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The LSU Museum of Natural Science
(Birds, amphibians, reptiles, fishes, mammals,
genetic resources, ethnology/archaeology, fossil protists,
fossil invertebrates, fossil vertebrates)

Mineralogy and Petrology Collections
(Department of Geology and Geophysics)

Center for Excellence in Palynology
(Department of Geology and Geophysics)

Textile and Costume Museum
(Department of Human Ecology)

LSU Herbaria:
(Vascular plants, lichens, fungi) (Life Sciences)

Louisiana State Arthropod Museum
(AgCenter)

Log Library and Core Repository
(Louisiana Geological Survey)
**Introduction**

(Information modified from http://appl003.lsu.edu/natsci/lmnh.nsf/index)

In 1999, the sixteen natural history collections at Louisiana State University in Baton Rouge were designated by the state legislature as the "Louisiana Museum of Natural History." Together, these collections hold a total of more than 2.8 million specimens, objects, and artifacts that document the rich natural history of our state. These collections are dispersed among six independently administered units on campus, and include the Vascular Plant Herbarium, the Mycological Herbarium, the Lichen Herbarium, the Louisiana State Arthropod Museum, the Palynology Collection, the Mineralogy and Petrology Collections, the Textile and Costume Museum, the Louisiana Geological Survey Log Library and Core Repository, and, within the LSU Museum of Natural Science, the Collection of Amphibians and Reptiles, the Collection of Birds, the Collection of Fishes, the Collection of Genetic Resources, the Collection of Mammals, the Vertebrate Paleontology Collection, the Collection of Microfossils and Invertebrates, and the Anthropological and Ethnological Collections.

In Spring of 1999, these sixteen collections formed a non-administrative consortium called "The LSU Museum of Natural History," and in early June of 1999, Governor Murphy J. Foster signed [House Bill 826](http://appl003.lsu.edu/natsci/lmnh.nsf/index) (sponsored by Representative Weston, and others) designating this consortium as the official state museum of natural history, to be known as the "Louisiana Museum of Natural History."

This important legislation united the LSU campus museums into a formally recognized entity that can speak with a single voice on collection-related issues. More importantly, designation as the official state museum of natural history recognizes the central role of the LSU collections as the premiere repository of specimens, objects, and artifacts documenting the extraordinary natural history of Louisiana.

The seven components that form the LSU Museum of Natural History are:

- LSU Museum of Natural Science
- Mineralogy and Petrology Collections
- Palynology Collection
- Textile and Costume Museum
- LSU Herbarium
- Louisiana State Arthropod Museum
- Louisiana Geological Survey Log Library and Core Repository

This report explores the issues associated with the construction of a new premier facility to be used exclusively by the LSU Museum of Natural History. Items such as the scope of the LSU Museum of Natural History, example facilities, space requirements, potential site locations, and anticipated project costs are analyzed in the body of this report.
Why We Need a New, Modern
LOUISIANA MUSEUM OF NATURAL HISTORY
On the campus of LOUISIANA STATE UNIVERSITY

The sixteen natural history collections at Louisiana State University (LSU) in Baton Rouge have been designated by the state legislature as the “Louisiana Museum of Natural History,” but the collections have little visibility and are not meeting their full potential to benefit Louisiana and LSU.

- A fine state museum of natural history like the one on the campus of the University of Oklahoma would be highly visible, serving as evidence of the excellence for which LSU strives. Such a museum at LSU would serve as a showcase for the university, highlighting its research. It would serve as a bridge between community and campus, would help in LSU recruitment at every level from undergraduates to faculty, and would attract visitors to the state.

- A determination to produce such a museum would aid the University in fund raising, even for other segments of campus. Oklahoma Museum Assistant Director Peter Tirrell comments “...We got a new $45 million museum that precipitated an $18 million gift to the business school, a $22 million gift to the journalism school, a gift of an art collection valued at $50 million (with a $6 million new wing to house it). People will give to a museum when they will give to nothing else.”

- An accreditable museum of natural history at LSU would provide educational opportunities for pre-college youngsters through visits, traveling exhibits, teacher programs, and educational materials tailored to the state’s needs. Natural history outreach programs are scattered around campus now, and if united, could be more effective and visible.

- The museum would support additional research faculty beyond those the departments can hire and would attract federal funding for collections-related research.

- It would save money and effort by allowing similar needs for facilities to be addressed through one administration and handled efficiently in one facility, instead of piecemeal.

- Uniting collections in the new museum would free up valuable space in the core part of campus.

- It would bring collections-related graduate students from a variety of disciplines into contact with one another for a more enriching educational experience.

- It would attract donations to prevent loss of the state’s important natural history specimens. One significant example of what Louisiana has lost through not having infrastructure in place is the Baton Rouge meteorite. Though studied at LSU, it was sold by its owner to a private collector.

- Only seven years elapsed between the first major donation and opening the doors of the new facility.
The LSU Museum Complex:
A Brief History of Efforts Towards Unity

In 1979, LSU curators began meetings to discuss uniting scattered collections into a major museum. An early result was the scissioning of the LSU Museum of Natural Science (Fishes, Amphibians, Reptiles, Birds, Mammals) and the LSU Museum of Geoscience (Anthropology, Rocks & Minerals, Fossil protists, Fossil invertebrates, Fossil vertebrates) from their respective teaching departments. They were placed in a new college-level unit, the Museum Complex, along with the Anglo-American Art Museum. Some natural history curators outside the two natural history museums continued to participate in planning for an administrative and physical unification of the collections. A Chancellor's Charge Committee for the Museum Complex brought together curators with prominent citizens and alumni. An event for legislators was held on the Pentagon grounds downtown. Unfortunately, economic hard times hit, and momentum was lost.

In 1992, the Museum of Geoscience was united with the Museum of Natural Science. The departure of the art museum to the Shaw Center left the Museum Complex as a one-department college, holding approximately half of the LSU Natural History collections. The Museum of Natural Science holds some, but not all, of the biology collections, some, but not all, of the geology collections, and some, but not all, of the anthropology collections. In 1999, sixteen LSU natural history collections were designated as the Louisiana Museum of Natural History.

In 2002, an Architectural program was commissioned by the Museum of Natural Science, which recommended renovations to Foster Hall to be utilized by the Museum of Natural Science. This program would have provided 36,730 nasf (net assignable square feet) and a total building area of 54,190 gsf (gross square feet). It would not have produced a full service museum or an accreditable museum. It is believed that Foster Hall would be better suited to other uses which would support the overall mission of the university more effectively.

In 2002, the Build-a-Museum Team, a group of citizens supportive of development of a major, accredited, full service museum of natural history at LSU, was formed as part of an initiative of the Capital Region Competitive Strategy. CRCS was sponsored by a partnership of the Chamber of Greater Baton Rouge, the nine-parish Capital Region (Pointe Coupée, East Feliciana, West Feliciana, St. Helena, West Baton Rouge, East Baton Rouge, Livingston, Iberville, and Ascension) and the State of Louisiana. CRCS's aim was to work towards a more prosperous and sustainable next generation economy. In 2003, the Build-a-Museum Team developed a website (http://www.build-a-museum.org/index.shtml) and an E-newsletter. In Fall of 2005, the Team supported travel of Mr. Emmett David and Mr. Jason Soileau of the LSU Office of Campus Planning to see Sam Noble Oklahoma Museum of Natural History, a "best practices" example. The trip resulted in the development of this plan. The Build-a-Museum Team provided covers and informational dividers bearing a picture of a magnolia which are interspersed in the plan. They were designed by Mary Lee Eggart of the LSU Department of Geography and Anthropology.
Dr. Edward C. Theriot, Director of the Texas Memorial Museum (TMM) of Science and History and Jane and Roland Blumberg Centennial Professor of Molecular Evolution at The University of Texas at Austin, had the following to say when asked if the Sam Noble Oklahoma Museum of Natural History (SNOMNH) is a good model for a group trying to develop a university museum. The emphasis is his: “…the SNOMNH is THE outstanding RECENT example of a university getting its act together to produce a ‘unified, full service natural history museum.’ It has certainly come the farthest in the shortest period of time, and I can only hope that our efforts here at the TMM will come to fruition as have those of Mike Mares and the rest of the folks who have helped build SNOMNH. I can think of no other modern natural history museum, free-standing or university, that was an assemblage of collections in greatly substandard housing scattered about a university just a decade ago.”

The American Association of Museums Accreditation Commission Chairman commends SNOMNH for its strategic planning: “The commission commends the museum on its growth since the last review and on its strategic planning process, which we find could be a model for others,” wrote Commission Chair Martin Sullivan in a letter congratulating SNOMNH on its accreditation last year.
An Example of Best Practices

The Sam Noble Oklahoma Museum of Natural History (SNOMNH), located on the campus of Oklahoma University in Norman, Oklahoma, is considered to be one of the premier examples of a University based natural science museum in the country. This facility, which opened its doors to the public in 2000, stands at 198,000 gsf and includes 50,000 square feet of exhibit space focusing on the natural and cultural history of the Oklahoma region. The facility also includes a 60,000 square foot collections storage facility that holds more than 6 million artifacts and specimens. The remaining space houses research, administration, and general use areas.

This facility is slightly larger in size than the facility being proposed for the LSU campus, and provides a fine example of space utilization and arrangement which should be emulated in the design of the LSU museum.
Interior Exhibit Space at the Sam Noble Museum of Natural History

Rotunda Gathering Space at the Sam Noble Museum of Natural History
Dr. Michael Mares, Former Director of the Sam Noble Oklahoma Museum of Natural History who served during unification of their collections and development of their new building, replied as follows to a question about his museum in relation to goals of a flagship university:

“The president and deans bring all new faculty and administrative candidates, as well as potential students, through the museum during their orientation. In fact, some student functions are held in the museum as a special place to meet...Our building has helped the president raise money (he has told me this many times, and has raised almost a billion dollars since he got here). Members of the legislature have met here too, because it is such a beautiful place and the most “Oklahoma” place in the state.”

New Director of SNOMNH, Dr. Ellen Censky:

“The staff is committed to having a top-ranked museum, not just on a campus but in the museum world in general. What this means for the staff is that they have set standards that promote the best care for the collections, encourage cutting edge research, and strive to provide the best exhibits and educational programs to translate those collections and their affiliated research to the public...Volunteers contribute 23,000 staff hours to the museum each year...The dedication that is shown by staff and volunteers is paralleled by the dedication shown by the community. I am thoroughly impressed by how the whole community has stepped forward to support this institution. There is not a day goes by where someone in the community does not express pride in having this museum in his or her backyard.”

From an article by Peter Tirrell, Associate Director, and Ellen Censky in 2003:

“Since its opening in May 2000, the SNOMNH has attracted more than 700,000 visitors...Each year the museum hosts more than 30,000 children from schools across the state...In the past three years curators have garnered more than $2 million in grant revenue for research...”

Peter Tirrell, speaking at the University Museums and Collections (UMAC) 2003 Conference, held at SNOMNH, told delegates that, since 1982: approximately 6 million people in Oklahoma, 17 other states, and Canada, have seen SNOMNH traveling exhibits. SNOMNH has hosted an average of four conventions per year since its opening. The UMAC Conference is international. It has since been held in Seoul, Korea and in Uppsala, Sweden.

According to Peter Tirrell, direct community benefits can be as high as $3.50 for every dollar spent on museums and indirect benefits as high as $12.
The following is a summary breakdown of the space statistics provided by the facility administration at the Sam Noble Oklahoma Museum of Natural History (SNOMNH).

Net usable square feet (total of all usable space in building, such as restrooms, mechanical rooms, custodial closets, hallways, stairs, offices, collections, labs, storage, store, café)

<table>
<thead>
<tr>
<th>Category</th>
<th>Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collections</td>
<td>38,524 nasf</td>
</tr>
<tr>
<td>Custodial</td>
<td>875 nasf</td>
</tr>
<tr>
<td>Food Service</td>
<td>2,055 nasf</td>
</tr>
<tr>
<td>Galleries</td>
<td>47,539 nasf</td>
</tr>
<tr>
<td>Halls, Stairs, &amp; Lobbies</td>
<td>24,747 nasf</td>
</tr>
<tr>
<td>Laboratories</td>
<td>8,193 nasf</td>
</tr>
<tr>
<td>Libraries and Resources</td>
<td>2,857 nasf</td>
</tr>
<tr>
<td>Mechanical</td>
<td>16,913 nasf</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>6,597 nasf</td>
</tr>
<tr>
<td>Offices</td>
<td>10,620 nasf</td>
</tr>
<tr>
<td>Restrooms</td>
<td>3,196 nasf</td>
</tr>
<tr>
<td>Storage</td>
<td>5,445 nasf</td>
</tr>
<tr>
<td>Retail Store</td>
<td>1,092 nasf</td>
</tr>
<tr>
<td>Teaching Facilities</td>
<td>8,975 nasf</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>177,628 nasf</strong></td>
</tr>
</tbody>
</table>

142,850 Net assignable square feet (total of all rooms that were unassigned when SNOMNH occupied the building – offices, collections, labs, storage, store, café, etc.)

55,784 Non-assignable square feet (total of all un-assignable space in building, such as restrooms, mechanical rooms, custodial closets, hallways, stairs, walls, voids, pipe chases)

37,778 Total of all usable but un-assignable space in building, (such as restrooms, mechanical rooms, custodial closets, hallways, stairs)

21,006 Total of all unusable space in building, such as walls, voids, pipe chases

198,634 Gross square feet (outside of walls to outside of walls)

The following is a series of floor plans showing the space utilization of the Sam Noble Oklahoma Museum of Natural History.
"The Four Pillars"

A 21st century university natural history museum must balance these four pillars:

- Collections
- Research
- Exhibits
- Education

"Museums today are like trees in winter, their collections, like closed buds, all holding tight their secrets. They need to become like trees in summer, their collections flowering in the minds of each visitor."

- Julian Spalding
  former director of several UK museums and author of "The Poetic Museum"
Anticipated Space Needs

For the purpose of determining space needs and requirements for a new building to support the LSU Museum of Natural History, the existing inventory from the Facility Inventory Database was analyzed. Currently the LSU Museum of Natural Science holds a total of 34,690 nasf in 3 locations across campus (Foster Hall, Howe-Russell, and Gym Armory).
Because this space is spread out over several locations, the efficiency of this space is not what it could be if consolidated into one location; however, this figure will be used to determine the new space needs for the LSU Museum of Natural Science. The existing space breakdown for this unit is as follows:

**LSU Museum of Natural Science By Building**

<table>
<thead>
<tr>
<th>Building</th>
<th>Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foster Hall</td>
<td>23,880</td>
</tr>
<tr>
<td>Gym Armory</td>
<td>5,726</td>
</tr>
<tr>
<td>Howe-Russell</td>
<td>5,084</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>34,690</strong></td>
</tr>
</tbody>
</table>

**LSU Museum of Natural Science By Category**

<table>
<thead>
<tr>
<th>Category</th>
<th>Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory</td>
<td>17,819</td>
</tr>
<tr>
<td>Office</td>
<td>5,527</td>
</tr>
<tr>
<td>Study</td>
<td>176</td>
</tr>
<tr>
<td>General Use</td>
<td>5,829</td>
</tr>
<tr>
<td>Support</td>
<td>5,339</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>34,690</strong></td>
</tr>
</tbody>
</table>

All other components within the LSU Museum of Natural History are subunits within other colleges; therefore, individual inventory holdings are unavailable for these groups. Because these units are part of a larger college division and are primarily collection space in nature, this study will make the assumption that these individual units only need 25% of the stand alone administrative and support space as what is held by the LSU Museum of Natural Science. Also, this study will make the assumption that the gallery space within the new facility will be shared by all units within the LSU Museum of Natural History.

The following parameters will be utilized in the evaluation for space needs for the new proposed facility to house the LSU Museum of Natural History:

- The General Use category (which equates to gallery space when comparing to SNOMNH) will be increased to 50,000 nasf to allow for adequate exhibition space as compared to the SNOMNH and will be shared by all units within the LSU Museum of Natural History.
- Because all units besides the LSU Museum of Natural History are sub-units to another college, 7,500 nasf will be assigned to each of these units in the space programming in the new facility.
- Efficiency of space is achieved through the consolidation of all units into one building; therefore, an immediate space growth, or “bulge factor”, will not be assessed.
- A 25% growth factor will be assessed to allow for future growth opportunities.
- A 35% burden will be assessed to allow for all un-assignable spaces for initial planning purposes (The SNOMNH achieved a 31% burden).
Space Calculations

- Current Holdings by the LSU Museum of Natural Science (Does not include General Use Areas) 28,861 NASF
  - Mineralogy and Petrology Collections 7,500 NASF
  - Palynology Collection 7,500 NASF
  - Textile and Costume Museum 7,500 NASF
  - LSU Herbarium 7,500 NASF
  - Louisiana State Arthropod Museum 7,500 NASF
  - Louisiana Geological Survey Log library and Core Repository 7,500 NASF

= Subtotal required NASF based upon existing need 73,861 NASF
X Required space for 25% future growth x 1.25 NASF

= Subtotal required NASF for all areas excluding General Use Areas 92,326 NASF
+ Required Additional NASF for General Use Area (Gallery) 50,000 NASF

= Total required NASF for future building 142,326 NASF
+ Burden (Total NASF x .35)(Circulation, restrooms, mechanical) 49,814 GSF

= Subtotal Required GSF for New Building Footprint 192,140 GSF
+ Rounding 360 GSF

+ Total Required GSF for New Building Footprint 193,500 GSF
Design Considerations

- Public Entrance should be inviting, and present a positive first impression of LSU.
- Architecture design should fit into the “LSU Design Nomenclature” and be easily identifiable as distinctly LSU.
- Design should accommodate a large delivery area and loading dock that is hidden from public view.
- Design should be very cognizant of isolating and eliminating contaminants and pests prior to entry into building.
- Mechanical systems should be designed to minimize contaminants and pests from being spread and/or transmitted to secure portions of building.
- Security is a high priority for this facility.
- Humidity and temperature control through mechanical measures is a major component of this project.
- Interior lighting is a major component of this project.
- Building will allow for large gathering spaces, and conveyance of large groups.
- “Back of Room” corridors should be designed to accommodate conveyance of large exhibit pieces.
- “Back of Room” areas should be designed to have easy and secure access to public display areas.
Site Selection

The LSU Museum of Natural History is unique from most academic units as it relates to site selection because it must be directly accessible by the general public as well as the campus community. Additionally, this building should have a positive interface with the public as this building will in many cases be the first impression, and in some cases the only impression that visitors have of LSU. Some of the major factors in site selection include:

- Compliance with 2003 Campus Master Plan.
- Easy access and identification by first-time visitors.
- Proximity and easy access to campus core.
- Access to parking facilities.

Based upon these criteria, the following options have been provided for consideration of the placement of the LSU Museum of Natural History; however, the potential location for the museum should not be limited to these three locations, and a more detailed site evaluation should be performed as part of the program verification process:
**Option A:**  
*Lot X-174 south of CEBA and Nicholson Extension and north of the LSU Child Care Center.*

**Positive Aspects**
- Compliant with 2003 Campus Master Plan.
- Located on periphery of campus, provides easy access and identification for visitors.
- Located near future parking garage location.
- Provides high visibility from major southern campus entrance.
- Located within walking distance of historic academic quad.
- Located adjacent to future southern academic quad.

**Negative Aspects**
- Heavy parking mitigation required.
- Lack of existing utilities on site.
Option A – Relationship to 2003 Campus Master Plan

Option A – Relationship to Existing Site Conditions (2004 Aerial)
Option B:
Adjacent to Lot X-175 near the intersection of West Parker Street and Highland Road and Nicholson Extension and Highland Road.

Positive Aspects
- Compliant with 2003 Campus Master Plan.
- Located on periphery of campus, provides easy access and identification for visitors.
- Located near future parking garage location.
- Provides extremely high visibility from major southern campus entrance. This building would be the 1st building upon entry on campus.
- Located within walking distance of historic academic quad.

Negative Aspects
- Medium parking mitigation required.
- Lack of existing utilities on site.
- Site controlled by LSU Ag School.
- Site parameters are physically limiting to a building this size.
Option B – Relationship to 2003 Campus Master Plan

Option B – Relationship to Existing Site Conditions (2004 Aerial)
**Option C:**
*Located in lot A-120 adjacent to Parker AG Coliseum.*

**Positive Aspects**
- Compliant with 2003 Campus Master Plan.
- Located on periphery of campus, provides moderate access and identification for visitors.
- Located near future parking garage location.
- Provides extremely high visibility from major vehicular route through campus.
- Located within walking distance of historic academic quad.

**Negative Aspects**
- Heavy parking mitigation required.
- Lack of existing utilities on site.
- Located adjacent to two regularly congested vehicular routes.
Option C – Relationship to 2003 Campus Master Plan

Option C – Relationship to Existing Site Conditions (2004 Aerial)
## Site Comparison

<table>
<thead>
<tr>
<th>Feature</th>
<th>Site A</th>
<th>Site B</th>
<th>Site C</th>
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<tr>
<td>Vehicular Access</td>
<td><img src="image" alt="Vehicular Access Site A" /></td>
<td><img src="image" alt="Vehicular Access Site B" /></td>
<td><img src="image" alt="Vehicular Access Site C" /></td>
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<tr>
<td>Public Transportation</td>
<td><img src="image" alt="Public Transportation Site A" /></td>
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<td>Pedestrian Access From Academic Campus Core</td>
<td><img src="image" alt="Pedestrian Access Site A" /></td>
<td><img src="image" alt="Pedestrian Access Site B" /></td>
<td><img src="image" alt="Pedestrian Access Site C" /></td>
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<tr>
<td>Pedestrian Access From Future Academic Core</td>
<td><img src="image" alt="Pedestrian Access Site A" /></td>
<td><img src="image" alt="Pedestrian Access Site B" /></td>
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<td>Strong Visual Street Presence</td>
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<td>Utility Availability</td>
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<td>Site Size Accommodates Large Building</td>
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<td>Parking Mitigation</td>
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<td><img src="image" alt="Parking Mitigation Site B" /></td>
<td><img src="image" alt="Parking Mitigation Site C" /></td>
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<tr>
<td>Site Context &amp; Aesthetics</td>
<td><img src="image" alt="Site Context Site A" /></td>
<td><img src="image" alt="Site Context Site B" /></td>
<td><img src="image" alt="Site Context Site C" /></td>
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<td>Compliance with 2003 Campus Master Plan</td>
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### Total Score

<table>
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<tr>
<th></th>
<th>Site A</th>
<th>Site B</th>
<th>Site C</th>
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### Legend

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<th>Grade</th>
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</tr>
<tr>
<td>Moderate</td>
<td><img src="image" alt="Moderate" /> = 2</td>
</tr>
<tr>
<td>Strong</td>
<td><img src="image" alt="Strong" /> = 3</td>
</tr>
</tbody>
</table>
Preliminary Budget Estimate

Construction Cost Comparison:

For planning purposes, construction prices for projects recently completed on the LSU campus were evaluated and inflated to 2007 projected numbers for arriving at a cost/sf for the new LSU Museum of Natural History. These numbers reflect actual construction cost, and do not include required soft costs (i.e., planning, contingency, equipment, maintenance reserve, bond sale costs, Percent for Art, etc.). In addition, the Sam Noble Oklahoma Museum of Natural History (SNOMNH) has been included with this comparison for reference to a similar facility.

<table>
<thead>
<tr>
<th>Comparison of Recent Campus Construction (Does Not Include Soft Costs)</th>
<th>Comp. Date</th>
<th>Const. $$</th>
<th>GSF</th>
<th>Cost/SF</th>
<th>Est. '07 Cost/SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>LETC (2/3 shell w/lab space)</td>
<td>10/10/2005</td>
<td>$8,114,644</td>
<td>63,500</td>
<td>$127.79</td>
<td>$169.07</td>
</tr>
<tr>
<td>ECE Floors 1&amp;2*** (No Utilities or Telecom)</td>
<td>3/10/2003</td>
<td>$12,732,427</td>
<td>114,792</td>
<td>$110.92</td>
<td>$154.10</td>
</tr>
<tr>
<td>Football Operations***** (Utilities/Parking/Landscaping)</td>
<td>10/7/2005</td>
<td>$12,242,782</td>
<td>54,660</td>
<td>$223.98</td>
<td>$296.33</td>
</tr>
<tr>
<td>Sam Noble Oklahoma Museum of Natural History (Includes Permanent Exhibit Construction)</td>
<td>5/1/2000</td>
<td>$31,061,521</td>
<td>198,634</td>
<td>$156.38</td>
<td>$234.62</td>
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</table>

For the purpose of this study, the construction price for the SNOMNH will be used in determining the cost/sf for the proposed new LSU facility. This number will be inflated by $10/sf to accommodate the LSU Design Standards which requires any new buildings to reflect the buildings within the LSU Historical Academic Quad (i.e., clay tile roof, aggregate panels, St. Joe’s Brick, etc.). When rounded up, this provides a planning cost/sf number of $245/gsf for the new LSU Museum of Natural History. This does not include any required site work, parking mitigation, and or utilities which will be added to the cost for the purposes of creating a budget estimate. Since the inflation for all years beyond 2007 are unknown at this time, the annual CPI inflation rate should be applied to this project budget estimate for each year that this projects extends beyond the year 2007.
This budget estimate is based upon the site option A which is located north of the LSU Child Center and south of CEBA off of Nicholson Extension.

<table>
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<tr>
<th>Project Component:</th>
<th>Unit</th>
<th>Unit $</th>
<th>Item Cost</th>
<th>Total Cost</th>
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<td>Demolition…………………</td>
<td>1</td>
<td>lump</td>
<td>$50,000</td>
<td>$50,000</td>
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<td>Planning &amp; Design (10%)…………………………..</td>
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<td>Equipment………………………………………..</td>
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<td>Contingency (10%)………..</td>
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<tr>
<td>MRA Fund (10% of construction cost)………..</td>
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<td>Percent for Art (1% of construction cost)…….</td>
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<td>TOTAL PROJECT COSTS…………..</td>
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<td>$78,500,000</td>
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</table>
The LSU Natural History Collections

A Heritage at Risk

LSU’s collections are already very important for research and graduate education. Collection-related research brings in millions in grant and contract money, but most collections are not well housed, support staff for them is inadequate or absent, crowding is the norm, and few collections have adequate theft or vandalism protection or environmental protection. The fact that these collections are scattered physically and administratively prevents them from reaching their full potential to benefit LSU and the state of Louisiana, makes obtaining grant and donation resources to care for them difficult, and precludes accreditation for the Louisiana Museum of Natural History.
**LSU Museum of Natural Science**

The LSU Museum of Natural Science holds half the collections of the Louisiana Museum of Natural History and is the only administratively stand alone unit within the Museum of Natural History. It therefore requires more space than the other units. Since its move to Murphy J. Foster Hall in 1955, the LSU Museum of Natural Science has continued to expand and grow, and is currently one of the nation's largest natural history museums, with holdings of more than 2.5 million specimens. Currently the primary distribution of space for the LSU Museum is in Foster Hall; however, the official LSU Inventory shows that space is being utilized in Howe-Russell and the Gym Armory.

Currently, the LSU Museum of Natural Science is in dire need of additional space. The research facilities are becoming antiquated and inefficient, hindering the Museum's ability to maximize its full potential in recruiting top students, staff, faculty and eventually accreditation.

In 2002, an Architectural Program was commissioned by the Museum of Natural Science which recommended renovations to Foster Hall to be utilized by the department. This program made provisions to consolidate all but two of the collections administratively in the Museum of Natural Science into one location, allowing the Museum to operate in a more efficient manner. This program would have provided 36,730 nasf (net assignable square feet) and a total building area of 54,190 gsf (gross square feet). Although this endeavor would have been an improvement on the current situation, it would still not fully meet the needs and be conducive to the overall mission of the LSU Museum of Natural Science. It also did not address the situation of the other eight collections of the Louisiana Museum of Natural History at LSU. Furthermore, it is believed that Foster Hall would be better suited to other uses which would more effectively support the overall mission of the University.

**Notable Collections of the Louisiana Museum of Natural History at LSU**

Museum of Natural Science collections are underlined.

- Collection of Amphibians and Reptiles,
- Louisiana Arthropod Museum,
- Collection of Birds,
- Ethnology-Archaeology Collection,
- Collection of Fishes,
- Gems and Minerals Collection,
- Collection of Genetic Resources,
- Collection of Fossil Invertebrates,
- Lichen Herbarium,
- Log Library and Core Repository
- Mycological Herbarium,
- Center for Excellence in Palynology,
- Collection of Fossil Protists,
- Textile and Costume Museum,
- Vascular Plant Herbarium,
- Collection of Mammals,
- Vertebrate Paleontology.
Major Holding Locations of the Louisiana Museum of Natural History on the Campus of Louisiana State University in Baton Rouge, LA
History and Scope of the LSU Museum of Natural Science
(Information modified from http://appl003.lsu.edu/natsci/lmns.nsf/index)

The LSU Museum of Natural Science was founded in 1936 and the current public exhibit area was opened on March 27, 1955 in Foster Hall. The Museum’s founder and first Director, Dr. George H. Lowery, Jr., was a professor of zoology at LSU. The Museum of Geoscience was merged with the Museum of Natural Science in 1992. Its founder was geologist Dr. H.V. Andersen, who first developed its displays in Howe-Russell with a behest from Dr. Henry Howe, founder of the LSU Department of Geology. The Museum of Natural Science is currently a research museum. It houses a premier research staff committed to learning more about our natural world, and maintains collections that support this work. Research at the museum centers on the following disciplines: mammology (mammals), ornithology (birds), ichthyology (fishes), herpetology (reptiles and amphibians), paleontology (fossils), anthropology (human culture), genetic resources (DNA), and science education.

With holdings of almost 2.5 million specimens, the LSU Museum of Natural Science is among the nation’s leaders in terms of the size and diversity of its research collection. It houses the most active and fourth largest university-based collection of birds in the world and the largest collection of genetic resources (DNA samples) in the world. The museum’s eight faculty members have authored a combined total of more than 100 scholarly publications in the past five years, including several prestigious books, and have been awarded extramural grants totaling more than $2.1 million. As a result, the museum is a powerful magnet for graduate students from throughout the world who come to study anthropology, paleontology, and zoology at LSU. The museum faculty currently advises twenty-five graduate students, and the museum is among the top units on campus for success in placement of graduates.

The exhibit area highlights nine habitat dioramas which were constructed between the years 1955-1964 by the talented scientist and artist, Ambrose Daigre. Habitat dioramas were popular forms of display in natural history museums beginning in the early 1900s. They were intended to give the illusion of a real scene as being viewed through a window. The background of the diorama is constructed in the shape of a half dome to
give the illusion of depth. It was Daigre’s job to blend the three dimensional foreground with the painted background to create a continuous natural scene.

In addition to the habitat dioramas and a new exhibit on LSU Antarctic research, the Museum also has displays of the mammals, birds, reptiles and amphibians of Louisiana, as well as the first Mike the Tiger. Fossil bones of a mastodon and a cast of the skull and foot of the dinosaur, *Allosaurus*, are also on display. A complete cast of *Allosaurus* is on display in the atrium of Howe-Russell.

Each year, more than 25,000 visitors view the Museum’s exhibits and benefit from informative tours and outreach programs.
Mineralogy and Petrology Collections

(Information modified from http://www.geol.lsu.edu/Research/Collections/MineralogyCollection.html)

The Department of Geology and Geophysics has a number of collections that are available for display, teaching and research.

- Mineralogy Collections

Several mineral collections are housed in the Department of Geology and Geophysics. These include the Blake collection and the Economic Mineral collection. These collections are, in part, on public display throughout the Howe-Russell Complex and are used for teaching, research and display.

- Petrology Collections

The Petrology collection in the Department of Geology and Geophysics includes suites of rock samples from classic petrologic terranes from throughout the world. This collection includes volcanic igneous suites from Hawaii, New Mexico, Lesser Antilles, Italy and Canada; plutonic igneous suites from Montana, New Hampshire, New York, Peru, South Africa, Finland and Scotland; and metamorphic suites from Maine, New York, New Hampshire, California, Japan, New Zealand and Finland. This collection is primarily used for instructional purposes and is commonly supplemented by faculty research collections.
**Palynology Collection**
*Information modified from http://www.geol.lsu.edu/Research/Collections/PalynologyCollection.html*

- Modern Pollen Reference Slide Collection

CENEX has a collection of reference slides of more than 6,000 modern pollen species. These slides were donated to CENEX by Amoco Production Company, Shell Offshore Oil Company, UNOCAL, and ChevronTexaco. Most are from herbaria collections and searchable on-line by computer. This group is in the process of adding images captured from the slides for each taxon. The collection can be accessed at [http://130.39.239.204/databases.html](http://130.39.239.204/databases.html)

- Oil Exploration Palynologic Slide Collection

CENEX has a large teaching and reference collection of thousands of palynologic and nannofossil exploration slides from the Gulf Coast and overseas wells. This collection was donated by Drs. Rashel N. and Norman C. Rosen of Houston, Texas. ChevronTexaco enlarged this collection by donating more than 60,000 palynology slides from hundreds of oil exploration wells primarily from the Gulf of Mexico. Shell Offshore Oil Company also donated several thousands of exploration slides from Gulf Coast wells.

- Palynologic Research Library

The CENEX Palynologic Research Library is composed of more than 30,000 reprints, book, theses, dissertations, reports, etc. that were donated by companies and individual palynologists. Company donors include Amoco Production Company, Shell Oil Company, Texaco, and UNOCAL. Individual collections include those donated by P. Burbridge, W. R. Evitt, C. Felix, S. A. Hall, G. F. Hart, G. Kremp, A. LeBlanc, H. Leffingwell, M. H. Lieux, K. M. Piel, L. S. Satchell, and G. D. Wood.

![Various pollen and spores from the late Miocene Catahoula Formation from Sicily Island, Louisiana. These include (from left): Cary sp. (hickory pollen), Cyperaceae (sedge pollen) Taxodium distichum (bald cypress pollen), Azolla sp. (microspore of the mosquito fern).](image)
Textile and Costume Museum

(Information modified from http://www.textilemuseum.huec.lsu.edu/)

The Textile and Costume Museum is located in 140 Human Ecology Building and is a unit within the Human Ecology Department. This museum exhibits costumes, textiles, and fabrics from throughout world history. The following is copied directly from the website on February 21, 2006:

Converting Commodity Bags: Recycling Circa 1940 is an exhibition that illustrates the history and uses of commodity bags in the mid-twentieth century. Commodity bags, woven fabric bags that originally packaged products such as animal feed, flour, sugar, and salt, were an important resource in home sewing for women from the 1930s through the 1960s. This exhibition educates visitors about commodity bags and the many ways they were used by industrious women, particularly in rural areas, to clothe their families and decorate their homes. Numerous examples of clothing and home textiles made from commodity bags by Louisiana women are highlighted.

This exhibition is funded through a grant from the Louisiana Endowment for the Humanities, a state affiliate of the National Endowment for the Humanities, and through the continued support of the Friends of the LSU Textile and Costume Museum.

A trio of Louisiana commodity bags, c.1940s

A feed sack to be converted to a tablecloth, c.1950s
The LSU Herbaria are overseen by the Department of Biological Sciences within the College of Basic Sciences. The following is copied directly from the website on February 21, 2006:

• **Mission Statement:**

The study of biodiversity--green plants, lichens, and fungi-- from the state of Louisiana and around the world. The maintenance of a permanent reference collection within our herbarium that documents the historical distribution and composition of the local flora. Providing botanical information to researchers and the general public via specimen and web-based interfaces. Specialization in research on native and introduced plants and fungi, their ecology, and evolution.

• **Exchanges**

This group is seeking active exchange for new material, especially from Louisiana and the southeastern U.S. This group offers material from Louisiana and surrounding areas.

• **Location**

The LSU Herbarium is located in the Life Sciences Annex Building, Room A257, on the corner of Highland Road and S. Campus Dr., in Baton Rouge.
Left, Chrysochus auratus (Chrysomelidae) on dogbane; right, Trigonopeltastes delta (Scarabaeidae) on Eryngium yuccafolium.

- Description

The Louisiana State Arthropod Museum (LSAM) is housed on the 5th floor of the Life Science Building on the main campus of LSU. It is part of the Department of Entomology and is a component collection of the Louisiana Museum of Natural History. The LSAM contains approximately 400,000 specimens of insects and related arthropods. This includes 280,000 pinned, 18,000 fluid-preserved, and 30,000 slide-mounted specimens. Uncurated specimens in various stages of processing vary through time from 50,000 to 100,000. The LSAM is the principal repository for insects and related arthropods in Louisiana. Significant strengths of the collection include Coleoptera (51%) and Hemiptera (28%). Lepidoptera (6%), Diptera (6%) and Hymenoptera (4%), and other orders (5%) make up the balance of the collection. The collection contains 747 paratypes, 1 syntype, 1 allotype, and 1 holotype. Primary types described by LSAM researchers are normally deposited in dedicated type repositories (e.g., the U. S. National Museum, Field Museum of Natural History, etc.). The majority of specimens are from southeastern United States, and most of the remainder are from elsewhere in North America, Mexico, Central and South America. Recent expeditions have added specimens, mainly Coleoptera from West Africa (Ghana) and New Zealand.

A species-level inventory of curated specimens is approximately 80% complete. Completed portions are available via hard copy or text files (that can be sent via e-mail). Specimen data are being captured using R. Colwell's Biota (Sinauer Associates) software package. Our current computerization priority is data capture related to current research projects. Retroactive data capture will be accomplished as data entry resources become available. Specimens are available for loans to researchers following normal institutional
loan guidelines (contact the Curator for details). Specialists are encouraged to borrow and identify undetermined material in exchange for retention of duplicate exemplars.

• Growth

The Life Science building opened in 1971 and the former director, Joan Chapin, who designed the space, was told there would be expansion room within the next 10 years. However it was not until 25 years later, after Dr. Chapin retired and Chris Carlton became director that additional space was made available. In 1996 the LSAM expanded into a renovated adjacent laboratory, which brought the total floor area to approximately 2,000 ft$^2$. In 1997 the LSAM received an enhancement grant from the Louisiana Board of Regents that provided for the purchase of new cabinetry, laboratory work benches, a microscope, and curatorial equipment and supplies. As a result, we initiated a major new phase of growth focusing on poorly represented habitats in Louisiana and adjacent states and improving our collections of taxa from the neotropical region that are relevant to the research interests of the faculty and staff.

During the spring of 2001, the long awaited Life Science Annex was opened. The Rice Entomology lab moved into the new building and we inherited their space. As a result the LSAM added 2,000 ft$^2$, bringing our total floor space to approximately 4,000 ft$^2$. Thanks to renovation funds from the LSU College of Agriculture and Agricultural Center, we took down walls, opened new doorways, and removed unnecessary sinks and lab benches. We now have a modern, spacious museum and research complex on par with any university-based collection to go with our dedicated team of insect systematists and conservation biologists.

The museum's current phase of growth has been fueled in large part by specimens acquired during domestic fieldwork in Louisiana and elsewhere in the southeastern United States and recent foreign expeditions to Ghana, Ecuador, Costa Rica, and New Zealand. We have also received significant contributions through donations of private collections. During December 2002, Vernon Brou donated approximately 4,000 specimens of Lepidoptera and Coleoptera from his world renowned private Lepidoptera collection. For several years we have also received significant contributions of Odonata from William Mauffray, of the International Odonata Research Institute in Gainsville, FL.

• Service and research emphasis

The LSAM serves the public of the State of Louisiana by providing identifications of insects and related arthropods and serving as a clearinghouse for information to homeowners, agriculturalists, and educational institutions. Research conducted by LSAM scientists focuses on systematics and comparative diversity of insects in habitats throughout Louisiana, and the adjacent Gulf Coastal Plain and circum-Caribbean region.
Louisiana Geological Survey Log Library and Core Repository
(Information modified from http://www.bri.lsu.edu/briresourc.html)

- **Description**

  This center consists of a log library and core repository. Holdings include over 60,000 logs from Gulf Coast and approximately 30,000 feet of core mostly from the Gulf Coast area. The Resource Center is currently being reorganized and information on its holdings is being entered into a computer database for easy accessibility.

- **List of Cores in Lab**

  A list of cores is available for Alabama, Arkansas, Florida, Louisiana, Mississippi, Texas, and other regions.

- **List of well Logs in Lab**

  A list of well logs is available for all Louisiana Parishes.
As a fifth grade student I made my first trip to the University of Oklahoma. That was back in 1957. We visited several sites on campus but the one that stuck out in my mind was the visit to the Museum. After that trip I told my Mom that I wanted to come to the University of Oklahoma. I never dreamed I would be President of the Foundation and would have such an integral part in making our new Museum a reality. I know there are untold thousands of students in Oklahoma and neighboring states that come to the campus today and are impressed with the University because of the quality of the Museum. It is a great selling point which tells the story of our heritage. I’m very proud of the new facility and I firmly believe that it makes a great difference in our ability to attract students as well as resources.

Ron D. Burton  
President  
University of Oklahoma Foundation, Inc.