

Marine Mammal & Marine Research Facility

Hatfield Marine Science Center
Newport, Oregon

Conceptual Design Study

March, 2007



gLas
Architectural Group

Hatfield Marine Science Center

S.E. Marine Science Dr., Newport, Oregon 97365-5296

T 541-867-0212 | F 541-867-0444 | <http://hmsc.oregonstate.edu>

Email: hmsc@oregonstate.edu

March, 2007

Marine and coastal sciences represent a major strength of Oregon State University. Through a combination of research, education, and outreach, OSU scientists improve the understanding of our marine and coastal environments and make major contributions to issues facing society, including climate change, natural resource conservation and development, and fundamental ocean literacy. Research in marine and coastal programs account for over 40% of the extramural funds brought into the University. As OSU's "portal to the Pacific," the HMSC serves a very important function in research, education and outreach, and has fostered partnerships with government agencies and marine industries such as fisheries; it also plays an important role in economic development on the Oregon coast.

In the past several decades, ample space allowed growth of OSU's diverse marine programs at HMSC. Since the late 1960s, however, the only new university-owned facilities at the HMSC have been the Guin Library, vessel support, student housing, a small wetlab, and storage space. Available research space to accommodate our science programs now places constraints upon program growth and research funding. While several programs are growing, OSU's Marine Mammal Institute has planned an ambitious program scientific accomplishment over the next decade. Two new faculty added in the past year, however, have brought HMSC near the limit of available scientific space. As part of our master planning process at the HSMC, we propose a new building, described in this report, to accommodate the growth of our research enterprise anticipated over the next 5 years.

Sincerely yours,



George Boehlert
Director, Hatfield Marine
Science Center



Bruce Mate
Director, Marine Mammal
Institute

TABLE OF CONTENTS

1. Design Team
2. Program Requirements
3. Evaluation of Alternative Sites
4. Description of Proposed Facility
5. Anticipated Project Cost
6. Appendices
 - Newport News Times article and editorial
 - Design Committee Minutes
 - Site A Design Study

Response to initial Space Program

(from 3 August 2006 meeting -- Hatfield Marine Science Center Marine Mammal / Marine Science Research Facility, Conceptual Design Study, gLAs Project No. 06036)

Summary: The initial meeting led to a building that is larger and entails greater costs than our initial fundraising and potential bonding authority can likely fund. Thus, we propose a two-phase building project. Phase 1 would be a 28,000 gross ft² building to accommodate current and expanding uses, with Phase 2 being considered as a roughly 14,000 ft² wing that would be either built onto, or linked to, the first building (based on architect's advice). The principles governing building design as discussed in the first meeting would still apply.

Calculations for this building program are based on these premises:

- Gross from usable space multiplier is 1.45
- Phase 1 building would have roughly 9655 sq feet per floor including common space.

The attached spreadsheet provides detailed space requirements – Specifics of the different lab types on the left, and space tally for both Phase 1 and Phase 2 by floor; below follows some explanatory narrative.

Phase 1 Building

Marine Mammal Program considerations: lab space estimates are listed by three lab types, full, small, and theoretical.

For each type, PI office space is listed at 150 sq ft, and professional staff (Postdocs, Res. Associates and Res. Assistants) listed at 120 sq ft, to permit multiple occupancy for Prof. staff offices if required. There are two grad student areas per lab, and the others are tallied separately under grad student carrels.

The Necropsy facility is excluded (we will continue to use the NOAA facility).

Freezer farm on 1st floor, additional freezers on 2nd floor will have to be placed in specialty rooms.

1st Floor now has administrative and common areas, as well as logistics space, plus 3 full, 1 small, and 1 theoretical lab.

This floor also has 400 sq ft of 'flex space' to be used for offices or administrative purposes, and a carrel area to accommodate 8 graduate students.

*g*LA*s*

Architectural Group

<i>Reid O. Anderson, AIA</i>	<i>Principal</i>
<i>James M. Lewis, AIA</i>	<i>Principal</i>
<i>Trace A. Ward, AIA</i>	<i>Associate</i>
<i>Walter R. Gresl, AIA</i>	<i>Associate</i>
<i>Mary A. Pearch, AIA</i>	<i>Associate</i>

October 17, 2006
Hatfield Marine Science Center
Marine Mammal/Marine Science Research Facility
gLAs Project No. 06036

MINUTES

RE: Project Review Meeting at HMSC Guin Library
October 12, 2006

ATTENDING:

Dr. George Boehlert, OSU-HMSC
Bruce Mate, OSU-HMSC
Randy Walker, OSU-HMSC
Scott Baker, OSU-HMSC
Michael Banks, OSU-HMSC
Ken Hall, OSU-HMSC
Cyndee Pekar, OSU-HMSC
Gil Sylvia, OSU-HMSC
Tim Miller-Morgan, OSU-HMSC
Dave Jacobson, OSU-HMSC
Jim Lewis, gLAs

DISCUSSION:

1. Jim Lewis distributed copies of the revised space program and presented diagrammatic representations of space requirements. The original 8/3/06 Space Program has been revised by the committee to limit phase one to approximately 28,000 sq. ft. The second phase would increase the facility to approximately 42,000 sq. ft. The diagrammatic plans for laboratory areas were based upon the concept of locating research offices along corridor, with relite windows between offices and perimeter labs.
2. Jim reported that the Newport Code restricts building height within HMSC zoning to 35 ft., which would accommodate a building of no more than 2 stories with a sloped roof.

3. Diagrammatic plans were presented for a two-story building with a linear configuration, approximately 57 ft. wide and 248 ft. in length. This building configuration would fit within the narrow site area to the east of Guin Library, along with required fire-truck access, but with little room to spare.
4. The committee expressed a desire for a less linear building configuration, with a clustered plan arrangement. This concept would only be feasible for the site located directly south of the Guin Library. The area to the east of the Library is too narrow for this concept to be achieved. The planning report will include building designs tailored to each of the two sites under consideration. Cut-out blocks of program spaces were used by the committee to explore alternative plan arrangements.
5. When the building is eventually expanded, second floor Marine Mammal Laboratory spaces will be converted to Genetics Labs. The expansion area will consist entirely of Marine Mammal program spaces. It was explained that the intent is to ultimately convert the MMEP Lab 4 and 5 spaces to Genetics Labs 5 and 6, MMEP small Lab 2 to Genetics Lab 7, and MMEP Theoretical Lab 2 to Genetics Lab 8.
6. The Genetics Program prefers to combine two full size labs as a single 1000 s.f. space, with enclosed research offices at the perimeter.
7. The Marine Mammal Program would prefer offices which are more remote from laboratory spaces. Bruce Mate suggested perimeter offices with a hallway between labs and offices. There is no desire to combine labs for this program.
8. It was explained that the "Flex Areas" included in the revised space program are intended for functions such as an entrance lobby and informal meeting spaces distributed throughout the building.
9. Administrative office areas are to be as described by the initial 8/3/06 Space Program. The 4 open work spaces are not needed initially, but will be needed as the building is expanded. There is a need for one of the open work spaces to serve a reception function.
10. A second scheme will be developed for a clustered plan arrangement, assuming the site located directly south of the Guin Library. This scheme will be presented at the next meeting.
11. The next meeting is scheduled for 10 a.m. Friday, October 27, in the Guin Library Seminar Room.

James M. Lewis, AIA
Principal

Minutes
October 12, 2006
Page 3 of 3

cc Dr. George Boehlert, Director, HMSC
John Gremmels, OSU Facilities
Greg Strombeck, OSU Facilities

Hatfield Marine Science Center
Marine Mammal / Marine Science Research Facility
Conceptual Design Study
gLAs Project No. 06036

SPACE PROGRAM

August 3, 2006

A. MARINE MAMMAL RESEARCH PROGRAM

<u>1. Administrative Area:</u>	<u>Qty.</u>	<u>Size:</u>	<u>Area:</u>	<u>Comments:</u>
Conference	1	@ 800	800 s.f.	Shared with Genetics Program.
Work / Storage Room	1	@ 200	200	Shared with Genetics Program. Layout Counters.
Kitchenette	1	@ 80	80	Shared with Genetics Program. Accessible from Conference Room and general circulation.
Director's Office	1	@ 180	180	
Director's Meeting Room	1	@ 150	150	
Private Offices	2	@ 135	270	
Private Offices	3	@ 90	270	
Open Work Stations	4	@ 90	360	
File / Archive Storage	1	@ 400	<u>400</u>	
Subtotal:			2,710	
<u>2. Research Offices:</u>				
Private Offices	14	@ 135	1890	
Private Offices	25	@ 90	2250	

	<u>Qty.</u>	<u>Size:</u>	<u>Area:</u>	<u>Comments:</u>
Open Work Stations	36	@ 65	<u>2340</u>	
Subtotal:			6,480	
3. <u>Laboratory Areas:</u>				
Ventilated Labs	4	@ 500	2000	All labs equipped with comp. air, vacuum, gas, and distilled water.
Precision Fabrication Labs	4	@ 500	2000	For solvent use, with fume hood or snorkel ventilation.
Combo (Ventilated & Precision Fab) Labs	4	@ 500	2000	
General Labs	3	@ 500	1500	
Necropsy Lab	1	@ 500	500	Overhead door. Access from exterior only for odor control. With crane system to lift carcasses from truck beds.
Necropsy Freezer / Cooler	1	@ 200	200	With crane system.
Infectious Disease Lab	1	@ 550	550	With vestibule interlock at entrance. PLS Class 2 suggested.
Lab Storage / Prep rooms	9	@ 150	1350	Locate between 2 adjacent labs. Provide freezer and chemical storage where needed.
Staging Area	1	@ 1200	1200	Overhead door at exterior, double door at interior. Near freight elevator
Informal Meeting Areas	4	@ 100	<u>400</u>	Unenclosed, interspersed with office areas.
Subtotal:			<u>11,700</u>	
Marine Mammal Research Total:			20,890 s.f.	

B. GENETICS RESEARCH PROGRAM

<u>1. <u>Administrative Area:</u></u>	<u>Qty.</u>	<u>Size:</u>	<u>Area:</u>	<u>Comments:</u>
Administrative Office	1	@ 220	220	Shared by 2 staff.
Conference Room	1	@ 300	<u>300</u>	20 person capacity.
Subtotal:			520	
<u>2. <u>Research Offices:</u></u>				
Fisheries Genetics Program:				
Principal Investigator Fac. Private Offices	2	@ 135	270	
Post-Doctorate Private Offices	2	@ 90	180	
Professional Staff Private Offices	3	@ 90	270	
Grad. Student Open Work Stations	6	@ 65	390	
Marine Mammal Program:				
Princ. Invest.	2	@ 135	270	
Post-Doc.	2	@ 90	180	
Prof. Staff	2	@ 90	180	
Grad Student	4	@ 65	260	

	<u>Qty.</u>	<u>Size:</u>	<u>Area:</u>	<u>Comments:</u>
Molusk Program:				
Princ. Invest.	2	@ 135	270	
Post-Doc.	2	@ 90	180	
Prof. Staff	2	@ 90	180	
Grad Student	4	@ 65	260	
Undesignated Future Program:				
Princ. Invest.	2	@ 135	270	
Post-Doc.	2	@ 90	180	
Prof. Staff	2	@ 90	180	
Grad Student	4	@ 65	<u>260</u>	
Subtotal:			3,780	
3. <u>Laboratory Areas:</u>				
Special Use Lab.	6	@ 200	1200	All labs. equipped with comp. air, vacuum, gas, and distilled water.
Special Use Lab.	2	@ 250	500	50% with fume hoods.
Ancient DNA Lab.	1	@ 190	190	50% with fume hoods.
Open Workbench Areas		300	300	Unenclosed work spaces with 4' x6' workbenches.
Freezer Room	1	@ 290	290	
Sample Storage Room	1	@ 290	290	

	<u>Qty.</u>	<u>Size:</u>	<u>Area:</u>	<u>Comments:</u>
Glassware Cleaning Room	1	@ 200	<u>200</u>	Autoclave.
Subtotal:			<u>2,970</u>	
Genetics Research Total:			7,270	
C. SUMMARY				
Marine Mammal Research Program:			20,890 s.f.	
Genetics Research Program:			<u>7,270</u>	
Subtotal:			28,160	
Circulation and support space (45%):			<u>12,672</u>	
Total:			40,832 s.f.	

*g*LA*s*

Architectural Group

Reid O. Anderson, AIA Principal
James M. Lewis, AIA Principal
Trace A. Ward, AIA Associate
Walter R. Gresl, AIA Associate

August 7, 2006

Hatfield Marine Science Center

Marine Mammal/Marine Science Research Facility

gLAs Project No. 06036

MINUTES

RE: Project Ignition Meeting at HMSC Guin Library
 August 3, 2006

ATTENDING:

Dr. George Boehlert, OSU-HMSC

Bruce Mate, OSU-HMSC

Joel Ortega, OSU-HMSC

Sharon Neukirk, OSU-HMSC

Scott Baker, OSU-HMSC

Randy Walker, OSU-HMSC

Cyndee Pekar, OSU-HMSC

Jim Rice, OSU-HMSC

Janet Webster, OSU-HMSC

Jay Rasmussen, OSU-HMSC

Dave Jacobson, OSU-HMSC

Mark Camara, USDA-ARS

Ken Hall, OSU-HMSC

Michael Banks, OSU-HMSC

John Gremmels, OSU Facilities

Jim Lewis, gLAs

DISCUSSION:

1. The general scope and purpose of the project was discussed. The recently completed report for the HMSC Youth and Family Marine Education Building was presented as representative of the end product.
2. Bruce Mate requested that the study be completed by November.
3. This facility is focused on the needs of research, and is not intended for public access. It was suggested that there may be a desire for a covered outdoor display area with a window into a laboratory, for presentation to group tours.

4. This is envisioned as a flexible, open facility, with wireless internet access throughout. Flexible utility access and exposed ductwork was suggested.
5. The project is to meet LEED silver rating, and Lab 21 energy efficiency guidelines are to be considered.
6. Two sites have been considered for the facility. One site is directly east of the Guin Library within the current parking lot. The other site is directly to the south of the Guin Library, in an undeveloped area. Both sites will be evaluated and coordinated with the HMSC master planning efforts currently in progress.
7. Jim Lewis suggested that the HMSC master planning efforts include consideration of fire truck access requirements and building code limitations on building size.
8. Covered pedestrian connection to Guin Library should be considered.
9. The building has been envisioned as a two-story structure. John Gremmels and Dr. Boehlert will review whether 3 stories should be considered. (It was subsequently determined that the W-2 Newport zoning classification for the site limits building heights to 35 ft.)
10. Randy Walker said that to the best of his knowledge City services are adequate for a fire sprinkler system.
11. The focus of the marine mammal research program is directed toward whales, sea lions, and seals.
12. There is no need for flowing marine water within any area of the building.
13. There is a desire for openness between laboratory and office spaces. However, John Gremmels cautioned that laboratories are high energy users, and it may be beneficial to isolate these two environments.
14. Janet suggested that offices have relite windows to corridors.
15. There is no need for a lobby or reception area.
16. Natural light is preferred for both office and laboratory spaces. Lab. windows may be small, however.
17. Acoustic separation between offices is important.
18. Dr. Boehlert provided a copy of the OSU Facilities Space Standards, which are applicable to this project.

19. There was a discussion of the space needs for each area of the building, summarized by the attached initial draft of a space program. It is expected that this document will be further refined as a result of continued discussion.
20. It is anticipated that the space program will need to be reduced. The facility has been envisioned as 28,000 sq. ft.; and the current projections are well in excess of this area.
21. After the space program is resolved, alternative space configuration diagrams will be prepared for consideration of the committee.

James M. Lewis, AIA
Principal

JML/cb/06036/Minutes8-3-06

cc Dr. George Boehlert, Director, HMSC
 John Gremmels, OSU Facilities
 Greg Strombeck, OSU Facilities

To learn more about gray whale research conducted by Dr. Bruce Mate and OSU scientists, see "The Whales' Tale," A BBC-produced special, at 8 p.m. and 11 p.m. Monday, and 3 a.m. and 2 p.m. Tuesday, on Animal Planet. The program is part of the network's "Incredible Journeys" series and examines the gray whale migration along the West Coast from the lagoons of Baja California to Alaska.

NEWPORT NEWS-TIMES EDITORIAL

Make way for a marine mammal institute

Good news often comes when you least expect it.

Such was this week's announcement that Oregon State University has chosen Newport as the site for a Marine Mammal Institute.

This exciting development will not only mean jobs and income for Lincoln County, but also enormous prestige as our own Dr. Bruce Mate continues his pioneering and internationally recognized research in the brand new venue.

The proposed institute will create up to 60 new jobs in the next five to seven years and be housed in a new laboratory/office building to be built by 2010 at OSU's Hatfield Marine Science Center in Newport.

According to OSU officials, marine mammal research currently contributes \$3.5 million a year to Lincoln County's economy from a mix of government, industry and private sources - the majority from outside Oregon. The fully-developed institute will more than triple this figure.

The increased staff will also broaden the scope of research in marine ecology and conservation and increase multi-disciplinary collaboration with other OSU departments as well as specialists from around the world. In addition, the institute's staff will help increase the ranks of well-educated local residents. Already, the institute has welcomed a new associate director, Dr. Scott Baker, who has been involved in recent international efforts to curtail the illegal exploitation of protected whales, and an internationally respected pinniped ecologist, Dr. Markus Horning.

Lincoln County could benefit from other potential fall-out as well, such as making the area more attractive for other entities that support or conduct research off the West Coast.

Of course, an idea like this doesn't come cheap and OSU officials have announced a very aggressive fund-raising campaign. But much work has apparently gone on behind the scenes, as quite a bit of groundwork has already been laid for this ambitious endeavor.

The two-phase building, with 42,000 square feet of research space, is estimated to cost about \$17 million. A challenge grant of \$200,000 has been obtained for the first phase (28,000 square feet) of the building, contingent upon the university raising \$400,000 in matching funds. And an additional \$2.7 million must be raised by mid-April if the institute wants to request matching funds from the 2007 Oregon Legislature.

It's a tall order, indeed, especially when so many others are competing for pieces of the funding pie. However, university officials have secured \$27,000 in Oregon Lottery funds through the Benton-Lane-Lincoln-Linn Regional Investment Board, and an anonymous donor has contributed a \$50,000 gift towards the new institute.

Obviously, this effort is well on its way. But, according to Mate, more private support and federal funding is critical for this future expansion.

We want to be the first to lend our blessing, and our complete backing, for a Marine Mammal Institute in Newport. We also extend our congratulations to Dr. Mate, his colleagues, and university officials for their past, present and future work. (gk)

"Creating an institute to further the university's research on marine mammals is a reflection of the excellence of our faculty and the relevance of their work," said OSU President Ed Ray. "This is a signature program that continually provides critical information about marine mammals that will help humans better appreciate and protect whales, dolphins and other marine mammals for generations to come."

Public interest in marine mammal research and outreach continues to increase, as do issues relating to conservation of rare and threatened species. The institute's new associate director, Dr. Scott Baker, has been involved in recent international efforts to curtail the illegal exploitation of protected whales. Using genetics-based methods to identify species of whale meat sold in commercial markets abroad, Baker's research has helped to analyze and document the sale of products from endangered whales. Dr. Markus Horning, an internationally respected pinniped ecologist, has recently joined the institute and has just returned from NSF-funded studies in the Antarctic on the changing physiology of seals as they age. His research includes the development of advanced technologies to determine the causes of a dramatic decline in the population of endangered Steller sea lions in Alaska.

One of OSU's goals in creating the Marine Mammal Institute is to foster more collaborative research - not only with other Oregon State scientists, but also with specialists from around the world. Already the institute has received a grant of \$750,000 from the Joint (oil & gas) Industry Program, Office of Naval Research and the Minerals Management Service for a collaborative project with OSU oceanographer Kelly Benoit-Bird, a specialist in acoustics and marine community behavior, to study sperm whales and squid in the Sea of Cortez off Mexico.

"The expansion of collaborative research should bolster even more the Marine Mammal Institute's research potential by attracting more federal research dollars to Oregon," Mate said. "Much of the funding for our program thus far has come from private donations to an OSU Foundation endowment to benefit the institute's mission. Additional private support and federal funding is critical for future expansion."

Those interested in supporting or contributing to OSU's new Marine Mammal Institute should contact Jennifer Niedermeyer with the OSU Foundation at 503-553-3409 or at Jennifer.Niedermeyer@oregonstate.edu.

[Email this story](#)

[Print this story](#)

[adsy_ad::bottomleft]

[adsy_ad::bottomright]

[[Home](#) | [News](#) | [Sports](#) | [Community](#) | [Opinion](#) | [Business](#) | [Arts](#) | [Classifieds](#) | [Obituaries](#) | [Archives](#)]

Copyright © 2007 Newport News-Times

News

Local News
Sports
Community
Business
Crime
Arts
Opinion
Obituaries
Legal Notices
Archives

Classifieds

Employment
Real Estate
Rentals
Merchandise
Financial
Announcements
Services
Automotive
Rec. Vehicles
Place an Ad

Reader Services

Subscribe
Contact Us

Extras

Ask the Expert
Map of Newport
(PDF Format)
Or. Coast Aquarium
(PDF Format)
TV Listings
Detailed Weather
Newport Surf Report
Education Directory
Seafood & Wine
Advertise With Us

[adsy_ad::left]

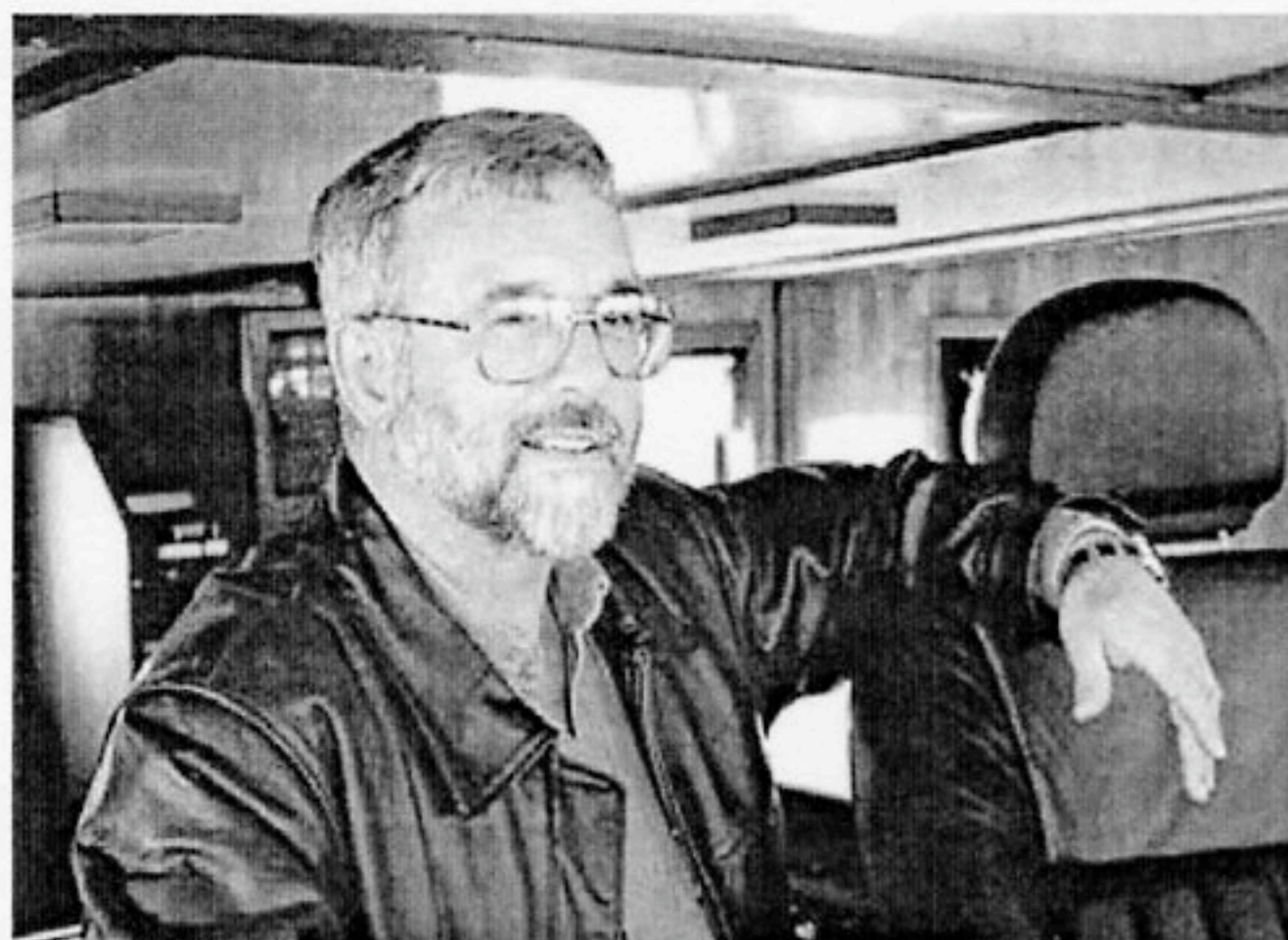
[adsy_ad::left]

[adsy_ad::left]

Posted: Feb 02, 2007 - 09:02:13 PST

Archived Story

Newport chosen for Marine Mammal Institute



Marine Mammal Institute Director Bruce Mate in the wheel house of the research vessel Pacific Storm, one of three vessels donated to the OSU Marine Mammal Institute by Oregon fishing families. The vessel leaves in four weeks for more than two months of sperm whale and squid research in the Sea of Cortez (Mexico) and later in the summer will conduct two months of work in the Bering Sea. (Courtesy photo)

Oregon State University has announced the creation of the OSU Marine Mammal Institute, which is expected to create up to 60 new jobs over the next seven years.

The institute will be housed in a laboratory/office building to be built by the year 2010 at OSU's Hatfield Marine Science Center in Newport. Presently, marine mammal research attracts \$3.5 million per year to the Lincoln County economy from government, industry and private sources, nearly all of which is from outside of Oregon. In the future, it is anticipated that the fully developed institute will contribute \$11.5 million per year to the Lincoln County economy.

Fundraising has begun for the two-phase building, which will include 42,000 square feet of new research space at an estimated cost of \$17 million. Marine Mammal Institute and OSU Foundation staff have secured an initial "challenge grant" for the first phase of the building (28,000 square feet) from the Oregon Community Foundation of \$200,000, which is contingent upon the university raising \$400,000 in matching funds. An additional \$27,000 in Oregon Lottery funds from the Benton-Lane-Lincoln-Linn Regional Investment Board has been secured for the Marine Mammal Institute by the Economic Development Alliance of Lincoln County. The Regional Investment Board is staffed by Cascades West Council of Governments, serving as a grant administrator for the Oregon Economic and Community Development Department. An anonymous donor has also contributed a gift of \$50,000 to the institute effort.

In order for the Marine Mammal Institute to move forward as quickly as possible, an additional \$2.7 million must be raised by mid-April, so that institute leadership can request matching funds from this session of the Oregon Legislature. It is hoped the hiring of new faculty and staff for the institute will be complete in five to seven years, depending on fundraising efforts. The new hires will broaden the scope of OSU's research in marine ecology and conservation and increase multi-disciplinary collaboration with other OSU departments.

The Marine Mammal Institute will build on the internationally recognized research of Dr. Bruce Mate, who will direct the institute. Mate's research on threatened and endangered whale species spans three decades, and Mate was the first scientist to use satellites to track whales. Specialized tags developed at Oregon State by Mate's team have led to new discoveries and a wealth of data on blue, gray, humpback, bowhead, right, fin, sperm and other whale species.

March 28, 2007

Hatfield Marine Science Center
Marine Mammal/Marine Science Research Facility
gLAs Project No. 06036

ANTICIPATED PROJECT COST

The actual cost of the facility will be largely dependent upon more detailed decisions related to the type of construction, sustainable and energy efficient design strategies, interior finishes, the extent of built-in equipment, the selection of mechanical and electrical systems, the extent of site development, the bidding climate at the time of construction, weather impacts, soil conditions, etc. It is likely that soil conditions will require the foundations to bear on pilings. As a laboratory facility, sensitivity to vibrations will likely mandate a steel frame or concrete structural system. Oregon Structural Specialty Code seismic zone 4 lateral load resistance requirements will also impact overall project costs. The need to meet the LEED Silver Rating requirements will also increase design and commissioning fees.

The existing HMSC facility provides approximately 398 parking spaces serving approximately 243,000 sq. ft. of facility; excluding housing; for a ratio of about one space per 611 sq. ft. The Newport Land Use Ordinance requires one space per 600 sq. ft. for government buildings, so the current facility is nearly in compliance. Any new facility will need to increase total on-site parking in accordance with the current code ratio, plus replacement of any existing parking which is displaced by the proposed development. Because the preferred Site B development would not displace any existing parking, site development costs would be lower than with the alternative Site A location.

Direct construction costs for the basic building are anticipated to currently be in the range of \$265 per square foot, plus a premium of \$106 per square foot (40%) for laboratory and freezer space; equating to a direct construction cost in the range of \$8,568,245 for a Phase One facility of approximately 27,745 sq. ft. and related site improvements. An additional 30% "soft cost" allocation for design and engineering; commissioning; testing and balancing; special inspections; City plan review, building permit and systems development fees; furnishings; equipment; and administrative costs brings the total project cost to a range of approximately \$11,138,718 in current dollars. This budgetary allocation should be adjusted to reflect future inflation in the local construction market up to the projected bid date, which is currently unknown.

The following is a summary of our cost projections:

Basic Building:	27,745 sf x \$265 =	\$7,352,425
Premium for Lab Space:	11,470 sf x \$106 =	\$1,215,820
Total Direct Const. Cost:		\$8,568,245

Anticipated Project Cost

March 28, 2007

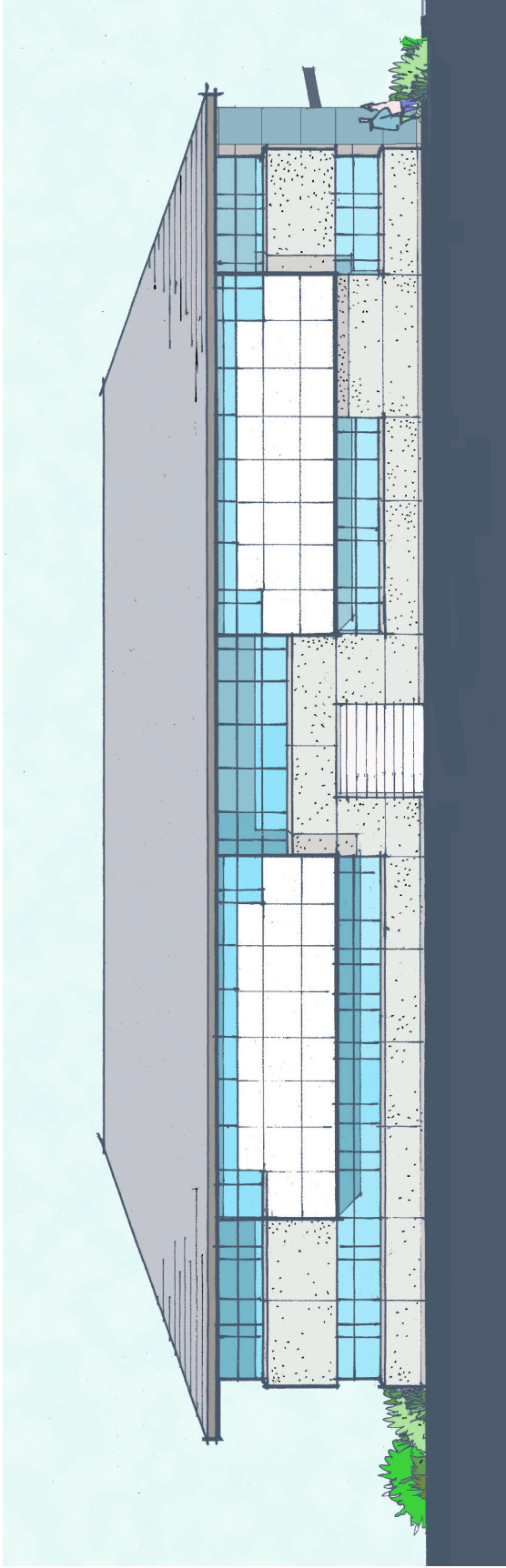
Page 2 of 2

Soft Costs (30%):	\$2,570,473
-------------------	-------------

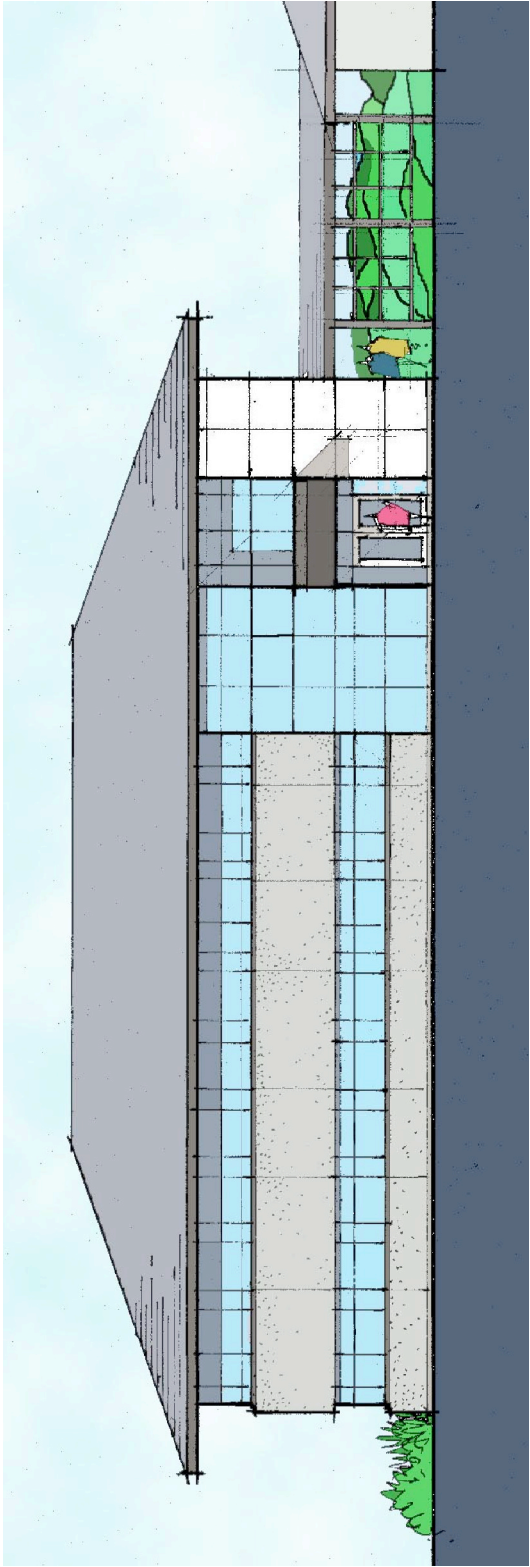
Total Project Cost:	\$11,138,718
---------------------	--------------

Because the schedule for this project is currently undetermined, it is difficult to project the impact of future inflationary pressures. In general, a factor of at least 6 to 7 percent should be applied to allow for expected annual inflation, beginning in January of 2008.

ANTICIPATED PROJECT COST

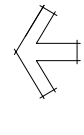
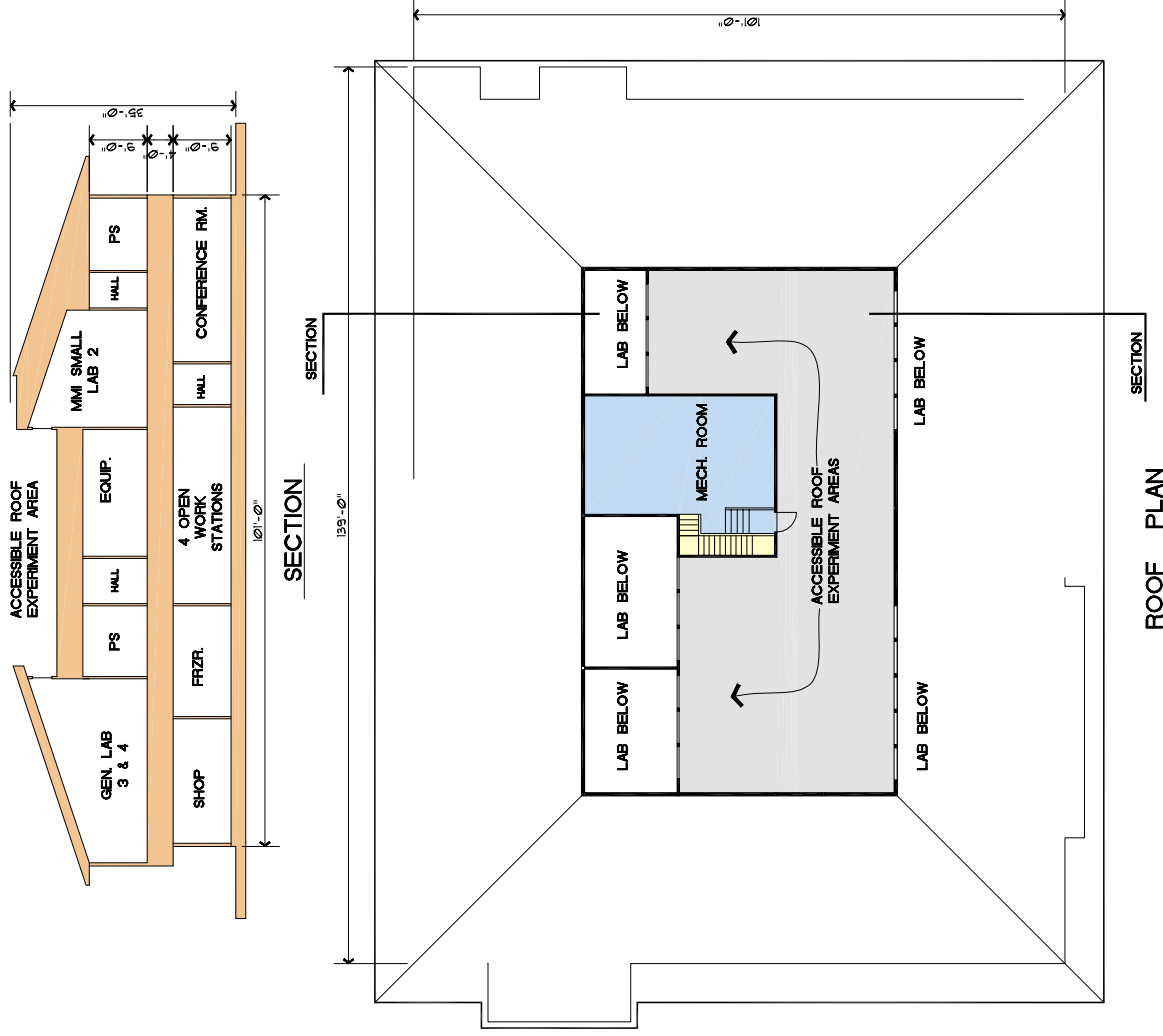


SOUTH ELEVATION



EAST ELEVATION

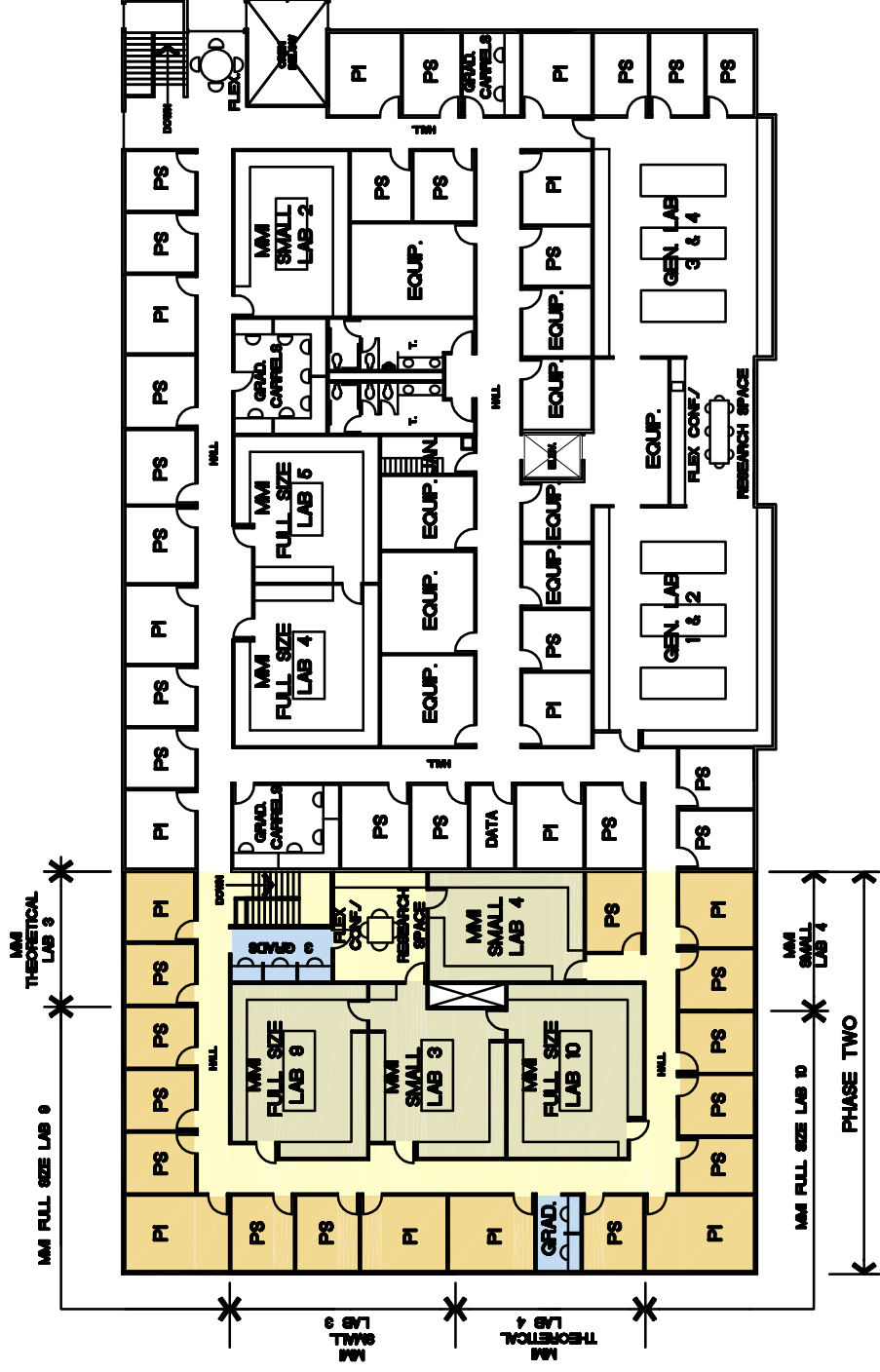
HATFIELD MARINE SCIENCE CENTER
MARINE SCIENCE / MAMMAL RESEARCH FACILITY



NORTH
0 8' 16' 32'

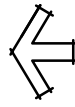
HATFIELD MARINE SCIENCE CENTER MARINE SCIENCE / MAMMAL RESEARCH FACILITY

1/5/07



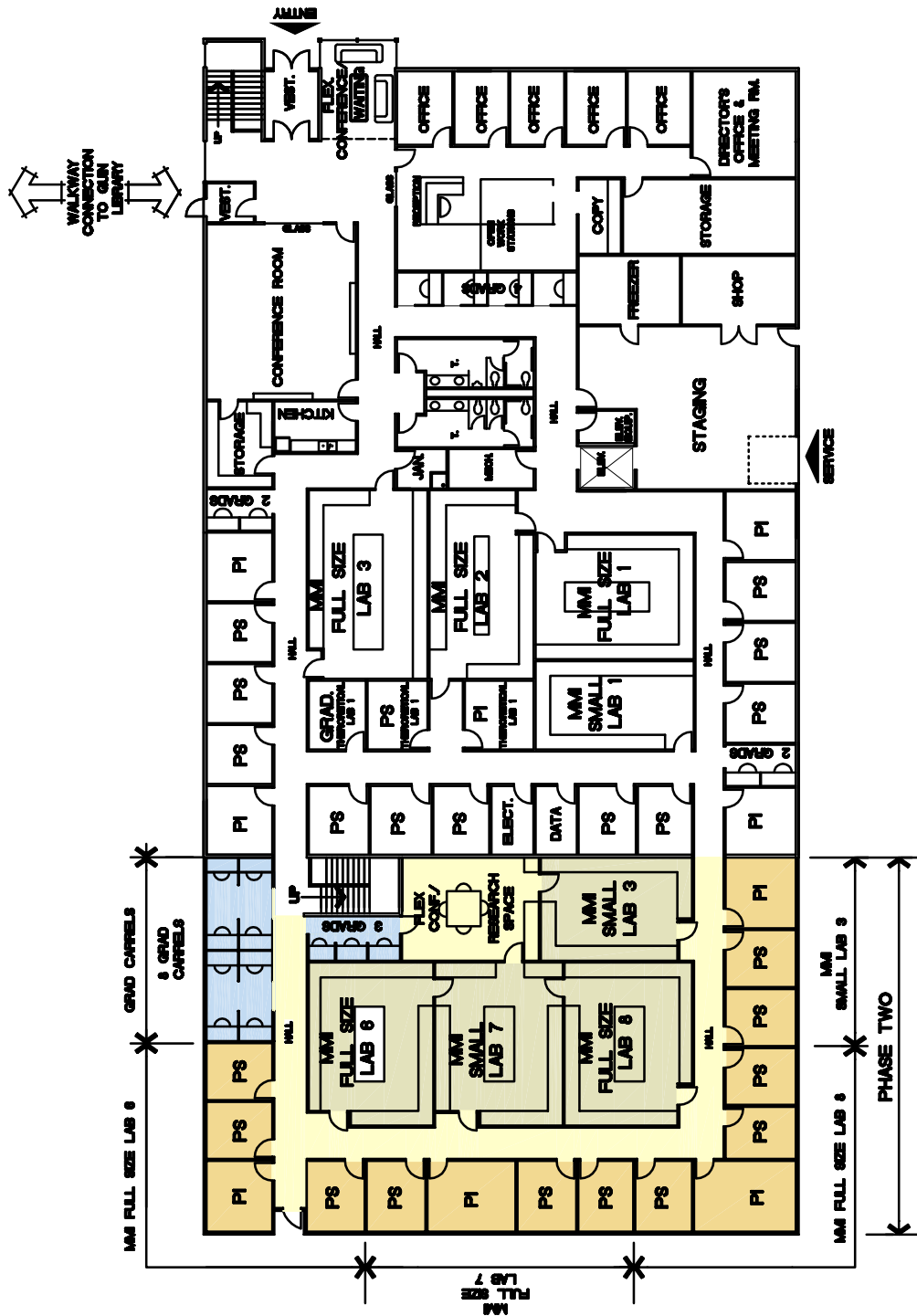
PHASE TWO SECOND FLOOR PLAN

SECOND FLOOR PHASE TWO AREA : 6285 S.F.
 TOTAL SECOND FLOOR PHASE ONE AND TWO AREA 20,134 S.F.
 TOTAL BUILDING AREA : 40,275 S.F.



NORTH
 0 8 16 32'

HATFIELD MARINE SCIENCE CENTER
MARINE SCIENCE / MAMMAL RESEARCH FACILITY



PHASE TWO FIRST FLOOR PLAN

FIRST FLOOR PHASE TWO AREA: 6285 SF.

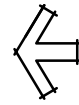
TOTAL FIRST FLOOR PHASE ONE AND TWO AREA: 20,141 SF.

HATFIELD MARINE SCIENCE CENTER

MARINE SCIENCE / MAMMAL RESEARCH FACILITY

GLAS
Architectural Group

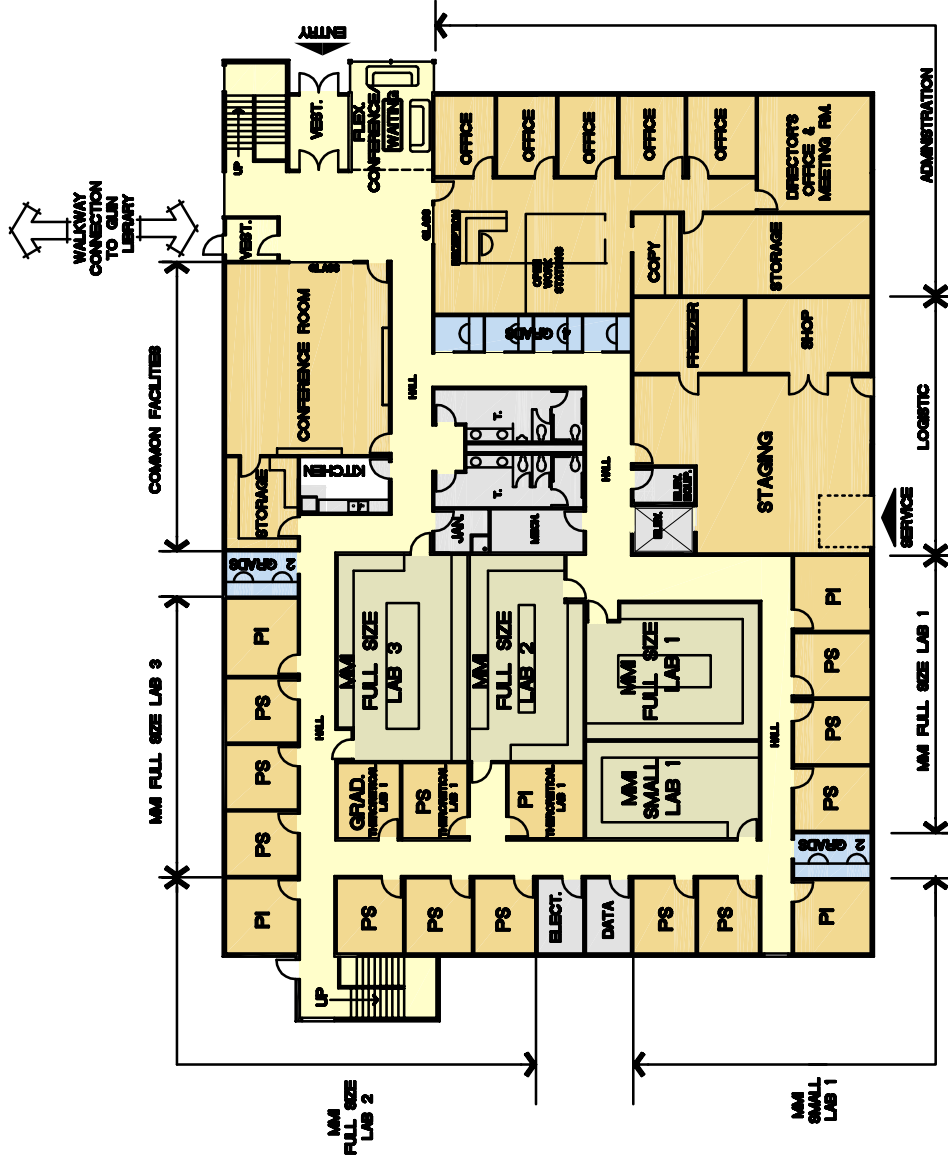
1/15/07



MARINE SCIENCE / MAMMAL RESEARCH FACILITY

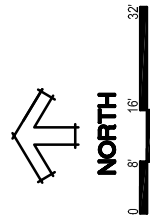
1/5/07

TOTAL PHASE ONE BUILDING AREA: 27,746 S.F.

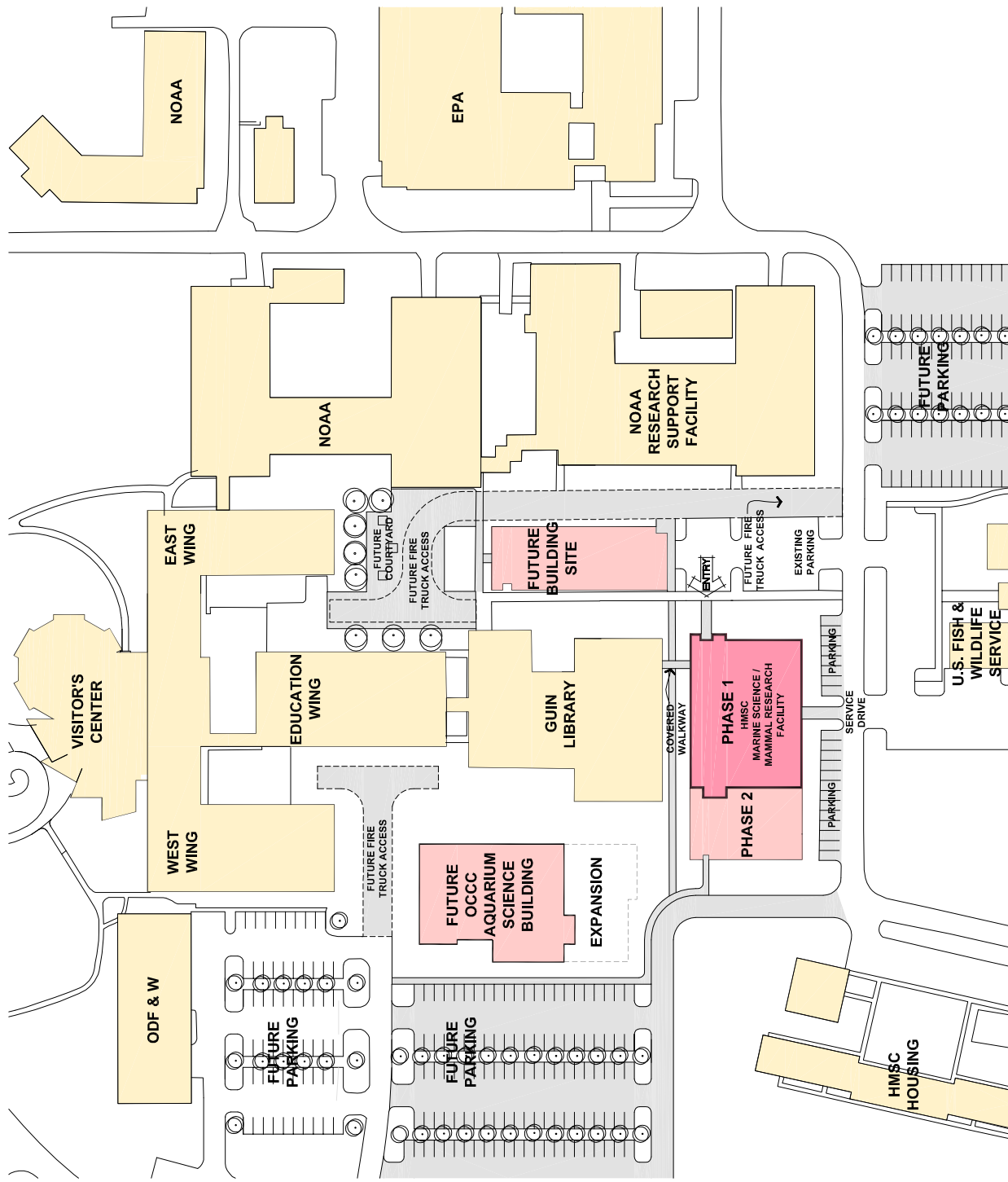


PHASE ONE FIRST FLOOR PLAN

FIRST FLOOR PHASE ONE AREA: 13,876 S.F.



HATFIELD MARINE SCIENCE CENTER
MARINE SCIENCE / MAMMAL RESEARCH FACILITY



SITE PLAN

HATFIELD MARINE SCIENCE CENTER

MARINE SCIENCE / MAMMAL RESEARCH FACILITY

1/15/07

March 28, 2007

Hatfield Marine Science Center
Marine Mammal/Marine Science Research Facility
gLAs Project No. 06036

DESCRIPTION OF PROPOSED FACILITY

The proposed design is for a two-story facility located on Site B, with a Phase One building area of 27,745 square feet. Suggested site plan and floor plans are included on the pages to follow. These plans are suggestive only, and are subject to decision-making processes outlined in the HMSC Master Plan.

The ground floor functions would include a main entrance, administrative area, common facilities, logistics space, and laboratories and offices for the Marine Mammal Institute. Marine Mammal research offices are located at the perimeter and laboratories and restroom facilities are clustered near the center of the building. A looped corridor provides convenient access between building functions. The entrance area includes a lobby flex space which may serve as a secondary meeting area. The entrance lobby is located at the northeast corner of the building, allowing access from the parking area to the east and from the Guin Library to the north.

The logistics area includes an overhead service door and staging area with freezer storage. This area is adjacent to the elevator, which has doors at the staging area side, to facilitate material and equipment deliveries to second floor laboratories. The elevator is oversized, with a 5'-8" x 7'-10" cab and 4 ft. doors, to allow for movement of equipment.

The second floor includes laboratories, offices, and specialized equipment rooms for the Genetics Research and Marine Mammal Institute (MMI) research programs. The Marine Mammal Institute is located at the north side of this level, with a configuration similar to other first floor Marine Mammal facilities; with perimeter offices and core laboratory spaces.

The Genetics program is designed with a different concept preferred by this research group, with larger combined laboratories located at the perimeter, surrounded by research offices and specialized equipment rooms. Some offices and equipment rooms are directly adjacent to the laboratories. Between laboratories there is shared flex space available for collaborative research and conferencing.

The overall building form is consistent with the established campus aesthetic, with a sloping hipped-roof configuration with concrete tile; and precast concrete exterior walls. The precast concrete wall panels would include decorative exposed aggregate patterning, similar to other HMSC buildings. Windows, doors, and projecting wall elements are envisioned as clear anodized aluminum.

Description of Proposed Facility

March 28, 2007

Page 2 of 2

A connecting walkway is proposed to connect this building to the Guin Library. This walkway would be similar to the existing walkway at the north side of the Library, with a sloped roof and plexiglass wind screen at the west side.

Windows are provided at all perimeter habitable spaces and upper clerestory windows are included for second floor laboratory areas. Operable office windows will be considered as a means of minimizing mechanical cooling and ventilation requirements. The entrance lobby flex space is envisioned as a two-story atrium space open to the second floor hallway, and with two-story windows at the perimeter.

The existing parking lot at the east side will be retained, and other parking facilities are envisioned as part of HMSC's master planning process to meet needs of new development according to City ordinances.

In the future, it is anticipated that this building would be expanded to the west. The proposed design includes a Phase Two expansion of both floors, with 12,530 sq. ft. of new area; bringing the total building area to approximately 40,275 sq. ft. Phase Two laboratories are clustered together, with shared flex areas between. The Phase Two expansion is more cost efficient due to coordinated planning to take advantage of well-placed Phase One infrastructure (restrooms, utility spaces, stairwells, etc.) which can be shared by both project phases.

The facility will be designed with the intent of meeting the LEED Silver Rating criteria. Sustainable and energy efficient design strategies will be evaluated during subsequent detailed design phases.

The Design Committee also expressed an interest in an outdoor courtyard space. Although not a part of this project, it was suggested that the site area to the northeast of the Guin Library entrance would offer a desirable solar orientation and would be sheltered from northerly and southwesterly winds. This development may also require relocation of the delivery area to the west side of the Education Wing.

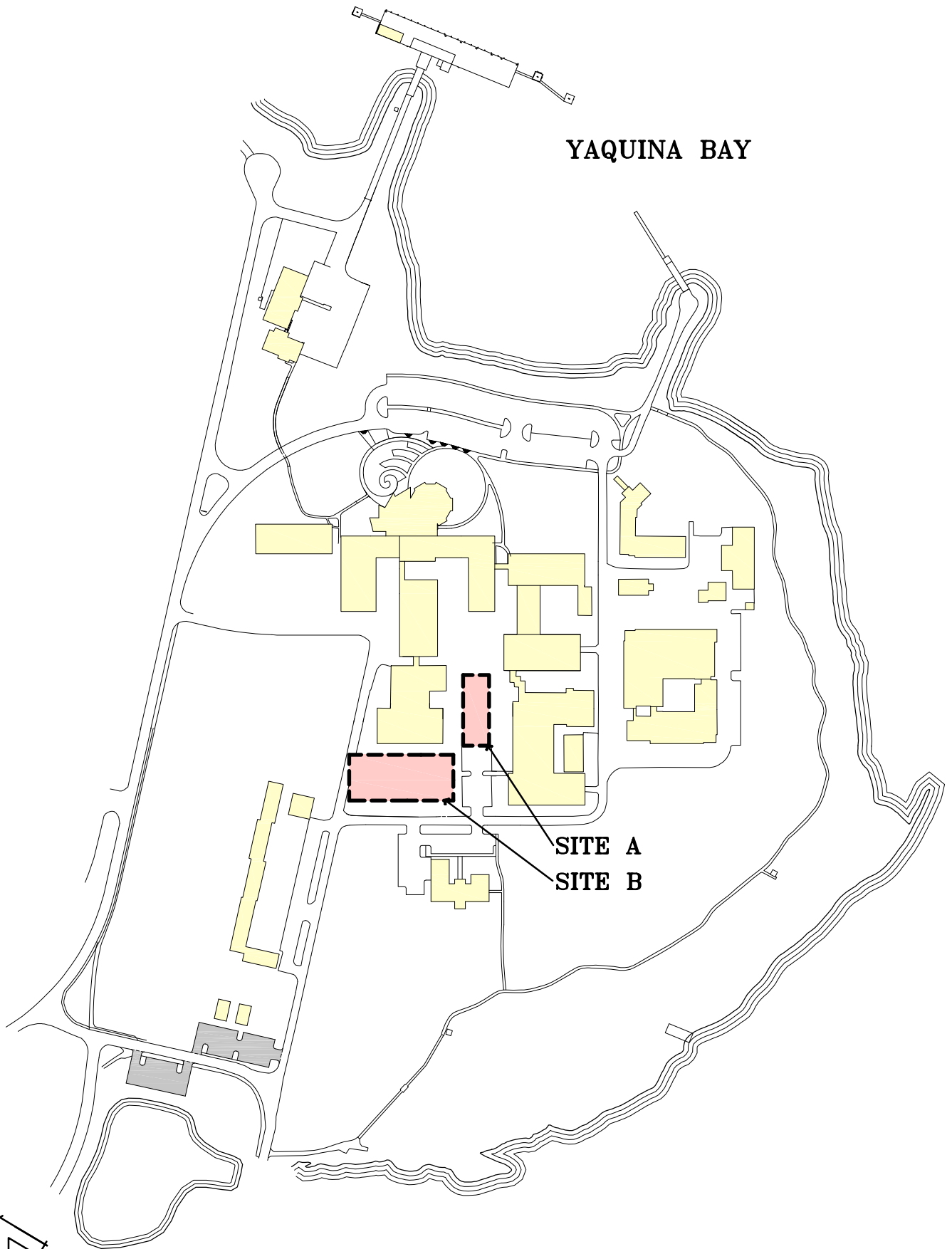
DESCRIPTION OF PROPOSED FACILITY



Site A



Site B



YAQUINA BAY

SITE A
SITE B



NORTH



POTENTIAL BUILDING SITES
HATFIELD MARINE SCIENCE CENTER
MARINE SCIENCE / MAMMAL RESEARCH FACILITY

gLAS
Architectural Group

March 28, 2007

Hatfield Marine Science Center
Marine Mammal/Marine Science Research Facility
Conceptual Design Study
gLAs Project No. 06036

EVALUATION OF ALTERNATIVE SITES

The Design Team reviewed options for locating the planned building and their recommendations are included herein. We note, however, that Oregon State University and Hatfield Marine Science Center are in the process of developing a campus master plan. This plan identifies a planning committee and establishes procedures for approval of new building locations. The Design Team acknowledges that final siting of this building is subject to the processes described under the HMSC Master Plan.

Two primary options were considered for locating this facility, identified herein as Sites A and B.

SITE A:

Site A is located directly east of the Guin Library in an area currently developed as a paved parking area. This site offers the advantage of direct adjacency to the entrance of the Guin Library and is near the center of the HMSC campus. The primary disadvantage of this location is the narrow width of the site. Based upon an aerial survey, there appears to be approximately 150 feet between the Guin Library and the NOAA Research Support Facility to the east. There is a need to retain a minimum width of 20 feet for fire department access to this area of the campus, in addition to minimum clearances between buildings for building code requirements. The Newport Land Use Ordinance limits building height to 35 feet within this W-2 (Water Related) zone. The building height is measured from the average grade around the building perimeter to the roof peak.

These limitations combine to result in a long, narrow, two story building configuration with a single corridor lined with rooms on both sides. The resulting Scheme A building design consisted of a linear configuration approximately 57 feet wide and 248 feet long. A copy of the design scheme for Site A is included in the Appendix to this report.

The strong preference of the Design Committee is for a clustered plan arrangement which reduces the distance between spaces and encourages collaboration between research teams. This approach would also consolidate development within a more compact site area. Site A is ill-suited for this planning configuration, because of the linear site geometry.

Another disadvantage of Site A is that this building site would displace existing parking facilities which would need to be replaced as part of this project budget. The proposed Scheme A design would displace approximately 40 parking spaces which would need to be constructed in addition to the 47 spaces required by code for a 28,000 sq. ft. facility; for a total of 87.

SITE B:

This site is located directly to the south of the Guin Library and is an undeveloped grassy field bounded by an existing parking lot to the east, USF&W offices and a driveway to the south, and a driveway and undeveloped site area to the west. There is a marine water trench located near the west driveway, flowing south to the discharge point. Based upon the aerial survey, the site measures 162 feet in the north-south direction and 265 feet east-west, assuming relocation of the west driveway.

The primary advantage of this site is that it is wide enough in the north-south dimension to facilitate a clustered plan configuration preferred by the Design Committee. It is also long enough to accommodate current Phase One needs as well as projected Phase Two space needs.

This site is also directly adjacent to the Guin Library, although the connecting entrance would be within the stack area at the south end of the Library, rather than at the main entrance. This entrance location was not viewed as detrimental to the function of the Library.

Unlike Site A, this location would not displace any existing parking, and therefore would not involve the cost of replacement.

For these reasons, Site B was the strong and unanimous preference of the Design Committee, and the proposed design is based upon this location.

March 28, 2007

Hatfield Marine Science Center
Marine Mammal/Marine Science Research Facility
gLAs Project No. 06036

SPACE PROGRAM

PROGRAM AREAS:

Administrative Area:

Director's Office & Meeting Room	300	
Administrative Offices		
Enclosed Offices 2x135	270	
Enclosed Offices 3x90	270	
Open Work Stations 4x90	360	
Office Storage	400	
Copiers, Printers	<u>100</u>	
		1,700

Common Space:

Conference Room	800	
Kitchenette	80	
Work Storage	<u>200</u>	
		1,080

Logistic Area:

Workshop	250	
Freezer Farm	200	
Loading, Staging	<u>1,000</u>	
		1,450

Laboratory Types:

MMI Full Size Lab

Principal Investigator (PI)	150	
Prof. staff (PS) 1	120	
Prof. staff (PS) 2	120	
Prof. staff (PS) 3	120	
Lab. space	<u>600</u>	
		1,110

MMI Small Lab

Principal Investigator (PI)	150	
Prof. staff (PS) 1	120	
Prof. staff (PS) 2	120	
Lab. space	<u>450</u>	
		840

MMI Theoretical Lab

Principal Investigator (PI)	150	
Prof. staff (PS)	120	
2 Grad students	<u>120</u>	
		390

Genetics Lab

Principal Investigator (PI)	150	
Prof. staff (PS) 1	120	
Prof. staff (PS) 2	120	
Prof. staff (PS) 3	120	
Lab	<u>500</u>	
		1,010

PROGRAM SUMMARY:

PHASE ONE:

1st Floor Phase 1:

Administrative	1,700
Logistic	1,450
Common	1,080
Lab space:	
MMI full size lab 1	1,110
MMI full size lab 2	1,110
MMI full size lab 3	1,110
MMI small lab 1	840
MMI theoret. lab 1	390
Flex space (offices/admin.)	400
Grad corral area (8 students)	<u>400</u>

9,590

2nd Floor Phase 1:

Lab space:	
Genetics full size lab 1	1,010
Genetics full size lab 2	1,010
Genetics full size lab 3	1,010
Genetics full size lab 4	1,010
MMI full size lab 4	1,110*
MMI full size lab 5	1,110*
MMI full small lab 2	840*
MMI theoret. lab 2	390*
10 Equipment rooms x200	2,000

Flexspace (conf./research)	400	
Grad corral area (8 students)	<u>400</u>	
		10,290

Phase I Summary

Net Area:		19,880
Support Space (45%):		<u>8,946</u>
TOTAL:		28,826

PHASE 2:

1st Floor Phase 2:

MMI full size lab 6	1,110	
MMI full size lab 7	1,110	
MMI full size lab 8	1,110	
MMI small lab 3	840	
Flex space (office/admin.)	200	
Grad student corral (9 students)	<u>450</u>	
		4,820

2nd Floor Phase 2:

MMI full size lab 9	1,110	
MMI full size lab 10	1,110	
MMI small lab 4	840	
MMI small lab 5	840	
MMI theoret. lab 3	390	
MMI theoret. lab 4	390	
Flex space (conf./research)	<u>150</u>	
		4,830

Phase I & 2 Summary

Net Area:	29,530
Support Space (45%):	<u>13,288</u>
TOTAL:	42,818

*Space converts to MMI Program upon completion of Phase 2

PROGRAM REQUIREMENTS

Anticipated growth of research programs in Oregon State University elements of the Hatfield Marine Science Center demand additional facilities in the coming years. Despite enormous growth on the HMSC campus, the only OSU research facilities are those original buildings constructed in 1965. Growth of OSU facilities has been limited to the housing, education, Visitor Center, library, and ship support buildings. The last six research buildings built have been state and federal agency research facilities. While some OSU faculty and programs are housed in the federal buildings, OSU's research programs are limited by the lack of OSU-owned research facilities.

Planned growth of the OSU Marine Mammal Institute is hindered by space availability, with an anticipated need for 18,000 square feet of combined office/lab space. Additional space is also needed by HMSC's growing marine genetics and genomics program. Program growth and modernization, needed to stay competitive in the current science funding environment, will require these new facilities. Given the new genetics emphasis within the Marine Mammal Institute, there are clear synergies in co-locating these two programs.

Initial discussions envisioned the need for a 2-story, 28,000 square foot building that does not require running sea water. The following pages document the specific program requirements for that building, as derived from the iterative discussions of the Design Committee and the design input of gLAs Architects, LLC. Copies of Design Committee meeting minutes are included in the appendix to this report.

PROGRAM REQUIREMENTS

DESIGN TEAM

Oregon State University

Hatfield Marine Science Center

George Boehlert, Director

Ken Hall, Program Manager

Randy Walker, Facilities Manager

OSU Facilities

John Gremmels

Greg Strombeck

Marine Mammal Institute

Bruce Mate, Director

Scott Baker, Assoc. Director

Markus Horning, Asst. Prof.

Joel Ortega, Research Associate

Jim Rice, Oregon Marine Mammal Stranding Network Coordinator

Cyndee Pekar, Admin.

Oregon Sea Grant/College of Veterinary Medicine

Tim Miller-Morgan

Cooperative Institute for Marine Resources Studies

Michael Banks, Director

USDA ARS

Mark Camara, Geneticist

gLAs Architects, LLC

James Lewis, Principal

TABLE OF CONTENTS

1. Design Team
2. Program Requirements
3. Evaluation of Alternative Sites
4. Description of Proposed Facility
5. Anticipated Project Cost
6. Appendices
 - Newport News Times article and editorial
 - Design Committee Minutes
 - Site A Design Study