

SPACE NEEDS PLAN
for the
PINAL COUNTY
LIBRARY DISTRICT
FLORENCE, AZ

July 2007

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**Funded by a Grant for the Arizona State Library and Archives
To the Pinal County Library District**

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I. INTRODUCTION

In late 2006 PROVIDENCE Associates LLC, Library Planners Consultants was hired by the Pinal County Library District to prepare twenty year facility estimates for all communities with existing public library service and for the Sacaton-Hayes Library on the Gila River Indian Reservation. In December 2006 the Consultants met with representatives from each library at District headquarters in Florence. At that time we explained our process for determining space needs and delivered a memo instructing the libraries in providing us data about usage, staffing, holdings, facility challenges, etc. The District staff, under the direction of Denise Keller, provided us with population projections through 2030. In addition the consultants kept abreast of the articles appearing in the Arizona Republic that discussed and highlighted projected growth and management of that growth in Pinal County.

The libraries of Pinal County offer a challenge to the consultant because of their varying profiles, governance structure, the unique environments in which they exist and the future issues they will face. Each library is a unique agency in its own right and, with few exceptions, they cannot be compared to each other as “apples to apples” rather only as “apples to oranges.”

Therefore, each library has been examined and future population projections have been determined, in some instances, using a “crystal ball” approach. What we have tried to do in each instance is to prepare for the Pinal County Library District, as well as each library, a document that will allow them to address facilities needs in their own respective environments at some future time. While many of the libraries have similar sized populations, the uniqueness of the communities served requires different staffing, collections sizes, support spaces, etc.

For some libraries we have not tried to project out 20 years because of the fact that we lack solid population projections to achieve meaningful results. Thus, we have tried to look at the present situation and project into the near future defined as 2015, and provide the District and the individual library with a sample of what their needs are if they are to serve their current or future customers from the standpoint of space, staffing and suggested collections. These plans are for the smaller libraries of Arizona City, Kearny, Mammoth, Maricopa, Oracle and San Manuel.

In the case of Coolidge, Eloy, Florence and Superior, where the population projections were more specific, we have provided a twenty year profile of the library, in five year projected increments.

With respect to Casa Grande and Apache Junction, we have provided them with a sample for approximately a 20,000 to 25,000 square foot library along with the projected

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staff, seating and collection size. It is anticipated because of their planned growth that both of these libraries must begin to prepare for the construction of an additional branch in their expanding service area in the very near future.

For the Gila River Indian Reservation's Sacaton-Hayes Library we have provided space planning for a 5,000 square foot library.

The consultants provide this information along with a word of caution. These space needs projections are suggestions and starting points for each individual library and should be used as a guide for discussion and planning efforts. Given the changing nature of public library service one must be flexible and adapt to changes as they occur and as expressed by our customers, which after all are the ones that determine and drive the services that each library is expected to provide.

In addition, we have provided you with an extensive introduction that addresses some of the issues that libraries across the country need to consider from this time forward as they adapt to rapidly changing technologies and the expectations of our increasing diverse customers.

II. The 21st Century Library

A building, in its simplest form, is a series of spaces, some defined by enclosure, some defined only by use. The success of the whole is dependent upon a gathering of these spaces and a maintaining of their principles, relationships, and most importantly, their aesthetic concerns. These are principles that give the building individualism and special meaning. Any expansion or new construction of public libraries in Pinal County needs to seamlessly project the image and aspirations of the area while providing for both standard and emerging library functions and features.

These are exciting times for public libraries. Never before in the 150 plus year history of the public library have our challenges and our opportunities been as great as they are today. Never before have we faced the competition presented by “big-box” bookstores, the Internet and the likes of search engines such as Google and Yahoo. What we know now and what we continue to learn is what it takes to make public libraries indispensable and irreplaceable in their communities. This evolving knowledge has a direct impact on the future public libraries throughout Pinal County.

SERVICE PRIORITIES

The Service Priorities for “suburban” public libraries in the 21st century, based on hundreds of community focus groups and service function ranking exercises completed by participants who are reflective of the demographics of a growing Pinal County, are as follows:

1. **Community Gathering Place** - Library provides a welcoming environment and spaces for people to meet and interact with others in their community.
2. **Create Young Readers** - Library offers programs for parents, caregivers and their young children (ages 0-5) to support the development of early literacy skills that help children become “ready to read, listen and learn.”
3. **Current Topics and Titles** - Library provides resources in a variety of formats reflecting people’s interests in current events and recreational reading.
4. **Find, Evaluate, and Use Information** - Library assists with developing and improving people’s skills for finding, evaluating, and effectively using information, especially electronic information.

5. **General Information** - Library offers general information that meets community's need for information and answers to questions covering a broad array of topics.
6. **Lifelong Learning** - Library provides information and resources that support self-directed, free-choice personal growth and development opportunities for adults.

With these six Service Priorities in place public libraries in Pinal County are and can continue to be a center of lifelong learning helping residents develop as productive members of their community. The public library can also help develop critical thinkers, essential to the health of our democracy. With adequate support from local and county governments the Pinal County public libraries will be able to:

- Offer a safe, enjoyable, and friendly place for people and ideas, setting the Library as a stage for community life
- Provide cultural, informational, educational, and leisure resources
- Adapt and continuously improve the availability of the technologies for access to the latest information services
- Promote and affirm the value of reading
- Give the book its proper place, and provide books when books serve needs best
- Provide trained and helpful staff
- Respect and protect the rights of individuals to obtain and use information
- Function as a cornerstone of democracy based on free and equal access to information
- Rely primarily on public funds for support in order to ensure continued public ownership.

III. THE ROLE OF TECHNOLOGY IN THE 21ST CENTURY LIBRARY

The primary responsibilities of libraries have not changed significantly over time. Libraries, at all levels, are charged with collecting resources, documenting them, creating access points to them, preserving the resources, storing them, inventorying the collections, retrieving the resource, and providing access to the physical resource. What has changed for libraries, and changed dramatically, is the use of technology throughout the library for all of these tasks. As Pinal County continues to grow at a rapid pace, the public libraries must design and build larger buildings to serve their growing cities and unincorporated communities in order to make full use of technology in achieving their vision and mission.

Today, technology is critical to any information agency. Libraries must be designed to accommodate a wide range of materials in formats that exist today and in formats as of yet unknown to us. Library customers will be using these resources in new ways, both inside and outside of the library building. Today's library customers are more inclined to use technology – and they are efficient at doing so. Some have never known any other way. Customers expect to find a library well equipped with current technologies, to find more library resources, and to find them more quickly and efficiently. Library staff will be performing many of the same tasks and services that they have provided in the past as well as today. However, they will be doing so using new tools and techniques that require different designs and spaces. The physical facility must be flexible enough to adapt to new needs as they will be defined decades into the future, yet support what we know works for today's services.

Information technology is integral to providing the core services that libraries offer today. In the years ahead, information technology will offer opportunities for enhanced and new services – some known to us today and some we cannot even imagine. Wireless data and voice technologies can allow the use of, and delivery of, library services anywhere in the building and even outside of it. The integrated library automation system is expanding to incorporate new technologies, such as RFID, and to offer more services to library customers and new management tools for library staff, all requiring new designs for the physical space.

Information technology designs for new library buildings must look to the future and provide flexibility, adaptability, accommodations for new formats and new form factors, and envision new ways for the delivery of library services for both the library and archives staff and the user. The possibilities are truly exciting.

Typical Services and Functions

The new facility must provide a harmonious balance of public service areas and the necessary support spaces. It is anticipated that usage of the new Library, as measured by checkouts, customer visits, and electronic access, will show that there is an emphasis on books and reading in the service area. However, any library that expects to serve its residents in the 21st century must also provide a healthy array of current information technologies, creative and stimulating programming, and public meeting spaces. Therefore, there must be considerable adaptability within the design to permit adjustment for new services, furnishings, and equipment over time.

What follows is a sampling of typical public library uses and functions as suggested by the following scenarios.

- A standing room only audience listening to a voice recital in the Multi-Purpose Meeting Room
- Children interacting with children from the other regions in Arizona via videoconferencing in the Storytelling/Program Room in Children's Services
- A couple easily accessing books on shelving that eliminates the need to stoop or use stepstools
- A high school speech team preparing for the state tournament in one of the group study rooms using both print and web-based resources
- A family browsing the media collection for entertainment and educational DVDs and music CDs
- Users of all ages at the state-of-the-art PCs "surfing the net" and accessing a variety of resources via the Internet
- Several persons reserving books online via the Library's website
- Newlyweds scouring the financial section of Adult Services
- A couple returning materials to the Customer Service Desk and selecting new materials in the New & Current Materials area and checking them out at one of the Express check stations
- Children eager in their use of PCs in the Children's Services area of the Library
- A librarian requesting materials via an online, interlibrary loan database
- A group of four middle school students using both print materials and electronic databases for a class project on the history of Great Plains, then using library computers to create and e-mail a multi-media presentation to their teacher
- An English-As-Second Language class making a group visit to tour the Library
- Library staff and volunteers re-shelving materials
- A group of pre-kindergarten children experiencing the excitement of learning while enjoying storytime in Children's Services
- Several preschoolers and their care givers accessing Sesame Street, Noggin, and other web sites that provide online activities to stimulate early learning

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- High school sophomores surveying the poetry of Canadian poets in Teen Services
- Families reading together aloud in cozy, comfortable group seating areas in Children's Services.

Many of the above scenarios are everyday happenings in many public libraries throughout the country. They will be just as common in the renovated, expanded and new libraries throughout Pinal County.

IV. LIBRARIES REQUIRE SMART BUILDINGS AND BARRIER FREE DESIGN

The public library building of today and tomorrow **must** accommodate the traditional collections and functions long associated with library service while reflecting the technical flexibility and requirements of **smart** buildings. The design for the new Library must address the dramatic changes in information technologies that have occurred during the past three decades, especially library information technologies and the digitization of text.

Interestingly enough, as technology has become more sophisticated, so has society in general, and the public library customer in particular.

While more information can be stored in less space, a higher level of demand for a wider range of materials and the furniture and equipment needed to realize the full potential of information technology has offset this condensation of information as far as library space needs are concerned. For example, at the Library, staff will most likely often be asked if space and receptacles are available for connecting a Library customer's laptop computer.

The integration of natural and artificial lighting for the library building is basic and critical to the design of a functional library. Lighting is one of the most important and controversial aspects of design.

The several spaces within the facility for the customers should be varied and inviting. Color and finishes should be used creatively to set the mood desired for public and staff areas. The furnishings and equipment must be arranged so as to balance the customer's needs for access in relation to the Library's operational needs for controlling that access.

BARRIER-FREE DESIGN

Public libraries serve a very broad spectrum of the community, including people with permanent and temporary handicaps, people young and old without usual strength to open doors, the hearing impaired, and people with limited or no eyesight who depend on special Braille instructions and/or audible signals.

PCs and PACs (public access catalog) with speech capacity should be provided (at least one each in the primary service areas of the building). There should be at least one PC and one PAC with large print printing capabilities. The Multi-Purpose Meeting

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Room should have amplification capabilities. The Multi-Purpose Meeting Room and the Storytime/Program Room should both be outfitted with assistive listening devices.

It has been estimated that 25 percent of the total population is physically impaired at any one time. Barrier-free design directly benefits all customers, as well as people with disabilities, by improving the overall usability and safety of the building. Doors can be easier to open and there are fewer tripping and falling hazards.

The public libraries of Pinal County may wish to consider having their libraries certified as "Elder Friendly," a program of Elders in Action, a Portland, OR non-profit that created the Elder Friendly Business Certification program. For additional information see www.eldersaction.org.

For many years architects have sought to design buildings, especially public service buildings, to be barrier-free. These buildings provide the same opportunities for access and use by people with disabilities, customers and staff alike that are available to citizens without physical handicaps. Federal, state, and many local governments have standards and building codes to help remove these barriers. As well, the building and furnishings industries have moved to provide new technology, equipment, and design features to meet these standards and codes.

DESIGN GOALS

Building programs for renovated and newly constructed libraries should embody a commitment to public service through the provision of a well-designed structure that does not sacrifice functionality or aesthetics. It should be cost-effective in terms of operations and layout. It **must** be responsive to changing service needs. It **must** be welcoming, warm, and easy to navigate.

As stated above, public libraries should provide a harmonious balance of public service areas and the necessary support spaces. The modern, contemporary public library building of today is a true community center, regularly visited day in and day out by more people than any other public place in the community. The new and enhanced services described herein will bring dozens of people to the Library week in and week out.

The Library will be an important informational, cultural, and educational resource for the entire service area. The design should reflect the dignity associated with these functions.

V. SECURITY CONSIDERATIONS

The security of people, library materials, and equipment is a critical consideration in the library buildings now being planned. It is simply an unfortunate fact of life that every reasonable precaution must now be taken to ensure the safety of library customers, staff, materials, and equipment from theft, vandalism, natural disasters, and other potential acts of destruction or violence.

The design of the building should incorporate fire and smoke detection and prevention systems, per applicable codes. The design should also provide an intrusion security system to detect unauthorized entry when the building is closed because it will house extremely valuable collections of books and documents, works of art, considerable electronic equipment, office machines, and vending machines. Moreover, the design should provide for smoke and heat detectors to detect a fire at its inception and provide a local warning. This smoke and heat detector system should be located out of reach of children. The design should equip all emergency exits with a time released audible alarm.

The design should also provide:

- Dead bolts for all exterior doors
- Removable core locks for all doors
- An electronic card reader system for the staff entrance, and for selected doors within the facility
- Tamper resistant electrical receptacles in areas accessible to children that are compliant with NEC Article 517-18c (also referred to as ASTM 517-18c).

Fire Prevention and Fire Protection Systems

The library building should be provided with a combination dry-pipe sprinkler and fire standpipe system, supplied from an automatic electric fire pump. The sprinkler system should be designed for discharged water density and spacing, as prescribed by the National Fire Protection Association (NFPA) Code 13. All code requirements for the State of Arizona, Pinal County, and/or the city in which the Library will be located **must** also be met.

Provision of a dry-pipe sprinkler system that incorporates safeguards to minimize water damage is imperative. Wet systems present a hazard to PCs, books, and other library materials when they go off accidentally, or as the result of vandalism. Water can also cause irreparable damage to electronic equipment. It is therefore highly recommended that the dry-pipe sprinkler be installed. In such a system, water is released into the appropriate section of the system only when a fire has been detected.

The system can also be designed with multi-level sprinkler heads that control the amount of water released by each head. An approved inert gas or other non-water system may be required in some special areas.

As much of the building as possible, as required by National Code criteria, should be provided with a sprinkler system, supplied from fire standpipe risers, and zoned on a floor-by-floor basis. Each zone should be provided with necessary piping, sprinkler heads, water flow alarms, tamper switches, valves, drains, hangers, supports, etc. The entire system should be installed as a hydraulically designed system.

Sprinkler head coverage should be based on Ordinary Hazard Groups 1 or 2, as described in NFPA 13. The Design Architect should specify sprinkler head types as follows:

- Finished areas with hung ceilings may require concealed type heads
- Unfinished areas or areas without hung ceilings may be able to utilize upright or pendent type heads, as required by code.

Fire Detection and Alarm System

A zoned, individually coded fire alarm system, with separate and distinct codes for smoke detection and sprinkler water flow should be investigated. The system should include, but not be limited to, the following:

- Fire alarm control panel
- Remote enunciator panel
- Manual fire alarm stations
- Area smoke detectors
- Duct smoke detectors
- Heat detectors
- Sprinkler water flow switch alarm
- Alarm bells
- Visual alarm lights
- Central station alarm, supervisory and trouble connection control
- Air handling systems shutdown control
- Elevator recall control
- Electromagnetic door holders and release control
- Sprinkler valve tamper switch supervision
- Emergency generator supervision
- Fire pump supervision
- Manual code switch

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- Battery backup.

Signal termination panels for this system should be provided in the nearest local fire department station.

Fire Standpipe and Fire Pump System

Fire standpipe risers and associated drain risers should be located in stairwells. Consider providing a 2 1/2" valve with residual pressure of 65 pounds per square inch (psi) at the topmost outlet. A complete floor control assembly should be provided at each floor for the sprinkler system. An electric automatic fire pump, jockey pump, and associated controllers and transfer switch designed to deliver the necessary gallons per minute (gpm) should also be provided. Confer with the Pinal County and/or local city Fire Marshall for specific requirements.

A separate water service to the fire pump should be provided. This water service should be connected to the existing municipal main with an approved back-flow prevention device. A fire pump test header and required fire department connections should also be provided.

Building Security Systems

Closed Circuit Television System - *Closed Circuit Television (CCTV) for security surveillance of the interior and exterior of the library building is desired. Full motion color cameras should be located to cover high-risk areas not readily visible to library staff. Cameras should also be located in both open and closed bookstack areas, as well as in the exhibition and display spaces.*

The outdoor cameras **must** adjust to the light for effectiveness at night. Locate the monitors for the cameras in the Security Room or at the Circulation Desk. The CCTV system can be designed so that a multiple camera switcher to conserve space uses only one monitor. Each camera should require one 110-volt AC outlet and 3/4" conduit for the coax cable. Plenum-rated cable may be used with conduit simply stubbed into the ceiling. In selecting the cameras, give particular attention to maximum distance that the cameras can be controlled from the monitors.

An alternate approach is to use IP cameras and monitoring software, which allows images to be displayed on specified staff computers. Each IP camera requires network connectivity, either wired or wireless. PoE can be used for remote cameras.

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Exterior Door Security System - *An electronic exterior door security system capable of locking all exterior doors of the building by means of a magnetic locking device should be considered with signal termination panels located in the Security Room.*

Theft Detection System - *A Theft Detection System will be used to control the loss of library materials. Theft Detection Systems utilize some form of reader or gate at all public exit points of the building. Library entranceways should be designed to attractively incorporate these devices. Utilize building materials that do not interfere with their proper operation and locate the detection devices within proper distances from other systems that may impede proper operation.*

Confer with Library staff on specifics of the system. The design should provide for the installation of a system to detect and deter the unauthorized removal of library materials from the building. Theft Detection Systems are an integrated component of RFID installations. As noted in the RFID discussion above, design requirements for Theft Detection Systems vary significantly from vendor to vendor. Before the design of the entrance, exit and Circulation Services areas are finalized, extensive discussions with the vendor and the library staff **must** be held.

The system should also provide a means for counting foot traffic coming in and out of the building.

Emergency and Standby Power Equipment - *Emergency systems provide power and illumination essential for safety to life and property, where such systems are legally required. Most states and cities require emergency power for exit lighting and egress lighting in places of assembly, plus power for equipment necessary for safety such as elevators, fire alarm systems, and fire pumps.*

Emergency Systems - *The choice of arrangement and the size and type of equipment depends in large measure on the requirements of local codes, which determine the loads to be fed from the emergency system. The Design Architect should note that, although the consultant is using the term emergency, the concepts involved are equally applicable to standby systems, remembering the NEC requires emergency and standby systems to be kept entirely separate.*

In general, when emergency power is discussed, it is assumed to be replacing normal power. The assumption underlying governmental codes and ordinances is that power must be supplied to selected loads within the building because of a utility power outage. Cognizance is **not** taken of situations where normal power has not failed and the outage is localized because of an equipment failure. This aspect of reliability is left to the designer. Some of the arrangements that will be discussed below differentiate

between the nature of outages, that is, a utility or general outage versus an equipment or local outage.

The emergency system includes all devices, wiring, raceways, and other electrical equipment, including the emergency source that is intended to supply electric power to the selected loads. These loads normally include:

- Egress lighting, in stairs, corridors, and exits, and lobby lights
- Signal equipment, such as public address and fire alarm that must remain functional during an emergency
- One or more elevators, as required by code.

The recognized arrangements are discussed below.

Where emergency loads are light, a storage battery arranged to be connected automatically on power outage is used. Alternating current lighting can accept direct current emergency power if equipped with a local inverter. The emergency equipment is entirely separate from the normal equipment and is normally de-energized. This arrangement is used in small facilities requiring egress lighting only, where it is found that supplying a completely separate emergency system is the preferred economic or engineering choice. Large battery installations are used where uninterrupted power is required, as is generally the case in computer installations where no power interruption, however short, can be tolerated. These systems are highly technical.

Where emergency loads are larger than can be supplied economically by batteries, and where the eight to 15 second start-up times are tolerable, a generator set is employed. The prime mover may be gasoline, diesel, steam, or gas. It should be pointed out that a combination of sources could be used in a single building. For instance, a generator can supply bulk power loads and a battery installation selected lighting loads, provided that the design carefully avoids any possibility of contact between the two systems. The system can be arranged with a single transfer switch that senses normal power loss or it can use multiple switches; each one will sense power loss *at its downstream location*. The latter system provides greater power reliability, provided the design is such that the emergency power uses an independent power path to the transfer switches. Otherwise, a faulty piece of equipment that will interrupt normal power downstream will also prevent emergency power from reaching that point.

Many codes permit the use of two separate electric services in lieu of a normal service plus an emergency source, provided the two sources are independent, that is, come from different utility transformers or feeders, enter the building at different points and preferably from different directions, and use separate service drops or laterals. The point is, of course, the type of reliability desired can only be obtained by minimizing the

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possibility of a single event interrupting both services. The usual arrangement is for one service to be normal and the other standby. A much less frequent case utilizes both feeders as normal, each carrying part of the normal load and each acting as a standby for the other.

Emergency system wiring must be kept entirely independent of all other wiring and equipment and should not occupy the same enclosure or conduit as normal system wiring, except in dual fed units such as transfer switches.

Where individual battery units are installed in a space to provide emergency lighting, they should be permanently wired and not plug connected. Also, the panel device feeding these outlets should be capable of being locked, or, so arranged as to be accessible to authorized personnel only.

VI. Library Parking Guidelines

In most public library situations adequate off-street parking, accessible and convenient to the entrance of the library building, is a principal factor in customer satisfaction as well as the amount of use a library facility will receive. Without adequate parking there is every reason to anticipate usage of the library facility will not reach its full potential. PROVIDENCE Associates LLC believes this is true of both community and central (main) libraries.

There are but a few libraries where there is not a parking problem. Parking, or the lack thereof, is often the major customer complaint expressed by persons who use the library. There are also reported instances when the absence of safe, convenient parking has been a principal reason for persons not using their local library.

Adequate parking must be available, convenient, and safe if library policy-makers expect their new public library to be utilized to its maximum potential.

PARKING DETERMINATION FACTORS

There are different ways to determine the number of spaces required. A review of the different factors follows.

Ratio of Square Footage to Parking

Parking requirements for public use and commercial facilities are often expressed as a ratio of the square footage of the building. By example:

- One parking space for every three hundred square feet of building space, or
- One square foot of parking (not parking spaces) for one square foot of building space.

Ratio of Parking to Seating

Another guideline relates parking needs to seating requirements. Assuming a vehicle typically carries two people, the ratio of one parking space for every two reader seats within the library building has some rationale. This number must be supplemented by added parking for the meeting rooms in the building. The latter are often covered by local ordinance (even if library buildings are not covered).

Parking for Staff

Parking for staff may also be regulated by local ordinance. Failure to provide adequate staff parking may become a source of staff frustration and discontent. Staff parking should be provided in sufficient quantity for both full-time and part-time staff.

Parking for Volunteers

Parking for volunteers should also be considered. Local ordinances for staff may include volunteers. If not, volunteers should be included as part of staff on a full-time equivalent (FTE) basis for the purposes of calculating total parking needs.

Community Library Parking Requirements

As library planning consultants PROVIDENCE has assisted many library facilities throughout the United States. To provide adequate parking for community library users we recommend the following formula:

- One parking space for every 200 building gross square feet (BGSF) is necessary for buildings up to 19,999 SF
- One space for every 300 BGSF for buildings between 20,000 - 49,999 BGSF
- One space for every 350 BGSF for buildings between 50,000 - 79,999.

Land Requirements For Parking

Although many jurisdictions do not have public library parking requirements in their local codes, they often do have requirements for the amount of space per vehicle.

The amount of land area required to meet the requirement for a building of 10,000 BGSF would be 17,500 SF (50 spaces x 350 SF per space = 17,500 SF) -- or about 0.40 acres.

VII. Leadership in Energy and Environmental Design = LEED

LEED™ stands for Leadership in Energy and Environmental Design and is a system that provides a framework for rating the environmental performance of the "whole" building. The US Green Building Council Membership implemented it. It may be applied to both new and existing structures. Taken altogether, the LEED™ requirements represent a program based on a point system where credits are earned for achieving each criterion. Green certification may be awarded at different levels, based upon the total number of credits earned.

Pinal County and its incorporated municipalities may consider "subscribing to" and supporting the LEED™ Green Building Rating System, a system that is based upon existing proven technology. It evaluates environmental performance to a "whole building" perspective over a building's life cycle, providing a definitive standard for what constitute a "green building." For further information interested parties should access the LEED website, <http://www.usgbc.org/programs/leed.htm>.

LIFE CYCLE COST ANALYSIS

The building envelope and proposed mechanical and electrical systems should be thoroughly analyzed for life cycle costing using state-of-the-art computer programs and current energy costs. This analysis should be completed, while always being sensitive to the needs of the owner and architect, by responding with the most cost-effective designs available. Again, it is important to emphasize that the intent of this process is not just to reduce the first cost, but rather is intended to provide an overview of options available to the public libraries in Pinal County as the owner, and the initial and long-term costs associated with each choice.

For reduction in energy consumption the most cost efficient methods are passive approaches in which the architecture of the building acknowledges the surrounding physical environment. As the design and integrity of the building envelope system is one of the most important components of an energy efficient building, particular attention should be paid to air infiltration, insulation strategies, glazing selection, and integrated sun-shading devices.¹

¹ Two examples of evaluating first costs vis-à-vis life cycle costs are in lighting. A compact fluorescent light bulb will cost three to five times as much as conventional incandescent bulbs. However, they use one-quarter the electricity and last several years longer. A well-lighted parking lot is important from a safety point-of-view. An energy and money saving use of LEDs, or light-emitting diodes, may use 40 percent less electricity than high-pressure sodium bulbs. The LEDs do cost two to three times as much. They can work without upkeep for five or more years whereas the traditional bulbs usually must be replaced every 18 months.

While passive sustainable strategies help minimize the need for mechanical heating and cooling requirements the realities of the local climate and the need for an integrated active sustainable strategy must be taken into account.

Active mechanical systems that rely on a wide variety of heat recovery methodologies to increase their efficiency and to reduce their operating costs are one component of this strategy.

With regard to sustainability, according to the US Environmental Protection Agency indoor air quality poses a greater risk to human health than does the quality of the outdoor air. Therefore, the selection of mechanical systems with highly efficient filters that temper outside air before it is delivered to indoor areas is critical.

The selection of low-VOC paints, adhesives, binders, caulks, and other materials to eliminate off gassing is another important consideration.

The specification of recycled, post industrial, and/or rapidly renewable materials should be paramount. This resource efficiency can include the superstructure, exterior envelope, interior construction, and finishes.

A list of products and methodologies should consider recycled materials, recycled and post industrial concrete aggregates, carpet from recycled material, gypsum wallboard from post industrial sources, alternative bamboo and cork floors, and other resource efficient products.

Resource efficiency can be achieved without sacrifice to the quality, the aesthetics, the cost, or the durability of the library building.

SUSTAINABLE ARCHITECTURE

One aspect of energy conservation, and thus of LEED, extends beyond the operational aspects of the renovated and expanded building to the consumption of resources in the manufacture and transport of building materials. The design team should consider the three "Rs" of reuse, reduce, and recycle when planning and designing renovated, expanded and new libraries. The selection of new materials should be based upon issues such as energy consumed in manufacturing, proximity of fabrication, and recycled content, as well as durability and cost.

THE LEED POINT SYSTEM

The LEED framework checklist and point system includes six major categories. Those categories are listed below, along with how many points can be earned in each category.

Sustainable Sites (14 Possible Points)

- Erosion and Sedimentation Control (prerequisite)
- Site selection
- Urban Redevelopment
- Brownfield Redevelopment
- Alternative Transportation, Public Transportation Access
- Alternative Transportation, Bicycle Storage and Changing Rooms
- Alternative Transportation, Alternative Fuel Refueling Stations
- Alternative Transportation, Parking Capacity
- Reduced Site Disturbance, Protect or restore open space
- Reduced Site Disturbance, Development footprint
- Storm water Management, rate or quantity
- Storm water Management, treatment
- Landscape and Exterior Design to reduce heat islands, non-roof
- Landscape and Exterior Design to reduce heat islands, roof
- Light Pollution Reduction.

Water Efficiency (5 Possible Points)

- Water Efficient Landscaping, reduce by 50%
- Water Efficient Landscaping, No potable Use or No irrigation
- Innovative Waste water Technologies
- Water Use Reduction, 20% reduction
- Water Use Reduction, 30% reduction.

Energy and Atmosphere (17 Possible Points)

- Fundamental Building Systems Commissioning (prerequisite)
- Minimum Energy Performance (prerequisite)
- CFC Reduction in HVAC and R Equipment (prerequisite)
- Optimize Energy Performance, 20% new / 10% existing
- Optimize Energy Performance, 30% new / 20% existing
- Optimize Energy Performance, 40% new / 30% existing
- Optimize Energy Performance, 50% new / 40% existing
- Optimize Energy Performance, 60% new / 50% existing

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- Renewable Energy, 5%
- Renewable Energy, 10%
- Renewable Energy, 20%
- Additional Commissioning
- Ozone Depletion
- Measurement and Verification
- Green Power.

Materials and Resources (13 Possible Points)

- Storage and Collection of recyclables (prerequisite)
- Building Reuse (maintain 75% of existing shell)
- Building Reuse (maintain 100% of existing shell)
- Building Reuse (maintain 100% of existing shell and 50% of non-shell)
- Construction Waste Management, divert 50%
- Construction Waste Management, divert 75%
- Resource Reuse, specify 5%
- Resource Reuse, specify 10%
- Recycled content, specify 25%
- Recycled content, specify 50%
- Local/Regional Materials, 20% manufactured locally
- Local/Regional Materials, 20% above, 50% harvested locally
- Rapidly Renewable Materials
- Certified Wood.

Indoor Environmental Quality (15 Possible Points)

- Minimum IAQ Performance (prerequisite)
- Environmental Tobacco Smoke (ETS) Control (prerequisite)
- Carbon Dioxide (CO₂) Monitoring
- Increase Ventilation Effectiveness
- Construction IAQ Management Plan, during Construction
- Construction IAQ Management Plan, before occupancy
- Low-emitting Materials, Adhesives and Sealants
- Low-emitting Materials, Paints
- Low-emitting Materials, Carpet
- Low-emitting Materials, Composite Wood
- Indoor Chemical and Pollutant Source Control
- Controllability of Systems, Perimeter
- Controllability of Systems, Non-perimeter
- Thermal Comfort, Comply with ASHRAE 55-1992
- Thermal Comfort, Permanent Monitoring System

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- Daylight and Views, Daylight 75% of spaces
- Daylight and Views, Views for 90% of spaces.

Innovation and Design Process (5 Possible Points)

- Innovation in Design, Specific Title
- LEED Accredited Professional.

Project Totals (69 Possible Points)

The point totals for a building to be within a Certified range are from 26 to 32 points. To be awarded a Silver certification, earned points must total between 33 and 38 points. The Gold level certification requires between 39 and 51 points. Platinum certification is awarded for credits ranging between 52 and 69 points.

VIII. Recommended Space Needs

We have used accepted library space planning guidelines and unit numbers for projecting the space needs of the Library. The spreadsheets, which follow, identify current and future spaces according to existing and projected personnel, collections, seating and support spaces.

functional component designation	code	unit area	number of personnel	projected square feet	projected square feet	notes
CIRCULATION:						
		unit area	x number of personnel		net square footage	
personnel	Library Manager PO-D	120	1.00		120	
	Asst. Libn/Manager	80	1.00		80	
	Circ Supervisor SPO-E	64	1.00		64	
	Librarian II SPO-E	36	2.00		72	
	Librarian I SPO-C	36	2.00		72	
	Lib Asst II SPO-E	36	3.00		108	
	Lib Asst I SPO-E	36	2.00		72	
	TOTAL FTE PERSONNEL:		12.00			
	Volunteer SPO-F	36	1.00		36	
				Subtotal	624	
		unit area	x number of volumes			
collections	Reference SHLV-R	0.12	250		30	
	Popular display SHLV-B	0.20	3,000		600	
	Adult fiction SHLV-A	0.08	19,000		1,520	
	Adult non-fiction SHLV-A	0.10	20,000		2,000	
	Youth Easy/Pict SHLV-YE	0.05	18,000		900	
	Youth Fiction/Nr SHLV-A	0.08	16,000		1,280	
	Young Adult SHLV-A	0.08	1,000		80	
	Media SHLV-M	0.04	8,400		336	
	Current periodic SHLV-P	1.00	130		130	
	Backfile periodic SHLV-CF	0.10	0		0	No back file, current year only
	TOTAL ITEMS:		85,780			
				Subtotal	6,876	
		unit area	x number of seats			
seating	Adult four-place SEAT-AF	25	8		200	
	Adult two-place SEAT-AF	35	4		140	
	Adult one-place SEAT-AF	35	4		140	
	Adult lounge SEAT-AL	40	8		320	
	Adult machine SEAT-AT	36	14		504	
	Adult bench SEAT-AE	10	4		40	
	Children's four-p SEAT-CF	25	16		400	
	Children's two-p SEAT-CF	35	3		105	
	Children's loung SEAT-CL	30	8		240	
	Children's mach SEAT-CF	36	12		432	
	Children's floor SEAT-CF	5	10		50	
	Teen four-place SEAT-TF	25	4		100	
	Teen lounge SEAT-TF	30	6		180	
	Teen machine SEAT-TM	36	8		288	
	Group study roc SEAT-AF	20	10		200	
	Tutoring room SEAT-AF	48	6		288	
	TOTAL READER SEATS:		123		3,627	
	RATIO OF ITEMS PER SEAT:					
	Multi-Purpose IV SEAT-S	15	150		2,250	
	Conference room SEAT-C	30	16		480	
	Youth Program SEAT-CF	15	50		750	
				Subtotal	7,107	
		unit area	x number of units		net square footage	
support spaces	Service desk st: SVDSK-I	80	2		160	Propose 1 Customer Svc Desk and 1 Children's desk
	Express check st: EXP-CK	30	4		120	
	PAC station SPO-G	24	8		192	
	Printer/scanner SPO-H	16	4		64	
	Display/gallery CASE-X	30	3		90	
	Literature rack LIT-R	15	3		45	
	Pamphlet file FILE-L	20	2		40	
	Globe GLBE-G	25	1		25	
	Workroom shelv SHLV-X	9	12		108	
	Staff worktable WKTBL-I	75	1		75	
	Work counter CNTR-A	48	1		48	
	Booktruck parkii BKTRK-I	8	20		160	
	Photocopier/tele COPY-B	48	2		96	
	Staff lounge STFF-LO	350	1		350	
	Staff lockers STFF-LK	5	13		65	
	Supply room SPLY-R	120	1		120	
	Storage room STOR-S	300	1		300	
	Maintenance roo MAINT-R	100	1		100	
	Entrance lobby ENT-LOE	600	1		600	
	Cyber café CYBR-CI	250	1		250	
	Loading dock LOAD-D	200	1		200	
				Subtotal	3,208	
				TOTAL NET SQUARE FEET	17,227	
				less allowance for collections "in-the-air"	1,711	
				TOTAL NET SQUARE FEET	15,516	Restrooms part of Unassignable Space.
Age Component Efficiency Factor = 0.85				TOTAL NET ASSIGNABLE SQUARE FEET	18,255	
Existing Building Efficiency Factor = 0.85				TOTAL BUILDING GROSS SQUARE FEET	21,476	Recommend new building approximately 21,500 SF
				PARKING GUIDELINES	72	One parking space per every 300 SF of building.

Projected Space Requirements per Planning Guidelines		Building: ARIZONA CITY		23-Jul-07				
functional component	personnel/space designation	space code	square feet	existing 2005	projected 2015	existing 2005	projected 2015	notes
CIRCULATION:			21,092	84,000				increase from 3 to 6 per capita
personnel			unit area x number of persons		net square footage			
	Library Director	PO-D	100	1.00	0	100		
	Library Manger	PO-E	80	0.00	0	0		
	Supervisory Librarian	SPO-B	64	0.00	0	0		
	Sr. Library Assistant	SPO-E	36	1.00	0	36		
	Reference Librarian	SPO-D	48	0.00	0	0		
	Library Asst I & II	SPO-E	36	0.00	0	0		
	Computer Tech & As	SPO-C	64	0.00	0	0		
	Library Clerk	SPO-E	36	0.50	2.00	18	72	
	Processing Asst.	SPO-F	36	0.00	0	0	0	
	Library Page	SPO-F	24	1.00	0	24		
	TOTAL FTE PERSONNEL:			6.00				
	Volunteer	SPO-F	36	0.00	0	0		
	Subtotal				18	232		
collections			unit area x number of volumes		net square footage			
	Reference	SHLV-R	0.12	0	50	0	6	
	Popular display	SHLV-B	0.20	0	500	0	100	
	Adult fiction	SHLV-A	0.08	10,908	14,000	873	1,120	
	Adult non-fiction	SHLV-A	0.10	3,596	9,500	360	950	
	Youth Easy/Picture	SHLV-YE	0.05	3,621	6,000	181	300	
	Youth Fiction/Non-Fic	SHLV-A	0.08	833	10,500	67	840	
	Young Adult	SHLV-A	0.08	23	1,200	2	96	
	Media	SHLV-M	0.04	1,947	5,500	78	220	
	Current periodicals	SHLV-P	1.00	0	50	0	50	
	Backfile periodicals	SHLV-CF	0.10			0	0	
	TOTAL ITEMS:		20,928	47,300				
	ITEMS PER CAPITA:		3.03	3.38				
	Subtotal				1,560	3,682		
seating			unit area x number of seats		net square footage			
	Adult four-place	SEAT-AF	25	4	8	100	200	
	Adult two-place	SEAT-AF	35	0	4	0	140	
	Adult one-place	SEAT-AF	35	0	3	0	105	
	Adult lounge	SEAT-AL	40	0	4	0	160	
	Adult machine	SEAT-AT	45	5	10	225	450	
	Child bench	SEAT-AE	5	0	0	0	0	
	Children's four-place	SEAT-CF	25	4	8	100	200	
	Children's two-place	SEAT-CF	35	0	0	0	0	
	Children's lounge (Rc)	SEAT-CL	30	0	3	0	90	
	Children's machine	SEAT-CF	36	0	6	0	216	
	Children's floor	SEAT-CF	5	0	0	0	0	
	Teen four-place	SEAT-TF	25	0	1	0	25	
	Teen two-place	SEAT-TF	35	0	0	0	0	
	Teen machine	SEAT-TF	36	0	3	0	108	
	Group study room	SEAT-AF	25			0	0	
	Tutoring room	SEAT-AF	48			0	0	
	TOTAL READER SEATS:		13	50	425	1,694		
	RATIO OF ITEMS PER SEAT:							
	Multi-Purpose Meetin	SEAT-S	10	0	75	0	750	
	Conference room	SEAT-C	25	0	0	0	0	
	Youth Program room	SEAT-CF	10	0	30	0	300	
	Training room	SEAT-AT	36			0	0	
	Subtotal				425	2,744		
support spaces			unit area x number of units		net square footage			
	Service desk station	SVDSK-I	80	1	1	80	80	
	Express check station	EXP-CK	40	0	0	0	0	
	PAC station	SPO-G	24	0	2	0	48	
	Printer/scanner static	SPO-H	16	0	1	0	16	
	Display/gallery	CASE-X	30	0	0	0	0	
	Literature rack	LIT-R	15	2	2	30	30	
	Pamphlet file	FILE-L	18	2	2	36	36	
	Dictionary stand		25	0	1	0	25	
	Workroom shelving	SHLV-X	9	0	2	0	18	
	Staff worktable	WKTBL-I	96	0	1	0	96	
	Staff File Cabinets	STFF-FIL	18	0	1	0	18	
	Work counter	CNTR-A	48	0	1	0	48	
	Booktruck parking	BKTRK-I	8	3	8	24	64	
	Photocopier/telefax	COPY-B	48	1	1	48	48	
	Staff lockers	STFF-LK	5	0	8	0	40	Now two half-size lockers.
	Supply room	SPLY-R	120	0	1	0	120	
	Storage room	STOR-S	150	0	1	0	150	
	Maintenance room	MAINT-R	150	0	1	0	150	
	Entrance lobby	ENT-LOE	400	0	1	0	400	
	Library store	LIB-STO	225	0	0	0	0	
	Library coffee cart	LIB-CC	100	0	1	0	100	
	Loading dock	LOAD-D	400	0	1	0	400	
	Subtotal				218	1,887		
	TOTAL NET SQUARE FEET				2,221	8,545		
	less allowance for collections "in-the-air"				419	835		Restrooms part of Unassignable Space.
	TOTAL NET SQUARE FEET				1,802	7,710		
	TOTAL NET ASSIGNABLE SQUARE FEET				2,120	9,071		
	TOTAL BUILDING GROSS SQUARE FEET				2,494	10,671		Recommend new building 11,000
	EXISTING BUILDING TOTAL SQUARE FEET				3,200	3,200		
	Existing building over (under)				-706	-7,471		One space per every 300 SF of building.
	PARKING GUIDELINES				11	36		

Avg. Component Efficiency Factor = 0.85
Existing Building Efficiency Factor = 0.85

Projected Space Requirements Building: Casa Grande Prototyoe for 22,000 SF BRANCH LIBRARY #####
 per Planning Guidelines Population Served: PROVIDENCE Associates LLC
 functional personnel/space space square
 component designation code feet notes

CIRCULATION:

		unit area	x	number of personnel	
personnel	Library Director	PO-D	120	1.00	120
	Asst. Libn/Manager		64	1.00	64
	Circ Supervisor	SPO-E	48	1.00	48
	Librarian II	SPO-E	36	2.00	72
	Librarian I	SPO-C	36	2.00	72
	Lib Asst II	SPO-E	36	3.00	108
	Lib Asst I		36	2.00	72
	TOTAL FTE PERSONNEL:			12.00	
	Volunteer	SPO-F	24	1.00	24
	Subtotal				580

		unit area	x	number of volumes	
collections	Reference	SHLV-R	0.12	250	30
	Popular display	SHLV-B	0.20	3,000	600
	Adult fiction	SHLV-A	0.08	19,000	1,520
	Adult non-fiction	SHLV-A	0.10	20,000	2,000
	Youth Easy/Pict	SHLV-YE	0.05	18,000	900
	Youth Fiction/No	SHLV-A	0.08	16,000	1,280
	Young Adult	SHLV-A	0.08	1,000	80
	Media	SHLV-M	0.04	8,400	336
	Current periodic	SHLV-P	1.00	130	130
	Backfile periodic	SHLV-CF	0.10		0
	TOTAL ITEMS:		85,780		6,876
	ITEMS PER CAPITA:				
	seating	Adult four-place	SEAT-AR	25	8
		Adult two-place	SEAT-AR	35	4
		Adult one-place	SEAT-AR	35	4
		Adult lounge	SEAT-AL	40	8
		Adult machine	SEAT-AT	45	14
		Adult bench	SEAT-AB	10	4
		Children's four-p	SEAT-CF	25	16
		Children's two-pl	SEAT-CF	35	3
		Children's loung	SEAT-CL	30	8
		Children's machi	SEAT-CF	36	12
		Children's floor	SEAT-CF	5	8
		Teen four-place	SEAT-TR	25	4
		Teen lounge	SEAT-TR	30	6
		Teen machine	SEAT-TM	36	8
		Group study roo	SEAT-AR	20	10
		Tutoring room	SEAT-AR	24	6
	TOTAL READER SEATS:		123		3,599
	RATIO OF ITEMS PER SEAT:				
	Multi-Purpose M	SEAT-S	15	150	2,250
	Conference roo	SEAT-C	30	16	480
	Youth Program r	SEAT-CF	15	50	750
	Subtotal				7,079

		unit area	x	number of units	
support spaces	Service desk sta	SVDSK-A	80	3	240
	Express check s	EXP-CK	30	4	120
	PAC station	SPO-G	24	8	192
	Printer/scanner s	SPO-H	16	3	48
	Display/gallery	CASE-X	30	3	90
	Literature rack	LIT-R	15	3	45
	Pamphlet file	FILE-L	20	2	40
	Dictionary Stand	GLBE-G	25	1	25
	Workroom shelv	SHLV-X	9	12	108
	Staff worktable	WKTBL-A	75	1	75
	Work counter	CNTR-A	48	1	48
	Booktruck parkin	BKTRK-A	8	20	160
	Photocopier/tele	COPY-B	48	2	96
	Staff lounge	STFF-LO	250	1	250
	Staff lockers	STFF-LK	5	14	70
	Supply room	SPLY-R	120	1	120
	Storage room	STOR-S	250	1	250
	Maintenance roo	MAINT-R	100	1	100
	Entrance lobby	ENT-LOB	600	1	600
	Cyber café	CYBR-CF	250	1	250
	Loading dock	LOAD-D	200	1	200
	Subtotal				3,127

NET SQUARE FEET 17,662
 Less Collections "in air" 1,711
 TOTAL NET SQUARE FEET 15,951 Restrooms part of Unassignable Space.
 Existing Building Efficiency Factor = 0.85 TOTAL NET ASSIGNABLE SQUARE FEET 18,766
 Average Component Efficiency Factor = 0.85 TOTAL BUILDING GROSS SQUARE FEET 22,078
 Parking Guidelines 74 One parking space per every 300 SF of bldg.

Projected Space Requirements per Planning Guidelines		Building: COOLIDGE					23-Jul-07							
functional personnel/space component designation		Population Served:	15,355	25,487	42,446	64,161	88,616	PROVIDENCE Associates LLC						
		space	existing	projected			existing	projected				notes		
		code	2006	2010	2015	2020	2025	2005	2010	2015	2020	2025		
CIRCULATION:			33,230	50,900	84,892	192,483	443,080						Very conservative estimates.	
		unit area x number of personnel						net square footage						
personnel	Library Director	PO-D	150	0.00	1.00	1.00	1.00	1.00	0	150	150	150	150	
	Public Services Manager	PO-E	100	1.00	1.00	1.00	1.00	1.00	100	100	100	100	100	
	Sr. Library Assistants	SPO-E	64	0.00	0.00	2.00	2.00	2.00	0	0	128	128	128	
	Youth Services (J & Teen)	SPO-D	48	0.00	1.00	1.50	2.00	2.00	0	48	72	96	96	
	Library Asst	SPO-E	36	2.00	2.00	3.00	4.00	5.00	72	72	108	144	180	
	Library Tech/Program Coc	SPO-C	48	1.00	1.00	1.00	1.00	1.00	48	48	48	48	48	
	Library Clerk	SPO-E	36	1.00	1.50	2.00	3.00	4.00	36	54	72	108	144	
	Processing Asst.		36	0.00	0.00	0.50	1.00	1.00	0	0	18	36	36	
	Library Page	SPO-F	24	0.50	1.00	3.00	5.00	6.00	12	24	72	120	144	
	TOTAL FTE PERSONNEL:		5.50	8.50	15.00	20.00	23.00							
	Volunteer	SPO-F	36						0	0	0	0	0	
		Subtotal Square Footage						268	496	768	930	1,026		
		unit area x number of volumes						net square footage						
collections	Reference	SHLV-R	0.12	0	0	0	0	0	0	0	0	0	0	
	Popular display	SHLV-B	0.20	0	0	350	550	850	0	0	70	110	170	
	Adult fiction	SHLV-A	0.08	8,982	10,250	19,550	27,750	38,750	719	820	1,564	2,220	3,100	
	Adult non-fiction	SHLV-A	0.10	7,638	8,550	17,350	23,950	35,655	764	855	1,735	2,395	1,735	
	Youth Easy/Picture	SHLV-YE	0.05	4,565	5,750	11,850	19,550	29,500	228	288	593	978	1,475	
	Youth Fiction/Non-Fiction	SHLV-A	0.08	3,477	4,750	14,800	24,355	34,460	278	380	1,184	1,948	2,757	
	Young Adult	SHLV-A	0.08	604	725	1,450	2,375	2,750	48	58	116	190	220	
	Media	SHLV-M	0.04	894	2,550	8,550	18,250	35,150	36	102	342	730	1,406	
	Current periodicals	SHLV-P	1.00	65	75	85	100	125	65	75	85	100	125	
	Backfile periodicals	SHLV-CF	0.10	0	0	0	0	0	0	0	0	0	0	No backfile current year only
	TOTAL ITEMS:		26,225	32,650	73,985	116,880	177,240							
	ITEMS PER CAPITA:		1.7	1.3	1.7	1.8	2.0							
		Subtotal Square Footage						2,138	2,578	5,689	8,671	10,988		
		unit area x number of seats						net square footage						
seating	Adult four-place	SEAT-AF	25	16	16	20	20	20	400	400	500	500	500	
	Adult two-place	SEAT-AF	35	0	0	6	8	10	0	0	210	280	350	
	Adult one-place	SEAT-AF	35	0	0	6	8	8	0	0	210	280	280	
	Adult bench	SEAT-AE	10	0	0	3	5	5						
	Adult lounge	SEAT-AL	40	0	0	6	10	12	0	0	240	400	480	
	Adult machine	SEAT-AI	48	11	11	25	25	25	528	528	1,200	1,200	1,200	
	Child bench	SEAT-AE	5	0	0	2	3	3	0	0	10	15	15	
	Children's four-place	SEAT-CF	25	28	28	16	16	16	700	700	400	400	400	
	Children's two-place	SEAT-CF	35	0	0	6	6	6	0	0	210	210	210	
	Children's lounge (Read)	ASEAT-CL	30	0	0	6	8	10	0	0	180	240	300	
	Children's machine	SEAT-CF	36	1	1	8	10	12	36	36	288	360	432	
	Children's floor	SEAT-CF	5	7	7	20	30	30	35	35	100	150	150	
	Teen four-place	SEAT-TF	25	10	10	8	8	12	250	250	200	200	300	
	Teen two-place	SEAT-TF	35	0	0	4	6	8	0	0	140	210	280	
	Teen floor	SEAT-TF	10	0	0	6	8	8	0	0	60	80	80	
	Teen machine		48	0	0	6	8	10	0	0	288	384	480	
	Group study room	SEAT-AF	25	0	0	6	12	12	0	0	150	300	300	
	Tutoring room	SEAT-AF	48	0	0	4	8	8	0	0	192	384	384	
	TOTAL READER SEATS:		73	73	152	199	215							
		RATIO OF ITEMS PER SEAT:												
	Multi-Purpose Meeting room	SEAT-S	10	0	0	150	150	150	0	0	1,500	1,500	1,500	
	Conference room	SEAT-C	25	0	0	20	25	25	0	0	500	625	625	
	Youth Program room	SEAT-CF	10	50	50	75	100	100	500	500	750	1,000	1,000	
	Training room	SEAT-AI	36	0	0	18	20	20	0	0	648	720	720	
		Subtotal Square Footage						2,449	2,449	7,766	9,438	9,986		
		unit area x number of units						net square footage						
support	Service desk station	SVDSK-I	80	3	3	3	3	3	240	240	240	240	240	Service desks: Customer Service, Children's, Information
spaces	Express check station	EXP-CK	40	0	0	1	3	4	0	0	40	120	160	
	PAC station	SPO-G	24	2	4	6	6	8	48	96	144	144	192	
	Printer/scanner station	SPO-H	16	0	0	1	2	2	0	0	16	32	32	
	Display/gallery	CASE-X	30	0	0	1	2	2	0	0	30	60	60	
	Literature rack	LIT-R	15	2	2	4	4	4	30	30	60	60	60	
	Framed art display	ART-D	90	0	0	0	0	0	0	0	0	0	0	
	Pamphlet file	FILE-L	18	1	1	0	0	0	18	18	0	0	0	
	Dictionary stand		25	0	0	1	1	2	0	0	25	25	50	
	Atlas Case	CASE-X	25	1	1	1	1	1	25	25	25	25	25	
	Workroom shelving	SHLV-X	9	2	2	5	9	9	18	18	45	81	81	
	Staff worktable	WKTBL-I	96	1	1	2	3	3	96	96	192	288	288	
	Staff File Cabinets	STFF-FIL	18	9	9	12	12	12	162	162	216	216	216	
	Work counter	CNTR-A	48	0	0	1	2	2	0	0	48	96	96	
	Booktruck parking	BKTRK-I	8	5	7	12	16	20	40	56	96	128	160	
	Photocopier/telefax	COPY-B	48	2	2	2	3	3	96	96	96	144	144	
	Staff lounge	STFF-LC	250	0	0	1	1	1	0	0	250	250	250	
	Staff lockers	STFF-LK	5	0	0	12	18	26	0	0	60	90	130	half-size lockers.
	Supply room	SPLY-R	120	0	0	1	1	1	0	0	120	120	120	
	Storage room	STOR-S	400	0	0	1	1	1	0	0	400	400	400	
	Maintenance room	MAINT-F	150	0	0	1	1	1	0	0	150	150	150	
	Entrance lobby	ENT-LOF	600	0	0	1	1	1	0	0	600	600	225	
	Library store	LIB-STO	225	0	0	0	0	0	0	0	0	0	0	
	Library coffee cart	LIB-CC	100	0	0	1	1	1	0	0	100	100	100	
	Loading dock	LOAD-D	400	0	0	1	1	1	0	0	400	400	400	
		Subtotal Square Footage						773	837	3,353	3,769	3,579		
		TOTAL NET SQUARE FEET						5,628	6,360	17,576	22,808	25,579		
		less allowance for collections "in-the-air"						523	652	1,478	2,336	3,542		Restrooms part of Unassignable Space.
		TOTAL NET SQUARE FEET						5,105	5,708	16,098	20,472	22,037		
		Average Component Efficiency Factor = 0.85												
		Existing Building Efficiency Factor = 0.85												
		TOTAL NET ASSIGNABLE SQUARE FEET						6,005	6,715	18,938	24,085	25,925		
		TOTAL BUILDING GROSS SQUARE FEET						7,065	7,900	22,280	28,335	30,500		Recommend new building of 30,500 SF
		EXISTING BUILDING TOTAL SQUARE FEET						6,700	6,700	6,700	6,700	6,700		
		Existing building over (under)						365	1,200	15,580	21,635	23,800		
		PARKING GUIDELINES						22	26	74	94	102		One space per every 300 SF of building.

Projected Space Requirements		Building: ELOY					23-Jul-07						
per Planning Guidelines		Population Served:					PROVIDENCE Associates LLC						
functional component	personnel/spac designation	space code	square feet	existing	projected	existing	projected	existing	projected	existing	projected	notes	
				2005	2010	2015	2020	2025	2005	2010	2015	2020	2025
CIRCULATION:				15,095	16,095	25,000	100,000	175,000					
unit area x number of personnel													
net square footage													
personnel	Library Director PO-D		150	1.00	1.00	1.00	1.00	1.00	150	150	150	150	150
	Asst. Libn/Manager		100	1.00	1.00	1.00	1.00	1.00	100	100	100	100	100
	Sr. Library Assit SPO-E		36	0.00	1.00	2.00	2.00	2.00	0	36	72	72	72
	Library Asst I & SPO-E		36	0.00	1.00	2.00	4.00	5.00	0	36	72	144	180
	Computer Tech SPO-C		48	0.00	0.50	1.00	1.00	1.50	0	24	48	48	72
	Library Clerk II SPO-E		36	0.00	0.00	1.00	2.00	2.00	0	0	36	72	72
	Library Aides		36	2.00	2.00	3.00	4.00	4.00	72	72	108	144	144
	TOTAL FTE PERSONNEL:		36	4.00	6.50	11.00	15.00	16.50	0	0	18	36	54
	Volunteer SPO-F		36	0.00	0.00	0.50	1.00	1.50	0	0	18	36	54
	Subtotal								322	418	604	766	844
unit area x number of volumes													
collections	Reference SHLV-R		0.12	0	0	0	0	0	0	0	0	0	0
	Popular display SHLV-B		0.20	0	0	150	300	500	0	0	30	60	100
	Adult fiction SHLV-A		0.08	5,312	5,400	7,000	10,000	16,000	425	432	560	800	1,280
	Adult non-fiction SHLV-A		0.10	4,252	4,100	5,200	8,500	12,500	425	410	520	850	520
	Youth Easy/Pict SHLV-YE		0.05	3,052	3,100	4,000	7,200	10,000	153	155	200	360	500
	Youth Fiction/Ni SHLV-A		0.08	1,693	1,693	2,700	4,500	12,500	135	135	216	360	1,000
	Young Adult SHLV-A		0.08	896	910	1,200	1,500	1,900	72	73	96	120	152
	Media SHLV-M		0.04	826	1,100	3,500	7,000	13,500	33	44	140	280	540
	Current periodi SHLV-P		1.00	73	73	85	95	120	73	73	85	95	120
	Backfile periodi SHLV-CF		0.10	0	0	0	0	0	0	0	0	0	0
	TOTAL ITEMS:		16,104	16,376	23,835	39,095	67,020						
	ITEMS PER CAPITA:		0.91	0.82	0.96	1.18	1.50						
	Subtotal								1,316	1,322	1,847	2,925	4,212
unit area x number of seats													
seating	Adult four-place SEAT-AF		25	4	4	8	8	8	100	100	200	200	200
	Adult two-place SEAT-AF		35	2	2	10	10	10	70	70	350	350	350
	Adult one-place SEAT-AF		35	0	2	6	8	8	0	70	210	280	280
	Adult lounge SEAT-AL		40	8	8	10	12	12	320	320	400	480	480
	Adult machine SEAT-AT		45	15	16	20	24	30	675	720	900	1,080	1,350
	Child bench SEAT-AE		5	0	2	4	6	6	0	10	20	30	30
	Children's four- SEAT-CF		25	12	12	12	14	16	300	300	300	350	400
	Children's two- SEAT-CF		35	0	0	6	6	8	0	0	210	210	280
	Children's loung SEAT-CL		30	0	0	4	6	8	0	0	120	180	240
	Children's mach SEAT-CF		36	4	5	6	8	8	144	180	216	288	288
	Children's floor SEAT-CF		5	0	0	10	10	10	0	0	50	50	50
	Teen four-place SEAT-TF		25	0	0	4	8	8	0	0	100	200	200
	Teen two-place SEAT-TF		35	0	0	6	6	6	0	0	210	210	210
	Teen machine SEAT-TA		36	0	0	6	8	8	0	0	216	288	288
	Teen floor SEAT-TF		15	0	0	6	6	8	0	0	90	90	120
	Group study roc SEAT-AF		25	0	0	12	12	12	0	0	300	300	300
	Tutoring room SEAT-AF		48	0	0	3	6	6	0	0	144	288	288
	TOTAL READER SEATS:		45	51	133	158	172		1,609	1,770	4,036	4,874	5,354
RATIO OF ITEMS PER SEAT:													
	Multi-Purpose h SEAT-S		10	40	40	125	125	125	400	400	1,250	1,250	1,250
	Conference roo SEAT-C		25	4	4	30	30	30	100	100	750	750	750
	Youth Program SEAT-Cf		10	0	0	40	40	40	0	0	400	400	400
	Subtotal								2,109	2,270	6,436	7,274	7,754
unit area x number of units													
support spaces	Service desk st SVDSK-I		80	1	1	2	2	2	80	80	160	160	160
	Express check i EXP-CK		40	0	0	1	2	2	0	0	40	80	80
	PAC station SPO-G		24	0	1	3	3	3	0	24	72	72	72
	Printer/scanner SPO-H		16	0	0	2	2	2	0	0	32	32	32
	Display/gallery CASE-X		30	2	2	2	3	3	60	60	60	90	90
	Literature rack LIT-R		15	1	1	2	2	3	15	15	30	30	45
	Dictionary stand		2	2	2	2	2	2	0	0	0	0	0
	Atlas Case CASE-X		0	0	1	1	1	1	0	0	0	0	0
	Workroom shel SHLV-X		9	0	0	2	3	3	0	0	18	27	-27
	Staff worktable WKTBL-I		96	0	0	1	1	1	0	0	96	96	96
	Staff File Cabin STFF-Fil		18	2	2	4	6	8	36	36	72	108	144
	Work counter CNTR-A		48	1	1	1	1	1	48	48	48	48	48
	Booktruck parki BKTRK-I		8	4	6	8	12	16	32	48	64	96	128
	Photocopier/tele COPY-B		48	1	1	2	2	2	48	48	96	96	96
	Staff lounge STFF-LC		250	0	0	1	1	1	0	0	250	250	250
	Staff lockers STFF-LK		5	0	0	16	18	20	0	0	80	90	100
	Supply room SPLY-R		120	0	0	1	1	1	0	0	120	120	120
	Storage room STOR-S		200	1	1	1	1	1	200	120	200	200	200
	Maintenance ro MAINT-R		150	0	0	1	1	1	0	0	150	150	600
	Entrance lobby ENT-LOE		600	0	0	1	1	1	0	0	600	600	600
	Library coffee c LIB-CC		100	0	0	1	1	1	0	0	100	100	100
	Loading dock LOAD-D		400	0	0	1	1	1	0	0	400	400	0
	Subtotal								519	479	2,688	2,845	2,934
TOTAL NET SQUARE FEET									3,944	4,071	10,989	13,080	14,954
less allowance for collections "in-the-air"									322	328	477	782	1,340
TOTAL NET SQUARE FEET									3,622	3,744	10,512	12,298	13,614
TOTAL NET ASSIGNABLE SQUARE FEET									4,261	4,404	12,367	14,468	16,016
TOTAL BUILDING GROSS SQUARE FEET									5,013	5,182	14,550	17,022	18,842
EXISTING BUILDING TOTAL SQUARE FEET									4,300	4,300	4,300	4,300	4,300
Existing building over (under)									713	882	10,250	12,722	14,542
PARKING GUIDELINES										17	48	57	63

verage Component Efficiency Factor = 0.85
Existing Building Efficiency Factor = 0.85

Restrooms part of Unassignable Space.

Recommend new building 19,000 SF
One parking space per every 300 SF of building.

Projected Space Requirements		Building:	FLORENCE					27-Jul-07						
per Planning Guidelines		Population Served:	21,412	23,186	27,876	36,278	46,572	PROVIDENCE ASSOCIATES LLC						
functional component	personnel/space designation	space square feet	existing 2005	projected 2010	projected 2015	projected 2020	projected 2025	existing 2005	projected 2010	projected 2015	projected 2020	projected 2025	notes	
CIRCULATION:			47,746	65,084	85,000	150,000	225,860						increase from 2.23 to at least 4.85 per capita	
unit area x								net square footage						
personnel	Library Director PO-D	100	1.00	1.00	1.00	1.00	1.00	100	100	100	100	100		
	Library Manager PO-E	80	0.00	0.00	0.00	1.00	1.00	0	0	80	80	80		
	Librarians SPO-E	36	2.00	2.00	2.00	2.00	2.00	72	72	72	72	72		
	Library Asst I & I SPO-E	36	0.75	1.75	3.00	4.00	5.00	27	63	108	144	180		
	Computer Tech SPO-C	48	0.00	0.00	0.50	1.00	1.00	0	0	24	48	48		
	Library Clerk I-II SPO-E	36	0.00	1.00	2.00	3.00	4.00	0	36	72	108	144		
	Library Aide SPO-F	24	1.88	2.00	3.00	4.00	4.00	45	48	72	96	96		
	TOTAL FTE PERSONNEL:	36	5.63	7.75	11.50	16.00	18.00							
	Volunteers SPO-F	36	0.00	0.00	0.25	0.50	0.75	0	0	9	18	27		
			Subtotal					244	319	537	666	747		
collections	Reference SHLV-R	0.12	0	0	0	0	0	0	0	0	0	0		
	Popular display SHLV-B	0.20	0	0	300	350	500	0	0	60	70	100		
	Adult fiction SHLV-A	0.08	5,871	6,300	8,500	17,000	28,000	470	504	680	1,360	2,240		
	Adult non-fiction SHLV-A	0.10	6,596	6,896	8,200	10,100	20,500	660	690	820	1,010	2,050		
	Youth Easy/Pict SHLV-YE	0.05	4,801	5,300	6,825	9,835	15,500	240	265	341	492	775		
	Youth Fiction/No SHLV-A	0.08	3,035	3,500	5,500	7,800	12,000	243	280	440	624	960		
	Young Adult SHLV-A	0.08	1,962	1,500	1,700	1,850	1,975	157	120	136	148	158		
	Media SHLV-M	0.10	1,649	2,200	4,800	7,500	15,200	165	220	480	750	1,520		
	Current periodics SHLV-P	1.00	36	40	60	90	130	36	40	60	90	130		
	Backfile periodic SHLV-CR	0.10	0	0	0	0	0	0	0	0	0	0	No backfile, current year only	
TOTAL ITEMS:			23,950	25,736	35,885	54,525	93,805							
ITEMS PER CAPITA:			1.12	1.11	1.29	1.50	2.01							Collection growth 1.12 to 2.0 items/capita by 2025.
			Subtotal					1,970	2,119	3,017	4,544	7,933		
seating	Adult four-place SEAT-AR	25	36	36	20	20	20	900	900	500	500	500		
	Adult two-place SEAT-AR	35	0	0	10	14	14	0	0	350	490	490		
	Adult one-place SEAT-AR	35	0	0	4	8	8	0	0	140	280	280		
	Adult lounge SEAT-AL	40	3	3	6	8	10	120	120	240	320	400		
	Adult machine SEAT-AT	45	22	22	32	35	35	990	990	1,440	1,575	1,575		
	Child bench SEAT-AB	5	0	0	2	2	2	0	0	10	10	10		
	Children's four-p SEAT-CR	25	8	8	12	12	12	200	200	300	300	300		
	Children's two-pl SEAT-CR	35	0	0	6	6	6	0	0	210	210	210		
	Children's lounge SEAT-CL	30	3	3	6	6	6	90	90	180	180	180		
	Children's machi SEAT-CR	36	0	0	6	6	8	0	0	216	216	288		
	Children's floor SEAT-CF	5	13	13	15	20	20	65	65	75	100	100		
	Teen four-place SEAT-TR	25	0	0	8	8	8	0	0	200	200	200		
	Teen two-place SEAT-TR	35	0	0	4	8	8	0	0	140	280	280		
	Teen machine	36	0	0	4	6	8	0	0	144	216	288		
	Group study room SEAT-AR	25	0	0	6	6	12	0	0	150	150	300		
	Tutoring room SEAT-AR	48	0	0	3	6	6	0	0	144	288	288		
TOTAL READER SEATS:			85	85	144	171	183	2,365	2,365	4,439	5,315	5,689		
RATIO OF ITEMS PER SEAT:														
	Multi-Purpose M SEAT-S	10	20	20	100	125	125	200	200	1,000	1,250	1,250		
	Conference room SEAT-C	25	0	0	15	30	30	0	0	375	750	750		
	Youth Program r SEAT-CF	15	0	0	50	50	50	0	0	500	500	500		
			Subtotal					2,565	2,565	6,314	7,815	8,189		
Support spaces	Service desk sta SVDSK-A	80	4	4	3	3	3	320	320	240	240	240	3 Service desks: Customer Service, Information, Children's	
	Express check s EXP-CK	40	0	0	2	2	3	0	0	80	80	120		
	PAC station SPO-G	24	2	2	3	3	4	48	48	72	72	96		
	Printer/scanner SPO-H	16	0	0	1	2	2	0	0	16	32	32		
	Display/gallery CASE-X	30	3	3	3	3	3	90	90	90	90	90		
	Literature rack LIT-R	15	0	0	2	3	3	0	0	30	45	45		
	Dictionary stand	25	1	1	1	1	1	25	25	25	25	25		
	Atlas Case CASE-X	25	1	1	1	1	1	25	25	25	25	25		
	Workroom shelv SHLV-X	9	4	4	4	4	4	36	36	36	36	36		
	Staff worktable WKTBL-A	96	0	0	1	1	1	0	0	96	96	96		
	Staff File Cabine STFF-FIL	18	14	14	12	10	10	252	252	216	180	180		
	Work counter CNTR-A	48	1	1	1	2	2	48	48	48	96	96		
	Booktruck parkin BKTRK-A	8	4	4	12	18	22	32	32	96	144	176		
	Photocopier/tele COPY-B	48	1	1	2	2	2	48	48	96	96	96		
	Staff lounge STFF-LO	250	0	0	1	1	1	0	0	250	250	250		
	Staff lockers STFF-LK	5	0	0	12	16	20	0	0	60	80	100	Half-size lockers	
	Supply room SPLY-R	120	0	0	1	1	1	0	0	120	120	120		
	Storage room STOR-S	250	0	0	1	1	1	0	0	250	250	250		
	Maintenance roc MAINT-R	150	0	0	1	1	1	0	0	150	150	150		
	Entrance lobby ENT-LOB	600	0	0	1	1	1	0	0	600	600	600		
	Library coffee ca LIB-CC	100	0	0	0	1	1	0	0	0	100	100		
	Loading dock LOAD-D	400	0	0	1	1	1	0	0	400	400	400		
			Subtotal					924	924	2,996	3,207	3,323		
TOTAL NET SQUARE FEET			5,703	5,927	12,864	16,232	20,192							
less allowance for collections "in-the-air"			479	515	718	1,091	1,876							
TOTAL NET SQUARE FEET			5,224	5,412	12,147	15,141	18,316							
TOTAL NET ASSIGNABLE SQUARE FEET			6,146	6,367	14,290	17,813	21,548							
TOTAL BUILDING GROSS SQUARE FEET			7,230	7,490	16,812	20,957	25,351						Recommend a new building 25,500 SF	
EXISTING BUILDING TOTAL SQUARE FEET			6,300	6,300	6,300	6,300	6,300							
Existing building over (under)			930	1,190	10,512	14,657	19,051							
PARKING GUIDELINES			25	56	70	85							One space per every 300 SF of building.	

average Component Efficiency Factor = 0.85
Existing Building Efficiency Factor = 0.85

Projected Space Requirements		Building:	Kearny		7-Jul-07		PROVIDENCE Associates LLC	
functional component	personnel/space designation	Population space code	Served square feet	2,250 existing 2005	2,300 projected 2015	existing 2005	projected 2015	notes
		CIRCULATION:		21,092	23,000			This is a case of "less is more"
Personnel		unit area x number of personnel		net square footage				
	Library Manger	PO-E	100	1.00	1.00	100	100	
	Library Asst I & II	SPO-E	36	0.00	1.00	0	36	
	Library Clerk II	SPO-E	36	0.50	1.00	18	36	
	Library Page	SPO-F	24	0.00	0.25	0	6	
		TOTAL FTE PERSONNEL:		3.00	1.00	72	24	
				Subtotal		190	202	
collections		unit area x number of volumes		net square footage				
	Reference	SHLV-R	0.12	0	0	0	0	
	Popular display	SHLV-B	0.20	0	100	0	20	
	Adult fiction	SHLV-A	0.08	5,038	4,000	403	320	
	Adult non-fiction	SHLV-A	0.10	4,236	2,000	424	200	
	Youth Easy/Picture	SHLV-YE	0.05	3,928	2,500	196	125	
	Youth Fiction/Non-Fictio	SHLV-A	0.08	2,340	1,500	187	120	
	Young Adult	SHLV-A	0.08	599	350	48	28	
	Media	SHLV-M	0.04	1,090	2,100	44	84	
	Current periodicals	SHLV-P	1.00	10	15	10	15	
	Backfile periodicals	SHLV-CF	0.10			0	0	
		TOTAL ITEMS:		17,241	12,565			
		ITEMS PER CAPITA:		7.66	5.46			
				Subtotal		1,312	912	
seating		unit area x number of seats		net square footage				
	Adult four-place	SEAT-AR	25	0	0	0	0	
	Adult two-place	SEAT-AR	35	0	2	0	70	
	Adult one-place	SEAT-AR	35	0	0	0	0	
	Adult lounge	SEAT-AL	40	0	0	0	0	
	Adult machine	SEAT-AT	45	0	0	0	0	
	Child bench	SEAT-AB	5	0	2	0	10	
	Children's four-place	SEAT-CF	25	2	2	50	50	
	Children's two-place	SEAT-CF	35	1	2	35	70	
	Children's lounge (Read	SEAT-CL	30	0	2	0	60	
	Children's machine	SEAT-CF	36	0	1	0	36	
	Children's floor	SEAT-CF	5	10	2	50	10	
	Teen four-place	SEAT-TR	25	0	0	0	0	
	Teen two-place	SEAT-TR	35	0	0	0	0	
	Teen machine	SEAT-AT	36	0	1	0	36	
	Group study room	SEAT-AR	25	0	6	0	150	
	Tutoring room	SEAT-AR	48	0	0	0	0	
		TOTAL READER SEATS:		13	20	135	492	
		RATIO OF ITEMS PER SEAT:						
	Multi-Purpose Meeting r	SEAT-S	10	35	50	350	500	
	Conference room	SEAT-C	25	0	0	0	0	
	Youth Program room	SEAT-CF	10	0	0	0	0	
	Training room	SEAT-AT	36	0	0	0	0	
				Subtotal		485	992	
support spaces		unit area x number of units		net square footage				
	Service desk station	SVDSK-A	80	1	1	80	80	
	Express check station	EXP-CK	40	0	0	0	0	
	PAC station	SPO-G	24	1	1	24	24	
	Printer/scanner station	SPO-H	16	0	1	0	16	
	Display/gallery	CASE-X	30	1	1	30	30	
	Literature rack	LIT-R	15	1	1	15	15	
	Dictionary stand		25	1	1	25	25	
	Workroom shelving	SHLV-X	9	0	2	0	18	
	Staff worktable	WKTBL-A	96	0	0	0	0	
	Staff File Cabinets	STFF-FIL	18	2	2	36	36	
	Work counter	CNTR-A	48	1	1	48	48	
	Booktruck parking	BKTRK-A	8	3	5	24	40	
	Photocopier/telefax	COPY-B	48	1	1	48	48	
	Staff lounge	STFF-LO	250	0	0	0	0	
	Staff lockers	STFF-LK	5	0	0	0	0	
	Supply room	SPLY-R	120	0	0	0	0	
	Storage room	STOR-S	400	0	0	0	0	
	Maintenance room	MAINT-R	150	0	0	0	0	
	Entrance lobby	ENT-LOE	600	0	0	0	0	
	Library store	LIB-STOF	225	0	0	0	0	
	Library coffee cart	LIB-CC	100	0	0	0	0	
	Loading dock	LOAD-D	400	0	0	0	0	
				Subtotal		330	380	
		TOTAL NET SQUARE FEET		1,869	2,308			
Average Component Efficiency Factor = 0.85		Allowance for collections "in-the-air"		345	296			Restrooms part of Unassignable Space.
Existing Building Efficiency Factor = 0.85		TOTAL NET SQUARE FEET		1,524	2,012			
		TOTAL NET ASSIGNABLE SQUARE FEET		1,793	2,367			
		TOTAL BUILDING GROSS SQUARE FEET		2,109	2,785			
		EXISTING BUILDING TOTAL SQUARE FEET		3,250	3,250			Current building is sized appropriately but has way too many items in its collection
		Existing building over (under)		1,141	465			One space per every 300 SF of building.
		PARKING GUIDELINES		7	9			

Projected Space Requirements Building: Mammoth 7-Jul-07
 Population Served: 1,679 2,000 PROVIDENCE Associates LLC

functional component	personnel/space designation	space code	square feet	existing 2005	projected 2015	existing 2005	projected 2015
CIRCULATION:				1,840	4,000		
unit area x number of personnet square footag=							
personnel	Library Director	PO-D	150	0.00	0.00	0	0
	Library Manger	PO-E	100	1.00	1.00	100	100
	Supervisory Librarians	SPO-B	80	0.00	0.00	0	0
	Sr. Library Assistants	SPO-E	36	0.00	0.00	0	0
	Reference Librarian	SPO-D	48	0.00	0.00	0	0
	Library Asst I & II	SPO-E	36	0.00	1.00	0	36
	Computer Tech & Asst	SPO-C	64	0.00	0.00	0	0
	Library Clerk II	SPO-E	36	0.00	0.00	0	0
	Processing Asst.		36	0.00	0.00	0	0
	Library Page	SPO-F	24		0.50	0	12
	TOTAL FTE PERSONNEL:			1.00	2.50		
	Volunteer	SPO-F	36	0.00	0.00	0	0
Subtotal						100	148
unit area x number of volumes							
collections	Reference	SHLV-R	0.12			0	0
	Popular display	SHLV-B	0.20		100	0	20
	Adult fiction	SHLV-A	0.08	4,580	3,300	366	264
	Adult non-fiction	SHLV-A	0.10	3,005	1,850	301	185
	Youth Easy/Picture	SHLV-YE	0.05	1,041	850	52	43
	Youth Fiction/Non-Ficti	SHLV-A	0.08	1,035	515	83	41
	Young Adult	SHLV-A	0.08	168	100	13	8
	Media	SHLV-M	0.04	294	410	12	16
	Current periodicals	SHLV-P	1.00	20	20	20	20
	Backfile periodicals	SHLV-CF	0.10	0	0	0	0
	TOTAL ITEMS:			10,143	7,145		
	ITEMS PER CAPITA:			6.04	3.57		
Subtotal						847	597
unit area x number of seats							
seating	Adult four-place	SEAT-AF	25	0	4	0	100
	Adult two-place	SEAT-AF	35	0	4	0	140
	Adult one-place	SEAT-AF	35	0	0	0	0
	Adult lounge	SEAT-AL	40	0	3	0	120
	Adult machine	SEAT-AT	45	7	6	315	270
	Child bench	SEAT-AE	5	0	0	0	0
	Children's four-place	SEAT-CF	25	0	4	0	100
	Children's two-place	SEAT-CF	35	1	2	35	70
	Children's lounge (Rea	SEAT-CL	30	0	3	0	90
	Children's machine	SEAT-CF	36	0	4	0	144
	Children's floor	SEAT-CF	5	0	4	0	20
	Teen four-place	SEAT-TR	25	0	1	0	25
	Teen two-place	SEAT-TR	35	0	0	0	0
	Teen machine		36	0	2	0	72
	Group study room	SEAT-AF	25	0	0	0	0
	Tutoring room	SEAT-AF	48	0	0	0	0
	TOTAL READER SEATS:					350	1,151
	RATIO OF ITEMS PER SEAT:						
	Multi-Purpose Meeting	SEAT-S	10	0	40	0	400
	Conference room	SEAT-C	25	0	0	0	0
	Youth Program room	SEAT-CF	10	0	0	0	0
	Training room	SEAT-AT	36	0	0	0	0
Subtotal						350	1,551
unit area x number of units net square footag=							
support spaces	Service desk station	SVDSK-I	80	1	1	80	80
	Express check station	EXP-CK	40	0	0	0	0
	PAC station	SPO-G	24	0	1	0	24
	Printer/scanner station	SPO-H	16	0	1	0	16
	Display/gallery	CASE-X	30	0	0	0	0
	Literature rack	LIT-R	15	0	1	0	15
	Dictionary stand	CASE-X	25	1	1	25	25
	Workroom shelving	SHLV-X	9	0	1	0	9
	Staff worktable	WKTBL-I	48	0	1	0	48
	Staff File Cabinets	STFF-FIL	18	2	2	36	36
	Work counter	CNTR-A	96	1	1	96	96
	Booktruck parking	BKTRK-I	8	2	2	16	16
	Photocopier/telefax	COPY-B	48	1	1	48	48
	Staff lounge	STFF-LO	250	0	0	0	0
	Staff lockers	STFF-LK	5	0	4	0	20
	Supply room	SPLY-R	120	0	0	0	0
	Storage room	STOR-S	100	0	1	0	100
	Maintenance room	MAINT-R	64	0	1	0	64
	Entrance lobby	ENT-LOE	600	0	0	0	0
	Library store	LIB-STOI	225	0	0	0	0
	Library coffee cart	LIB-CC	100	0	0	0	0
	Loading dock	LOAD-D	400	0	0	0	0
Subtotal						301	597
TOTAL NET SQUARE FEET				1,598	2,893		
less allowance for collections "in-the-air"				202	143		
TOTAL NET SQUARE FEET				1,395	2,751		
Avg Efficien	0.85	AL NET ASSIGNABLE SQUARE FEET		1642	3,236		
Existing Effi	0.85	AL BUILDING GROSS SQUARE FEET		1931	3,807		
EXISTING BUILDING TOTAL SQUARE FEET				1400	1,400		
Existing building over (under)				531	2,407		
PARKING GUIDELINES				6	13		

Recommend a building of 3800 SF

Projected Space Requirements per Planning Guidelines

Building: **MARICOPA**
 Population Served: 23,737 92,911
 23-Jul-07
 PROVIDENCE Associates LLC

functional component	personnel/space designation	space code	square feet	existing		projected		notes
				2005	2015	2005	2015	
CIRCULATION:				11,197	185,000			
unit area x number of persons								
personnel	Library Coordinator	PO-D	100	1.00	1.00	100	100	
	Librarian II	SPO-C	64	0.00	1.00	0	64	
	Lib Asst II	SPO-E	36	0.00	4.00	0	144	
	Lib Asst I	SPO-E	36	0.00	3.00	0	108	
	Library Page	SPO-F	24	0.00	2.00	0	48	
	TOTAL FTE PERSONNEL:			1.00	17.00			
	Volunteer	SPO-F	24		0.50	0	12	
					subtotal	100	476	
unit area x number of volumes								
collections	Reference	SHLV-R	0.12	0	150	0	18	
	Popular display	SHLV-B	0.20	0	775	0	155	
	Adult fiction	SHLV-A	0.08	5,628	25,000	450	2,000	
	Adult non-fiction	SHLV-A	0.10	2,844	20,000	284	2,000	
	Youth Easy/Picture	SHLV-YE	0.05	3,757	20,000	188	1,000	
	Youth Fiction/Non-Fiction	SHLV-A	0.08	1,497	18,000	120	1,440	
	Young Adult	SHLV-A	0.08	1,236	1,600	99	128	
	Media	SHLV-M	0.04	1,716	10,500	69	420	
	Current periodicals	SHLV-P	1.00	90	130	90	130	
	Backfile periodicals	SHLV-CF	0.10	0	0	0	0	
	TOTAL ITEMS:			16,768	96,155			
	ITEMS PER CAPITA:			0.71	1.03	0	0	
					subtotal	1,300	7,291	
unit area x number of seats								
seating	Adult four-place	SEAT-AF	25	0	8	0	200	
	Adult two-place	SEAT-AF	35	3	4	105	140	
	Adult one-place	SEAT-AF	35	0	4	0	140	
	Adult lounge	SEAT-AL	30	12	8	360	240	
	Adult machine	SEAT-AT	36	6	1	216	36	
	Adult bench	SEAT-AE	10	0	4	0	40	
	Children's four-place	SEAT-CF	25	4	12	100	300	
	Children's two-place	SEAT-CF	35	1	3	35	105	
	Children's lounge (Read A	SEAT-CL	30	12	12	360	360	
	Children's machine	SEAT-CF	36	2	12	72	432	
	Children's floor	SEAT-CF	5	8	8	40	40	
	Teen four-place	SEAT-TF	25	0	4	0	100	
	Teen lounge	SEAT-AL	30	0	6	0	180	
	Teen machine	SEAT-AT	36	0	8	0	288	
	Group study room	SEAT-AF	20	0	10	0	200	
	Tutoring room	SEAT-AF	48	0	6	0	288	
	TOTAL READER SEATS:				subtotal	1,288	3,089	
RATIO OF ITEMS PER SEAT:								
	Multi-Purpose Meeting roo	SEAT-S	15	0	150	0	2,250	
	Conference room	SEAT-C	30	0	16	0	480	
	Youth Program room	SEAT-CF	15	20	50	300	750	
	Training room	SEAT-AT	36	0	13	0	468	
					subtotal	1,588	7,037	
unit area x number of units								
support spaces	Service desk station	SVDSK-/	80	2	4	160	320	
	Express check station	EXP-CK	30	0	3	0	90	
	PAC station	SPO-G	24	0	5	0	120	
	Printer/scanner station	SPO-H	16	0	2	0	32	
	Display/gallery	CASE-X	30	0	2	0	60	
	Literature rack	LIT-R	15	0	3	0	45	
	Pamphlet file	FILE-L	18	0	2	0	36	
	Atlas Case	CASE-X	25	1	1	25	25	
	Workroom shelving	SHLV-X	9	3	9	27	81	
	Staff worktable	WKTBL-/	75	0	1	0	75	
	Staff File Cabinets	STFF-FIL	18	1	2	18	36	
	Work counter	CNTR-A	48	0	1	0	48	
	Booktruck parking	BKTRK-/	8	2	20	16	160	
	Photocopier/telefax	COPY-B	48	1	2	48	96	
	Staff lounge	STFF-LC	250	0	1	0	250	
	Staff lockers	STFF-LK	5	0	20	0	100	
	Supply room	SPLY-R	120	0.00	1	0	120	
	Storage room	STOR-S	200	0.0	1	0	200	
	Maintenance room	MAINT-R	100	0	1	0	100	
	Entrance lobby	ENT-LOE	600	0.00	1	0	600	
	Library coffee cart	LIB-CC	100	0	1	0	100	
	Loading dock	LOAD-D	300	1	1	300	300	
					subtotal	594	2,994	
TOTAL NET SQUARE FEET						3,582	17,322	
less allowance for collections "in-the-air"						335	1,920	
TOTAL NET SQUARE FEET						3,246	15,402	Restrooms part of Unassignable Space.
TOTAL NET ASSIGNABLE SQUARE FEET						3,819	18,120	
TOTAL BUILDING GROSS SQUARE FEET						4,493	21,318	Recommend new 21,500 SF building
EXISTING BUILDING TOTAL SQUARE FEET						2,000	2000	
Existing building over (under)						2,493	19,318	
PARKING GUIDELINES						15	71,0584	One space per every 300 SF of building.

Average Component Efficiency Factor = 0.85
 Existing Building Efficiency Factor = 0.85

Projected Space Requirements		Building:	Oracle		7-Jul-07		PROVIDENCE Associates LLC	
functional component	personnel/space designation	space code	square feet	existing 2005	projected 2015	existing 2005	projected 2015	notes
		Population Served:	19,036	29,340				
		CIRCULATION:	11,551	35,000				
		unit area x number of personnel			net square footage			
personnel	Library Director	PO-D	150	0.00	0.00	0	0	
	Library Manger	PO-E	100	0.00	1.00	0	100	
	Library Asst I & II	SPO-E	36	0.00	3.00	0	108	
	Library Clerk II	SPO-E	36	0.00	0.00	0	0	
	Library Page	SPO-F	24	0.00	0.75	0	18	
	TOTAL FTE PERSONNEL:				4.75			
	Volunteer	SPO-F	36		1.50	0	54	
		unit area x number of volumes			net square footage			
collections	Reference	SHLV-R	0.12	0	0	0	0	
	Popular display	SHLV-B	0.20	0	200	0	40	
	Adult fiction	SHLV-A	0.08	5,154	8,300	412	664	
	Adult non-fiction	SHLV-A	0.10	4,858	5,000	486	500	
	Youth Easy/Picture	SHLV-YE	0.05	3,308	6,000	165	300	
	Youth Fiction/Non-Fictio	SHLV-A	0.08	1,239	3,600	99	288	
	Young Adult	SHLV-A	0.08	606	850	48	68	
	Media	SHLV-M	0.04	1,607	4,500	64	180	
	Current periodicals	SHLV-P	1.00	10	50	10	50	
	Backfile periodicals	SHLV-CR	0.10			0	0	
	TOTAL ITEMS:			16,782	28,500			
	ITEMS PER CAPITA:			0.88	0.97			
		unit area x number of seats			net square footage			
seating	Adult four-place	SEAT-AR	25	1	2	25	50	
	Adult two-place	SEAT-AR	35	0	4	0	140	
	Adult one-place	SEAT-AR	35	0	5	0	175	
	Adult lounge	SEAT-AL	40	6	3	240	120	
	Adult machine	SEAT-AT	45	0	15	0	675	
	Child bench	SEAT-AB	5	0	0	0	0	
	Children's four-place	SEAT-CR	25	1	2	25	50	
	Children's two-place	SEAT-CR	35	0	0	0	0	
	Children's lounge (Read	SEAT-CL	30	0	6	0	180	
	Children's machine	SEAT-CR	36	0	6	0	216	
	Children's floor	SEAT-CF	5	4	4	20	20	
	Teen four-place	SEAT-TR	25	0	1	0	25	
	Teen two-place	SEAT-TR	35	0	4	0	140	
	Teen machine	SEAT-TR	36	0	3	0	108	
	Group study room	SEAT-AR	25	0	0	0	0	
	Tutoring room	SEAT-AR	48	0	0	0	0	
	TOTAL READER SEATS:					310	1,899	
	RATIO OF ITEMS PER SEAT:							
	Multi-Purpose Meeting r	SEAT-S	10	0	100	0	1,000	
	Conference room	SEAT-C	25	0	0	0	0	
	Youth Program room	SEAT-CF	10	0	0	0	0	
	Training room	SEAT-AT	36	0	0	0	0	
		unit area x number of units			net square footage			
support spaces	Service desk station	SVDSK-A	80	1	2	80	160	Customer Service and children's
	Express check station	EXP-CK	40	0	0	0	0	
	PAC station	SPO-G	24	5	2	120	48	
	Printer/scanner station	SPO-H	16	0	1	0	16	
	Display/gallery	CASE-X	30	5	2	150	60	
	Literature rack	LIT-R	15	1	2	15	30	
	Dictionary stand		25	0	1	0	25	
	Workroom shelving	SHLV-X	9	1	6	9	54	
	Staff worktable	WKTBL-A	96	0	1	0	96	
	Staff File Cabinets	STFF-FIL	18	2	2	36	36	
	Work counter	CNTR-A	48	1	2	48	96	
	Booktruck parking	BKTRK-A	8	1	10	8	80	
	Photocopier/telefax	COPY-B	48	2	2	96	96	
	Staff lounge	STFF-LO	250	0	1	0	250	
	Staff lockers	STFF-LK	5	0	6	0	30	
	Supply room	SPLY-R	120	0.00	1	0	120	
	Storage room	STOR-S	400	0.0	0	0	0	
	Maintenance room	MAINT-R	150	0	1	0	150	
	Entrance lobby	ENT-LOB	400	0.00	1	0	400	
	Library store	LIB-STOF	225	0	0	0	0	
	Library coffee cart	LIB-CC	100	0	1	0	100	
	Loading dock	LOAD-D	400	0	1	0	400	
		Subtotal			net square footage			
					562	2,247		
		TOTAL NET SQUARE FEET			1,847	7,516		
		Space Component Efficiency Factor = 0.85			336	638	Restrooms part of Unassignable Space.	
		Existing Building Efficiency Factor = 0.85			1,512	6,878		
		TOTAL NET ASSIGNABLE SQUARE FEET			1,779	8,092		
		TOTAL BUILDING GROSS SQUARE FEET			2092	9,520	Recommend new building 10,000 SF	
		EXISTING BUILDING TOTAL SQUARE FEET			1936	1,936		
		Existing building over (under)			156	7,584		
		PARKING GUIDELINES			7	32	One space per every 300 SF of building.	

Projected Space Requirements per Planning Guidelines
 Building: Sacaton-Hayes
 Population Served: 23-Jul-07
 PROVIDENCE Associates LLC
 functional personnel/space space square
 component designation code feet proposed notes

CIRCULATION:

			unit area	x number of persone	net square footage
personnel	Library Manager	PO-D	80	1.00	80
	Lib Assist II		36	1.00	36
	Lib Assist I	SPO-E	36	1.00	36
	Library Aides		36	1.00	36
	TOTAL FTE PERSONNEL:			4.00	
	Volunteer	SPO-F	24	1.00	24
				Subtotal	212

unit area x number of volumes

collections	Reference	SHLV-R	0.12	50	6
	Popular display	SHLV-B	0.20	100	20
	Adult fiction	SHLV-A	0.08	3,000	240
	Adult non-fiction	SHLV-A	0.10	1,900	190
	Youth Easy/Picture	SHLV-YE	0.05	1,500	75
	Youth Fiction/Non-Fic	SHLV-A	0.08	1,000	80
	Young Adult	SHLV-A	0.08	500	40
	Media	SHLV-M	0.04	1,000	40
	Current periodicals	SHLV-P	1.00	20	20
	Backfile periodicals	SHLV-CF	0.10	0	0
	TOTAL ITEMS:			9,070	
	ITEMS PER CAPITA:				
				Subtotal	711

No back file, current year only

unit area x number of seats

seating	Adult four-place	SEAT-AF	25	4	100
	Adult two-place	SEAT-AF	35	2	70
	Adult one-place	SEAT-AF	35	2	70
	Adult lounge	SEAT-AL	40	3	120
	Adult machine	SEAT-AT	36	6	216
	Child bench	SEAT-AE	5	0	0
	Children's four-place	SEAT-CF	25	4	100
	Children's two-place	SEAT-CF	35	4	140
	Children's lounge (Re	SEAT-CL	30	3	90
	Children's machine	SEAT-CF	36	4	144
	Children's floor	SEAT-CF	5	8	40
	Teen four-place	SEAT-TF	25	4	100
	Teen two-place	SEAT-TF	35	2	70
	Teen machine	SEAT-TV	36	3	108
	Teen floor	SEAT-TF	15	4	60
	Group study room	SEAT-AF	25	0	0
	Tutoring room	SEAT-AF	48	0	0
	TOTAL READER SEATS:			53	1,428
	RATIO OF ITEMS PER SEAT:				
	Multi-Purpose Meetin	SEAT-S	10	40	400
	Conference room	SEAT-C	25	0	0
	Youth Program room	SEAT-CF	10	30	300
				Subtotal	2,128

unit area x number of units net square footage

support spaces	Service desk station	SVDSK-1	80	1	80
	Express check station	EXP-CK	40	0	0
	PAC station	SPO-G	24	2	48
	Printer/scanner station	SPO-H	16	1	16
	Display/gallery	CASE-X	30	2	60
	Literature rack	LIT-R	15	3	45
	Dictionary stand		25	1	25
	Workroom shelving	SHLV-X	9	4	36
	Staff worktable	WKTBL-1	96	0	0
	Staff File Cabinets	STFF-FIL	18	2	36
	Work counter	CNTR-A	48	1	48
	Booktruck parking	BKTRK-1	8	6	48
	Photocopier/telefax	COPY-B	48	1	48
	Supply room	SPLY-R	120	1	120
	Storage room	STOR-S	400	0	0
	Maintenance room	MAINT-R	150	0	0
	Entrance lobby	ENT-LOE	300	1	300
	Library coffee cart	LIB-CC	100	0	0
	Loading dock	LOAD-D	400	0	0
				Subtotal	910

TOTAL NET SQUARE FEET 3,773

less allowance for collections "in-the-air" 180

TOTAL NET SQUARE FEET 3,593

Restrooms part of Unassignable Space.

TOTAL NET ASSIGNABLE SQUARE FEET 4,227

TOTAL BUILDING GROSS SQUARE FEET 4,972

Recommend new building 5,000 SF

Average Component Efficiency Factor = 0.85 MARKING GUIDELINES 17

One parking space per every 300 SF of building.

Existing Building Efficiency Factor = 0.85

Projected Space Requirements		Building:	San Manuel		7-Jul-07		PROVIDENCE Associates LLC	
functional component	personnel/space designation	space code	square feet	existing 2005	projected 2015	existing 2005	projected 2015	notes
		Population Served:	3,820	5,000				
		CIRCULATION:	10,571	25,000	increase from 2.8 to 5.0 per capita			
		unit area x number of personnel net square footage						
personnel	Library Director	PO-D	150	0.00	0	0	0	
	Library Manger	PO-E	100	0.00	1.00	0	100	
	Supervisory Librarians	SPO-B	80	0.00	0	0	0	
	Sr. Library Assistants	SPO-E	36	0.00	0	0	0	
	Reference Librarian	SPO-D	48	0.00	0	0	0	
	Library Asst I & II	SPO-E	36	0.00	2.00	0	72	
	Computer Tech & Asst	SPO-C	64	0.00	0	0	0	
	Library Clerk II	SPO-E	36	0.00	0	0	0	
	Processing Asst.	SPO-E	36	0.00	0	0	0	
	Library Page	SPO-F	24	0.00	0.50	0	12	
	TOTAL FTE PERSONNEL:							
	Volunteer	SPO-F	36	0.75	0.50	27	18	
						27	202	
		unit area x number of volumes						
collections	Reference	SHLV-R	0.12	0	0	0	0	
	Popular display	SHLV-B	0.20	150	0	30		
	Adult fiction	SHLV-A	0.08	5,215	5,000	417	400	
	Adult non-fiction	SHLV-A	0.10	3,320	2,750	332	275	
	Youth Easy/Picture	SHLV-YE	0.05	3,316	3,000	166	150	
	Youth Fiction/Non-Fiction	SHLV-A	0.08	319	1,875	26	150	
	Young Adult	SHLV-A	0.08	1,634	850	131	68	
	Media	SHLV-M	0.04	778	2,500	31	100	
	Current periodicals	SHLV-P	1.00	1	20	1	20	
	Backfile periodicals	SHLV-CF	0.10	0	0	0	0	
	TOTAL ITEMS:		14,583	16,145				
	ITEMS PER CAPITA:		3.82	3.23				
						1,103	1,193	
		unit area x number of seats						
seating	Adult four-place	SEAT-AF	25	4	4	100	100	
	Adult two-place	SEAT-AF	35	0	4	0	140	
	Adult one-place	SEAT-AF	35	0	0	0	0	
	Adult lounge	SEAT-AL	40	0	3	0	120	
	Adult machine	SEAT-AT	45	0	5	0	225	
	Children's four-place	SEAT-CF	25	1	1	25	25	
	Children's two-place	SEAT-CF	35	0	2	0	70	
	Children's lounge (Read A	SEAT-CL	30	0	3	0	90	
	Children's machine	SEAT-CF	36	0	3	0	108	
	Children's floor	SEAT-CF	5	6	6	30	30	
	Teen four-place	SEAT-TF	25	1	1	25	25	
	Teen two-place	SEAT-TF	35	0	2	0	70	
	Teen machine	SEAT-TF	36	0	3	0	108	
	Group study room	SEAT-AF	25	0	0	0	0	
	Tutoring room	SEAT-AF	48	0	0	0	0	
	TOTAL READER SEATS:		12	37	180	1,111		
	RATIO OF ITEMS PER SEAT:							
	Multi-Purpose Meeting roo	SEAT-S	10	0	40	0	400	
	Conference room	SEAT-C	25	0	0	0	0	
	Youth Program room	SEAT-CF	10	0	18	0	180	
	Training room	SEAT-AT	36	0	0	0	0	
						180	1,691	
		unit area x number of units net square footage						
support spaces	Service desk station	SVDSK-I	80	1	1	80	80	
	Express check station	EXP-CK	40	0	0	0	0	
	PAC station	SPO-G	24	0	2	0	48	
	Printer/scanner station	SPO-H	16	0	1	0	16	
	Display/gallery	CASE-X	30	1	1	30	30	
	Literature rack	LIT-R	15	2	2	30	30	
	Dictionary stand		25	0	1	0	25	
	Workroom shelving	SHLV-X	9	0	2	0	18	
	Staff worktable	WKTBL-I	96	0	1	0	96	
	Staff File Cabinets	STFF-FIL	18	2	2	36	36	
	Work counter	CNTR-A	48	0	1	0	48	
	Booktruck parking	BKTRK-I	8	3	6	24	48	
	Photocopier/telefax	COPY-B	48	1	1	48	48	
	Staff lounge	STFF-LC	250	0	0	0	0	
	Staff lockers	STFF-LK	5	0	5	0	25	
	Supply room	SPLY-R	120	0	1	0	120	
	Storage room	STOR-S	400	0	0	0	0	
	Maintenance room	MAINT-R	64	0	1	0	64	
	Entrance lobby	ENT-LOE	400	0	1	0	400	
	Library store	LIB-STOI	225	0	0	0	0	
	Library coffee cart	LIB-CC	100	0	0	0	0	
	Loading dock	LOAD-D	400	0	0	0	0	
						248	1,132	
	TOTAL NET SQUARE FEET				1,558	4,218		
	Average Component Efficiency Factor = 0.85	wance for collections "in-the-air		276	273	Restrooms part of Unassignable Space.		
	Existing Building Efficiency Factor =0.85			1,282	3,946			
	TOTAL NET ASSIGNABLE SQUARE FEET			1,509	4,642			
	TOTAL BUILDING GROSS SQUARE FEET			1,775	5,461	Recommend new 5,500 SF building		
	EXISTING BUILDING TOTAL SQUARE FEET			1,000	1,000			
	Existing building over (under)			(775)	(4,461)			
	PARKING GUIDELINES			6	18	One space per every 300 SF of building.		

Projected Space Requirements		Building:	Superior					8-Jul-07					
		Population Served:	4,649	4,706	4,798	4,890	4,980	PROVIDENCE Associates LLC					
functional	personnel/space	space	existing		projected			existing		projected			notes
component	designation	code	2005	2010	2015	2020	2025	2005	2010	2015	2020	2025	
		CIRCULATION:	13,000	14,008	14,500	19,560	25,000						
		unit area x number of personnel						net square footage					
personnel	Library Director	PO-D	100	1.00	1.00	1.00	1.00	100	100	100	100	100	
	Library Clerk II	SPO-E	36	0.00	0.00	0.50	0.75	1.00	0	0	18	27	36
	Library Aide	SPO-F	24	1.00	1.00	2.00	2.00	2.00	24	24	48	48	48
	TOTAL FTE PERSONNEL:		2.00	2.00	3.50	3.75	4.00						
	Volunteer	SPO-F	36	0.00	0.00	0.00	0.00	0	0	0	0	0	0
			subtotal					124	124	166	175	184	
		unit area x number of volumes											
collections	Reference	SHLV-R	0.12					0	0	0	0	0	0
	Popular display	SHLV-B	0.20					0	0	0	0	0	0
	Adult fiction	SHLV-A	0.08	3,832	3,900	3,900	3,950	4,000	307	312	312	316	320
	Adult non-fiction	SHLV-A	0.10	4,993	4,900	4,800	4,800	4,800	499	490	480	480	480
	Youth Easy/Picture	SHLV-YE	0.05	3,294	3,250	3,300	3,400	3,500	165	163	165	170	175
	Youth Fiction/Non-Ficti	SHLV-A	0.08	2,618	2,650	2,700	2,800	3,000	209	212	216	224	240
	Young Adult	SHLV-A	0.08	698	725	750	780	810	56	58	60	62	65
	Media	SHLV-M	0.04	612	700	825	900	1,000	24	28	33	36	40
	Current periodicals	SHLV-P	1.00	48	48	55	65	70	48	48	55	65	70
	Backfile periodicals	SHLV-CF	0.10	0	0	0	0	0	0	0	0	0	0
	TOTAL ITEMS:		16,095	16,173	16,330	16,695	17,180						
	ITEMS PER CAPITA:		3.46	3.44	3.40	3.41	3.45						
			subtotal					1,308	1,311	1,321	1,353	1,390	
		unit area x number of seats											
seating	Adult four-place	SEAT-AF	25	1	1	2	2	3	25	25	50	50	75
	Adult two-place	SEAT-AF	35	0	0	2	2	2	0	0	70	70	70
	Adult one-place	SEAT-AF	35	6	6	8	8	8	210	210	280	280	280
	Adult lounge	SEAT-AL	40	4	4	4	6	6	160	160	160	240	240
	Adult machine	SEAT-AI	45	5	5	7	7	8	225	225	315	315	360
	Adult bench	SEAT-AE	5	6	6	8	8	8	30	30	40	40	40
	Children's four-place	SEAT-CF	25	1	1	2	2	2	25	25	50	50	50
	Children's two-place	SEAT-CF	35	0	0	2	2	2	0	0	70	70	70
	Children's lounge (Rea	SEAT-CL	30	2	2	6	6	6	60	60	180	180	180
	Children's machine	SEAT-CF	36	2	2	3	3	4	72	72	108	108	144
	Children's floor	SEAT-CF	5	12	12	12	12	12	60	60	60	60	60
	Teen lounge	SEAT-TF	25	2	2	2	4	4	50	50	50	100	100
	Teen two-place	SEAT-TF	35	0	0	4	4	4	0	0	140	140	140
	Teen machine	SEAT-TF	36	0	0	2	2	2	0	0	72	72	72
	Group study room	SEAT-AF	25	0	0	4	4	4	0	0	100	100	100
	Tutoring room	SEAT-AF	48	0	0	2	2	2	0	0	96	96	96
	TOTAL READER SEATS:		41	41	70	74	77	917	917	1,841	1,971	2,077	
	RATIO OF ITEMS PER SEAT:												
	Multi-Purpose Meeting	SEAT-S	10	50	50	50	50	500	500	500	500	500	500
	Conference room	SEAT-C	25	0	0	10	10	10	0	0	250	250	250
	Youth Program room	SEAT-CF	10	0	0	20	20	20	0	0	200	200	200
	Training room	SEAT-AI	36	0	0	0	10	10	0	0	360	360	360
			subtotal					1,417	1,417	2,791	3,281	3,387	
		unit area x number of units						net square footage					
support	Service desk station	SVDSK-I	80	3	3	1	1	1	240	240	80	80	80
spaces	Express check station	EXP-CK	40	0	0	0	0	0	0	0	0	0	0
	PAC station	SPO-G	24	0	1	1	2	2	0	24	24	48	48
	Printer/scanner station	SPO-H	16	0	0	0	1	1	0	0	0	16	16
	Display/gallery	CASE-X	30	0	0	1	1	1	0	0	30	30	30
	Literature rack	LIT-R	15	0	0	0	2	2	0	0	0	30	30
	Pamphlet file	FILE-L	18	0	0	0	0	0	0	0	0	0	0
	Dictionary stand	DICT-D	25	0	0	1	1	1	0	0	25	25	25
	Workroom shelving	SHLV-X	9	1	1	2	2	2	9	9	18	18	18
	Staff worktable	WKTBL-I	96	0	0	1	1	1	0	0	96	96	96
	Staff File Cabinets	STFF-FIL	18	8	8	6	6	6	144	144	108	108	108
	Work counter	CNTR-A	48	0	0	0	1	1	0	0	0	48	48
	Booktruck parking	BKTRK-I	8	5	5	6	8	8	40	40	48	64	64
	Photocopier/telefax	COPY-B	48	2	2	2	2	2	96	96	96	96	96
	Staff lounge	STFF-LC	100	0	0	1	1	1	0	0	100	100	100
	Staff lockers	STFF-LK	5	0	0	6	6	6	0	0	30	30	30
	Supply room	SPLY-R	120	0	0	1	1	1	0	0	120	120	120
	Storage room	STOR-S	400	0	0	0	0	0	0	0	0	0	0
	Maintenance room	MAINT-R	150	0	0	1	1	1	0	0	150	150	150
	Entrance lobby	ENT-LOE	400	0	0	1	1	1	0	0	400	400	225
	Library store	LIB-STOI	225	0	0	0	0	0	0	0	0	0	0
	Library coffee cart	LIB-CC	100	0	0	0	0	0	0	0	0	0	0
	Loading dock	LOAD-D	400	0	0	0	0	0	0	0	0	0	0
			subtotal					529	553	1,325	1,459	1,284	
	TOTAL NET SQUARE FEET							3,378	3,405	5,603	6,268	6,245	
	less allowance for collections "in-the-air"							322	324	327	334	344	Restrooms part of Unassignable Space.
	TOTAL NET SQUARE FEET							3,056	3,083	5,276	5,934	5,901	
	TOTAL NET ASSIGNABLE SQUARE FEET							3,596	3,626	6,207	6,982	6,943	
	TOTAL BUILDING GROSS SQUARE FEET							4,230	4,266	7,303	8,214	8,168	Recommend new 8,200 SF Building
	EXISTING BUILDING TOTAL SQUARE FEET							3,850	3,850	3,850	3,850	3,850	
	over (under)							(380)	(416)	(3,453)	(4,364)	(4,318)	
	PARKING GUIDELINES							13	24	27	27	27	One space per every 300 SF of building.

IX. LIBRARY CONSTRUCTION COST ESTIMATES

Pinal County continues to experience major population growth. One of the factors related to growth that must be considered is the need for improved library service to meet the expectations of this large influx of new residents. Libraries are one of the major contributors of the quality of life in any environment. In addition they play a major role in the educational and economical growth of the areas where they exist.

Currently, from the standpoint of public library facilities, Pinal County is extremely deficient in meeting the needs of its citizens in most areas. The two exceptions are Casa Grande and Apache Junction where library expansion is underway. All other areas need to take a serious look at their existing situations and begin to plan immediately if they are to develop library services and facilities that their current and new residents will expect and demand. Also, there are several areas of the county that totally lack convenient library service.

As consultants, we are familiar with the workings of county and municipal government agencies across the nation. We realize the demands that emerging and expanding communities must face – utilities, infrastructure, education, police, fire, parks, etc. However, planning, developing and constructing new library facilities require an extensive amount of time, energy and expense. Public libraries are equally important in the development of any given area. Our extensive experience in working with libraries indicates that the earlier one begins this process of library planning the better the long-term result and investment of public dollars. One factor that is well documented and only increases with the passage of time is the cost of construction. Libraries, in comparison to generic office space, are an expensive facility to build and maintain and your residents expect them and demand them as part of their quality of life.

In an effort to provide some general figures for construction we have attached a sample on the following page showing how to calculate cost estimates for new construction. We realize that construction costs vary from region to region of the country, but we believe that these figures will provide you with a starting point from which to gauge the funds that may be required for constructing a new library.

General construction includes (exclusive of *site acquisition*):

- Site Preparation Cost
- Architect Design Fees
- Owner's Costs
- Contingency
- Furnishings, Fixtures and Equipment
- Technology Equipment and Infrastructure
- Opening day collections

METHOD FOR ESTIMATING CAPITAL COSTS FOR NEW PUBLIC LIBRARY CONSTRUCTION - for 2012 Construction Date
Example based on a 20,000 SF Library Building - Prepared by PROVIDENCE Associates LLC Library Planners Consultants

<i>cost element</i>	<i>unit cost per square foot</i>	<i>x</i>	<i>square feet</i>	<i>parking spaces</i>	<i>element costs</i>	<i>running total of element costs</i>	<i>notes</i>
Construction:							Estimate
New Construction*	\$220.00	x	20,000		\$4,400,000		As recommended by library planners.
Parking	\$3.000	x		67	\$201,000		1 space per 300 SF of building
						\$4,601,000	
Furniture, Fixtures & Equipment (FF&E)	\$35.00	x	20,000		\$700,000	\$5,301,000	Tables, chairs, office systems, etc.
Fees (Design and Documents)	10%				\$530,100	\$5,831,100	Architectural/engineering services.
Information Technology	\$10.00	x	20,000		\$200,000	\$6,031,100	Computers, printers, scanners, etc.
Owner Costs	2%				\$120,622	\$6,151,722	Project administration, legal fees, testing, etc.
Contingency	10%				\$615,172	\$6,766,894	Unexpected costs, change in scope, etc.
TOTAL ALL COSTS						\$6,766,894	Plus Site Acquisition
Project Cost Per SF						\$338.34	
Escalation 2013	8.5%					\$7,342,080	Plus Site Acquisition
Project Cost Per SF						\$367.10	
Escalation 2014	9.0%					\$8,002,867	Plus Site Acquisition
Project Cost Per SF						\$400.14	
Escalation 2015	9.0%					\$8,723,125	Plus Site Acquisition
Project Cost Per SF						\$436.16	
Escalation 2016	9.0%					\$9,508,207	Plus Site Acquisition
Project Cost Per SF						\$475.41	
Escalation 2017	9.0%					\$10,363,945.40	Plus Site Acquisition
Project Cost Per SF						\$518.20	
COLLECTIONS FOR NEW BUILDING						\$750,000	25,000 New Items in all formats @ \$30/item

*To be determined by local construction costs (steel, concrete, wood, labor, etc.)