

**Renovation of the Pell Marine Science Library:  
Creation of a new Oceanographic Information and Technology Center at  
The University of Rhode Island's Graduate School of Oceanography**

**A report to President Robert L. Carothers**

**October 30, 2003**

## I. Introduction

Pell Library has served as an intellectual center of the Graduate School of Oceanography (GSO) since its establishment in 1968. It has been essential to faculty and staff conducting their research and educational functions, and to the hundreds of GSO graduate students who carried out their masters and PhD thesis research. Despite this essential role, the configuration of Pell Library does not foster the important gathering of faculty, staff, and students that nurtures critical interdisciplinary interactions. In



addition, it is currently unable to accommodate the growing information resources necessary to sustain the research and educational programs in the 21<sup>st</sup> century. The establishment of a “campus center” at GSO where such activities can take place has been identified as an essential



Fig. 1. Proposed expansion of the Pell Library from the GSO Master Plan of Goody et al. (2000)

priority for the future of the institution. In order to facilitate more interactions amongst members of the Narragansett Bay Campus community and to provide state-of-the-art information and computing resources necessary to carry out the research and educational mission of GSO, a new multi-function facility is proposed for the renovation of Pell Library . This building will integrate library/educational functions, administration, research, and social activity into a center that will be a new focal point of the Bay Campus. The GSO Master Plan (Goody, Clancy and Associates, 2000) laid the groundwork for such a center by proposing that the Pell Library be expanded and the existing building renovated in order to accommodate administrative and other functions (fig. 1).

This document outlines the concept for the new facility including identification of primary functions, assessment of space requirements, and elements of functional integration. It will serve as a guide for the development of a preliminary building design in coordination with an advanced planning architect. Creation of the document has been guided in part by the Narragansett Bay Campus Master Plan and by input from the administration, faculty, staff, and students.

## II. Project Scope

The new center will host a variety of functions that interweave in ways that will strengthen interactions between the administration, faculty, staff, and students (fig. 2). Design and integration of the functions will be an important challenge in creating a successful synergy of activities. Some functions will require some degree of isolation whereas others need to be spatially integrated in order to realize the goals of increased interactions. An important objective will be to create a building that evokes both a physical and intellectual center for the campus. Five key functions have been identified for the new building.

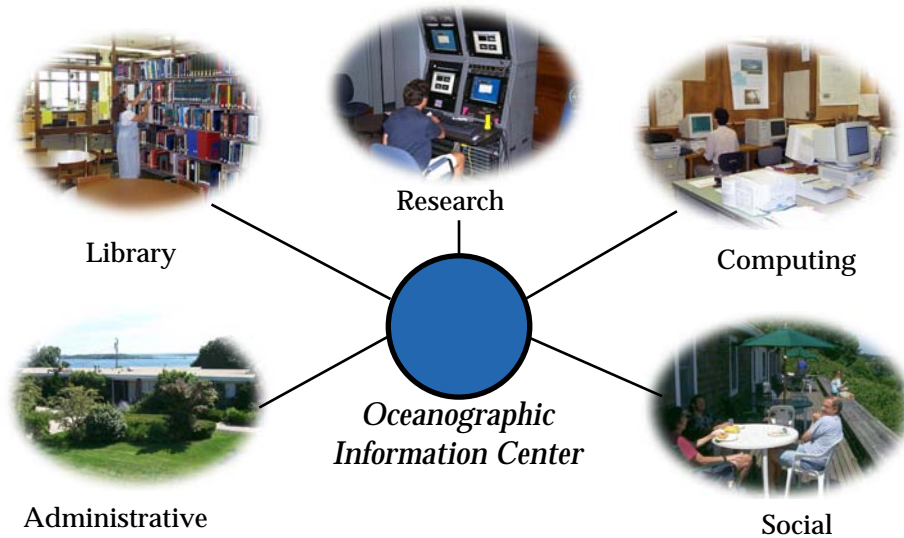


Figure 2. Proposed functions for the new Oceanographic Information Center at the Graduate School of Oceanography.

### *Library Services*

The Pell Marine Science Library was constructed in 1968 and has served the Graduate School of Oceanography (GSO) and the URI community for more than three decades. For many years there have been discussions regarding expansion of this key facility. It is currently above 95% capacity and the building is in critical need of physical renovations in order to adequately preserve its valuable collections. Expansion and renovation of the facility has therefore been identified as the highest priority capital improvement project for the Narragansett Bay Campus. Consequently, a major part of the new building will be an expansion of the current Pell Marine Science Library facility. This expansion will include additional space for collections and the incorporation of new electronic facilities to provide information services to users. Recognizing the trend towards electronic journal distribution, the expanded space allocation will be utilized for future acquisitions of books, papers, and special collections. The incorporation of a wireless network and spaces for small group interactions will be important elements of the expanded library area. In addition to the Pell Marine Science Library, the new facility will include the holdings of the National Sea Grant Library which is currently housed in the basement of Pell

Library.

Other important components of the new library facility include a dedicated map room, conference room, and electronic classroom. The classroom will contain an integrated PC network and display capabilities to allow students to use computers for classroom activities, small conferences, or instruction in library resources.

The Campus Master Plan proposed a 20,000 ft<sup>2</sup> expansion of the Pell Library to the west of the current building with an entrance that faces the primary access to the Bay Campus. This configuration would create an important “front-door” to the campus, an element that GSO currently lacks. Expansion of the library to the west would also allow for minimum disruption of library services during construction of a new facility. Pell Library currently has 11,800 ft<sup>2</sup> assignable space and preliminary estimates suggest that approximately 24,188 ft<sup>2</sup> assignable space would be required to house the core collections and operations, including the National Sea Grant Library (see appendix 1).

#### *Integration Considerations*

Access- Only one handicapped accessible entrance to library, preferably off main entrance.

Noise - Away from main hallways and gathering areas. Need to provide quiet areas for study as well as areas for group discussion.

Security- One entrance w/3M security system. Elevator access in lobby/outside main entrance to library (allows for access to building but not into the library after hours). No access to library after hours.

Proximity- Near computing center and away from high traffic areas. Also, away from administrative and social areas to keep disruption/distraction to library users at a minimum.

Environmental- climate control; window blinds for people and books; tinted glass; state of the art lighting needed.

Traffic- away from high traffic areas to limit disruption to users. Library should not become "visitors center" with staff spending lots of time giving directions to campus buildings, meetings on campus, etc

#### ***Administration***

The main components of the GSO administration are currently housed in the Fish Building of the Narragansett Bay Campus. This building is identified for removal in the Campus Master Plan with the migration of administrative functions to the renovated part of the existing Pell Library. This transfer is adopted in the new multi-function center. The Dean, Associate Dean, Student Office, Public Relations, and Development Office would be moved into the eastern part of the new building. Location of these key administrative offices in the new facility would facilitate greater interactions between faculty, staff and students. The current offices in Fish Building are somewhat isolated from many of the main academic and research activities at the Bay Campus.

Space requirement for the transfer of all administrative functions from the existing Fish Building into the new center would be approximately 4500 ft<sup>2</sup>.

### *Integration Considerations*

Access- Attractive access for both internal staff and other (including VIPs).

Noise - Away from main hallways and gathering areas. Need to provide quiet areas for administrative staff functions.

Security- Moderate level security to protect confidential files

Proximity- Proximity to other functional areas is not particularly important, although a reasonably direct route to the social area is desirable. The dean's suite should probably have a small kitchen with coffee maker/microwave/small refrigerator so the dean could offer refreshments to visitors.

Environmental- Adequate climate control and attractive decorating to reflect to Dean's administrative center.

Traffic- Away from high traffic areas to limit disruption to administrative workers.

### **Research**

As a result of the potential for significant new research programs at GSO and the limited amount of existing space on campus it is proposed that the new center will contain space for the development of some new research initiatives. One program, being developed by new faculty member Robert Ballard, is the establishment of a satellite downlink center at GSO that would handle information from research expeditions, national marine sanctuaries, and possibly the International Ocean Drilling Program. This center, referred to as Inner Space, would include a NASA-style mission command center with large-scale monitoring capabilities and space for engineers and scientist to remotely control and monitor research activities ("telepresence"). In addition, there would be a need for two labs devoted to video editing and dedicated computer facilities. This downlink center would require approximately 2500 ft<sup>2</sup> in the new building. One of the major driving forces behind the Center is to provide NOAA's Ocean Exploration program and its team of explorers, including those from GSO/IAO, with the ability to have easy access to their on-going exploration programs while remaining at their research institutions on shore. With such technology, they can be called upon when their expertise is needed at sea, enabling them to guide the exploration team in real time as a new discovery is being investigated. The initial development of this Center began in 2002 with a design study carried out by the Electronic Data Systems Corporation (EDS). This effort cost \$89,000 and was funded by the University through its support of Dr. Robert D. Ballard's research program. Based upon the results of the design study, \$1,200,000 was expended in 2002 and 2003 for the development, installation, and testing of both the sea-going components of the Inner Space Center and its shore-based electronics. Funding for this phase of the program came from NOAA's Office of Ocean Exploration and the Institute for Exploration in Mystic, Connecticut; both present and future users of this new technology base. In addition, the building will also serve as the center for the new Archeological Oceanography graduate program established at the Graduate School of Oceanography under the direction of Dr. Ballard.

A major by-product of “telepresence” technology and the Inner Space Center’s use of Internet2 will be the opportunity to involve large numbers of the students, teachers, and the general public in the excitement of “live” exploration. The Inner Space Center can also play a role in activities that deal with other University and Statewide efforts. For example, discussions are presently underway regarding the need for a telecommunications center in support of Home Land Security issues as they relate to the State and to Narragansett Bay. Such involvement is not only critical to efforts to excite young students to pursue careers in science and to help enlist public support of oceanographic research, it also provides important funding to support the Inner Space Center and the Institute for Archaeological Oceanography.

Another potential research activity of the new building is to house offices and laboratories for emerging research programs. For example, Drs. Lew Rothstein and Isaac Ginis are spearheading the development of a large-scale NOAA-funded research program on hurricanes that will require space for researchers and computing facilities. Consequently , 20 offices for research scientists are proposed for the new facility (4000 ft<sup>2</sup>, see appendix 1). The academic research areas will most likely be located in the renovated part of the existing Pell Library Building.

#### *Integration Considerations*

Access- Research areas should have limited access to individuals who are working in the spaces and their visitors. They should be away from high traffic areas. It may be necessary to have keypad access to some of the research spaces.

Noise- Areas that are utilized for research need to be designed for low noise.

Proximity- It will be useful to have some of the research areas placed in close proximity to the computer center as there will likely be services and equipment that need the expertise of the computer center staff.

Security- Research area will need to have a relatively high level of security because of the anticipated use of computer work stations and other types of expensive equipment.

Environmental- The anticipated use of extensive computing and video processing equipment requires that the research area be equipped with a high standard climate control system to modulate temperature and humidity.

Traffic- Research areas should be relatively low traffic areas and not an easy destination for casual visitors to the center.

#### *Social*

An essential part of the intellectual activity at the GSO is the exchange of ideas that takes place when faculty, staff and students gather together. This is especially true in an era of increasingly interdisciplinary studies. Apart from the Mosby Center where some of the Bay Campus community go for lunch, there is not a GSO campus center where community members can meet informally to exchange ideas and develop collaborations. The new multi-function center will address this important need by providing at least two dedicated spaces to encourage such interactions. The first is a café/food kiosk center that will be open during the normal working hours of the Bay Campus. This center will provide an informal atmosphere for Bay Campus

community members to enjoy coffee and snacks and meet in small groups. This will also provide an important destination for visitors to the Bay Campus. The second area will consist of a community gathering/meeting room where groups of people can gather to have more formal discussions. The room will have internet access, a computer projector with screen, white boards and other facilities to enable display of different kinds of information. Both areas will be adjacent to one another in order to encourage flow between the two. Given the location of the existing Pell Library in the center of the Knauss Quadrangle with its commanding view of Narragansett Bay, there is the potential to create a visually striking environment for these two spaces.

The space requirements for these areas and associated space for a lobby with displays is estimated at 5000 ft<sup>2</sup> and would be incorporated into the renovated part of the existing Pell Library Building. One potential configuration would be to have the café and meeting lounge on a third level of the current building with views facing toward Narragansett Bay.

#### *Integration Considerations*

Access- Visitors and Bay Campus community members should be able to access the Café from both within the center and from a more direct route to the exterior of the building. Access routes should generally be directed away from low noise areas such as the library, research, and administrative areas. Access to the meeting room should be more restricted with closures that can allow for private meetings when necessary.

Noise- The social areas are expected to generate significant conversational noise and some sound engineering may be necessary. The areas should be located away from areas that require very low noise level such as the library.

Proximity- Proximity to any one functional area is not as critical as making sure that individuals can make their way easily from other areas of the center to the social areas.

Security- The café needs to have the ability to lock up food service equipment, supplies, and cash register. A seating area could be left open to provide areas for individuals to meet and obtain light snacks from vending machines. The conference room needs to have a secure closure to protect A/V and other technical equipment in the room. It will closed after hours.

Environmental- Suitable A/C and heating control with the ability to shield sunlight when necessary

Traffic- Social areas are anticipated to be high traffic areas so access routes should be designed to accommodate easy travel (wide staircases and doors, etc.)

#### ***Computing***

The GSO computing facilities are currently housed in the basement of the Pell Library. These include a lab for student use, offices for support staff, and space for GSO computer equipment. In the new facility the offices, student lab, and space for computer equipment will be retained and occupy approximately 1800 ft<sup>2</sup> (see appendix 1). There may be the need for an expanded secure, and environmentally controlled space to house sensitive computer equipment associated with GSO servers and machines devoted to operation of the Inner Space Center.

The new center would be created through a combination of an expansion to the west of the current facility and renovating the existing Pell Library building. The total preliminary space estimate is ~41,976 ft<sup>2</sup> (assignable space, appendix 1) or 52,470 ft<sup>2</sup> (net). Currently there is 11,800 ft<sup>2</sup> of assignable space in Pell Library. Consequently, construction of the new center would require creating an additional ~30,176 ft<sup>2</sup> of assignable space and renovation of the existing space. Preliminary construction costs estimates for the total project (\$15 million) are based on a gross square footage of 52,470 ft<sup>2</sup> with construction and planning occurring over the period FY04 to FY09.

**Funding Strategy**

The University is presently seeking an Architectural/Engineering Team to assist with the design and development of the program, including scope, schedule and costs. Funds are currently available to cover the costs of a preliminary design. Completion of this task will provide important materials for the successful execution of the project.

The Governor’s 2004 Capital Plan currently recommends that, over the period FY 2007 – FY 2009, \$13.0 million in RI Capital Plan funds be pledged to fund the above described addition and renovations to the Pell Library. A spending plan for those funds is shown below.

**Capital Improvement Plan Fiscal Year 2005-2009**

FY 04	FY 05	FY 06	FY 07	FY 08	FY 09	Total
100,000			1,303,196	7,361,421	4,294,163	13,068,780

The remaining 2 million dollars for the total project would be raised through a private fund raising campaign. This campaign will be built upon the support of exciting new research technologies such as the Inner Space Center headed by Bob Ballard and the Hurricane Research Center. Substantial investments have already been made in the technology components for the Inner Space Center. The initial development of the Center began in 2002 with a design study carried out by the Electronic Data Systems Corporation (EDS). This effort cost \$89,000 and was funded by the University through its support of Dr. Robert D. Ballard’s research program. Based upon the results of the design study, \$1,700,000 has been expended for the development, installation, and testing of the sea-going components. An additional \$500,000 has been expended for shore-based technology to compliment the at-sea components. Funding for this phase of the program has come from NOAA’s Office of Ocean Exploration and the Institute for Exploration in Mystic, Connecticut; both present and future users of this new technology base. It is anticipated that the new multi-function facility will provide numerous naming possibilities for a fund raising campaign.

An alternative plan for the funding of the new center involves a combination of state, federal, and private money. The state request would also be through Rhode Island Capital Funds but for a lesser amount of \$5 million dollars in fiscal 05. As part of the state request, matching funds would be supplied from a combination of federal grants (\$5 million) and a larger private fund

raising campaign (\$5 million). Federal money will be sought through legislative appropriations or directly from federal agencies such as the National Oceanic and Atmospheric Administration.

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## Appendix 1. Pell Renovation Project (Space Estimates)

	<b>Proposed Space (ft<sup>2</sup>)</b>
<b><i>Pell Library</i></b>	
1. General Stacks	15000
2. Current periodical room	800
3. Special collections	1000
4. Circulation	600
5. Reserves	20
6. Reference	400
7. Map/chart room	200
8. PC/printer area	500
9. Photocopy area	80
10. Conference room	600
11. Study/reading area	300
12. Student meeting places	300
13. Materials processing area/student work area	144
14. Study carrels (locking)	500
15. Electronic classroom	650
16. Closet/storage areas	100
17. Rest rooms	
18. All night study area	
19. 4 staff offices	850
20. Staff lounge	144
21. Seagrant Library	2000
 Total Library	 24188
 <b><i>Administration</i></b> <i>(minimum)</i>	
1. Dean's office	1000
2. Associate Dean/Academic Affairs	400
3. Development	300
4. Public Relations	300
5. Additional Central Administration (option)	2500
 <b><i>Computer</i></b>	
1. Offices	320
2. Machine room	168
3. Checkout and software	96
4. Student computer lab	432
5. Troubleshooting and repair	72
6. Storage	300
7. Copy center	400
 <b><i>Academic</i></b>	
1. Inner Space (control center and 2 labs)	2500
2. 20 offices for research scientists	4000
 <b><i>Social</i></b>	
1. Faculty meeting center	800
2. Café/lounge	1100
3. Lobby, student space, displays	3100
<b><u>Total space requirement</u></b>	<b>41976</b>