

Evaluation of Alternatives for Relocating the Museum, Library and Archive Facility to the Gillette Ranch

Santa Monica Mountains National Recreation Area



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I. VISION STATEMENT

SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA MUSEUM COLLECTIONS

The enabling legislation for Santa Monica Mountains National Recreation Area (SMMNRA) envisions a cooperative effort between the state, local governments, and the National Park Service to preserve the “significant scenic, recreational, educational, scientific, natural, archeological, and public health benefits provided by the Santa Monica Mountains and the adjacent coastline.” The Museum Collections at SMMNRA play an integral part in fulfilling that vision.

The Museum Collections at SMMNRA are a critical component of the park’s resource management program and are vital to the park’s mission. The park’s rapidly growing archival, archeology, paleontology, natural history, and historic collections provide essential support for the wide range of studies and activities that take place in the Santa Monica Mountains.

The researchers, scientists, students, staff, and visitors who take part in these explorations require a baseline of information and a context in which to conduct their activities. They also need a convenient and dependable repository in which to leave the valuable results of their research and collecting. This growing repository ensures that the context and body of knowledge being collected remains viable for future studies. The Museum Collections at SMMNRA, working closely with the park’s resource management team, as well as with state and local agencies, preserves that essential context and ensures that these resources and information will be easily accessible for generations to come.

II. Executive Summary

In 2008, Santa Monica Mountains National Recreation Area will be moving its headquarters to a new permanent home at the recently acquired Gillette Ranch. Structures on the property will be used in partnership with a variety of agencies, and it is anticipated that one of these structures will house the park's museum collections. This report, "Evaluation of Alternatives for Relocating the SMMNRA Museum, Library and Archive Facility to the Gillette Ranch," is intended to assist park management in deciding where to relocate park collections from their present location at the Museum Research Building in Rocky Oaks to their new home at Gillette Ranch.

The museum, library, and archival collections at Santa Monica Mountains National Recreation Area are a critical component of the park's management of cultural and natural resources and central to the park's mission. The new facility at Gillette Ranch would make collections more accessible to park staff, researchers, and visitors and would be an essential part of the many educational programs and resource management studies that are anticipated. The space required for museum, library, and archival collections would have to be large enough to house the rapidly growing collections at Santa Monica Mountains National Recreation Area, as well as include space for the anticipated growth from the acquisition of collections from other agencies such as the California State Parks, Mountains Recreation and Conservation Authority, and Santa Monica Mountains Conservancy. In addition, the Pacific West Region's Curatorial Facility Strategy suggests that the new facility at Gillette Ranch could include museum collections from Channel Islands National Park that are not housed in other institutions.

The current Museum Research Building at Rocky Oaks is 1,300 square feet and has inadequate space for office functions, visitor use, and collections processing and storage. Preservation is somewhat compromised by fluctuating temperature levels within holding and storage areas. Its isolated location makes it less visible and difficult for users to access, and there is not enough space to house the anticipated growth of the park's collections. In addition, the park's library material is now scattered, and a move would allow it to be consolidated in one convenient location. Moving the collections, library, and archive to the Gillette Ranch would not only allow for better preservation but also greatly increase access to and use of the materials.

A Curatorial Facility Planning Model Report (see Appendix I) was completed to determine the space and architectural needs of the park's museum program. This report was then compared to the NPS Museum Collection Facility Planning Model to determine the deficiencies at SMMNRA's Museum Research Building. The Architectural Building Program was implemented to determine design, cost, and space requirements so that the new facility would meet NPS museum standards.

The evaluation team surveyed the existing structures with the potential to house collections at Gillette Ranch in September 2006. Based on their evaluation, and

factoring in NPS collections standards (see page 40), five alternatives (see pages 10-15) are proposed for housing the SAMO Museum, Library and Archive Facility:

	Estimated PMIS Statement Net Costs	Resulting Square Footage
1. Construct a New Facility [see page 26]	\$1,919,831	4,413
2. Wisdom Hall B1 south wing rehabilitation [see page 28]	\$1,629,074	4,084
3. Wisdom Hall B2 west wing rehabilitation [see page 29]	\$1,706,314	4,289
4. Wisdom Hall B3 west wing rehabilitation and addition [see page 30]	\$1,384,638	3,641
5. Dormitory 5 rehabilitation and addition [see page 30]	\$1,457,377	3,897

Minuteman Hall, Central Hall, the Botanical Research Center, the Foreman's House, and the Stables were evaluated and deemed unsuitable to house museum collections (see pages 15-20). Dormitory 4 was also considered, but would only be suitable for museum collections with major interior demolition, remodeling, and new construction.

For all of the preferred alternatives (except for constructing a new facility), relocation could occur in stages, so that some of the collections could be moved to Gillette Ranch almost immediately, allowing for time to pursue construction money. Collections to be phased in first would include those most in demand: the archives, the herbarium, and the library.

The new facility offers opportunities to educate the staff, partners, and visitors on important aspects of Santa Monica Mountains National Recreation Area cultural and natural resources. It will maximize staff and collections resources, optimize accessibility, and leverage opportunities to develop partnerships and linkages between agencies, educational organizations, and the general public. The new facility will reflect Santa Monica Mountains National Recreation Area's status as a significant resource for one of the world's largest urban areas and vital cultural and natural environments.

III. Introduction

A. Project Summary

Santa Monica Mountain National Recreation Area will be relocating the park administrative and resource programs to the Historic Gillette Ranch, currently occupied by Soka University. This will be a partnership enterprise along with Mountains Recreation and Conservation Authority, Santa Monica Mountains Conservancy, and California State Parks.

The Museum, Library and Archives Facility will be relocated to the Gillette Ranch from the current location at the Rocky Oaks area of the park. This project offers a great opportunity to have the museum program located jointly with the other park resource programs and become more integrated and accessible to other park program areas.

The Architectural Building Program (see Section VIII), is being written without a specific location determined at this time. However, it will set the general tone, requirements, and guidelines for the new facility once a location has been determined. This document will serve as the Program Specifications for the future facility.

The Museum, Library and Archive Facility offers an opportunity to educate the staff, partners, and visitors on important aspects of Santa Monica Mountains NRA Museum Resources that have not been normally accessible. The inaccessibility has been more a function of physical location than restrictions on accessing the collections, which include photographs, archival materials, film, maps, herbarium, geological and paleontological materials, as well as historic artifacts.

Since the majority of the parks' collection is in storage and not on display, the museum collection facility could be designed to accommodate limited tours. Visitors and users would have the opportunity to see more of the museum collections without compromising preservation, accessibility, environmental, and security requirements. This can be accomplished through carefully designed collection facilities, considering collection storage approaches early in the pre-design phase, identifying secure circulation paths, the creative use of museum cabinetry, and visible storage or display throughout the facility. This can occur by considering where temporary exhibits might be located and by designing research and workrooms so they can display collections.

Nonetheless, it must be understood that this is a ***collection management and research facility first and foremost***, not a museum or visitor center. The above-mentioned concepts can be achieved without compromising the collection. Additional design concepts are identified in Section VIII.H.

Park Curator Phil Bedel requested that Richard Cronenberger and Steve Floray be part of the team that would identify facility alternatives for moving the Museum, Library and Archive program to the Gillette Ranch. Richard Cronenberger is a Historical Architect with the Intermountain Regional Office specializing in Curatorial Collection Facility

programming and design. Steve Floray is a Staff Curator with the Pacific West Regional Office specializing in museum preservation and protection issues, including fire and security matters.

The team has identified several alternatives within the Gillette Ranch Complex for relocating the collections program. These alternatives will be used to assist the park management in developing an overall management plan for relocating park operations to the Gillette Ranch.

The Architectural Building Program was developed by Intermountain Region museum collection storage consulting architect Richard Cronenberger.

B. General Project Objectives

- Prevent damage and loss to cultural resources.
- Provide greater accessibility for researchers.
- Provide the visitor with knowledge of Museum, Library and Archive Facility museum collection.
- Improve operation and efficiency to minimize the number of staff required to operate the facility while providing greater accessibility.
- Provide a facility that models sustainable design concepts.
- Design a facility that provides maximum curatorial protection using passive environmental control systems.
- Strive for LEEDS certification.
- Utilize the regional climatic environmental conditions to minimize overall energy consumption.
- Provide a facility that models universal design concepts.
- The Museum, Library and Archive Facility is currently programmed between 3,474 and 4,413 square feet, depending upon the approach that is ultimately taken by the park.

C. Gillette Ranch Inspection Methodology

The team visited the Gillette Ranch on September 11, 2006, and was given a tour of the Soka University facilities by Cliff Mosher, Director of Operations and Facilities for Soka University. Margie Steigerwald, SAMO Outdoor Recreation Planner, accompanied the team on the facilities tour. The eight buildings were inspected in the following order: Wisdom Hall, Dormitory 4, Minuteman Hall, Central Hall (the Gillette Mansion), Dormitory 5, the Botanical Research Center, the Foreman's House (near Las Virgenes Road), and the Stables.

The inspections took about three hours with Cliff providing access to the buildings and rooms. We walked through the rooms, measuring and photographing them. The team at this point was primarily looking at the spaces to get a sense of the overall conditions

and any issue that may arise with each facility. Discussions of various uses for the Collections Facility were very broad and conceptual in nature.

The conditions assessment reports for each building are currently under contract and were not available at the time of the walk through and writing of this report. While the team noted the general construction and visible condition of the buildings, we understand that the condition reports will have to be carefully evaluated against the recommendations in this report. Due to the age of the buildings, it would be assumed that seismic upgrading and hazardous material abatement will be required.

D. Regional Strategy

The Pacific West Region curatorial program developed the *Museum Collection Curatorial Facility Plan* in 2005-6. It was prepared in conjunction with the WASO Park Management Program, draft *Park Management Collection Storage Plan*.

The approved Museum Collection Storage Strategy for the Pacific West Region will seek to preserve, protect, and make accessible all museum collections within the region through a long-term commitment to:

- Evaluating and revising policies and procedures for generating and accepting materials to ensure the quality of items entering park collections.
- Maintaining functioning storage facilities that meet standards where required.
- Examining opportunities to develop new facilities while considering the consolidation of facilities where possible.
- Utilizing existing professional staff more efficiently in response to the needs of the regional collections as a whole.

The purpose of this plan is to present a service-wide approach to managing museum collections that is cost effective and based on current asset management principles. As budgets continue to decline, it will be increasingly important to maximize efficiency, train staff, and seek opportunities for consolidation in managing museum collections. NPS and the Development Advisory Board (DAB), continue to stress the need to economize in both construction and management of museum collection facilities.

All NPS regions agreed to the following set of goals to produce a standardized planning approach:

- The plan must achieve sustainable and maintainable preservation of the collections that the NPS is mandated by law to protect for the public benefit.
- The plan must promote and provide opportunities for research, education, and interpretation of park collections as part of collections management facilities.

- The plan must provide a portfolio of collection management facilities that are efficiently planned, designed, constructed, maintained, and operated in accordance with appropriate collection standards, asset management plans, and the total cost of ownership for the long-term management of both the collection and the asset.

The service-wide goals will be augmented by the following Pacific West Region goals based on applicable on-going professional planning:

- Reduce the overall number of storage locations at parks by consolidating collections into facilities improved or constructed to meet standards.
- Consolidate collections to parks in the same network or geographical area that have the space and professional staff to support these additional resources and where cultural and socio-political concerns are addressed in a positive manner.
- Emphasize the access of both staff and general public to the collections for legitimate study, original research, interpretation, and education.
- Where possible, utilize technology to make intellectual access to the collections available to more users in more locations.

The regional strategy recommends that the Santa Monica Mountains National Recreation Area Museum, Library and Archive program have its own facility for the following reasons:

- Park collections will remain at the park. Channel Islands collections not in other institutions will be consolidated there as well. The needs of the parks' collections will be addressed during the planning process for the recently acquired Gillette Ranch.
- Park has museum standards but expansion needed especially to address consolidation with CHIS.
- Collections extensively used for research and exhibit, journeyman-level GS-1015-11 curator.
- New facility will meet NPS museum standards.

Refer to the Pacific West Region *Curatorial Facilities Strategy*, May 2006.

IV. NPS Building Assessments: Initial Observations, Current Conditions, and Potential for Park Collections Management Uses

A. Structures with Potential to House the Collection

1. New Construction
2. Wisdom Hall
3. Dormitory 5
4. Dormitory 4

B. Structures Not Suited to House the Collections

1. Minuteman Hall
2. Central Hall (Gillette Mansion)
3. Botanical Research Center
4. Foreman's House
5. The Stables

During the site visit, the team evaluated each of the eight structures (or portions thereof) for adaptive reuse as a museum facility. Based upon our assessment, three of the structures could accommodate the museum facility following rehabilitation or rehabilitation combined with new construction. The remaining five buildings are inappropriate for a museum facility, due to ongoing flooding issues, inappropriate size, dilapidated condition, layout and design, probable future public use incompatible with appropriate collections security, better used for other park programs or functions, or estimated expense required to rehabilitate the structure for museum use.

A. Structures with Potential to House the Collection

Three structures currently in use by Soka University; Wisdom Hall, Dormitory 4, and Dormitory 5, can be rehabilitated for use as the park's museum facility. Within Wisdom Hall, the team identified four possible locations to accommodate the archive and museum collection program; one of which includes new construction (an addition to house the collections storage room). The other three locations in Wisdom Hall would necessitate limited to extensive remodeling of sections of the current building layout.

The use of either Dormitory 4 or Dormitory 5 for the museum facility would require an addition to house the collections storage room. Dormitory 4 would require extensive interior remodeling as well, due to its current configuration; Dormitory 5 would require very limited remodeling of the facility for use as museum offices and workspace due to its current configuration.

Also included, for baseline information and cost estimating, is a discussion pertaining to the construction of a brand-new built-to-suit museum facility. Unless the park acquires an unexpected donation to fund it, or includes it in the NPS line item program, the team does not advocate construction of an entirely new museum building. However, a discussion of NPS curatorial requirements and generally accepted museum standards is essential to the planning process. By evaluating, comparing, and contrasting the

various alternatives, the park can make informed choices to determine the most appropriate approach to support and strengthen the museum program.

1. New Construction

See “Programming the Museum, Library and Archive Facility,” Section VI below.

2. Wisdom Hall

This single story building was constructed around 1960 by the Catholic Church and designed as a classroom facility. It has large classrooms along a double loaded corridor. The building is oriented along an east/west access. The west end contains the classroom section, the middle administrative functions, and the east end has the library (former chapel) and a cafeteria and food service operations in the rear. The building is constructed of concrete block with most likely a truss room system. Overall, the structure appears to be in relatively good shape, considering its nearly 50-year age, though undoubtedly it will require major utilities updates, ADA compliance, the installation of appropriate fire detection, suppression, and security systems, and may require seismic retrofitting, hazardous material abatement and other life safety mitigation work.



Generally speaking, the design and layout of this structure offers its greatest potential as a **Park Resource Center**. The larger rooms, linear layout, and construction work well for housing the park’s resource management functions, as well as those of California State Parks. Activities that could be housed within Wisdom Hall include the Museum, Library and Archive Facility, park library, natural and cultural programs, Network Inventorying and Monitoring Program, and the Research Learning Center. Housing the curatorial program and virtually all other resource management programs within Wisdom Hall would allow for greater access to the collection for park research, facilitate communication among the resource staff, and locate the programs in a distinctive facility.



Based upon the visual observations of the structure, combined with current and future needs of the museum program, the team has developed four different proposals for housing the park’s museum program in Wisdom Hall. The following discussion identified the advantages and disadvantages of each proposal.

See “Programming the Museum, Library and Archive Facility” Section VI below, for schematic layouts for each proposal.

2a. Wisdom Hall Proposal 1: West Wing (a preferred option)

Due to its current configuration and size of the rooms in this section, the west wing of the building appears to offer the most advantageous location for housing the Museum, Library and Archive Facility.



Classroom 121



Women's restroom

Advantages

- Classrooms offer the ability to separate collections storage
- Clearly identified “museum” wing
- Can house support functions in rooms

Disadvantages

- Restrooms will need to be removed and/or reconfigured
- Windows along outside walls
- May not be able to use rooms effectively
- Will require removal of walls and remodeling work to accommodate museum functions

2b. Wisdom Hall Proposal 2: West Wing + New Construction (a preferred option)

Another option for the west wing is the construction of an 1,800-square-foot addition that would house the museum collections repository. This option combines the advantages of Proposal 1 with a brand-new, state-of-the-art museum repository, which would provide an extremely high level of protection for the collections.

Advantages

- Would provide the best storage environment for the collection
- Would only need new, good environmental controls in repository

Disadvantages

- Probably more expensive than Proposal 1 (all rehab/no new construction)

- Classrooms can be used as offices and workspace
- Clearly identified “museum” wing
- Current restrooms can remain in place

2c. Wisdom Hall Proposal 3: Cafeteria

This large room located near the center of the building could be modified for museum use. However, the cafeteria provides few advantages for such a purpose and does not seem to possess the numerous advantages of the west wing.



Advantages

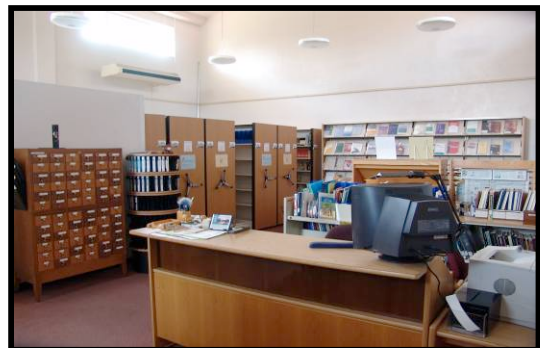
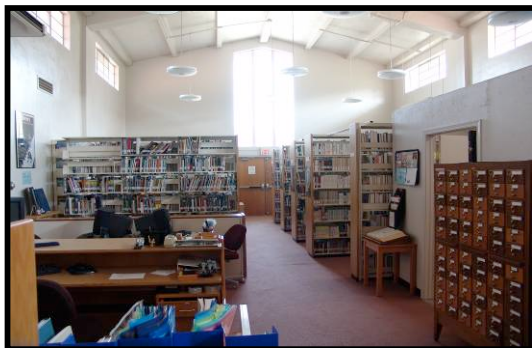
- Kitchen area could be utilized for processing, cleaning, & conservation area
- Freezer used for film storage

Disadvantages

- Large multi-use space, probably better suited to another function
- Location here would separate the building; rear areas cut off
- Windows along both sides—lots of natural light/harmful for collections

2d. Wisdom Hall Proposal 4: Wisdom Hall Library

This large, well-lit (by natural light), beautiful room formerly served as a chapel. It is located at the extreme eastern end of the building. The library, combined with the adjacent staff lounge, public affairs office, and facility operations office could easily contain the park’s museum facilities. However, this area would appear to be desirable space for other park uses.



Advantages

- Large open space
- Use staff lounge, public affairs/operations as support space
- Showcase the collections

Disadvantages

- Large space to control
- Natural light
- Large volume
- Desirable space for other uses

3. Dormitory Five + New Construction (a preferred option)

This structure also was part of the original Gillette Ranch, serving as the residence of either Mr. Gillette's chauffeur or cook. The single-story 1,716-square-foot wood frame structure with a Spanish tile roof is divided into a nine-room residence and used as a college dormitory. The size of the building is appropriate for the museum program's office and workspace needs; however, like Dormitory 4, it is too small to accommodate the collection storage facility, as well as the library. If Dormitory 5 were to be utilized to house the museum program, an 1,800-square-foot



Dormitory 5, rear elevation

addition to house the collection would need to be constructed. The library would add an additional 600 square feet.

Advantages

- Functional office layout
- Can add collections storage room/addition
- Own building identity—visible location
- Would only need new, good environmental controls in addition/collections room
- Park library and reading room
- Good location
- Well above the flood Plain

Disadvantages

- Need to build collections storage room
- Distance from other buildings

4. Dormitory Four

This structure was part of the original Gillette Ranch and served as Mr. Gillette's garage. The single-story 3,150-square-foot structure of fired adobe brick was subsequently subdivided into a 14-room residence and used as a college dormitory. The size of the building is appropriate for the museum program's office and workspace needs and can also accommodate the park library and areas for visiting researchers using the collection. However, there is inadequate space in the building to house the collection storage facility. As a result, an attached wing to house museum collections would need to be constructed since the



rooms are too small to accommodate the existing Spacesaver® system. Due to the current configuration and size of this structure, the interior would require extensive demolition to accommodate museum office, workroom, research, and library functions. As a result, the team has determined that Dormitory 4 would be better suited to house another park operation or offices. However this structure's potential for use as the new museum facility should nonetheless be considered.

Advantages

- Closer to size needed
- Good office layout
- Easy to have control of individual spaces (microclimates)
- Massive walls for stable climates
- Good natural lighting for office use
- Good location

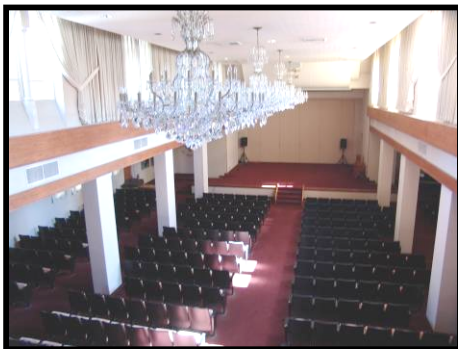
Disadvantages

- Need to build collections storage room
- Lots of natural light/harmful for collections
- Heat gain issue—hard to cool the space once heated
- Would need extensive remodeling
- Split up collections
- Chopped up/haphazard space
- Potential historical significance lost through remodeling

B. Structures Not Suited to House the Collection

1. Minuteman Hall

Like Wisdom Hall, Minuteman Hall was constructed by the Catholic Church, in the mid-1950s. This three-story, 2,4000-square-foot structure includes: an auditorium, lecture hall, restrooms, and other public rooms on the first floor; the auditorium's balcony, 21 bedrooms, a lounge, restrooms, and two storage rooms on the second floor; 23 bedrooms, a lounge, restrooms, a storage room, and a mechanical room on the third floor. Due to its configuration, Minuteman Hall is not suitable to house the collection facility; none of the rooms in the building are large enough to house the collection with the possible exception of the auditorium. However the team felt that the auditorium would undoubtedly remain devoted to its current public use—which could also provide additional income through event rental.



Minuteman Ikeda Auditorium



Minuteman Lecture Hall

This structure is better suited for public use as a visitor/education center, events center, park offices, and partnership opportunities (e.g., Yosemite Institute). At the same time, such extensive public use of the structure would present numerous security challenges relative to its use as a museum facility.

Advantages

- Large building
- Lecture Hall and lounge
- Highly visible
- Easy access

Disadvantages

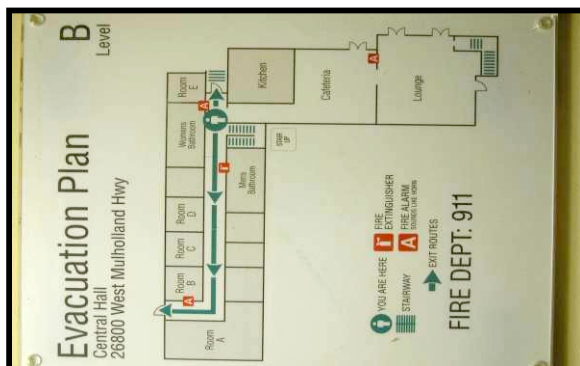
- Circulation space
- Windows on both sides
- Not possible for museum use if also utilized for overnight accommodations
- More non-NPS people in building

2. Central Hall (the Gillette Mansion)

Central Hall includes the original 1920s two-story Gillette Mansion (Gillette family's rooms and a servant's wing) as well as an L-shaped addition from circa 1960. The addition currently houses a cafeteria and two floors of housing. The planning team assessed this building's potential for housing curatorial functions, but due to its configuration, Central Hall is not suitable to house the collection facility. None of the rooms in the building are large enough to house the museum facility without major renovation, which would be fiscally prohibitive.



Likewise, the current layout of the building would require similarly extensive (and expensive) interior remodeling and rehabilitation in order to adapt it for any potential museum use. Attempting to remodel the dormitory wing into a workable museum facility would, due to the nature of the small bedrooms, stretch out the museum functions into a long, unworkable chain of numerous diminutive storage rooms, offices, workrooms, and research areas, none of which would be conducive for their stated functions.



Central Hall Dormitory Wing



Central Hall Basement room.

The tiny, dank basement rooms are similarly unworkable and do not meet NPS museum facility standards. The miniature, compartmentalized nature of these rooms does not allow for their effective utilization as museum storage, work, or research space. The rooms are too small to provide sufficient space, and if remodeled would similarly result in a long, narrow, meandering facility ill-suited for effective collections management.

Attempting to locate collections storage within the basement would result in fragmented and disassociated storage within numerous cell-like rooms, precluding the use of appropriate museum storage equipment (such as the parks current Spacesaver® system, which is too large to be accommodated in the basement). Any efforts to reconfigure the basement into a larger room (or rooms) would prove quite expensive and would adversely impact upon the building's structural integrity.

Other factors that disqualify the basement rooms include extensive (and expensive) demolition and remodeling required; ongoing pest control problems, which would cause damage or destruction of the collection; water and other utilities located directly above.

None of the rooms in the basement are appropriate to house museum offices, work areas, or public research areas, neither is there sufficient space to house these functions and collections storage in the basement. Locating museum workspace away from collections storage is inappropriate and does not allow for the most effective use of limited resources for management, security, and use of the collections. At the same time, the basement lacks an appropriate number of exits; such egress limitations are not appropriate for public use areas.

In addition to the building's structural, design, and layout challenges outlined above, basement storage is inappropriate for museum collections. Basement storage does not meet NPS, American Association of Museums (AAM), or other accepted worldwide museum standards. According to the NPS *Museum Handbook*, basements and attics are not suitable space for museum collections. Basement storage subjects museum collections to damage or destruction due to:

- High humidity. The levels of high humidity endemic in basements cause mildew and mold growth on organic materials and also encourage rust formation on metals, all of which are highly detrimental to museum collections. According to Soka University staff, previous tenants of the building used the basement rooms for the cultivation of mushrooms, which thrive in such dark, damp conditions.
- Water leaks and flooding due to seepage from, or breakage of, water and sewage pipes serving the floors above.
- Severe Flooding. Besides water from pipe damage, the danger of flooding is severely amplified during a structural fire. All water used by the responding fire department to extinguish a blaze would collect in the basement rooms. Because natural drainage from these rooms would not easily occur, they would become in effect, indoor pools, many feet deep. This would subject any collections stored

there to extensive damage and likely destruction, resulting from submersion in water laden with the various products of combustion. Such polluted water would contain soot and other burned materials in suspension, as well as various chemicals and chemical by-products—many of which are also dangerous to human health (such as polychlorinated biphenyls [PCBs]). In addition to inflicting irreparable harm to collections, clean-up costs associated with such disasters can be extensive as well as potentially hazardous to response staff.

- Insect pests and rodents. Basements are prime habitat for insects and rodents that damage or destroy museum collections by eating the items or soiling/defecating on them. Many of the rodents common in the West also carry serious diseases such as hantavirus, rabies, plague, leptospirosis, lymphocytic chorio-meningitis, or tularemia, for example.



During the site visit, planning team members observed signs of a chronic, severe rodent infestation throughout the basement, most notably characterized by numerous rodent droppings scattered across the floor of every room. Judging from the current condition of the rooms, appearance of disuse, disorder, and overall lack of cleanliness, the basement has undoubtedly been infested by rodents for many years. Even if the rooms were thoroughly cleaned, long-term protection from pest and rodents would be exceedingly difficult to achieve within such a basement area.

As a result of the circumstances described above, moving collections from the current location at Rocky Oaks to the basement of the Gillette Mansion would seriously impair collections care. Museum collections would be removed from an appropriate environment to an inappropriate one; a location change that would exacerbate the collection's deterioration and lessen their current high level of care. As quantified by the National Park Service Checklist for Preservation and Protection of Museum Collections ("The Museum Checklist"), *a minimum of ten new museum deficiencies would be created if park collections were relocated to the Gillette Mansion basement.* The park's compliance with GPRA standard 1a6 "Museum Collections Protection" *would subsequently decline by at least 13 percent, possibly much more.* If the Gillette Mansion basement is the only Gillette Ranch location available for museum use, the collections should not be relocated.

Finally, due to its layout, Central Hall would seem to be much better suited for other park uses, especially uses related to serving the public and some administrative functions. For example, the dormitory and cafeteria wing could easily be adapted for overnight accommodations, partnership opportunities (Yosemite Institute), and office space (NPS, State Parks, and/or partners). The Gillette Mansion portion could be utilized for meeting space (both for NPS/partners and as rental space to provide additional park income), public presentations (NPS and others), offices, and perhaps even certain areas for special events to generate income. Such extensive public use of

the structure would present numerous security challenges relative to its use as a museum facility. Due to these numerous insurmountable issues, Central Hall is not a feasible location for the park's museum functions.

3. Botanical Research Center

A small circa 1930s house that Mrs. Gillette resided in following Mr. Gillette's death currently accommodates the university's Botanical Research Center. In addition to the house, the Center utilizes a small garage and greenhouse.

The team was unable to tour the interior of the structure; however, due to its small size, the building could not accommodate the museum program unless a major addition was constructed. The team felt that such construction would be incompatible with the structure, as it appears to be the most unaltered remnant from the Gillette era. At the same time, the building's largely intact Gillette-era interior is probably best suited for remaining an office space. Combined with its current use and exterior layout, the building would probably be best utilized by park natural resource management staff and require minor if any additional rehabilitation work to accommodate this function.

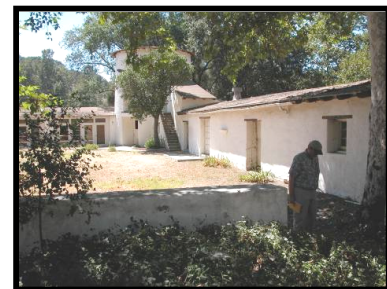
4. Foreman's House

This dilapidated, hazardous, unused, and unmaintained structure is reportedly the oldest building at the ranch. It apparently was used to house the construction foreman who supervised building of the Gillette Mansion.

Like the Botanical Research Center, the building's small size could not accommodate the museum program. And more important, the building's current extremely derelict state, which is possibly irreparable, may preclude its rehabilitation for any park use.

5. The Stables

The stables, like the Foreman's House, is a decrepit, unmaintained building, with numerous structural, preservation, and site-related shortcomings. In addition, the structure is located in a floodplain, a condition exacerbated by the building's location at the bottom of a depression—this effectively funnels even greater quantities of water into the building from the surrounding area during recurring seasonal flooding. Consequently, according to Mr. Mosher, the stables regularly receive 12 to 18 inches of water inside the building during a flood. Due to these factors, this structure is not only incompatible with housing museum collections but also is eliminated for consideration according to NPS policy. Attempts to mitigate these



factors and rehabilitate the building for museum use would be extremely cost prohibitive and unfeasible.

V. Existing Museum, Library and Archive Facility Evaluation

The Museum, Library and Archive program is currently located in the Rocky Oaks area of the park. The building is a prefab bally building structure with a floor plan of about 1,300 square feet. It is subdivided into three functional areas, an entry/holding space and vestibule, office and workspace, and the repository/workspace. There is small file storage, an ANCS Plus workstation, and a toilet located in the adjoining ranger residence station. The outside patio area serves as the break room and informal meeting room. The entry area is protected by an iron gate and fence. The building has an intrusion and fire detection system and there is an exterior surveillance camera. The building is located high on a ridge with a steep entrance drive that can be secured with a locked gate. There is no signage along the road that suggests this is a curatorial facility.



Workroom toward vestibule



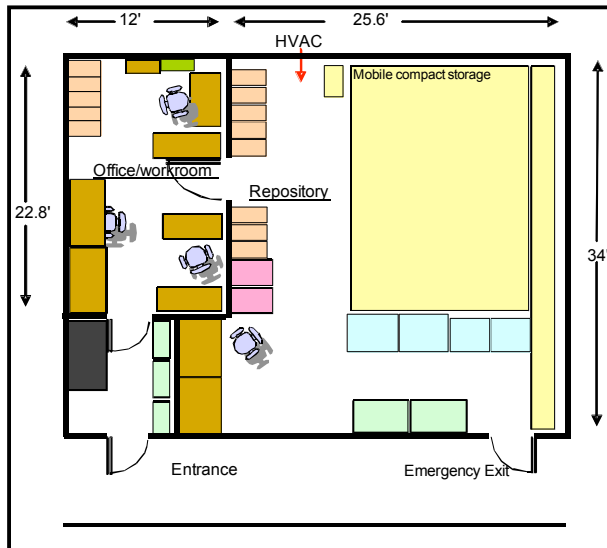
Workroom from vestibule



Repository space

The repository space is compact with well-organized and efficient storage. There is a combination of Space Savers brand mobile storage units and stand-alone cabinets including map cases, standard fire cabinets, and specimen cabinets. There is some room for additional growth in the mobile storage units.

The office and workroom area are very tight for the needs of the collection, with only enough room for three people to work comfortably. During the week this survey was conducted, the museum technician had to work in the collections repository to accommodate us. This space contributes significantly to the museum checklist deficiencies due to the many conflicting museum functions it has to support.



The park library material is distributed throughout the park; the cultural resources library is at the museum building. The natural resources and education material is scattered.

The facility has an HVAC system designed to provide cooling and Rh control. It is not a zoned system, with the main supply air entering the repository space and through the wall vents that assist with cooling the workroom. The system does not work very well, with the repository usually

Current layout of the Rocky Oaks Curation Facility

being too cold and the workroom getting quite warm during the summer. Since there are two openings with fans moving the cool air from the repository to the workroom, the Rh fluctuates more than desired. Fortunately, the area's environment is very conducive to museum collection preservation and the temperature and Rh management issues should easily be resolved in a new collection facility.

The primary functional deficiencies and possible solution in the existing facility are identified below.

Core Functions—Workstations, Offices, File Storage:

The primary deficiency in the Rocky Oaks facility these functions are co-joined with the processing public area and research spaces. The new facility would resolve these conflicts.

Restrooms/Break Room/Recycling:

These functions would be provided within the rehabilitated buildings.

Processing, Material Storage, Receiving/Holding:

Museum standards require these functions to be separated from the workroom and museum storage. This is minimally accomplished at the Rocky Oaks facility since access to the office area and repository has to go through the holding area.

Public Areas, Research Space:

Researchers currently have to use the office area, which results in security issues, accessibility issues and some disruption of staff due to sharing the space. The lobby/exhibit and tours area of the new facility could be reduced from the model predicted size.

Museum Storage:

The model predicted a greatly increased objects storage area. Based on on-site observations and discussions on the growth potential of the collections, it was decided that half the predicted space would serve the park very well.

Archives:

The park archive collection consists of maps, documents, and film. The Mediterranean environment is good for preservation of the paper items. The film and photographs will need to have separate environmental control. This may be best accomplished using freezers and/or refrigerators that are located in the archive space. It is anticipated that the greatest future collection growth will occur in the archive arena

Library:

The collection library would be combined with the general park library and would be managed by the curator.

Curatorial Workspace:

This space is identified as the volunteer/intern workspaces in the facility model. It is currently poorly integrated into the office and repository areas.

A vestibule/receiving area would also improve the operations by providing more security control to the program areas. The following chart identifies these issues.

The following table identifies the differences between the model-predicted square footage, existing square footage, and the resulting shortfall. It is a combination of *objective* and *actual* evaluations of space to arrive at a facility of an appropriate size to serve the park. It acknowledges and accounts for support space such as restrooms and break rooms that are provided outside the collection program area.

The existing capacity of the existing storage space is evaluated, taking into account efficiency of storage, layout efficiency, empty storage space, and future growth potential.

The result is a prediction of the most effective square footage needed for a sustainable/functional operation. In the case of SAMO, this would be the park estimated gross area (1,568 sf) plus the estimated shortfall (2,160 sf) for a facility of about 3,728 square feet. This figure would increase or decrease depending upon the final design approach and the building that would ultimately house the Museum, Library and Archive program (see the Architectural Program).

TABLE: SAMO Museum, Library and Archive existing facility at Rocky Oaks compared to the Museum Collection Facility Planning Model predicted results.

1. Curatorial Program Functions*	2. Model Net SF	3. Park Net SF	4. Difference	5. Comments	6. Space utilization	7. Shortfall Net SF
a. Core Functions: workstations, offices, file storage	360	287	(73)	All functions are combined in one area.		73
b. Rest Rooms, break room, recycle space	342	40	(302)	Located in adjacent ranger residence.	Provided in rehabbed building	0
c. Processing areas, material storage, receiving/holding	170	90	(80)	The processing is currently part of the curator's office.		80
d. Public areas, lobby/exhibit, research space	810	0	(810)	Currently not provided.	Exhibit space and foyer not essential.	380
e. Museum Objects storage.	1685	567	(1118)	Shared with archives.	Room in files for some growth.	233
f. Archive storage	792	300	(492)	Shared with collections.	Some room in files for growth.	400
g. Library	531	0	(531)	The library is in the archives.		531
h. Curatorial Workspace	240	139	(101)	Some space in repository and ranger residence.		101
i. Other						
Total Net SF	4930	1423	(3507)			(1798)
Tare/HVAC	1233	145				360
Estimated Gross SF	6163	1568				2160

INSTRUCTIONS by NUMBERED COLUMN:

1. Curatorial Program Functions: These are the functions identified in the Museum Collection Facility Planning Model plus any unique collections functions that a park program may have. (Add additional functions as needed.) The tare does not need to be calculated for the existing space or building unless there is need for new infrastructure, such as a dedicated HVAC system. (Tare includes wall thicknesses, circulation, janitor closets, and mechanical rooms. Net square feet, or dedicated space, plus tare, constitutes gross square feet.)
2. The final recommendation is a brief summary of the analysis of adequacy of existing spaces, including possible grouping, reassignments, or additions needed to satisfy programmatic essentials.
2. The NET square footage for each function as estimated by the NPS **Museum Collection Facility Planning Model**.

3. The **existing** Park NET square footage of each functional area. For the building support functions such as restrooms, general storage, recycle rooms and break rooms, it is only necessary to indicate in column 5 that the function is appropriately and conveniently provided if that is the case. If these spaces are insufficient, please estimate existing net square footage.

4. **Difference:** This is the net square foot difference of shortfall or overage between the model benchmark and the existing space. Indicated negative values with brackets.

5. **Comments:** This is used for an objective and brief evaluation of the difference to indicate a critical space or functional shortfall or to call attention to excesses.

6. **Reorganized Space Utilization** is an objective, on-site evaluation of the park operational efficiency that covers storage cabinet capacity and utilization, physical arrangement of existing space, and programmatic efficiency or conflicts. This evaluation will only be considered valid if by an **outside**, multi-disciplinary team approach consisting of curator, architect, conservator and archivist or other museum specialist.

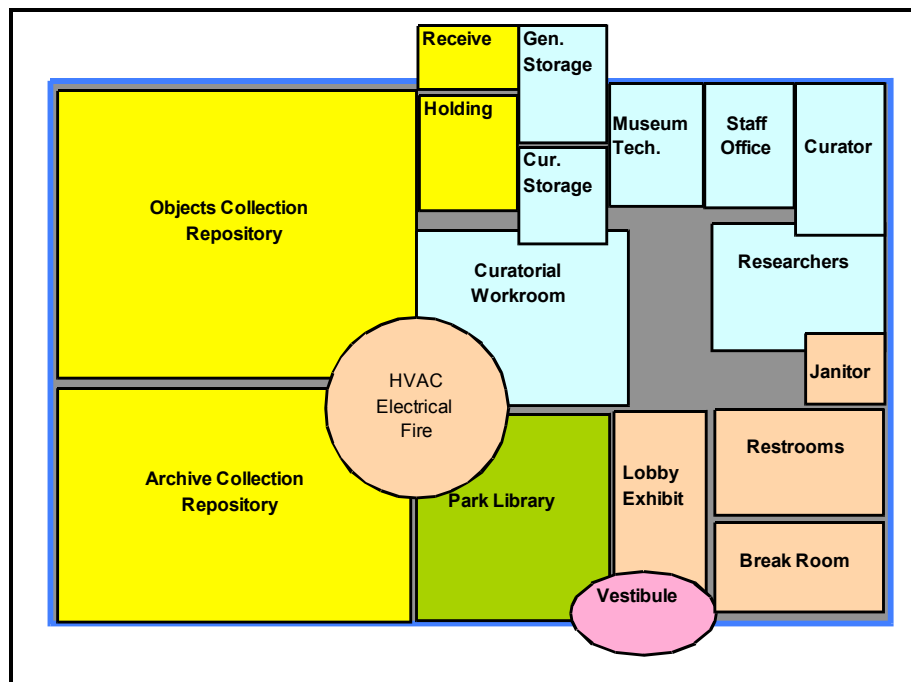
7. **Shortfall** represents the amount of space required for a functional museum operation based on the differences between the WASO Facility Model Prediction (Column 2), and the currently occupied museum program space (Column 3). It also takes into account the efficiency of the current space utilization (Column 6). The shortfall takes into account current operations, growth potential, actual use of spaces, efficiencies of the existing program, and the status of the security, fire protection, and environmental controls. It does not take into account building support spaces such as restrooms, mechanical rooms, janitor closets etc.

VI. Programming the Museum, Library and Archive Facility: Museum, Library and Archive Facility Proposed Functional Layouts

A. Construct a Stand-alone Facility.

A new stand-alone facility was programmed and schematically designed to identify the most desired functions that address the museum program needs. The functional size of each space is schematically based on the Curatorial Facility Model predictions. (See Comparison chart.) The proposed stand-alone facility is estimated at 4,413 gross square feet. It would be the largest proposal since all functions can be provided at the desired programmed size. It also contains all the building support functions.

This stand-alone facility was developed to verify that the other proposals contain the required functions needed in the Museum, Library and Archive Program.



Schematic functional diagram of a NEW Museum, Library and Archives Facility

An Architectural Building program was developed that goes into much greater detail and descriptions on requirements, relationships and uses of curatorial space. (See Appendix for more detail.)

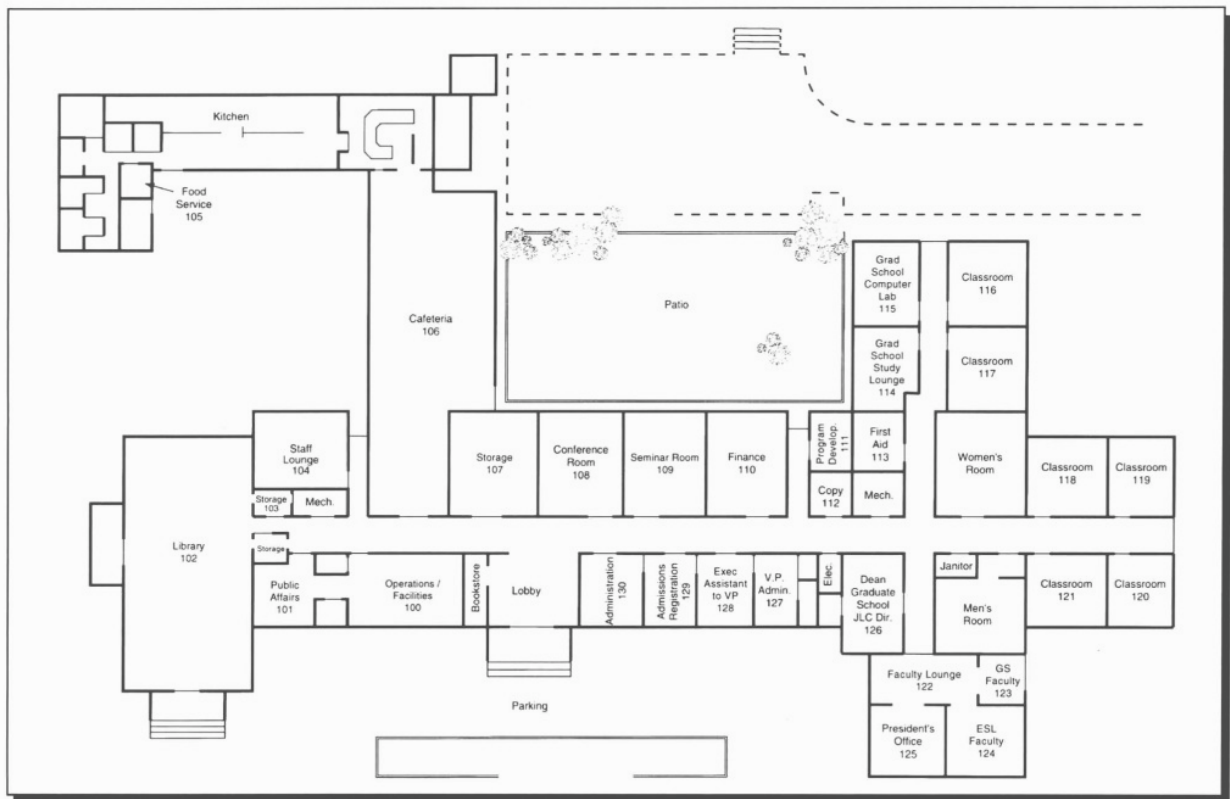
The following functions are required for the Archive and museum collection program: Vestibule/foyer, lobby/reception, restrooms, curator's office, museum technician's office, researcher offices, staff technician workspace, general office supply, curatorial materials supply, lockers, holding, workroom, object repository, archive repository, park library, staging and receiving, loading dock area, staff break room, janitor closet, mechanical room, fire suppression valve room, computer server room, and security controls room.

The proposals that utilize existing buildings may have a smaller museum program footprint. Functions were resized to fit into existing spaces. This does not imply that smaller is better, just that the team recognized there is some flexibility and compromising in how spaces are ultimately used.

B. Wisdom Hall Rehabilitation Proposals.

Wisdom Hall offers the best opportunity to meet the Museum, Library and Archive facility functional needs. The structure was designed as a school and continues to function as one. It is a large structure; encompassing 21,519 square feet for this approximately 228 foot long building. It appears to be constructed of concrete block or cast in place concrete with Spanish tile roofs. The interior floors are concrete.

The floor plan layout is primarily in a double-loaded corridor with intersecting wings. The entrance faces north with an east/west orientation. There is a large library (1,540 square feet) and cafeteria with full-service kitchen on the east side, administrative functions in the middle and classrooms on the western “cross shaped” plan. The classrooms are approximate 340 square feet in a 22 by 17 foot space. The spaces are very adaptable to accommodate the Museum, Library and Archives facility as well as other park resource programs. A partially enclosed 3,870 square foot south-facing patio is located in the rear central portion of the building. The linear design of the building also offers opportunities to for possible additions.



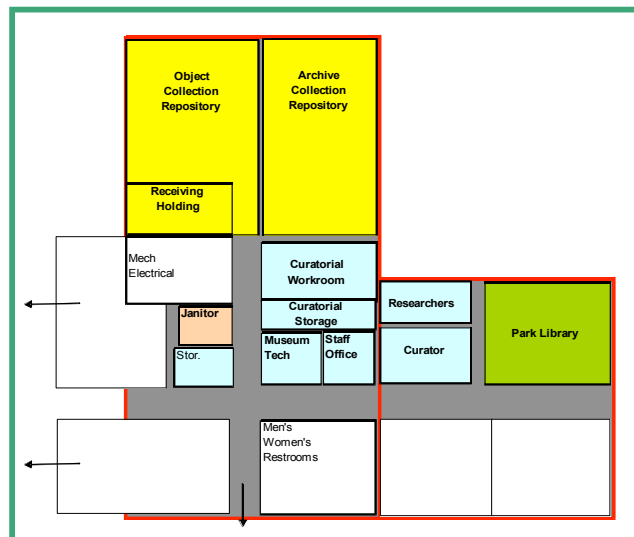
Wisdom Hall, Classroom, Dining and Kitchen Building

Three Museum, Library and Archive Facility schematic alternatives were developed for Wisdom Hall. All three are located on the west and south end of the building. The wings are not symmetrical so the museum functions fit into the facility with various degrees of efficiency. The primary advantage of Wisdom Hall is that the supporting functions such as restrooms break rooms, HVAC/electrical/plumbing, utility hookups are provided by the building.

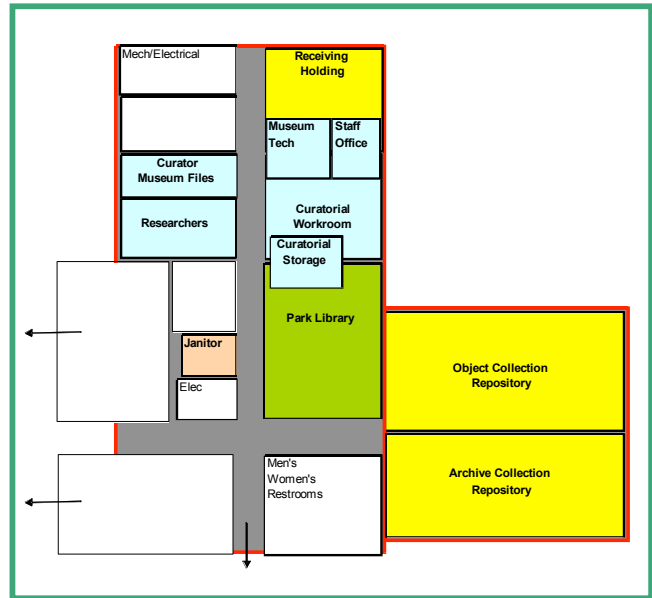
All three alternatives have roughly the same square footage. The differences are in the location of the repositories, the functional efficiency of the support spaces. Alternative B1 (4,084 square feet) has the museum repositories located in the south wing, Alternative B2 (4,289 square feet) locates the museum repositories in the west wing and alternative; B3 (3,641 square feet) is also located in west wing, with the repositories being incorporated in an addition to the building. All the alternatives include the existing corridor as part of the TARE circulation allocation. Alternative B3 is the most efficient since less existing corridor space is allocated to the museum program

Alternative B1: The functional relationship between the repositories, program/office function and library work very well.

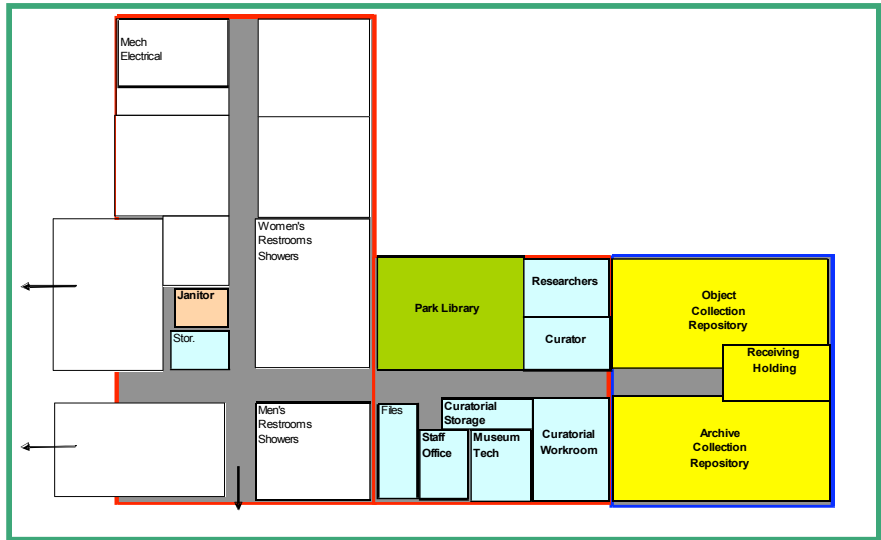
The staff functions are centrally located. There is good building access to the collections and library spaces. The museum staff can visually control the collections repository and workrooms. The entire north block of classrooms is available for other NPS programs. The holding/receiving area is easily accessible from the patio and rear drive. The park library would be slightly smaller under this proposal, approximately 420 square feet rather than the desired 531 square feet. This proposal is approximately 4,084 square feet.



Alternative B2: The functional layout is not as efficient as Alternative B1. The repositories are located away from the curator's direct access and visual control. The support spaces are functionally better related to each other and located out of the main building circulation. The relationship between the curator and research room is not as strong, though it would allow for more general park wide research use of the space. The library becomes the centrally oriented focal point for the collection program in this alternative. This proposal is approximately 4,289 square feet.



Alternative B3: The strength of this proposal is the addition of the repository spaces. Adding onto the building allows the repositories to be constructed to easily meet museum standards. It also allows the museum program to be located within a restricted wing of the building. The curator has good visual and access control of all the space. The relationship of the



program functions work well. There would be an exterior visual impact on Wisdom Hall. However, if there is a park-wide program space shortage, the repository addition will allow for approximately 2,000 square feet of additional space in Wisdom Hall for other needs. This proposal is approximately 3,641 square feet.

C. Dormitory 5—Rehabilitation and Addition.

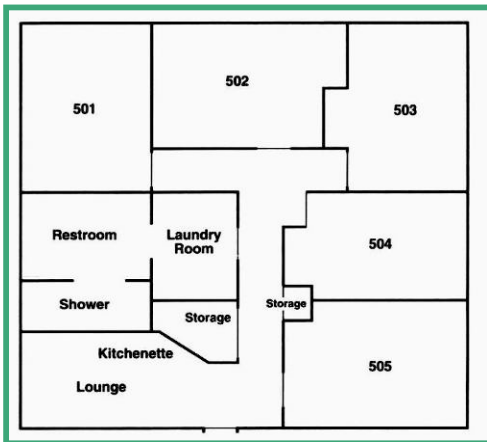
Dormitory 5 can provide for a functional Museum, Library and Archive Facility. The location is on an artificially raised site well above any potential flooding. The parking area to the east of the building would allow for the required collections room addition. Most of the office functions could easily be incorporated into the existing 1,716 square foot floor plan. This proposed facility is 3,897 square feet with the park library.

There are several compromises that would have to be made, though they would not drastically affect the program operations. For instance, the workroom would be slightly smaller than desired 192 square feet versus 240 square feet. The restrooms/janitor space would be oversized at 180 square feet. Some of the individual offices such as the curator would be slightly oversized at 165 square feet, though the museum accession files could be placed in this space. There is an extra office/conference room provided as a result of the existing room layout, while not a

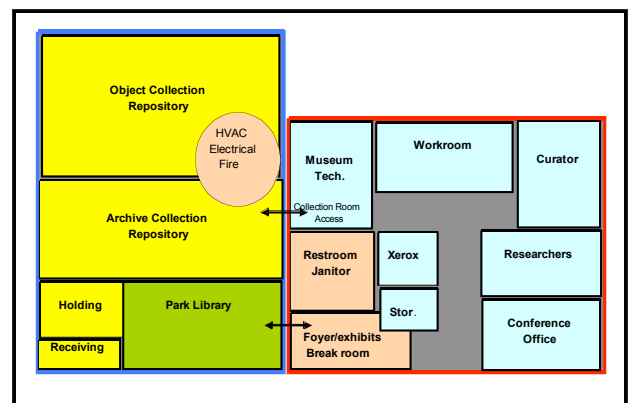
required need, offers flexibility in using the structure. The circulation path through the structure is efficient offering good visual access control.

Fire suppression and security systems would have to be added to the facility. The new repository addition would allow for an efficient design to control the temperature and manage the relative humidity. This large space could be constructed with a pre engineered building system with compatible exterior finishes. This approach could reduce the cost of construction.

The addition would contain the archive and collections repositories, the receiving and holding rooms (1,540 net area square feet) and possibly the park library (531 net area square feet).



Dormitory 5 Floor plan



Rehabilitated Dormitory 5 with addition

VII. Estimating Methodology and Proposed Cost

Cost estimates were developed for each of the proposals. Typically Class “C” cost estimates identify cost within a +/- 25 to 30 percent range. The square foot costs are based on similar facilities. This spreadsheet data was used to develop cost for several curatorial facilities that are currently under design and construction.

The estimate also includes the latest Denver Service Center Direct Markup factors (August 2006), equipment, furniture, and moving costs. The NPS Direct Markup cost including construction supervision and contingency. Compliance and A/E cost are not included in the table, but have been calculated on the spread sheet and is available.

It is assumed that all the proposals will have fire suppression systems installed, updating of all power and HVAC systems, and telecommunication systems installed. These costs are included in the estimates and should be removed if there is a general upgrading of all facilities before the NPS relocates.

The costs are for remodeling and/or constructing additions to the buildings. They **do not** include any cost for *seismic upgrades, hazardous material abatement, unknown ground conditions, or utility systems that are not currently in place, Historic Preservation Factor and site work*. These additional costs will need to be added to each estimate once the Building Condition Assessments are complete and the project moves forward.

There may be cost efficiencies gained by constructing new repository spaces. The environmental, security, and structural requirement would be much easier to meet through new construction than rehabilitating an exiting space.

The current environment for construction estimating is very difficult at the time this report was written. Construction inflation is averaging 9 to 12 percent nationally. Government projects have been particularly hard to estimate due to the high cost of doing business with the government. In addition, California construction costs are generally much greater than the rest of the country. Since the NPS is oftentimes required to contract with the Small Business Administration (SBA), to ensure the participation of small businesses [referred to as “8(a) contractors], in NPS projects, and it is unknown if this project would be contracted with this method, a contracting 15 percent factor was added to each estimate.

Inflation has not been added to any of the costs since a time frame has not been identified for implementing the proposals. Inflation adjustments will have to be added to the cost when the projects become viable.

Therefore, while the estimates do give a good sense of the potential construction cost, they are best used as a **comparison of relative cost**, which can be used to determine the preferred proposal. Samples of the estimating documents are included in Appendix II.

		Bldg	Direct	PMIS
	Square	Square	Construction	Statement
Proposed Facility	Footage	Foot	Cost	Net Cost
New Standalone Facility	4413	\$407	\$882,430	\$1,919,831
Dorm 5, Rehab & Addition	3897	\$343	\$655,631	\$1,457,377
Wisdom Hall, proposal B1	4084	\$369.40	\$739,836	\$1,629,074
Wisdom Hall, proposal B2	4289	\$369.70	\$777,716	\$1,706,314
Wisdom Hall, proposal B3, addition	3641	\$347	\$619,957	\$1,384,638
Current Rocky Oaks Facility	1300			

VIII. Architectural Building Program

A. SUMMARY OF EXISTING CONDITIONS

See Section V of the **“Evaluation of Alternatives for Relocating the Museum, Library and Archive Facility to the Gillette Ranch.”** Santa Monica Mountains National Recreation Area, 2007. (Note: when the project moves forward, this section should be completed for the A/E contract.)

B. COLLECTION FACILITY DESIGN PHILOSOPHY

1. Design:

The National Park Service has typically viewed curatorial storage as “designing a box” with tight environmental and security controls where museum collections are locked up to be kept secure and preserved for future generations. While this methodology may significantly extend a collection lifespan, it can be a hindrance to access to and research of the collection. This previous approach has been encouraged as a result of the minimum amount of funding the collection, as well as difficulty in getting funding to build appropriate collection facilities. The Pacific West Region’s Museum Collection Facilities Strategy has developed a long-range approach to management of the region’s museum collection that not only addresses the need for adequate collection facilities, but also allowing for this collection to be accessible to the public, the staff, and researchers.

The National Park Service’s *Park Museum Collection Storage Plan*, August 06 Draft, describes national collection issues as well as regional collection issues. The Pacific West Regional plan is a subset of the national plan.

There is increasing desire by the NPS, curators, and users to provide more access to the collection. Rather than approaching the facility as an impervious box, it could be considered as a visually open museum exhibit case. The current trend in museums is to store more artifacts on display. This allows the visitor to see the object and keeps the artifact in a secure, controlled environment. With creative design and realistic understanding of the NPS collection preservation needs, the entire collection facility should be able to function as a macro exhibit case. (SAMO may want to take this approach to a limited level. It will depend upon how the entire Gillette facility evolves.)

2. Staffing:

Many NPS museum collection facilities tend to be large buildings with very few staff and should be designed to maximize operational efficiencies. Because the facilities are being designed to provide maximum accessibility through tours, accommodating researchers, and other park staff, oversight, security, and control of the collection are critical. The spaces need to be designed for maximum visual and access oversight, which would be provided by only one or two NPS staff. The SAMO staffing includes a park curator, staff curator, and historian. There may be seasonal project-funded staffing as well.

The collection facility, with its stringent security and environmental controls, shall provide warm, healthy, inviting, and pleasant workspaces, which will promote interaction among staff, visitors, and researchers. The facility design should complement and enhance the collection.

3. Sustainability/LEED:

The National Park Service strives to serve as a national example of sound environmental energy efficient and sustainable design development. The museum collection facility shall achieve a high level of environmental performance and durability, with a minimum rating of Certified LEED building (Leadership in Energy and Environmental Design). It shall incorporate green building practices, features, and technologies. In addition to LEED and sustainable design, the maintenance of materials, building components, and the building systems shall to be addressed early in pre-design. While the NPS is designing to minimum LEED ratings, the service generally does not pursue formal certification for projects.

4. Passive Design:

System wide, National Park Service museum artifacts have been housed for years in buildings without appropriate heating and ventilation (HVAC) or security systems. Many sites have been fortunate that artifacts have not deteriorated more rapidly than they have. Evaluation of the current storage conditions may identify site-specific conditions that have contributed positively to the preservation of the collection or portions of the collection. These conditions may include the climate, building construction, existing environmental controls, and site management. Passive design recognizes these positive attributes and incorporates them into the new design, even when it appears to contradict broad national museum standards.

Design of this replacement facility will provide controls to preserve and provide security for the collection in accordance with the service's museum standards. However, one of the primary challenges of this project will be to design "low tech" and "low maintenance" building systems that provide the primary macro environmental and security protection for the collection, yet not rely unnecessarily on sophisticated and/or high maintenance systems and technologies. This may result in some conflict with museum standards, which will need to be resolved by the assessing risk of loss to constructability and the facility's life cycle sustainability. Unfortunately, there has recently been too much dependence on modern technology to solve environmental, fire suppression and security concerns, without recognizing that when these sophisticated technologies fail, the collection can be placed at higher risk. The design team shall identify, recognize, and promote taking advantage of the micro benefits provided by the individual facility spaces and museum storage systems to be used.

5. Universal Design:

Universal design is the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or

specialized design. This project shall maximize universal design processes to the extent applicable with the primary goal of protection of collection.

The above needs can be met without compromising the NPS museum standards. However, it can only be accomplished with an integrated multidisciplinary team approach, with every member of the team clearly understanding the needs of the collection, the NPS and the visiting public. The multidisciplinary team will be comprised of NPS management, NPS curatorial staff, NPS interpretive staff, NPS resource management staff, NPS facility management staff, NPS regional architects and engineers, NPS partners and contracted architects/engineers, and their consultants.

C. VALUE ANALYSIS

Value analysis principles, and the VA/CBA process, will continue to be used whenever possible through the contracted A&E phases of the project. It is expected that these analytical processes will be especially valuable in determining such design specifics as: the most desirable HVAC, wall design, security and lighting systems, and the most desirable building structural system for the repository spaces.

D. INDIVIDUAL DESIGN DISCIPLINE OBJECTIVES

This section describes the broad roles and functions for various members of the design/project team. Refer to the Denver Service Center's Environmental Design Standards for additional discipline guidelines.
(http://workflow.den.nps.gov/staging/6_Design/Designstandards/DesignStds_fireprotect_section.htm)

Site:

Design the building per the master plan of the site.

The new building and site must exemplify the concept of "living in balance with natural systems."

Architectural:

The facility design must be compatible to the existing architecture of the park or location. The planning team shall:

- Design an operationally efficient building.
- Select finish materials that require minimal maintenance, replacement, and promote an environment conducive to preservation.
- Incorporate passive design principles for fire protection, security, and environmental controls through careful selection of materials, building systems and functional orientation of the spaces.
- Orient the structure for sustainable energy conservation.
- Maximize the circulation efficiency of the building.
- Incorporate Universal Design Concepts throughout the project.

Museum Conservator:

The museum conservator shall function as a partner and team member, working with and alongside the NPS and A/E design team. This individual, with a strong material science background, shall provide professional expertise and creative approaches to preserving the museum collection, with special emphasis on the *preservation of film*. This professional shall be familiar with the most recent research on preserving collections and with NPS Standard Museum Practices as defined in the *Museum Handbook*, Parts I, II and III.

Specialized Visible Storage Planner:

The visual storage planner's role is to assist with identifying creative ways to exhibit and display the collection throughout the facility and in the repositories. Conservation and protection of the collection always will be the first priority; however, good display practices can greatly enhance the functionality of the facility, accessibility and security the collection. The solutions shall be cost effective, easily maintained and harmonious with the functional design requirements. (This person may not be required.)

Civil:

- Minimize the visual impacts of infrastructure features on the landscape.
- Design utilities and equipment for low maintenance and operations.
- Equipment designed for low energy use.
- Use corrosion resistant low LCC materials.

Structural:

- Design sustainable structural systems.
- Design sustainable structural system for the anticipated natural threats to the site including earthquakes, hurricanes, and tornados.

Mechanical:

- Design straightforward mechanical systems that are easy to operate and maintain.
- Explore and integrate passive systems with low energy consumption to maintain the required environment set points in the repositories.
- Avoid placing any mechanical or plumbing access panels in highly secured spaces.
- Recognize that museum collection requires different environment needs than human occupied spaces and interpreting the various building codes to resolve the conflicts between the two needs.
- Minimize Rh fluctuation and keep outside pollutants from the repositories.

Electrical:

- Minimize the use of power and lighting, through the use of high efficiency lighting fixtures, switching, occupancy sensors, and day lighting.
- Minimize exterior lighting, being sensitive to light pollution of the night sky.
- Work jointly with the lighting designer on design, sizing, and intensity of lighting within the facility.
- Work jointly with security system designer.

Lighting Designer:

- Integrate daylight to minimize artificial lighting while protecting the collection.
- Work jointly with electrical engineer on lighting design.
- Integrate the lighting design into the building systems.
- Collaborate on finishes with the architect/interior designer.
- Educate the NPS museum professionals on lighting issues.

Communication:

- Coordinate with the NPS IT staff on phone and data networks.

Security Consultant:

- Identify security threats and the levels of **risk** associated with the threat for development of cost efficient security solutions.
- Address the diversity of access requirements while maximizing flexibility.
- Review the current museum operations. Identify concerns and recommend solutions that address the existing facility deficiencies.

Fire Protection Engineer:

This specialist is required to review the design and make sure that structural fire requirements are clearly understood and followed. Reference:
http://workflow.den.nps.gov/staging/6_Design/Designstandards/DesignStds_fireprotect_section.htm

E. MUSEUM COLLECTION AND STANDARDS

NPS Museum Standards:

The National Park Service *Museum Handbook Part I: Museum Collections* shall be used as reference for this project. The standards are written in a question/answer format that provides technical and practical information for managing collections. The A/E shall be familiar with the standards in order to understand the philosophical approach the NPS takes to collection preservation and management. Familiarity with the standards will better prepare the A/E for working with NPS museum staff on this project.

The handbook recommendations may be supplemented by recent research on collection and artifact preservation that offers improved standards and approaches to collection preservation. The handbook can be downloaded from the NPS website at <http://www.cr.nps.gov/museum/publications/handbook.html>.

Visual Storage Display Opportunity for the Collection:

One of the primary goals of the Pacific West Region Collection Facility Strategy is to provide greater access to the park collection. New collection facilities offer a great opportunity to provide more accessibility through displaying the collection in a visual/open storage format. This will require that the repository areas and the collection in them are designed for this visual observation. The visual storage concept is being used increasingly by museums around the world. There are opportunities to apply this concept in this facility. This will require the A/E to work with the NPS and museum staff in identifying and designing the locations for the collection items that are to be displayed. The areas designed for visual display and open storage must be flexible to allow changes on a routine basis. Coordinate with the curators to identify appropriate items for open storage display.

Protection of Collections:

The primary purpose of this facility is for the preservation and protection of the museum collection. The secondary purpose is to provide access to the collection for research by the staff and public. The collection must be protected from physical damage and destruction and loss from theft; much of which can be prevented through vigilant design. Management approaches to collection can also result in enhanced protection or destruction of the collection. The design team must understand the management as well as the building infrastructure requirements. Management of the security, fire protection, environmental controls, accessibility, and maintenance can be enhanced or hindered by the design of the facility and thus have profound affects of the collection.

There is generally broad consensus on museum collection protection requirements; however, there are significant conflicts on the specific requirements between individual professional disciplines. The various building codes, American Society of

Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) recommendations, professional guidelines and manuals are conflicting when judged side by side. It is the role of the A/E along with the entire design team to determine the best approach that offers maximum protection to the **collection**. This will require that all the design team members work together and not be inwardly focused on their individual discipline requirements.

The Canadian Conservation Institute's (CCI) Nine Agents of Deterioration will provide guidance during the design phase to resolve the above issues. The individual agents are listed descending order of potential damage: Direct physical force such as accidents; theft, fire, water damage, pest infestation, contaminants, radiation/light damage, temperature changes, and relative humidity changes. ASHRAE Chapter 21, "Museums, Libraries, and Archives" (2003) is also another reference for consultation and use.

Environmental Controls—Temperature and Humidity:

Materials deteriorate in part due to expansion and contraction, and with museum objects it is exacerbated since most museum collection artifacts are made from a wide variety of materials. Rapidly fluctuating temperature and relative humidity levels increase the rate of deterioration since each material has its own temperature and humidity coefficient of expansion rate. Some materials are more sensitive to temperature changes and others more sensitive to humidity changes. On a micro level museum objects are basically tearing themselves apart. The challenge is creating a climatic environment that minimizes damage to objects caused by these material changes.

The geographical and climatic variations throughout the United States add additional challenges to museum collection protection requirements. Some climates are very conducive to collection preservation and should be exploited rather than ignored. This is particularly true in the Mountain and Pacific West area of the United States.

Applying environmental recommendations for collection storage is not an exact science, particularly for mixed collection such as those in the NPS. The desired approach would be to have each object in its own perfect environment. However, this is not practical; therefore the next best approach is to provide stable temperature and humidity levels throughout the year. The most commonly published museum environmental control levels are being re-evaluated as more research is conducted on environmental requirements and the cost of meeting the requirements increases.

There are four levels of protection and long-term preservation that can be applied to museum collection: the immediate environment around the object (**MICRO**), the environment adjacent to the object (**MACRO**), the design of the **building envelope** that protects the object, and the **HVAC systems** that artificially control the

environment within the building. The design team shall take these four levels into account when developing the climatic approach to the collection.

The **MICRO** protection occurs at the object and object storage unit level. The individual museum objects are managed by their sensitivity to temperature and relative humidity changes. Museum cabinets and storage cases can provide a significant buffering of RH and temperature from the space surrounding them.

The **MACRO** protection of the collection occurs by buffering the external environment, through building massing, insulation and air barriers to minimize temperature fluctuation. The relative humidity would be buffered by creating a tight space through the use of vapor proof wall and roof systems, minimizing air exchanges during periods of outside high and/or low RH and minimizing the human use of the space to reduce the human comfort requirements of a storage spaces. This could be considered the passive aspect of environmental control. The building would provide a stable “natural” environment that would fluctuate seasonally.

The buildings’ envelop and HVAC systems are subsets of the MACRO environment. The building system should passively maintain a relatively stable RH and temperature. The HVAC system is the equalizer.

The **HVAC** system would provide the control for seasonal changes, mitigating the high and low temperatures and relative humidity that occur through the year. This would occur by providing heating and cooling and dehumidification of spaces. Humidification if needed could be provided passively by curators with portable equipment, rather than by the HVAC system. The HVAC system would be designed to handle all but the most severe situations such as very dry air as the result of very low winter temperatures or very humid air that would occur through major events such as a thunderstorm. In these cases the internal environment would be permitted to exceed the desired temperature and relative humidity levels over a short period of time.

The temperature and humidity set points for the collection(s) should be determined in part by the geographical location of the park, taking advantage of the natural temperature and RH levels of the area. The main desire is to design the building for passive environmental control, (see Section 4.4) with the HVAC systems providing the macro building environmental control.

Relative humidity shall not exceed a high of 50 percent. Normal RH levels for most collections are in the 20 percent to 40 percent range, with the lower RH offering the best long-term preservation for most objects. Temperature levels would range from 55 to 70 degrees (human comfort) with cooler temperatures offering the best long-term preservation. A good average would be about 60 to 65 degrees in repositories. Seasonal fluctuation of internal temperature and relative humidity could be permitted. The actual set points for the individual facility will be determined during the design process.

The desired goal is to design a HVAC system that can meet the above requirements and not have to operate for twenty-four hours a day, seven days a week, thus reducing the operational cost. The above standards may be adjusted during design and more information is made available through the design approach and continued research into environmental requirements for the collections. Energy cost and relative humidity can be controlled more effectively by minimizing the amount of outside or makeup air entering the spaces. Collection storage space HVAC shall be designed based on the pressurization need, off-gassing need and using actual or projected occupancy rather than the building code maximum occupancy.

F. SPECIFIC CURATORIAL BUILDING DESIGN STANDARDS

See The Denver Service Center Design Standards

http://workflow.den.nps.gov/staging/6_Design/design.htm for additional information.

Security:

Security design begins with prevention rather than with detection and monitoring, with the building providing the first line of defense. The security system shall be designed to maintain a secure outer perimeter with progressively more secure interior controls to limit personnel movement based on the space function and required security level of the function. Door keying systems shall be designed to record and monitor access to spaces. The final security control shall be the locks on the individual museum cabinets. Security systems selected for the facility shall be compatible with the existing system used in the park, and shall require minimum maintenance.

Exterior and interior windows shall have ShatterGuard, or a similar product to restrict entry. High security hardware shall be used on exterior doors.

Energy Efficiency:

The collection can not be protected if the energy cost for operating the facility is unaffordable. Higher than normal levels of insulation, vapor and radiant barriers, building material massing, energy and operationally efficient HVAC systems, using renewable energy (where appropriate), day lighting (where appropriate), and lighting occupancy sensors and zoning shall be used. Energy cost can be controlled more effectively by minimizing the amount of outside or makeup air entering the repository spaces.

Sustainability:

Sustainable and green building materials shall be used in the facility. Museum collection storage timeframes are based on hundreds of years. The building life cycle performance shall be designed to better match the long-term preservation goals of the collection and reduce maintenance cost.

Structural Integrity and Durability:

The floor loading needs to support mobile compact storage units. Of special consideration is the weight of archives. The building structural system shall be designed to minimize vibration throughout the repository spaces.

Fire/Life Safety:

Protecting the collection and building from fire loss begins with the building design, not the fire suppression and detection system. The facility shall be designed to minimize ignition sources and the spread of fire through the building with appropriate fire walls and fire proof materials. All repository spaces shall have 2-hour rated walls. In the case of a fire, early warning is paramount to collection protection; smoke detector coverage shall be increased over the building code minimums.

Furniture/furnishings:

The mobile compact storage systems are usually used for storage of museum collections. Floor design shall accommodate the storage systems. The rails may be imbedded in the floor or set on the floor. Offices and other workspaces will be designed to receive modular system furniture.

Lighting:

Natural daylight will be used to the greatest extent possible. Reflection and washes may be used to augment artificial light. Direct sunlight can only be used in spaces that do not contain museum collections. The repositories (may) have borrowed light from corridors or adjoining spaces to enhance interpretation and allow for staff movement within the spaces. Lighting shall be designed and zoned for day to day work with floodlighting for occasional maintenance activities. The lighting design shall address illuminance, CRT (color rendering index) and CCT (correlated color temperature) and UV filtration.

Materials:

The National Park Service will provide a list of recommended materials that have been approved for use in other museum collection facilities. These materials have been selected for long-term performance and because of their inert composition, they do not off-gas chemicals harmful to museum collections. All materials selected for repository spaces shall have maximum durability and minimum maintenance requirements. The floors in the repositories shall be sealed concrete with vapor barriers under the slabs.

Mechanical:

Plumbing: Piping (with the exception of fire suppression systems) shall not run over, under, or through repository areas. Piping runs shall be avoided as much as possible over any area that may hold collections or exhibits. Roof drains shall not be located over repositories.

Heating, Air Conditioning and Humidity control: The HVAC systems selected shall be sufficient to condition individual areas and to minimize fluctuation of temperature and relative humidity. Relative humidity can be

controlled more effectively by minimizing the amount of outside or makeup air entering the spaces. Collection storage space HVAC shall be designed based on the pressurization need, off-gassing need and using actual or projected occupancy rather than the building code maximum occupancy. The control systems, in conjunction with the building design, must be sufficiently responsive to maintain spaces within the specified ranges. The repository wall, floor, and roof systems shall design to be vapor proof. The repository spaces, workrooms, and research rooms shall be filtered to ASHRAE 52.2 MERV 15 level filtration. Roof mounted HVAC packages shall not be located over repositories.

Electrical:

Locate transformers and circuit breaker panels in the middle of the building to minimize runs and power loss.
General Lighting in large areas shall be zoned.
Lightning protection system shall be installed on the facility.
Provide for emergency backup power potential for the repository HVAC system, security and fire detection systems.

Telephone and Data:

Intercom links shall be installed in the repository spaces for emergency use. Cable trays shall be used for main trunk lines carrying telephone and data cable.
Infrastructure for teleconferencing may be installed in the conference/classroom.

Repository Environmental, Security and Fire Protection Requirements:

The most significant issue with maintaining a stable temperature and humidity levels as well as fire protection and security is the design and construction of the wall, ceiling, and flooring system. It is suggested that concrete or fired brick wall systems with appropriate insulation, radiant barriers, and vapor retarders will provide the maximum long-term environmental benefits through massing, fire resistance, and maintenance.

Innovative Technologies:

Innovative technologies shall not be used if they have do not have a proven track record on performance.

Commissioning:

The building systems shall be commissioned during installation and after substantial completion to verify that they perform as designed. A commissioning plan shall be developed early in the design process. Upon completion of the building and before occupancy, the fire detection, security system, mechanical system and door operations shall be commissioned.

Life Cycle Cost:

Life cycle cost modeling shall be used for all innovative technologies, for the design of wall systems, HVAC systems, and lighting systems.

Maintenance Plan:

A building maintenance plan shall be developed for the facility incorporating material specification and operation manuals. The plan shall identify critical elements to inspect and shall develop an inspection schedule.

G. FUNCTIONAL AREA DESCRIPTION

The Museum, Library and Archive Facility is divided into five functional groups:

- i. Administration/Office/Research Group,
- ii. Processing/Workroom Group,
- iii. Collection Management Group,
- iv. Building Support Functions Group,
- v. Exterior Spaces and Visitor Experience

The functional requirements for each area are identified below. The A/E shall review the architecture program, verifying the required spaces, and provide justifiable alternatives. Since a function has its own identification and description, it does not necessarily mean that it needs to be its own enclosed room. Some functions have been identified as “potentially” being combined to enhance building and operational efficiency. The interior should be designed for openness and at the same time meet the security, environmental, and access issues required for the collection.

Each area has a set of conditions that influence the overall design solution; they consist of the following: critical adjacencies; security level; interpretation potential; special furnishings; spatial requirements; and special restrictions. These conditions, while critically applicable to individual areas; will most likely conflict with those identified for other areas. The design process shall resolve these conflicts. The A/E is responsible for verifying and identifying other conditions critical to the successful design of each area and of the facility.

- (a). Critical Adjacencies: These are the functions that each area should be adjacent to. They are listed in priority order.
- (b). Security Level: A security classification is assigned to each function that defines the access restrictions to each area of the facility. There are three security classifications: low, medium and high.
 1. Low: Functions in the low classification would be considered the public spaces, with the public defined as the non-curatorial staff, researchers and general public. Museum objects would generally not be permitted in these spaces without appropriate protection.
 2. Medium/partially secured areas: Functions in the medium/partially secured classification are primarily the research and Office areas. Visitors to these areas are

monitored and restricted in movement. Objects may be temporarily brought to these areas for research.

3. High/totally secured areas: Functions located in the high/totally secured classification are the most sensitive areas, including all the repository/workroom functions. Only the curatorial staff is allowed into the areas with all other visitors, public or government, required to be escorted.
- (c). Interpretation Potential: One goal of this facility is to provide greater access to the collection. Interpretation potential is increased through a collection storage layout that increases visual access as well as enhancing the "Visitor Tour" experience. Suggestions are provided for each area.
- (d). Special Furnishings: Some areas will have special furnishing requirements which will be described.
- (e). Spatial Requirements: There are unique spatial requirements for some areas.
- (f). Special Restrictions: These are critical issues that can have significant consequences for the collection and facility performance.

Administration/Office/ Research Group:
(577 NASF)

Curator's Office: (100 NASF.) This function needs to be in a highly visible location within the collection area. The curator and museum technician may have to cover for each other to provide oversight and control in the medium and high secured spaces. Most public activities in the facility will be under the control or observation from this area.

Critical Adjacencies: Curatorial workroom, researchers' offices, lockers, collection files, and repositories

Security Level: Medium

Interpretation Potential: N/A

Special Furnishings: Systems furniture will be installed in the office

Spatial Requirements: Observation windows with blinds. Provide natural lighting in the room

Special Restrictions: N/A

Museum Technician's Office: (80 NASF.) This function needs to be in a highly visible location. This position will share responsibilities with the curator in regards to the research room, and workroom. This function could be directly located in the workroom.

Critical Adjacencies: Curatorial workroom, researchers' offices, lockers, NPS curator, and repositories

Security Level: Medium

Interpretation Potential: N/A

Special Furnishings: Systems furniture will be used in the office

Spatial Requirements: Observation windows with blinds. Provide natural lighting in the room

Special Restrictions: N/A

Seasonal Staff Technician Staff Work area: (80 NASF.) For seasonal staff working in the workroom.

Critical Adjacencies: Workroom, curator's office

Security Level: Medium

Interpretation Potential: N/A

Special Furnishings: Systems furniture will be used in this office

Spatial Requirements: Provide natural lighting in the room

Special Restrictions: N/A

Researcher Offices: (160 NASF total.) It is anticipated that long-term visiting researchers such as contractors, conservationist, scientist, university affiliates, other government agency officials, etc, are expected to be regularly working in the facility. Two workstations should be provided to enhance this partnership function.

Critical Adjacencies: Curators' office, workroom, lockers

Security Level: Medium/high

Interpretation Potential: N/A

Special Furnishings: Systems furniture will be used

Spatial Requirements: Provide natural lighting in the room

Special Restrictions: The researchers will not have unlimited access to the facility

NPS General Office Supply: (100 NASF.) This is the general office supply for the NPS.

Critical Adjacencies: Office areas

Security Level: Low/medium

Interpretation Potential: N/A

Special Furnishings: Steel shelving and storage cabinets

Spatial Requirements: Explore alternatives for this function that may not require a designated room such as a corridor closet access

Special Restrictions: N/A

Curatorial Supply: (50 NASF.) Storage of curatorial materials and supplies used by the curation staff. They are specialized and expensive materials not for general use.

Critical Adjacencies: Workroom

Security Level: Medium

Interpretation Potential: N/A

Special Furnishings: N/A

Spatial Requirements: High ceiling. Designed for the most efficient shelving layout

Special Restrictions: N/A

Lockers: (5 SF.) Lockers are provided to secure the personal belongings of visitors, staff, and researchers working in the facility. There shall be five 1 by 3 foot lockers.

Critical Adjacencies: Entrance lobby, researchers' offices

Security Level: Medium

Interpretation Potential: N/A

Special Furnishings: N/A

Spatial Requirements: Locate near building visitor sign-in log book

Special Restrictions: N/A

Guest Log in Book: (2 SF.)

Critical Adjacencies: Entrance lobby, researcher's offices, repository

Security Level: Low

Interpretation Potential: N/A

Special Furnishings: N/A

Spatial Requirements: A desk

Special Restrictions: N/A

Museum Collection Processing/ Workroom Group: **(320 NASF)**

Curatorial Processing/ Workroom (240 NASF.) Processing and registration of inorganic/organic collections, archives, natural history collections, historic artifacts, and library collections occur in this room. Museum collections will be accessioned and cataloged here. There would be a work station for ANCS+ that would include computer, printers and scanners.

Simple conservation treatments, cleaning of material before processing and pest management would occur here. It would contain a sink, fume trunk, chemical storage, processing tables, and an eyewash station. The room will be designed for a dry work area and a wet work area. Three workstations for museum technicians and volunteers would be located in this room.

Critical Adjacencies: Curator's office, curatorial supply, isolation/holding

Security Level: High

Interpretation Potential: Display/observation window to facility tours of the facility and to show work in progress

Special Furnishings: Portable/folding work tables. Museum cabinets for short-term storage

Spatial Requirements: Layout work area in the middle of the room. Provide three workstations. Storage for folding tables. Display window to increase visual observation of the space. Museum equipment, fume trunk/fume hood, bakers rack storage.

Special Restrictions: N/A

Collection/Contaminated Objects Isolation/Holding room: (80 NASF.)

Museum collection and museum exhibit containers coming to the building would be placed in this room to observe for pests, temporary storage, and decontamination. A decontamination freezer will be located in this space.

Critical Adjacencies: Receiving/holding area, curatorial workroom, room/ curatorial supply.

Security Level: High

Interpretation Potential: N/A

Special Furnishings: Freezer

Spatial Requirements: NA

Special Restrictions: N/A

Collection Management Group: (2031 NASF)

Museum Collection Repository. (800 NASF.) Repository for biological, ethnology, archeology and historic objects collection. Collection files may be co-located in this space. Collection will be stored on mobile compact storage units.

Critical Adjacencies: Curatorial processing workroom, isolation/holding, curator's offices, research room

Security Level: High

Interpretation Potential: Careful design and layout of this space would offer public access through tours and visual access through windows. Artifacts would be stored in display cases and strategically placed on shelves.

Special Furnishings: Mobile compact storage units.

Spatial Requirements: This space needs to accommodate mobile storage units. There shall be a column free-floor plan with 12 foot clear ceilings. Provide dedicated storage space for repository equipment.

Special Restrictions: N/A

Collection Files: (0 NASF.) The collection records for the NPS are stored in this space. It is co-located in the Museum Collection Repository.

Critical Adjacencies: Curatorial processing/workroom, curator's offices.

Security Level: High

Interpretation Potential: N/A

Special Furnishings: N/A

Spatial Requirements: N/A

Special Restrictions: N/A

Archive Collection Repository: (700 NASF.) The repository for the archives collection. Rare books and manuscripts could be located in this space. Refrigerators will be provided to house the photographic and film collection.

Critical Adjacencies: Curatorial workroom, curator's office.

Security Level: High

Interpretation Potential: Careful design and layout of this space would offer public access through tours and visual access through windows. Artifacts would be stored in display cases and/or on the walls, and strategically placed on shelves.

Special Furnishings: Collection will be stored on mobile storage units. Provide dedicated storage space for repository equipment. Freezers/refrigerators for storing photographs.

Spatial Requirements: N/A.

Special Restrictions: Lighting levels will have to be designed to museum standards for protection of light sensitive artifacts. A climatic transition space may need to be provided to transition the photographs to the common building environment.

Library: (531 NASF.) This is the park library. It is currently located in three areas and would be combined into one.

Critical Adjacencies: Curator, researchers' offices, entrance

Security Level: Medium

Interpretation Potential: Artifacts would be stored in display cases and/or on the walls, and strategically placed on shelves

Special Furnishings: Perhaps mobile compact storage units

Spatial Requirements: N/A

Special Restrictions: N/A

Visitor Experience: (0 NASF).

Visitor Tour/Observation corridor: (0NASF). This area would be designed within the building interior circulation

Critical Adjacencies: N/A

Security Level: Low/medium

Interpretation Potential: Possible displays along the corridor describing the museum collection

Special Furnishings: N/A
Spatial Requirements: N/A
Special Restrictions: N/A

Building Support Functions Group: (602 NASF)

Vestibule: (70 NASF). Primary staff entrance to curatorial facility from the staff parking area

Critical Adjacencies: Staff parking area, employee entrance
Security Level: Medium
Interpretation Potential: N/A
Special Furnishings: Door bell and/or phone or intercom system
Spatial Requirements: Double air-lock doors. May be included with-
in the TARE.
Special Restrictions: N/A

Lobby/Reception: (150 NASF). This area could serve as a small exhibit space, and provides a secured place to receive visitors

Critical Adjacencies: Entrance, restrooms, break room
Security Level: Medium
Interpretation Potential: Museum cases and wall displays
Special Furnishings: Door bell and/or phone or intercom system
Spatial Requirements: Good natural light
Special Restrictions: N/A

Staging/Receiving/holding area: (40 NASF.) This area serves as the primary receiving area for the entire building complex.

Critical Adjacencies: Isolation/holding room, curatorial workroom,
and receiving area
Security Level: Medium
Interpretation Potential: N/A
Special Furnishings: N/A
Spatial Requirements: This area may increase in size due to
circulation requirements
Special Restrictions: N/A

Staff/Public Restrooms: (215 NASF.) These restrooms will serve the needs of the museum staff, and visitors.

Critical Adjacencies: Entrance
Security Level: Medium
Interpretation Potential: N/A
Special Furnishings: N/A
Spatial Requirements: N/A
Special Restrictions: N/A

Janitorial Closet: (40 NASF.) This space will have mop sink and storage for the general building cleaning materials and supplies.

Critical Adjacencies: Restrooms, workroom, repository

Security Level: Medium

Interpretation Potential: N/A

Special Furnishings: A small cart with cleaning equipment should be able to fit into this space

Spatial Requirements: N/A

Special Restrictions: N/A

Staff Break Room: (87 NASF.) Food and drink are not permitted in any curatorial area

Critical Adjacencies: Entrance, library, outdoor area

Security Level: Medium

Interpretation Potential: N/A

Special Furnishings: N/A

Spatial Requirements: N/A

Special Restrictions: N/A

Included in TARE (833 NA SF)

Mechanical Room: (200 SF.) The HVAC equipment is located here

Critical Adjacencies: Electrical room

Security Level: Medium

Interpretation Potential: N/A

Special Furnishings: N/A

Spatial Requirements: This space and associated panel rooms should be centrally located to minimize power loss and run length of circuits

Special Restrictions: N/A

Electrical Room: (80 SF.) The switching gear, transformers and breaker panels would be located in this space

Critical Adjacencies: Mechanical room

Security Level: Medium

Interpretation Potential: N/A

Special Furnishings: N/A

Spatial Requirements: This space and associated panel rooms should be centrally located to minimize power loss and run length of circuits

Special Restrictions: N/A

Security and Telephone Room: (80 SF.) The security system and data lines enter through this space. It may be collocated with the computer server room if the equipment is compatible.

Critical Adjacencies: Computer server room

Security Level: Medium/high

Interpretation Potential: N/A

Special Furnishings: N/A

Spatial Requirements: This space should be centrally located to minimize run of data lines

Fire sprinkler Valve room: (80 SF.) The main fire valves, equipment, and water supply are in this space.

Critical Adjacencies: Exterior for fire department access

Security Level: Medium

Interpretation Potential: N/A

Special Furnishings: N/A

Spatial Requirements: N/A

Special Restrictions: N/A

Recycle Bins: (40 NASF.) This area will hold the recycle bins. May be included else where in the park.

Critical Adjacencies: Receiving/holding area, staff breakroom, loading dock, and receiving area

Security Level: Low

Interpretation Potential: N/A

Special Furnishings: Recycle bins

Spatial Requirements: N/A

Special Restrictions: N/A

Exterior Spaces:

Outdoor Staff Break area: (180 SF.) This employee outdoor seating area is located away from the visitors and public areas. It should be located near the employee staff entrance to the building. May be included elsewhere in the park.

Critical Adjacencies: Staff parking, staff break room, conference room, employee entrance

Security Level: Low

Interpretation Potential: N/A

Special Furnishings: Picnic table

Spatial Requirements: Covered section for protection from the elements with a view to the park

Special Restrictions: N/A

Loading Dock/Service area: Located at the receiving/holding room

Critical Adjacencies: Staff parking, receiving/holding

Security Level: Low

Interpretation Potential: N/A

Special Furnishings: Dock lift, rolling door

Spatial Requirements: This is a potentially high security risk area

Special Restrictions: N/A

H. DESIGN IDEAS

Throughout the programming process, many creative thoughts and design ideas were brought up. They do not represent a final design solution, and may be contradictory in many cases. These are listed to enlighten the design team on the thought process, user desirability, and on conceptions of how the facility could look and function.

- a. Design the interior spaces for openness while preserving the security control. The spaces could be separated by glass walls, open screens, or other architectural features.
- b. Provide filtered and controlled natural light in the offices and workrooms and a minimum amount into the repositories.
- c. Take every opportunity to tell the museum collection story through exhibits, reproductions, and display of artifacts.
- d. The employee outdoor staff area should have access to the winter sun.
- e. Provide motion activated or timed light switches for visitors to see collection.
- f. A tour path through the repositories that minimizes the ability of visitors straying off the path.
- g. Use natural ambient lighting to illuminate occupied spaces so they can be easily observed by staff and allow staff to move through without turning on artificial lights.

Appendix I. Curatorial Facility Planning Model Report

NPS Facility Planning Model Report

NOTE: Nothing in this report should be published as an Official Report of the NPS Facility Planning Model without Approval by the Office of Construction Program Management

Identification:

Project Title:	Santa Monica New Facility Gillette site
Model:	Museum Collection Facility
Type of Project:	New Construction, Replacement of Existing
PMIS Number:	125464
Region:	PWR
Park Name:	Santa Monica Mountains NRA
Your Name:	Cronenberger, Bedel, Flory
Job Title:	Collections planning team
Park Suggested GSF:	
Concurred by (Region):	
Recommended by (WASO, CPM):	
Approved by (DAB):	
Created Date:	9/12/2006 12:13:37 PM
Modified Date:	10/18/2006 8:31:00 AM
Calculator Mode:	Custom Calculator

Comments on this report:

Data for report compiled by Phil Bedel, Curator SAMO and Paul Rogers, Archivist YOSE. Richard Cronenberger and Steve Flory revised the report to be more specific to the general requirements of the SAMO curation program.

All Modifications Subject To Approval

Drivers:

Permanent Staff	3
Others	6
Object Storage	9,415

NPS Park Specific Calculations:

Museum Collection Model Calculations

Core Museum Collection (NSF)	4,399
Additional Functions (NSF)	531
Tare at 20% (nearest 100)	1,300
Building (GSF, nearest 100)	6,200
Site (Acres)	0.40
Exterior Requirements (Acres)	0.10
Total Net Construction Cost (Not Calculated)	-

Estimated Square Footage Report:

Room Description	# Persons	# Spaces or Units	Park Modified Spaces with Standard Drivers
Core Museum Collection Functions			
Staff Areas			
Volunteer/Intern Workspaces	4	4	240
Staff Restrooms	9	2	215
Workstations	2	2	160
Storage	3	1	100
Offices	1	1	100
Break Room	7	1	87
Recycle Bins	0	1	40
Staff: Net Assignable			942
Public Areas			

Public Areas		
Lobby/Exhibits/Tours	0	1 600
Researcher Workspaces	2	2 160
Public Lockers	0	1 50
<i>Public: Net Assignable</i>		810
Processing Areas		
Receiving/Temporary Holding	0	1 80
Material Storage	0	1 50
Isolation Room	0	1 40
<i>Processing: Net Assignable</i>		170
Objects Storage Area		
Storage Units, Pallets and Floor Area Storage		1, 685
Archive Storage Area		
Paper, Maps, Media and Fireproof Cabinets		792
<i>Core: Net Assignable</i>		
		4, 399
<i>Tare at 20%</i>		1, 100
<i>Gross Square Feet</i>		5, 499
Museum Collection Additional Functions		
Library Space	0	1 531
<i>Additional Functions: Net Assignable</i>		
		531
<i>Tare at 20%</i>		133
<i>Gross Square Feet</i>		664
Subtotal: Building Area		
<i>Buildings: Net Assignable (nearest 100)</i>		4, 900
<i>Gross Square Feet (nearest 100)</i>		6, 200
Site		
Building		6, 200
Parking: Private Vehicles	0	7 2, 310
<i>Site: Net Assignable (nearest 100)</i>		8, 500
<i>Tare + Site Constraints</i>		8, 500
<i>Site GSF (nearest 100)</i>		17, 000
<i>Site Acres</i>		0. 4
Physical and Environmental Constraints		
Environmental		1. 00
Soils		1. 00
Slope		1. 00
Archaeology		1. 00

Definitions:

GSF- Gross Square Feet
 NASF- Net Assignable Square Feet
 NSF- Net Square Feet
 NTE- Not to exceed
 Tare (for buildings)- Corridors, walls, mechanical, electrical, vertical shafts, vertical circulation, janitor closets, etc.

Additional Responses:

Evaluator
 Phil Bedel, Curator SAMO, Rick Cronenberger, Historical Architect, Steve Floray, Curator PWR
Collection Storage Issues
 This report is setting the baseline facility size for estimation purposes

This report is setting the baseline facility size for estimation purposes

Staff Location Issues
 There will be additional staff space located throughout the Gillette complex.

Unusual Functions Noted by Facility Calculator
 Library Space
 "Other" staff occupy the facility
 Storage needs based on "Estimate by Other"

Justification of Unusual Functions
 The park library would be located adjacent to the museum program. This is a resource library and the park has expressed interest in having the Curator manage it.

Environmental Costs

Additional study required for HAZMAT costs.
 Additional study required for sustainable design costs.
 Additional study required for impact of cultural landscape.

Appendix II: EXAMPLE OF THE COST ESTIMATING SHEET

This was used for each of the identified alternatives as described in section VIII., Estimating Methodology and Proposed Cost located on page 22.

Santa Monica Mountains National Recreation Area								
Gillette Ranch								
Museum, Library and Archives Facility - New Facility								
PMIS Project Number: 125464								
Conceptual Class "C" Estimates - Version: 10/25/06								
Estimator - Richard Cronenberger, Historical Architect/Curatorial Collections Consultant								
						Gross SF	4,413	
Net Building Cost per Square Foot							\$407.78	
PMIS NET CONSTRUCTION ESTIMATE							\$1,919,831	
TOTAL PROJECT COST							\$2,909,452	
Function Group		Space Name		NET Area	Cost/SF		Total	
A . ENTRANCE LOBBY AND EXHIBIT SPACE GROUP								
1		a .	Vestibule/Foyer	70	S F	\$130	\$9,100	
		b .	Lobby/Reception	150	S F	\$130	\$19,500	
		c .	Waiting Area		S F	\$130	\$0	
2		a .	Exhibit Area		S F	\$150	\$0	
		b .	Public Restrooms	215	S F	\$200	\$43,000	
3		a .	Other	0	S F	\$130	\$0	
				435	S F		\$71,600	
B . ADMINISTRATION/OFFICE/RESEARCH GROUP								
1	Offices	a .	Curator's Office	100	S F	\$90	\$9,000	
		b .	Assistant Curator		S F	\$90	\$0	
		c .	Archivist		S F	\$90	\$0	
		d .	Conservator		S F	\$90	\$0	

		e	Museum Tech.	80	S F	\$90	\$7,200		
		f	Librarian		S F	\$90	\$0		
		g	Natural History Curator		S F	\$90	\$0		
		h	Registrar		S F	\$90	\$0		
		i	Researcher's Offices	160	S F	\$90	\$14,400		
		j	Visiting Staff Office		S F	\$90	\$0		
		k	Staff Technician	80	S F	\$90	\$7,200		
		l	Security Log-in book	2	S F	\$90	\$180		
2	Research	a	Archive and Library Research Room						
		b	Nagpra Consultation		S F	\$90	\$0		
3	Storage	a	NPS General Office Supply	100	S F	\$90	\$9,000		
		b	Museum Records Storage		S F	\$90	\$0		
		c	Curatorial Supply	50	S F	\$90	\$4,500		
		d	Curatorial Lockers	5	S F	\$90	\$450		
4	Support	a	Copier Room		S F	\$90	\$0		
5	Meeting Rooms	a	Small Conference		S F	\$110	\$0		
		b	Training Room/Conference Room						
				577	S F		\$51,930		
C	PROCESSING/WORKROOMS GROUP								
1	Processing	a	Curatorial Processing		S F	\$130	\$0		
		b	Registration Cataloging/ANCS Plus/						
		c	Archives Processing		S F	\$130	\$0		
		d	Curatorial Holding	80	S F	\$130	\$10,400		
		e	Material Storage		S F	\$108	\$0		
		f	Collections/Contaminated Objects Isolation/Holding Room						
2	Workrooms	a	Curation workroom	240	S F	\$150	\$36,000		
		b	Archive Workroom		S F	\$130	\$0		
		c	Registrars workroom		S F	\$130	\$0		

			d	Exhibit Prep Room/Mounting Presentation						
			e	Photographic Room		S F	\$120	\$0		
			f	Conservation Lab/Workroom						
			g	Specialized Laboratories		S F	\$190	\$0		
					320	S F		\$46,400		
D	COLLECTIONS MANAGEMENT GROUP									
	1	Storage	a	Park Library	531	S F	\$130	\$69,030		
			b	Object Repository	800	S F	\$130	\$104,000		
			c	Art Repository		S F	\$130	\$0		
			d	Herbarium		S F	\$130	\$0		
			e	Geological Specimen Rep.		S F	\$130	\$0		
			f	Archive Repository	700	S F	\$130	\$91,000		
			g	Human Remains		S F	\$130	\$0		
			h	Photographic Storage		S F	\$130	\$0		
			i	Paleontological Repository		S F	\$130	\$0		
			j	Collections Files		S F	\$90	\$0		
			k	Natural History Collections		S F	\$130	\$0		
					2,031	S F		\$264,030		
E	BUILDING SUPPORT FUNCTIONS GROUP									
	1	Vestibule	a	Vestibule		S F	\$130	\$0		
			b	Staging/Receiving/Holding Area						
	2	Support	a	Computer Server Room		S F	\$100	\$0		
			b	Staff restrooms		S F	\$200	\$0		
			c	Staff Break Room	87	S F	150	\$13,050		
			e	Building Maint. office		S F	\$90	\$0		
			f	Janitorial Closet	40	S F	\$150	\$6,000		
			g	Mechanical Room		S F	\$130	\$0		

		h	Central Vacuum Room		S	\$100	\$0	
		i	Hazardous material Storage		F			
		j	Walk In Freezer			\$210	\$0	
		k	Field Equipment Storage/Workshop					
				167	S		\$23,050	
					F			
			Net Area Square Feet	3,530	S		\$ 457,010	
					F			
			Total GSF (ASF / 0.80 Efficiency)					
	1		Facility Total Net Square footage.	4,413			\$554,085	
			<i>Note: The Net Square footage cost was reduced by 25% for OH/P and GC. They are added in below.</i>					
E	BUILDING SUPPORT FUNCTIONS INCLUDED IN THE TARE							
-								
1								
	1	Support	a	Electrical Room	80	S		
			.			F		
			b	Security and Telephone	80	S		
			.			F		
			c	Fire Sprinkler Valve Room	100	S		
			.			F		
			d	Mechanical	200	S		
			.			F		
			e	Recycle Bins	40	S		
			.			F		
				Total	500	S		
						F		
F	BUILDING SYSTEMS							
.								
	1	Fire Suppression/Alarms			4,413	S	\$7	\$30,888
						F		
	2	Security Intrusion Detection			4,413	S	\$5	\$22,063
						F		
	3	HVAC			4,413	S	\$10	\$44,125
						F		
	4	Specialty Electrical			4,413	S	\$5	\$22,063
						F		
								Cost/SF
	2	Sub Total Building Systems			4,413			\$119,138
								###
								#

G	EXTERIOR SPACES							
	1	Outdoor Staff Area	a	Staff Outdoor Break Area	80	S F	\$72	\$5,760
			b	Bicycle parking	1	S F	\$72	\$72
	2	Loading Dock Exterior Receiving Area			100	S F	\$50	\$5,000
	3	Vehicles	a	Parking for 20 staff and 5 visitor				
	3	Sub Total of Exterior Spaces			80	S F		\$10,832
H	SITE							
	1	General Site improvement			1	L S	\$0	\$0
								\$0
		TOTAL SITE-EXTERIOR SPACES -BUILDING SYSTEM-SF ESTIMATE						
I	INDIRECT COST ADDED TO NET CONSTRUCTION							
		Subtotal Net Direct Construction Estimate						
		LEED Associated cost for Silver certificate level			4.00%			\$27,362
		Overhead/profit for SQ cost (30%)			25.00 %			\$171,014
								\$0
		SUB-TOTAL DIRECT CONSTRUCTION COST ESTIMATE						
		Total Facility Size			4,413	S F		
		*Note: FACTORS percentage will vary for each individual local project condition.						
I	NPS DIRECT COST-DSC FORM							
		Subtotal NET Construction Cost						\$882,430
		Published Location Factor (9 Percent)						\$79,419 9%
		Remoteness Factor (40 miles) % of miles						\$35,297 4%
		Federal Wage Rate Factor (11 Percent)						\$97,067 11%
		Design Contingency (15- 30 %)						\$176,486 20%
		Total Direct Construction Costs						\$1,270,700
		Standard General Conditions (12 Percent)						\$152,484 12%
		Government General Conditions (6 Percent)						\$76,242 6%

		Historic Preservation Factor (N/A)				\$0	
		Subtotal NET Construction Cost				\$1,499,426	
		Prime Overhead (10 Percent)				\$149,943	10 %
		Prime Profit (10 Percent)				\$149,943	10 %
		Estimated NET Construction Cost				\$1,799,311	
		Contracting Method Adjustment (Source 8A)				\$269,897	15 %
		Inflation Escalation NO INFLATION ADDED				\$0	
		Total Estimated NET Cost of Construction				\$2,069,207	
K		OTHER COST (Added to PMIS Project proposal)					
		Mobile Compact Storage Systems	400	S F	\$ 120	\$48,000	
		Specimen cabinets	6	L S	\$420	\$2,520	
		Systems office furniture	1	L S	\$20,000	\$20,000	
		Exhibits	1	S F	\$0	\$0	
		Moving Costs for Relocating Collection	1	L S	\$50,000	\$50,000	
		Subtotal of Other Cost Associated with Facility					
		NET CONSTRUCTION ESTIMATE (the pmis number)					
		Final Grossing					
		ESCALATED NET TOTAL	4,413	S F		\$1,799,311	
		Construction Supervision	8%			\$143,945	
		Construction Contingency	10%			\$179,931	
		GROSS CONSTRUCTION ESTIMATE				\$2,123,187	
		Compliance (3% to 5% of Subtotal Net Construction Cost.)*					
		*Note: The compliance percentage will vary for per the specific local project conditions.					
		Predesign Services (5 Percent of Total Net)	5%			\$89,966	
		Supplemental Services (2 percent of Total Net)	2%			\$35,986	

	Design Services (10 Percent of Total Net)		10%				\$179,931	
	Subtotal of design cost						\$305,883	
	Estimated Total Project Cost.						\$2,909,452	