall be sited and designed so that they do not interfere with established view corridors.

- Fencing and barriers shall be sited and designed so that they do not interfere with wildlife movement between undeveloped areas of the campus and/or at the Campus border.

- Fencing and barriers shall be sited and designed to provide through and open trail access (e.g., for the trails designated on Figure 5.6, Coastal Access and Recreation Diagram). Such through access shall be provided through broad openings in necessary fences/barriers where they intersect trails (providing for at least two feet of opening on either side of the trail in addition to the opening for the trail itself). Operable gates or similar barriers across trails (where the trails intersect fencing/barriers) may only be used on designated controlled access trails.

- Fencing and barriers shall be minimized in size and scale as much as possible consistent with their identified function, and shall be sited and designed consistent with both the overall Campus design aesthetic and the specific aesthetics along the fence/barrier location.

6.8.3 Specific Fencing/Barrier Design Guidelines

In addition to the primary directive and general guidelines above, specific design guidelines also apply.

Solid Fencing

Solid fencing is used to completely block through views and attenuate noise. At the time of CLRDP certification, there was some existing solid wood fencing in the western portion of the Lower Terrace development zone (mostly interior to the Long Marine Lab cluster of buildings) and west of the Fish and Game facility in the Middle Terrace development zone. Except for that specifically described below in relation to the Campus Building Program, new solid fencing on Campus is only allowed in the area located between the northernmost portion of the Lower Terrace development zone and the then existing fencing west of the Fish and Game facility. Any additional solid fencing shall be installed on the Younger Lagoon side of both the barrier berm located at the edge of the terrace (where it exists) and the windbreak and transitional landscape areas (where the berm is not present) near the Reserve boundary. Landscaping at the fence line shall be used to soften the appearance of any fencing in public views.

Solid fencing shall consist of unfinished wooden posts with vertical unfinished wooden slats (hung on wooden rails between posts) that create a solid, opaque surface. As necessary to achieve the required sound attenuation criteria of this CLRDP relating to habitat areas, the solid wood fencing may be a facade that covers a solid wall structure (i.e., a concrete wall), so long as the solid wall structure is completely hidden by the wood facade. This facade approach applies to all solid fencing (i.e., fencing that existed at the time of CLRDP certification and that which did not). In any case, the height of solid fencing shall range from four (4) to six (6) feet above grade. Figure 6.7 shows an illustrative example of solid fencing.

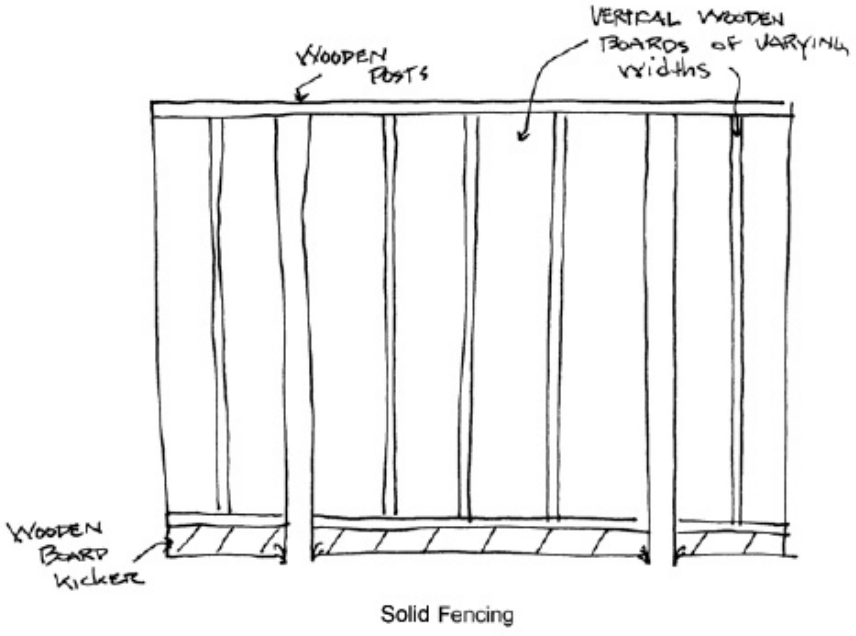

Fig 6.7 Solid Fencing

See-Through Fencing

See-through fencing is designed to demarcate Campus areas that are necessarily off-limits to general public access (e.g., to protect equipment, facility access, etc.) and/or to provide for public safety (e.g., the blufftop fence at the ocean overlook) while still allowing through views. This fencing type is generally used when complete screening is neither necessary nor desirable. Such fencing shall consist of wooden 4'x4' posts spaced 4 to 8 feet apart connected by a 1"x4" or 2"x4" wooden top rail cap (and a similar bottom rail if necessary for stability) and six (6) strands of flat black coated stainless steel cable strung horizontally between posts. The height of the see-through fencing shall be three and one-half (3½) feet above grade. Figure 6.8 shows an illustrative example of see-through fencing.

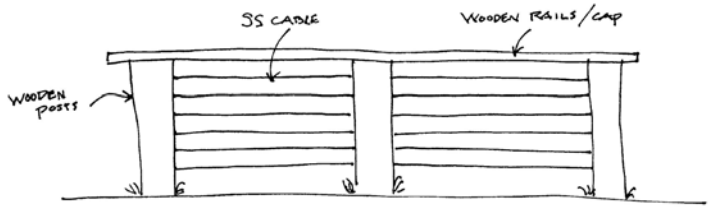

Fig 6.8 See-Through Fencing

Fencing/Barriers for Resource Protection

The University may install low-key fencing and/or barriers along trails and other areas where people move and congregate to protect natural resources when there is evidence that human intrusion has

caused significant damage to a natural resource. Such fencing/barriers shall not block off continued through access along trails and/or through access areas unless adequate replacement access is provided. Allowable fencing/barriers in this category are limited to wooden rough hewn split-rail fencing no taller than three (3) feet in height, or wood post-and-rope/cable barriers no taller than two (2) feet in height, both as measured from grade. All such fencing shall be designed to blend seamlessly into the site aesthetics. Figures 6.9 and 6.10 show illustrative examples of wooden rough-hewn split-rail fencing and post-and-rope/cable barrier, respectively.

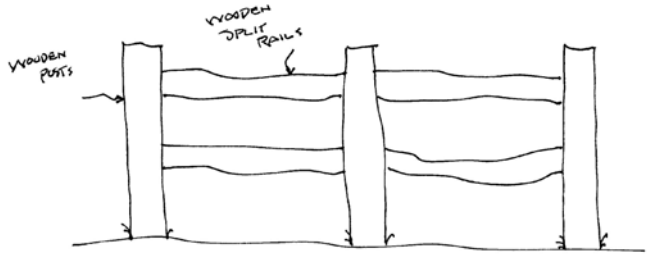

Fig 6.9 Split-Rail Fencing

Barriers along Streets and Roadways

The University may install low-key barriers along streets, roadways, and other areas where motor vehicles are present to protect off-road areas when there is evidence that intrusion by motor vehicles has caused significant damage to off-road areas. Allowable barriers in this category are limited to post-and-rope/cable barriers that are no taller than two (2) feet in height (see Figure 6.10), small bollards or rails constructed of natural materials, and landscaping.

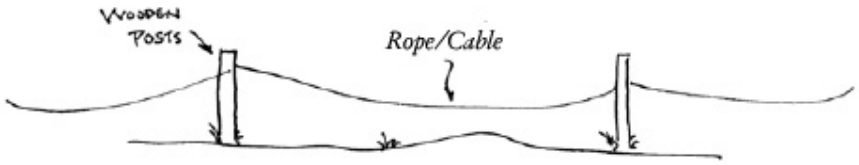

Fig 6.10 Post and Rope/Cable Barrier

Fencing/Barriers for Buildings, Research Areas, and Seawater System Intake, Filtration, and Storage

The University may install fencing and/or barriers as part of a building or its directly associated research areas when necessary to protect these areas from significant damage due to unauthorized access.

- Any such fencing/barriers shall be fabricated of natural or natural looking materials, and shall blend seamlessly into the design of the building to which the fencing is associated. Materials such as stone, wood, and cor-ten steel that are compatible with the building design and site character and that have limited areas of contrasting materials and color may be appropriate.

- Fencing/barriers shall be integrated with architecture and other site features.

- Fencing/barrier siting and design shall be appropriate to its intended function, but in no case shall be taller than eight (8) feet in height above grade.