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ACKNOWLEDGEMENTS

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XX. [DISCIPLINE] DESIGN NARRATIVE

Introduction

Ffkdsajfdkl;jfdkljfjk jdl fdalf fdjf dajfl fjdsl

[Issue x]

Hajlja fjdalfj. Create numbered lists this way.

1. xxx
2. xxx
3. xxx

[Issue y]

<u>Xsxx Sub heading</u>

The heating system will be designed based on a winter design outdoor air temperature of 3°F db, in accordance with the ASHRAE 99.6% design temperature. The design will incorporate heating season indoor temperatures of 68°F.

<u>Aaaaa</u>

The cooling system will be designed based on a summer design outdoor air temperature of 70°F db and 57°F wet bulb, per the ASHRAE 0.4% design temperatures. The indoor temperatures may vary because of the passive cooling strategies, but the target setpoint will be 78°F.

<u>Bullets</u>

- Occupant densities will be based on programmed space, coordinated with the architect.
- Lighting loads will be coordinated with the electrical consultant. Lighting loads will be in the approximate range of 0.5 to 2.0 watts/sqft depending on space usage. Daylighting zones will be incorporated, reducing the heat gain to spaces during daylight hours (solar heat load and daylight zone lighting load are not coincident).

ACKNOWLEDGEMENTS

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I. INTRODUCTION

The Mary Lowell Center is a long awaited and worked-for opportunity for the participating agencies and for the City of Seward. The National Park Service (NPS) will soon have a new, well-functioning facility from which to oversee administrative operations of the Kenai Fjord National Park and the Chugach National Forest. The Mary Lowell Center will also facilitate welcoming, orienting and educating visitors to the Kenai Peninsula and who will be able to access information about the natural resources, recreational opportunities, and landscapes of the region. The Center will provide an environment conducive to public education regarding the ecosystems of south-central Alaska in and around Resurrection Bay; and an environment that better supports the agencies as they manage the lands and their related resources.

The National Park Service is the primary agency to be housed in the Mary Lowell Center; NPS is committed to using the Center to cooperatively provide the public with a full complement of services and programs. The Mary Lowell Center will bring together Federal, state and local government agencies under one roof where the public can find information about the south-central region of Alaska, and where professionals can convene for training and education.

The City of Seward has an opportunity to benefit from the Mary Lowell Center for the revitalization the Seward Waterfront District. The Center will help to concentrate currently dispersed federal jobs to the downtown area; encourage the development of additional visitor and tourist attractions; and provide a stimulus for private sector investment opportunities.

US Forest Service (USFS) is contributing to the development of the interpretive plan and exhibit content, and will participate in the staffing of the exhibit gallery during visitor hours.

The City will join the efforts of the agencies at the Mary Lowell Center through the promotion conferencing facilities for use by governmental, private or non-profit organizations. The City, partnering agencies and other interested parties are developing consensus on the management and operations of this portion of the facility.

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II. BUILDING, SITE AND ENGINEERING NARRATIVES

A. PROJECT OVERVIEW AND ARCHITECTURAL NARRATIVE

SITE

The previous phase of work (Concept Design) evaluated seven properties, plus multiple combinations of the seven properties, in terms of whether they fit the requirements for either the Mary Lowell Center or related off-street parking. In the final Concept Design Report, four parcel combinations were documented as Site Alternative #1-4.

After the completion of the Concept Design the alternatives were evaluated in an Environmental Assessment and land purchase was finalized. The parcels available for the Mary Lowell Center were those formerly known as:

1. Old Solly's Building at Fifth Avenue and Railway Avenue
2. Legend's Restaurant at Fifth Avenue and Washington Street
3. Don and Ruth Mai Residence on Fifth Avenue
4. Harbor Dinner Club on Fifth Avenue

Parcels #1 and #2 are separated by a public right-of-way, Washington Street. Parcels #3 and #4 are contiguous and can be jointly used. The Kenai Peninsula Borough and the City of Seward are considering vacating the portion of Washington Street between Fifth Avenue and the alley running north-south to the west of 5th Avenue. (See figure A-1, Relevant Properties and Figure A-2, Experiential Qualities.)

Subsequent to the land purchase, a value analysis was performed that identified a) a preferred concept which would require vacation of Washington Street and b) an alternative to be considered if the street vacation was not approved by local government. Since that time, it has become clear that vacation of Washington Street is not currently a viable option, so this Schematic Design effort is focused on schemes that do not depend on that strategy.

The two types of schemes described herein are for (1) a single site with one building on it, comprised of the entire program (See Figure A-3, *Concept Alternative 3*); and (2) two buildings, (one on each site), splitting the required program elements between two sites (See Figure A-4, *Concept Alternative 5*).

The "one site, one building" scheme (as compared to the "two sites, two buildings" scheme), offers the following advantages: management efficiency; low-cost shared space; benefits of adjacency to the "downtown" Fourth Avenue district; immediate visitor connection to other facilities in the downtown district; ease of identifying location and entry to the facility; visitor views to the surrounding landscape; direct relationship to the waterfront; co-location of administrative functions; vehicular and pedestrian interaction promoting public health and safety; and retainage of overstory trees on the Fifth Avenue site. The "two sites, two buildings" scheme also has advantages, including: _____; _____; _____.

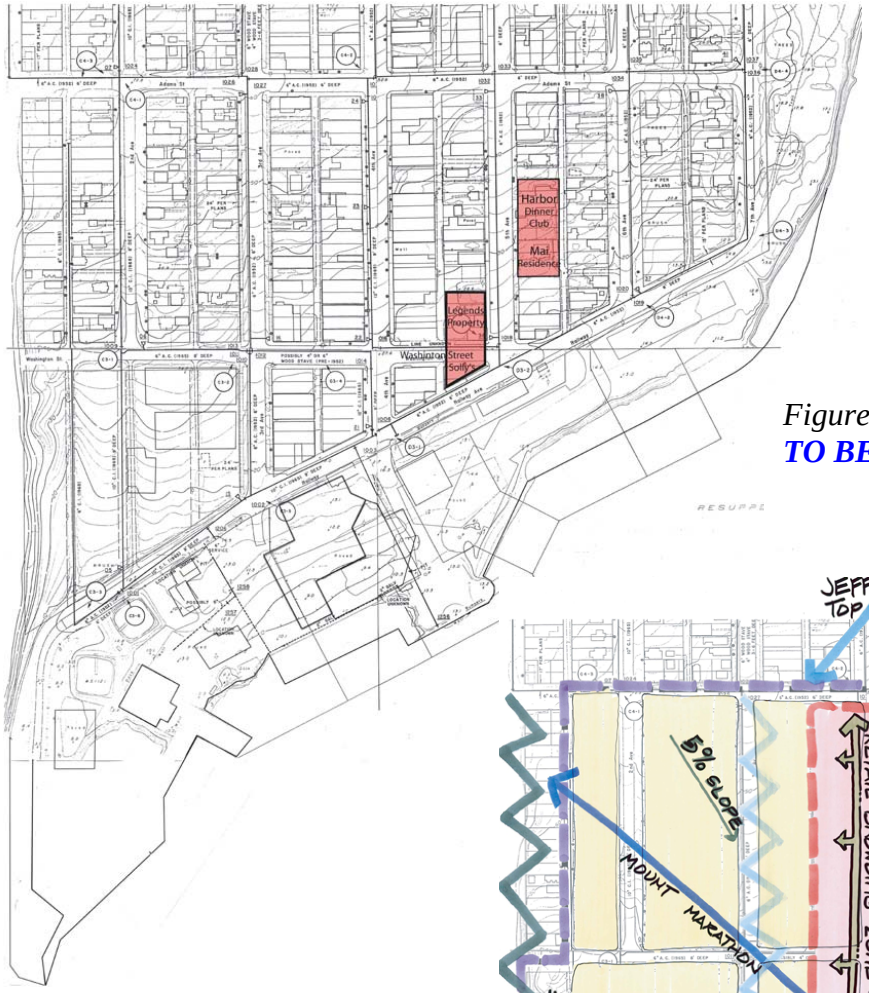

Figure A-1: Relevant Properties, Seward
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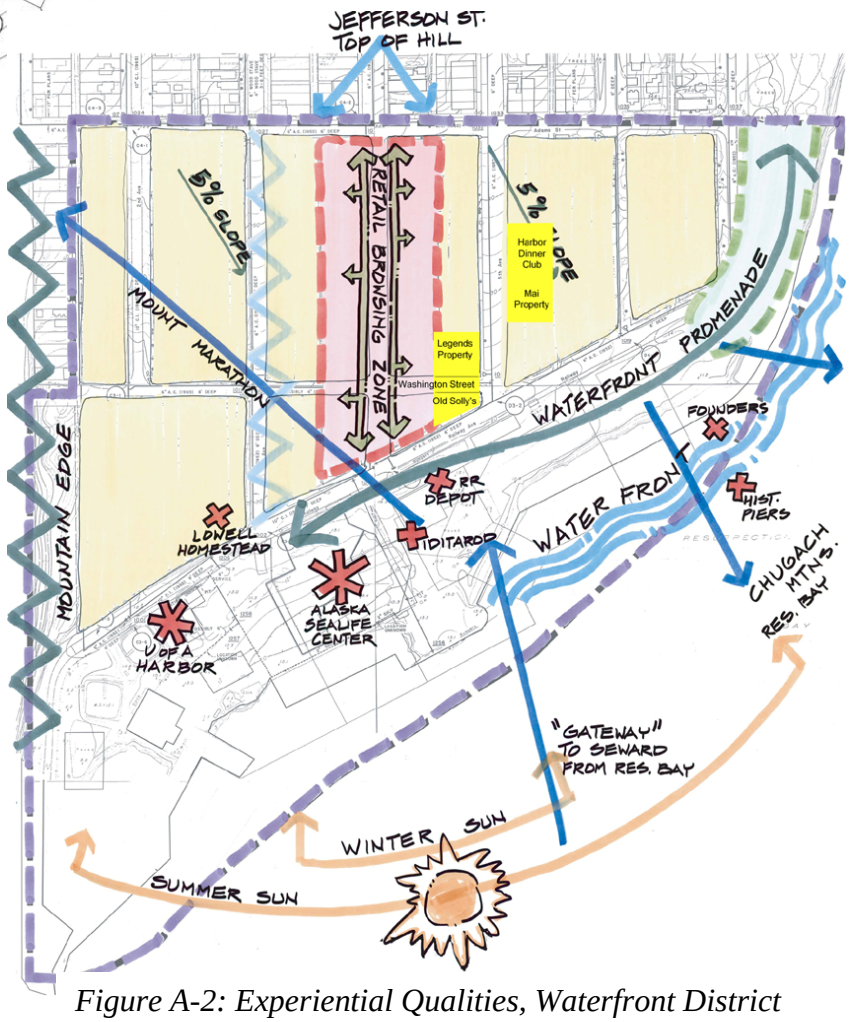


Figure A-2: Experiential Qualities, Waterfront District

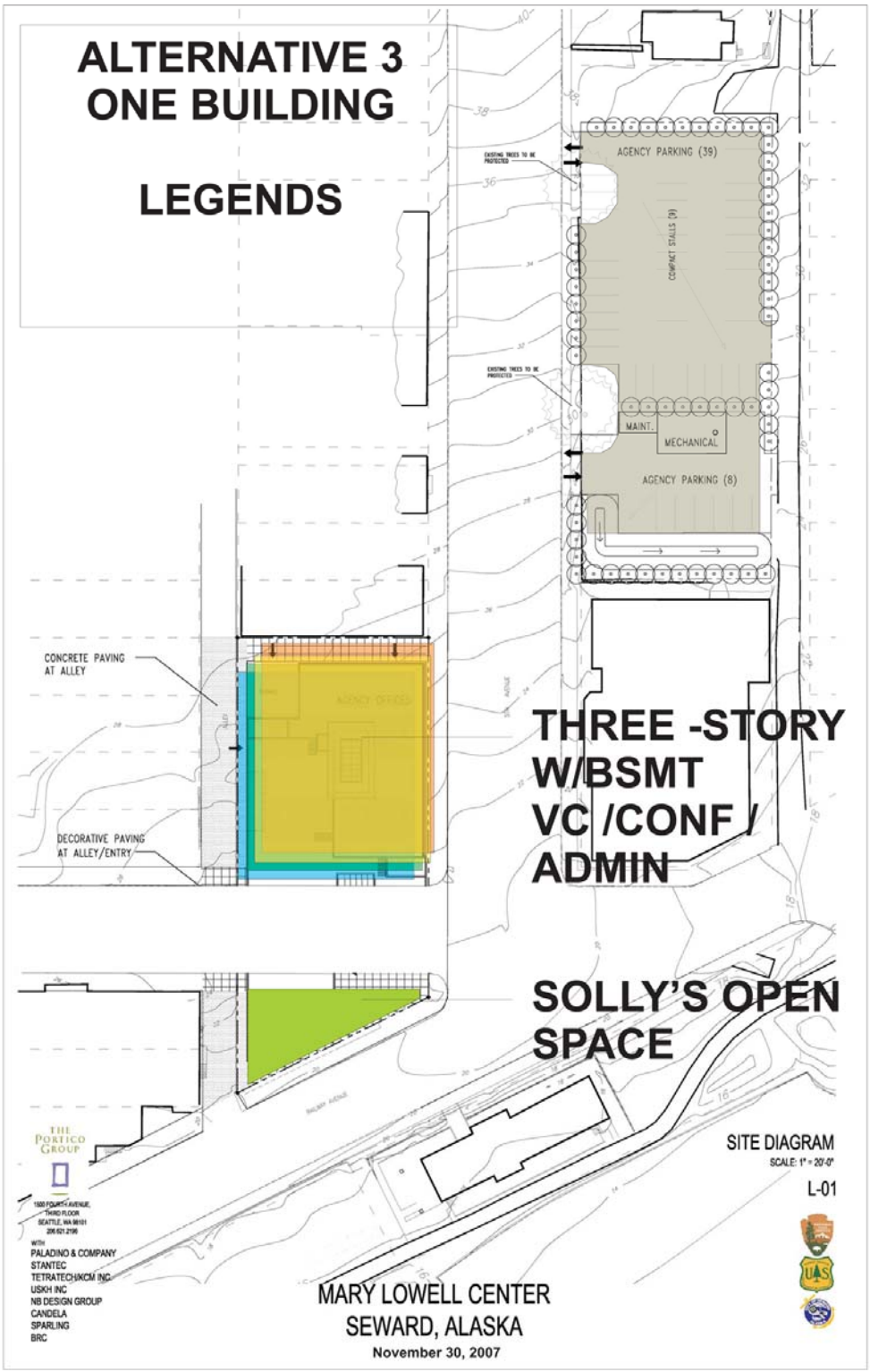


Figure A-3: Concept Alternative 3

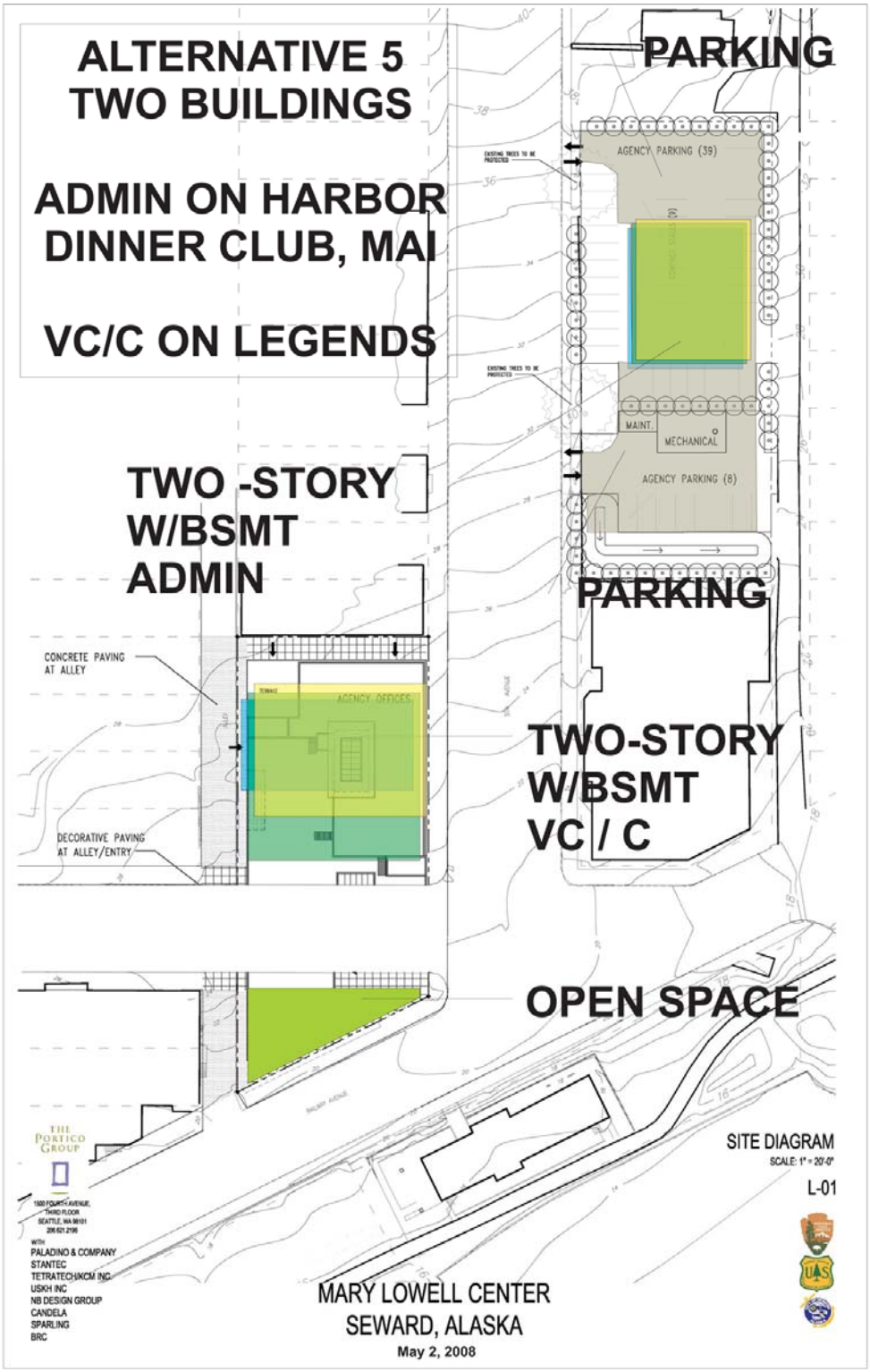


Figure A-4: Concept Alternative 5

FACILITY PROGRAM *(See also Appendix A, Facility Program)*

NPS and the City of Seward have developed a Facility Program based on the expected uses of the Seward Multi-Agency Center. Building uses for agency administration include reception, enclosed and open plan work areas, meeting rooms, and various storage and support spaces. Uses for visitor services include orientation information, trip planning, interpretive exhibits and film, and gift shop. Conferencing uses vary in size and scale, from large catered dinner events to small "break out" meetings.

The partnering and participating agencies, along with other organizations or companies using the Mary Lowell Center as a venue, are each targeting services to particular audiences. For Administration Services, the customers are expected to be cooperating agencies and organizations, as well as miners, fuel wood cutters, and special use permit holders. Visitor Services' user groups will likely include package tour groups, individual tourists, local residents, and professional associations. For Educational Services, target customers will be local school groups, public programs users (adults, children, and families), researchers, and government employees participating in training or seminars.

The Facility Program includes an allocation of area for each space plus for common spaces such as horizontal circulation, vertical circulation, building system spaces and exterior walls. The building area based on the Facility Program of individual rooms and spaces grouped by six main building users is:

NPS Administration:	3,076 square feet
USFS Administration:	264 square feet
Agency Shared Spaces:	2,924 square feet
Law Enforcement:	1,662 square feet
Visitor Services:	7,648 square feet
Conference Facility:	6,578 square feet

Building systems, circulation and exterior walls
9,831 square feet

NPS Initial Facility Program total gross area (all rooms, shared spaces, common spaces and exterior building walls)
31,294 square feet

One of the primary work goals of the Schematic Design phase is to create building plans that meet the Facility Program requirements for individual rooms, spaces and total gross area. The building area for Scheme 1 and 2 compare to the proscribed Facility Program as shown below:

TABLE 1: Comparison of Program Areas

AREA	Facility Program (SF)	Scheme 1 (SF) (One building)	Scheme 2 (SF) (Two Buildings)
		TBD	*TBD*
NPS Administration:	3076		
USFS Administration:	264		
Law Enforcement:	2924		
Agency Shared Spaces:	1,662		
Visitor Services:	7,648		
Conferencing:	6,578		
Systems, Circ., Ext. walls	9,831		
Total	31,294		

An analysis of the difference between Facility Program area and Building Plan areas identifies ___ significant issues emerging during the Schematic Design phase. The significant differences in program can be described as follows:

1. Area Reductions: NPS and USFS reevaluated projected permanent and seasonal staffing needs and decided to delete or scale down the number of enclosed offices and workstations.
2. Area Reductions: The conferencing meeting rooms decreased in area because the design criteria of conferencing - to seat at tables 300 conference attendees in one large space - was determined through plan sketches to require less space than was initially programmed in the NPS Facility Program.
3. Area Reductions: The visitor services auditorium was deleted because the film could be shown in any one of the conference meeting rooms plus the multi-purpose room if the identical A/V equipment was specified in each space. The decision to delete the auditorium space was further supported by additional findings: a) moveable and storable risers for chair seating could be used in lieu of fixed rake seating; b) the business plan for conferencing primarily plans to attract large conferences in fall-through-spring session, thus allowing the visitor film to show in one of the meeting rooms during the summer when visitor attendance is highest.

4. Area Increases: The initial Facility Program used 10% of program area to calculate area required by circulation. The estimate of circulation did not account for two project specific constraints: a) the size and shape of the preferred site requires a multi-floor building; b) the goal of separating public from agency spaces requires two side-by-side independent building zones. Multiple floors create duplication of horizontal circulation, vertical circulation, and some amenities (e.g. rest rooms and other common spaces); and the functional constraint create a duplication of some elements that were initially planned to be shared between agency and public use.
5. Area Increases: The initial Facility Program used 5% of program area to estimate area required by walls. The rule-of-thumb ratio appears not to have estimated a very low wall area, by not accounting for the high number of rooms and the complex relationship between room adjacencies in the Mary Lowell Center.

DESIGN

Schematic Design is the initial design phase where floor plans, sections, elevations and building systems are created. Schematic Design builds on the site alternative analysis, space planning and functional diagrams done in Concept Design. This report draws on the previously completed Schematic Design Report (December 2005) for design principals, conservation measures and public input. The designs included in that report are no longer viable, based on factors that include new government views on the vacation of Washington Street and the relocation of the USFS administration facility to an alternate location within the City of Seward. Those factors are reconsidered in the current designs, as illustrated below.

Concept Design relied heavily on the *Seward Waterfront Study* which identified potential sites for the Center, considered how the investment of a significant public building could benefit downtown Seward and its waterfront, and recommended city planning development strategies that would strengthen the image and identity of Seward.

Concept Design also relied heavily on the client-authored *Facility Program* and its descriptions of the purpose of the Center and its identification of a multitude of goals that the design must achieve.

Mary Lowell Center Schematic Design, Concept Design and the *Seward Waterfront Study* in turn, utilized the planning and design efforts for a Multi-Agency Center in the 1990s.

In each of these efforts public participation was sought. All of the design sessions were open to public drop-in attendance; each effort included public meetings and presentations to community groups and City Council. Planning and design is a process of making decisions, testing or evaluating those decisions, and then altering the original decision in light of new information and input. Planning and design is an iterative process that eventually moves from big ideas to resolved details. Comments, suggestions, requests and requirements – whether from interested citizens, local governmental or building neighbors or building users – have been included into the base of information upon which planning and design decisions are made.

The fundamental decisions that shape the current design for the Mary Lowell Center are described below.

Scheme 1 and Scheme 2

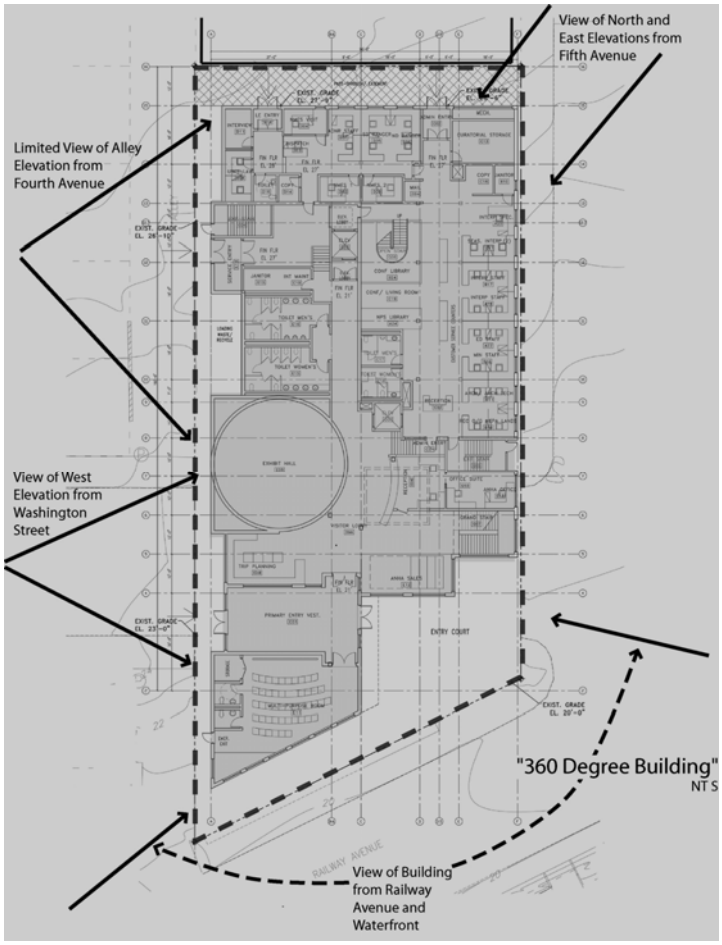
Two schemes are put forward in this report, to illustrate the options presented by all of the non-contiguous subject properties. [TO BE EXPANDED BASED ON TWO SCHEMES.]

City and Site Design

Importance of Building Façades: Within the Seward Waterfront area, the site location, size and orientation gives added prominence and visibility to the Mary Lowell Center

such that each façade of the building must be equally well-designed to face the community and current or future neighboring buildings. See Figure A-5.

- The portion of the Mary Lowell Center terminating Washington Street has at the street level a 40-foot long wall for public art installation, a 16-foot window wall with views into trip planning, and a 20-foot entry wall that during the summer months retracts into the Mary Lowell Center creating open-ended passage way with views of the Chugach Mountains beyond. The inner passage wall has a 32-foot photo mural and text giving the chronology of the City of Seward. At the second level the conference rooms have large windows that look west down Washington Street and the mountain beyond.
- The portion of the site that faces Railway Avenue has an important relationship to the historical Depot and waterfront park and the views of Resurrection Bay. In both schemes, the retail area faces onto the corner plaza. A roof terrace has a view arcing from the Chugach Mountains to Mount Marathon.
- The façade fronting Fifth Avenue has as the primarily feature windows through which pedestrians can see _____. During the winter, lights from these spaces will glow, conveying a sense that the building and the downtown area are full of people.



Building Scale and Character – The intent of the of the design for the Mary Lowell Center is to maintain the historic scale and character of downtown Seward. See Figure A-6.

- The existing building scale in Seward is presently a combination of one, two, and three-story, predominantly wood structures that provide a consistent image of a small town downtown. The Mary Lowell Center is made of building masses that are one-story (multi-purpose room), two-story (the exhibit hall and conferencing rooms), and three-story (agency offices); the exterior façade is combinations of panel, plank, shingle and board siding.

- The existing downtown buildings, each different than the next, contribute to the character and charm of Seward. The buildings are not "slick" – they have differences, blemishes, need some paint, are interesting and show their history – it's a one hundred year old American small town downtown. The Mary Lowell Center intends to promote quality design while demonstrating diversity of design in its parts to keep celebrating Seward's character.
- The Mary Lowell Center will provide many opportunities for public art on its exterior and interior spaces. The art will further connect the building to the people and lands of the Kenai Peninsula.

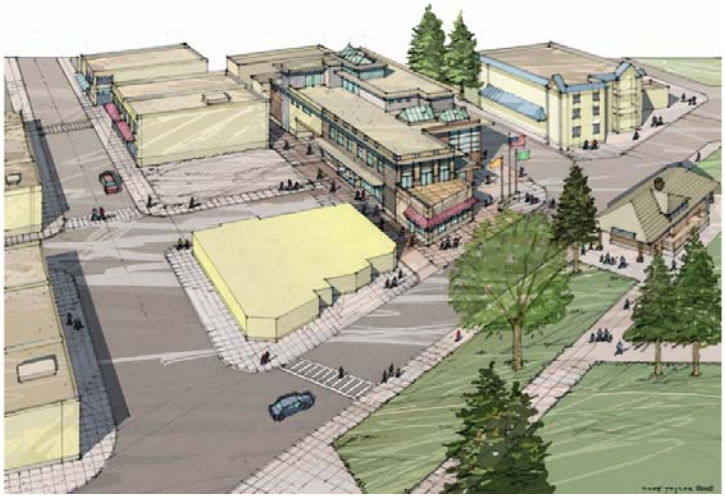


Figure A-6: Rendering

Pedestrian Access – The siting of a multi-story building on this site allows good pedestrian movement to be maintained at the Waterfront district. **See Figure A-7.** The entry plaza is visible from both Fifth Avenue and Railway Avenue, providing a civic space with views of the Bay. From the west, visitors can approach via Washington Street. The alley provides service access and garbage/recycle pick up, and a 5-foot pedestrian path runs along the alley for ease of movement north to south.

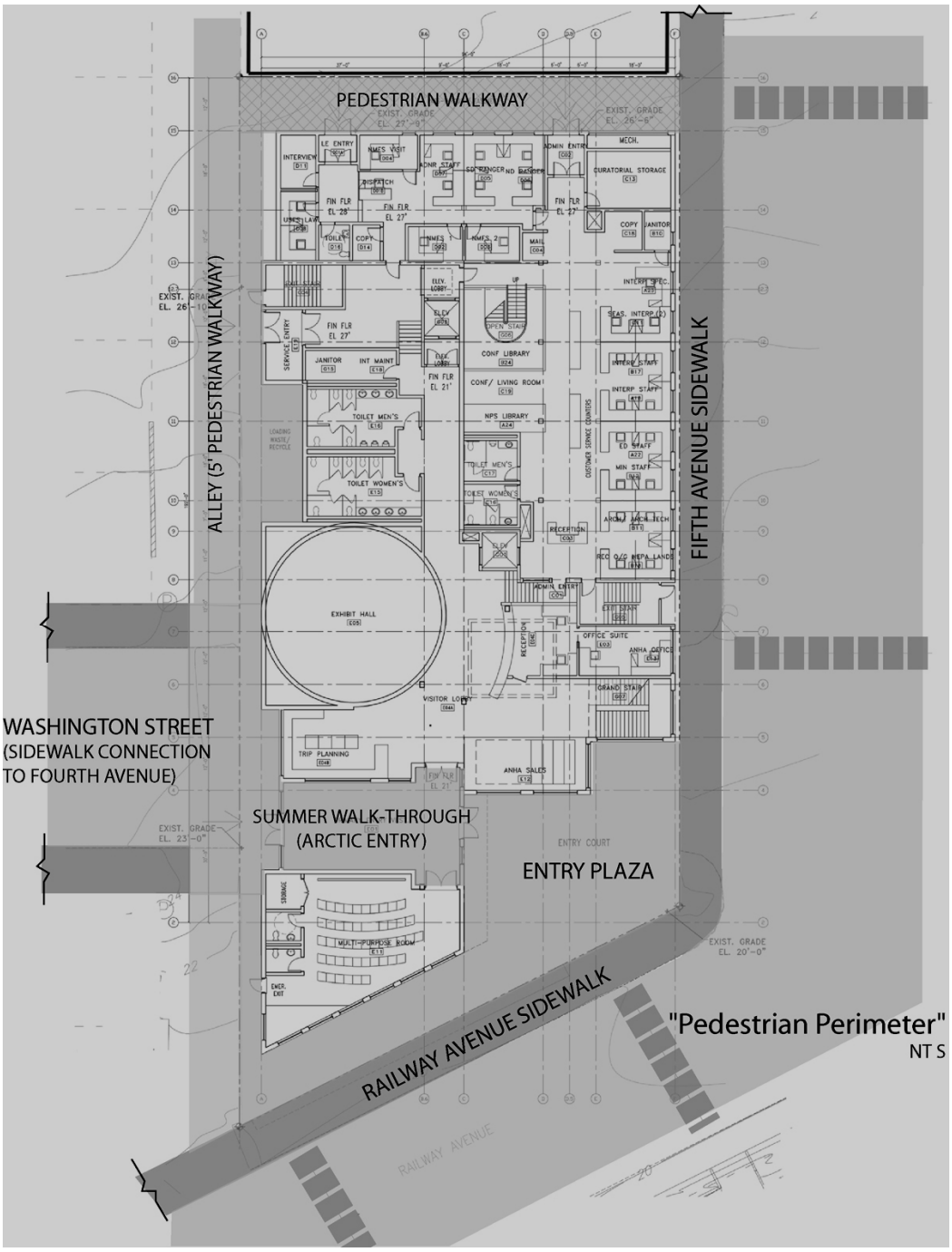


Figure A-7: Pedestrian Perimeter –
TO BE UPDATED

Building Design

SCHEME 1 and 2 updates – The public enters the building at the main lobby from where they can immediately access the information desk, trip planning, agency help desk, exhibit hall, gift store and toilets; or, the stair or elevator to the film and conference meeting rooms on the second floor.

Design Outcomes:

- The lobby is adjacent to trip planning, exhibit hall, gift store, public toilets, and stair/elevator circulation to the film and conference meeting rooms on the second floor. The lobby has a line-of-sight to the multi-purpose room.
- The focus of the lobby is a main desk area that is a large enough to allow front desk staff to greet visitors. It is adjacent to staff work spaces so that the number of staff at the front desk area can increase or decrease as visitation varies.
- The lobby requires wayfinding signage to identify significant visitor spaces, and to indicate which portion of the front desk area is for general information and which portion is for agency contact. The agency contact area can be staffed, or can direct visitors to a telephone that assists the public in contacting a specific agency staff member.

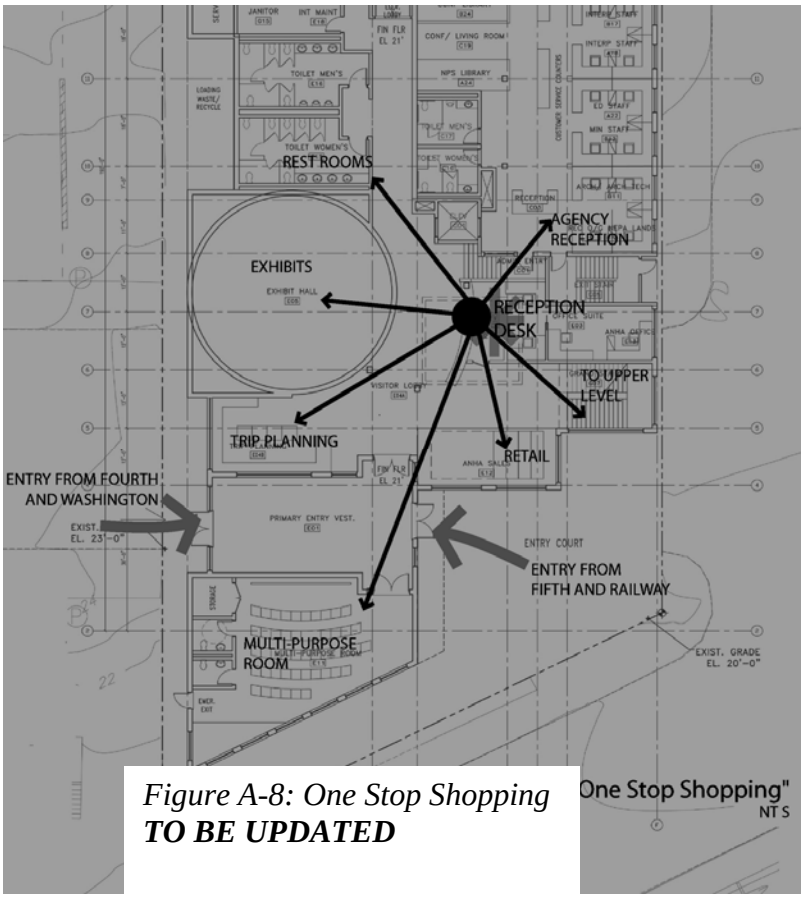


Figure A-8: One Stop Shopping
TO BE UPDATED

Program spaces for the public and program spaces for the agencies share the same exterior walls of the building; however, the two types of spaces are internally separated to better provide for unique needs of each group (i.e. operating hours, security, information technology systems, maintenance).

Design Outcomes:

- Both public and agency spaces have needs for convenient and direct access between the outside and the inside. The public and agency access is from Washington Street. The law enforcement component of the agencies has a

dedicated entry at the northwest corner of the building due to security requirements. The service entry which supports both public and agency spaces is off of the alley, where public and agency space join to use common exit stairs.

- The lobby's main desk area has line-of-sight observation to the entry, the elevator, toilets, retail and trip planning. This increases visitor safety and reduces instances where more than one staff person is required, particularly off season. The single elevator, providing public access to the conference facility, doubles as access to agency offices.
- Exception - The second floor public spaces (conferencing and film viewing) share two exit stairs and an elevator and a service elevator with agency office spaces. The exit stairs will use locked doors and swipe cards to control entry to agency floors. The lobby elevator uses a swipe card opposing door to allow for accessible access to the agency reception desk.

The following plan diagrams (Figures A-6, A-7 and A-8) illustrate the relationship between the agency uses and visitor uses on the first and second floors.

Multi-story Building – For Scheme 1, a multi-story building is required in order for the Facility Program (**39,254 square feet**) to fit the site (**20,811 square feet**); furthermore, a basement and a three-story agency space allow for an entry open space on the site.

Design Outcomes:

- The basement is used for public and agency support rooms, storage rooms and building system rooms.
- NPS have decided to organize their staff by work affinities for improved learning and communication. The public services staff is on Level 1 and closest to the public entry and reception, the administrative staff is on Level 2, and the "chiefs" responsible for line management tasks are on Level 3.
- The public space component of the program has relatively few rooms but have a high proportion of large-sized rooms that require high ceilings. The visitor-related spaces are located on Level 1, and the conference-related spaces are located on Level 2. The interpretive film can be shown in one of the conference meeting room segments; the logistics of showing the film will vary based on the visitation levels, the conference schedule, and other management issues.

Figures A-9 and A-10 illustrate the sectional relationships between the building uses.

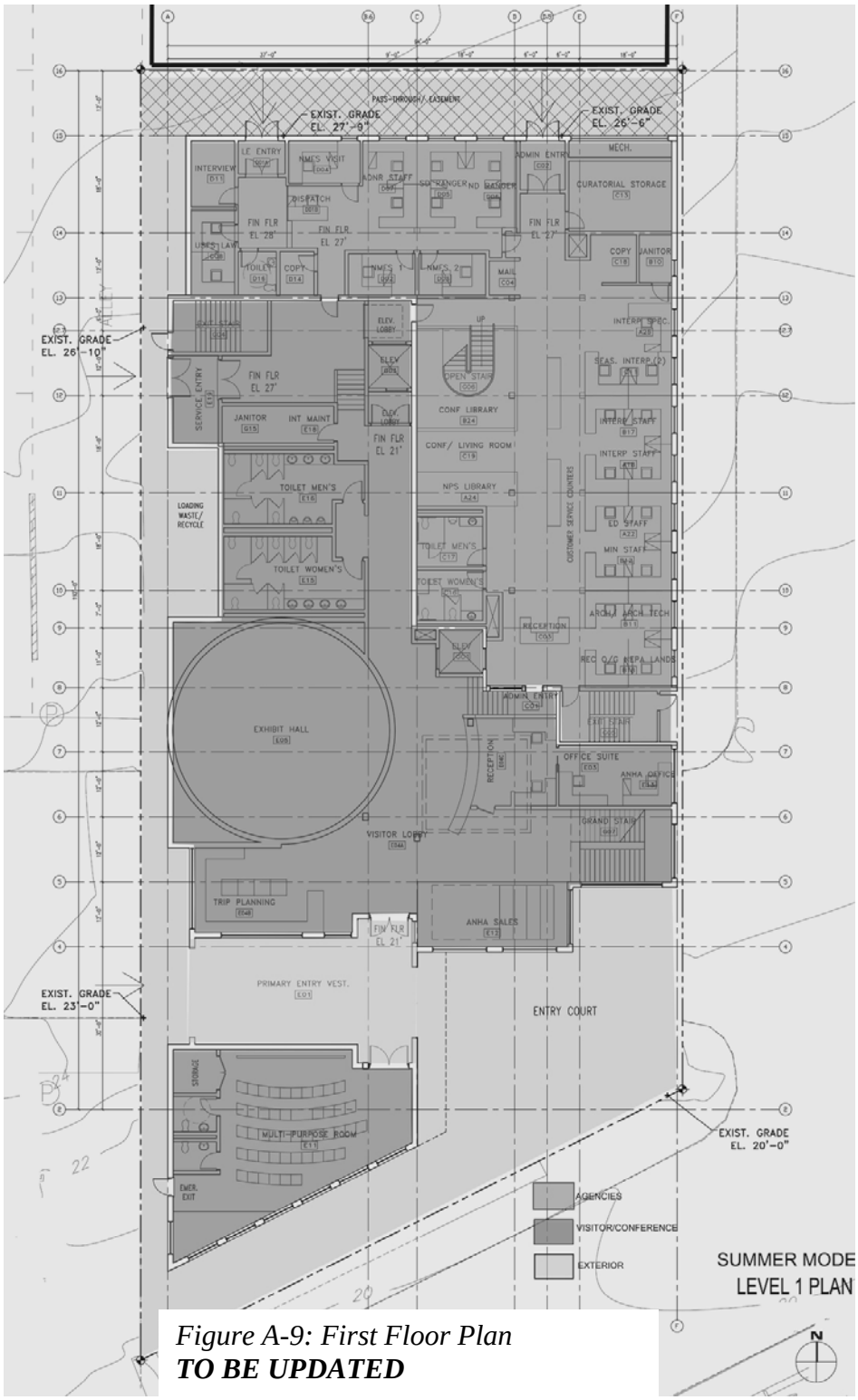


Figure A-9: First Floor Plan
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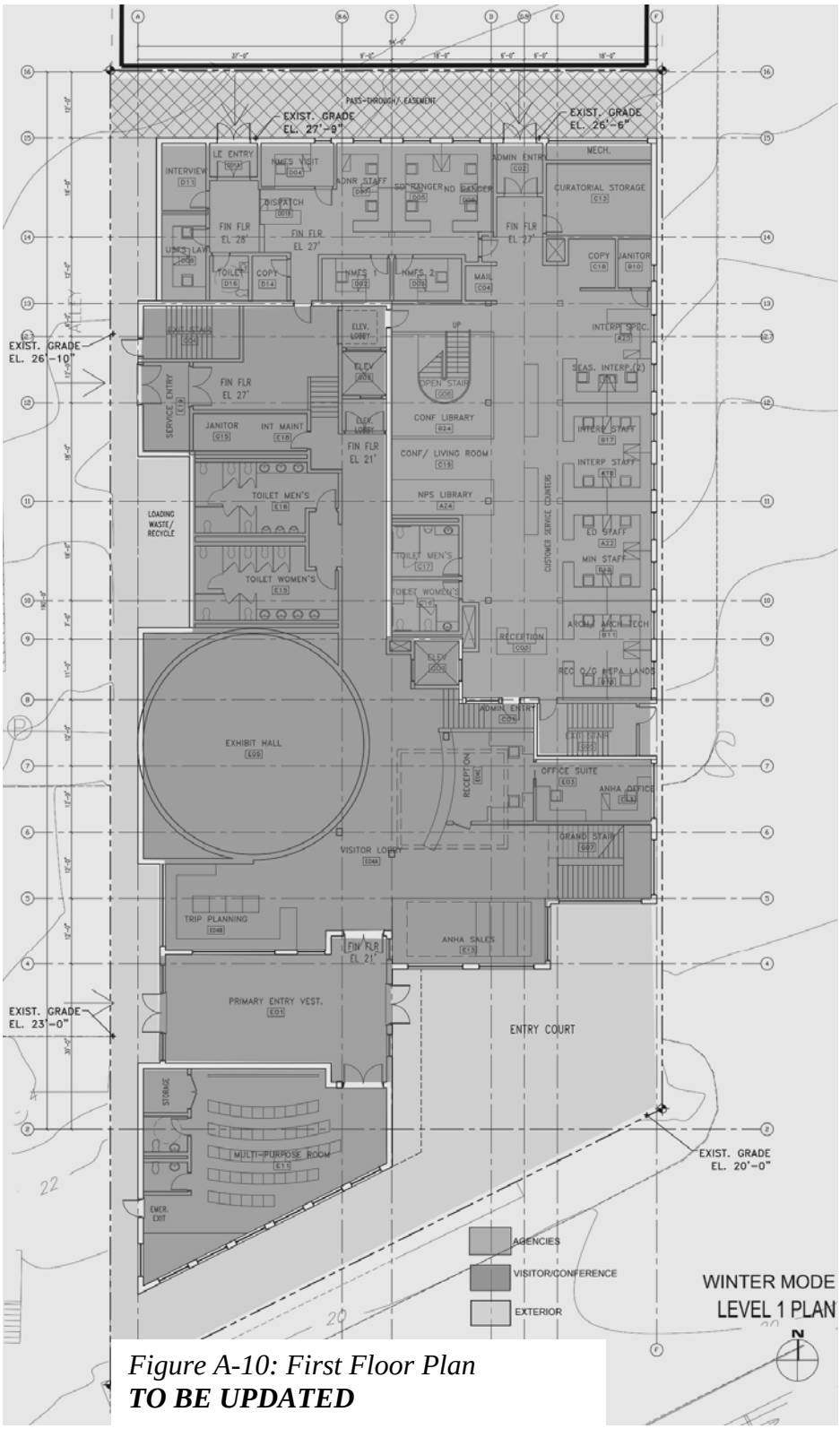

Figure A-10: First Floor Plan
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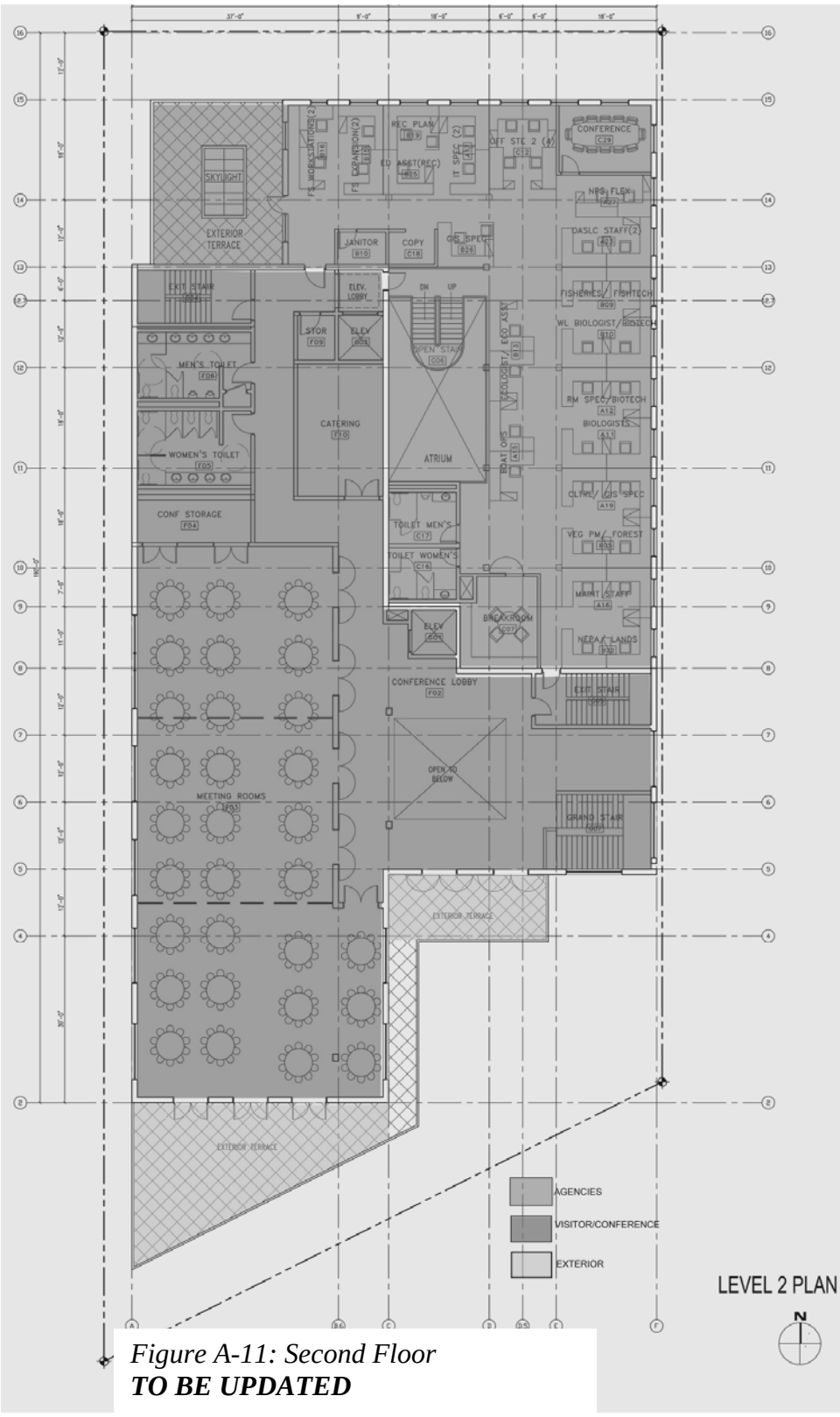

Figure A-11: Second Floor
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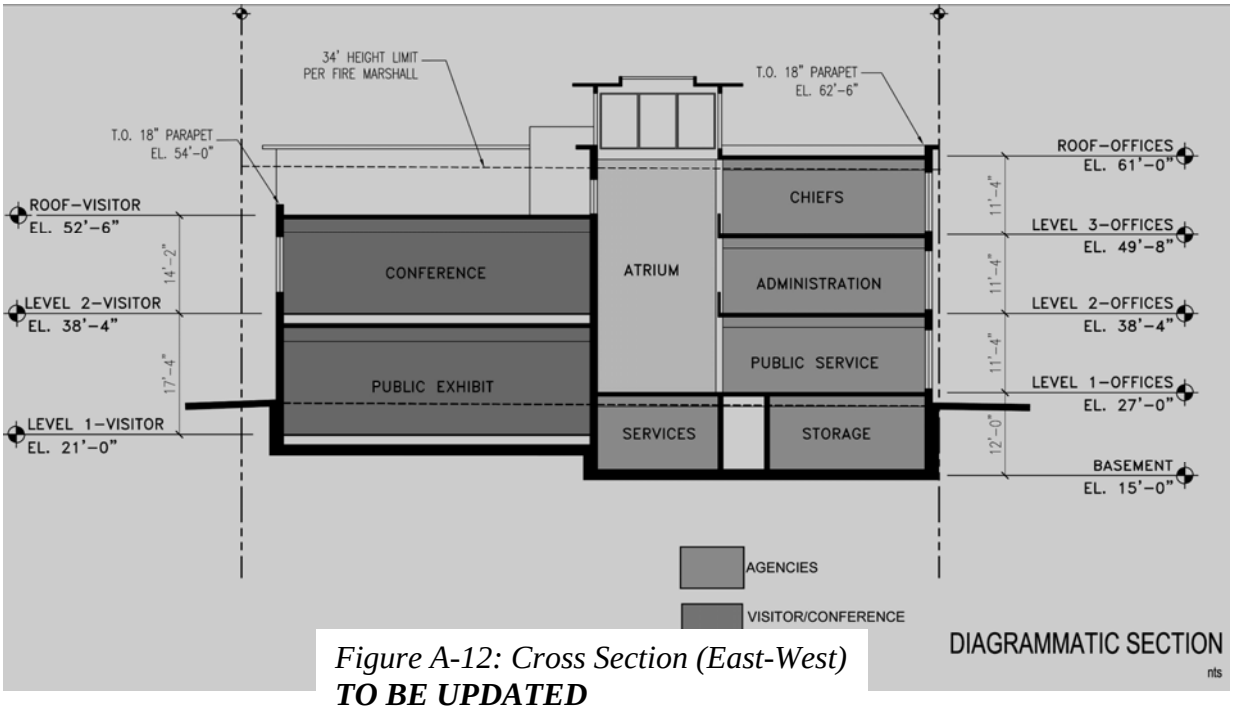


Figure A-12: Cross Section (East-West)
TO BE UPDATED

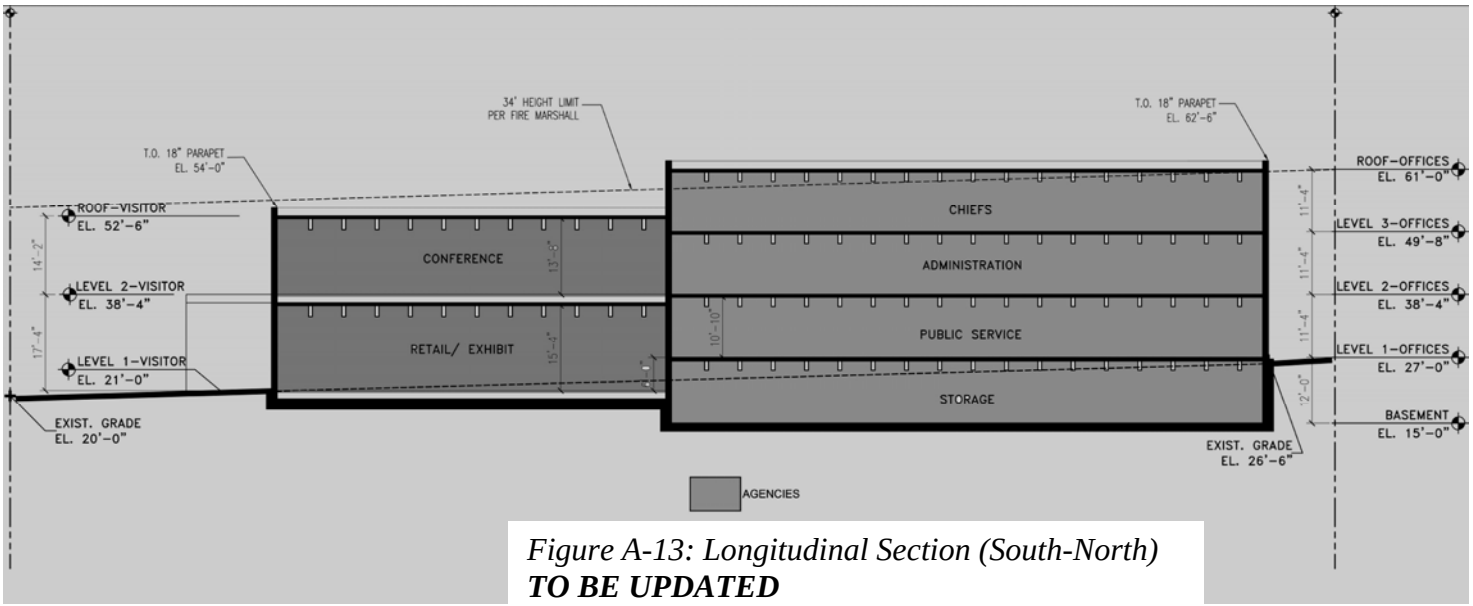


Figure A-13: Longitudinal Section (South-North)
TO BE UPDATED

Building Systems Design and Cost [To be updated for 2 Schemes and with GBOD]

A series of design decisions can be seen to relate to the project's initial costs, life cycle costs, and sustainable design goals. Some of these key decisions are listed here, and are detailed fully in the engineering narratives that follow.

No Chiller – Seward's climatic data revealed that the outside air temperature is sufficiently moderate over the summer to allow natural ventilation to provide cooling without air-conditioning or chilled water cooling.

- The dynamic yearly range of climatic conditions in Seward has implications for the building envelope as prime mediator between outside and inside environmental conditions.
- Perimeter operable windows and a central atrium will allow warm air to escape out of the building during summer months, pulling cooler outside air in through the open windows.
- Thermal mass will be added to the building to absorb the added heat on days when the outside air temperature is greater than 63 degrees. This heat will be expelled out of the building during the night.

Building Atrium – An atrium space is provided in the agency office area as well as in the public area in order to increase the distribution of daylight and natural ventilation, and to enhance the connections between the visitor and conference levels and between the three agency levels.

- The atrium will require design and building operations strategies to prohibit winter time cold air from flowing down from the clerestory skylights to the occupied spaces.
- In addition to its daylight and natural ventilation performance, the atrium space is also an opportunity for public art and environmental art using lighting, fabrics and hanging sculpture.

Sustainable Design - Choices in materials, water conservation, energy efficiency, building systems, and indoor air quality will be made to meet the USGBC's LEED™ 2.2 framework for green building along with standards, codes and regulations from local, state, federal jurisdiction and other professional organizations.

Renewable Energy – A renewable energy fuel source will be used to provide heating water for all building areas.

- Fish oil and wood chip have been identified as potential sources of fuel in the Seward area. The design provides for a wood chip fired boiler located on the Fifth Avenue parcels known as the Harbor Diner Club and the Mai Residence. The boiler room incorporates a wood chip storage area, and will require

periodic truck delivery of wood chips. The alternate fuel source to a renewable energy source is propane gas, which requires a storage tank.

Initial and Life Cycle Costs – The estimate of anticipated costs is a primary concern. Materials and building system have been selected to address both initial construction costs and life-cycle costs.

- Materials have been selected for long-term durability, and building systems have been selected for efficiency in performance and simplicity in operations. Estimating costs need to account for portions of the initial investment being "paid back" through consideration of life cycle performance and reduced ongoing operating, energy and maintenance costs.

Exhibit Design

The interpretive story begins with the geological formation of the region, and the resulting glaciers, watersheds, forests and wildlife. It proceeds through the arrival of Alutiiq and then European people in Seward, and the resources that attracted them. The exhibit story culminates with a description of the agencies who now manage our public lands and resources. See Figure A-14. *See also in this report Section III-A, Interpretive Approach.*

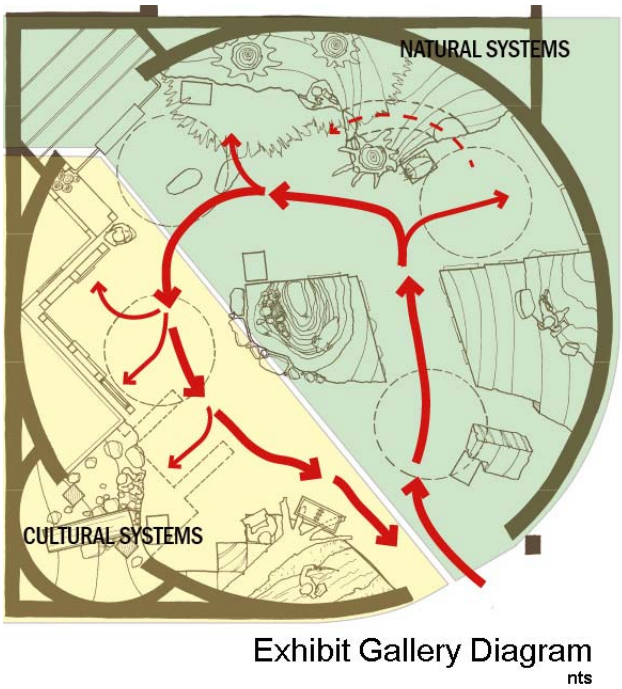


Figure A-14: Exhibit Gallery Zoning

- The environment of natural landscape segments include scenic diorama pieces of a glacier, nunatak, spruce forest, Lowell cabin, railroad trestle, archeological dig and fishing scene.
- The environment made or marked by human hand includes the encircling architectural wall and its graphic surface treatment, several freestanding graphic 'kiosks,' and cutaway graphic surfaces that expose the side of diorama pieces and 'story surfaces' with text, embedment, images and discovery elements.

End of Narrative

B. SUSTAINABILITY DESIGN NARRATIVE

DRAFT VERSION ~
This section is being updated

Sustainable Design Concept

The history of Alaska is a history of resource utilization enjoyed by the people who live there. In a similar vein, the missions of the National Park Service and the U.S. Forest Service both are inexorably linked to natural resources. The Project Interpretive Message captures this relationship:

> *"The harsh realities of this dynamic environment first defined the plants and animals that could live here, then forcibly shaped human culture through adaptation; and now, the culture in its own turn affects the resource."*

The design of the Mary Lowell Center must be able to adapt to this dynamic environment, which is a function of the climate extremes of Seward. These extremes are either an abundance or scarcity of resources. A third season or swing season occurs in-between abundance or scarcity resources or in which resources are either increasing or decreasing:

Abundance: During the summer months, the environment is one of abundance; sunlight hours, temperature and visitor occupancy are at their peak.

Scarcity: During the winter months, the environment is one of scarcity: sunlight, temperature and visitor occupancy are at their low point.

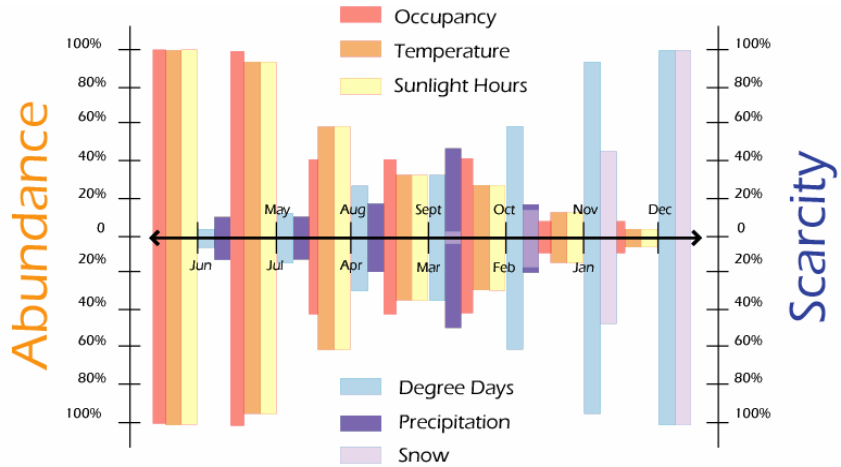
Swing: The times between the extremes of scarcity and abundance in which change occurs quickly and rapidly.

Therefore the climate is much like a pendulum, which slows during the upward swings as it approaches either summer (abundance) or winter (scarcity) and speeds through the low point in the swing during spring and fall seasons.

Taken separately, the seasonal extremes would each require separate design responses that would result in two drastically different buildings. Simply by selecting winter conditions as the driver of the design would result in a building that would perform poorly during the summer and swing seasons. The same would be true if the summer season were used as the driver. The most sustainable response is to investigate how the building can respond to both extremes through adaptations that could occur during the

swing seasons. By understanding the extremes of daylight, temperature and occupancy during abundance and scarcity, a sustainable design response can be understood.

Figure B-1 Abundance and Scarcity



1. Daylight Swing Analysis

The 60 degree North latitude of Seward creates a dynamic seasonal change with regards to available daylight. **Figure B-2** below captures how the swing affects both summer and winter design conditions.

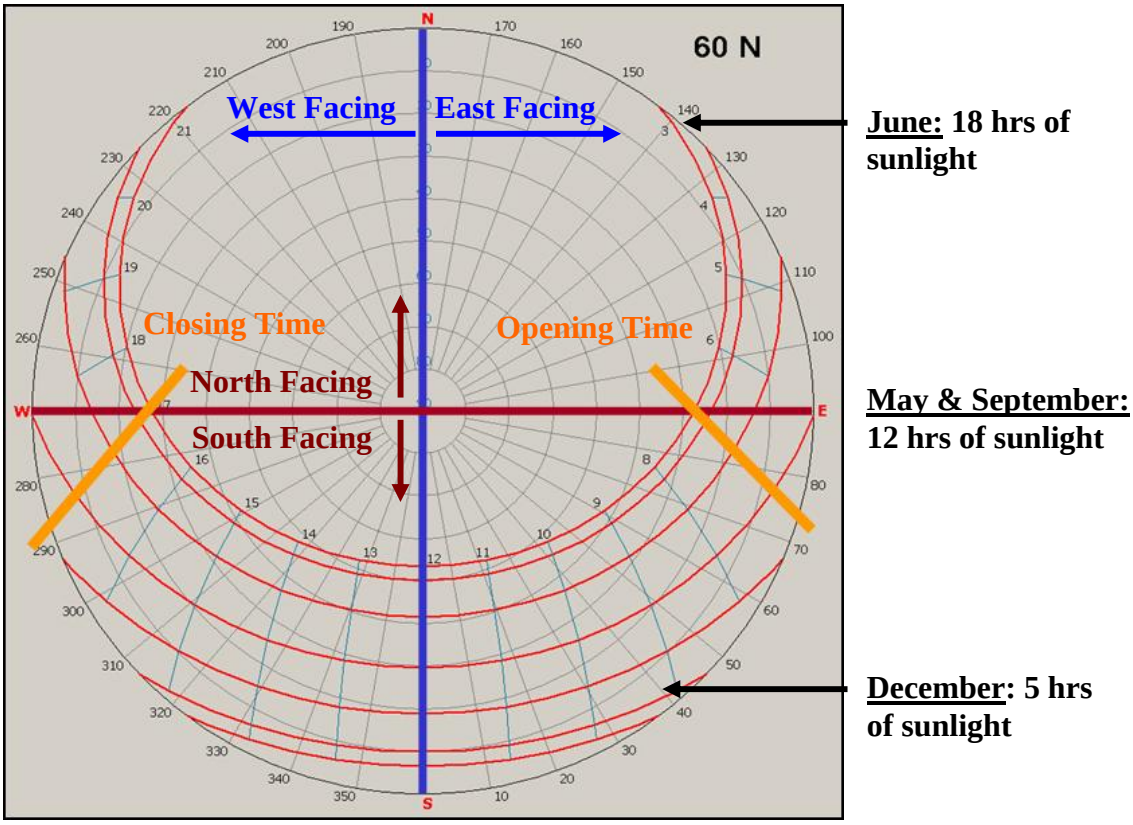


Figure B-3 depicts the exact design conditions that must be considered for the building to be able to respond to both extremes:

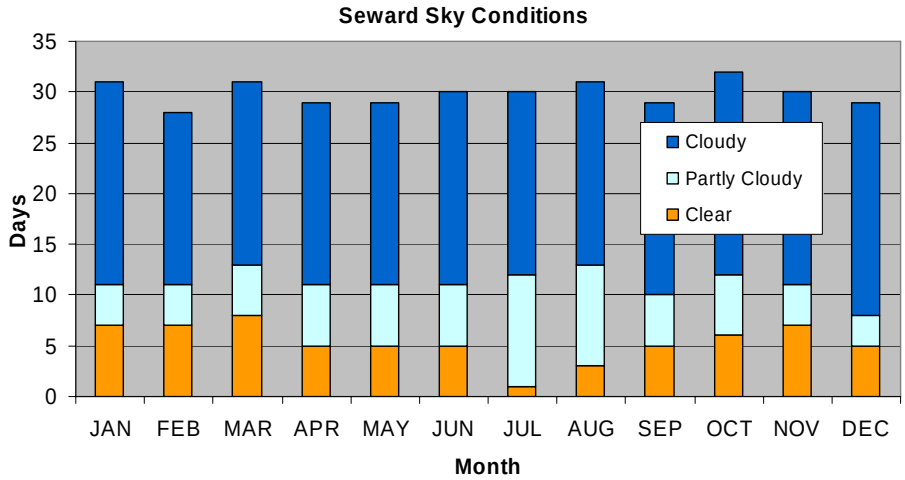
Figure B-3: Design Conditions

	Summer	Fall/Spring	Winter
Total Daylight Hours	18 hrs	12 hrs	5 hrs
North Solar Exposure	8 hrs	0 hrs	0 hrs
South Solar Exposure	10 hrs	12 hrs	5 hrs
East/West Solar Exposure	10 hrs	6 hrs	2.5 hrs
Sun Altitude Angles (during operational times)	30-55 degrees	10-30 degrees	0-10 degrees

The sky conditions must also be considered during the design of the building. As can be seen in **Figure B-4** below, the majority of days in the Seward area are cloudy and partly cloudy. Partly cloudy and cloudy skies are the average for 75% of the year. Most sunlight hours per day occur between 9:30 AM and 2:30 PM. While sky conditions indicate that passive solar gains are not possible, overcast sky conditions can present a good opportunity for daylighting as the brightest spot of the sky always occurs at the

zenith. Thus, skylit atriums offer the opportunity to let daylight penetrate deep into a building providing good daylight to core areas of the building.

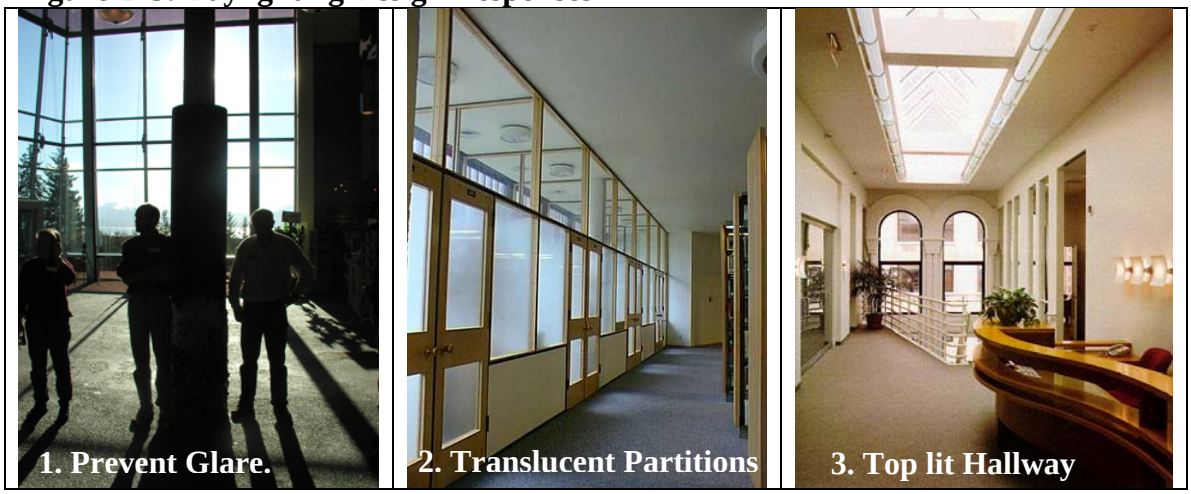
Figure B-4: Seward Sky Conditions



Daylighting Design Responses:

1. **The low sun angles of Seward must be controlled via interior blinds or fixed louvers to prevent glare**
2. **Interior walls should be perpendicular to glazing or feature translucent or transparent panels to allow for daylight penetration**
3. **Cloudy sky conditions are ideal for top lighting through skylights or atria to distribute daylight to all levels of the building.**

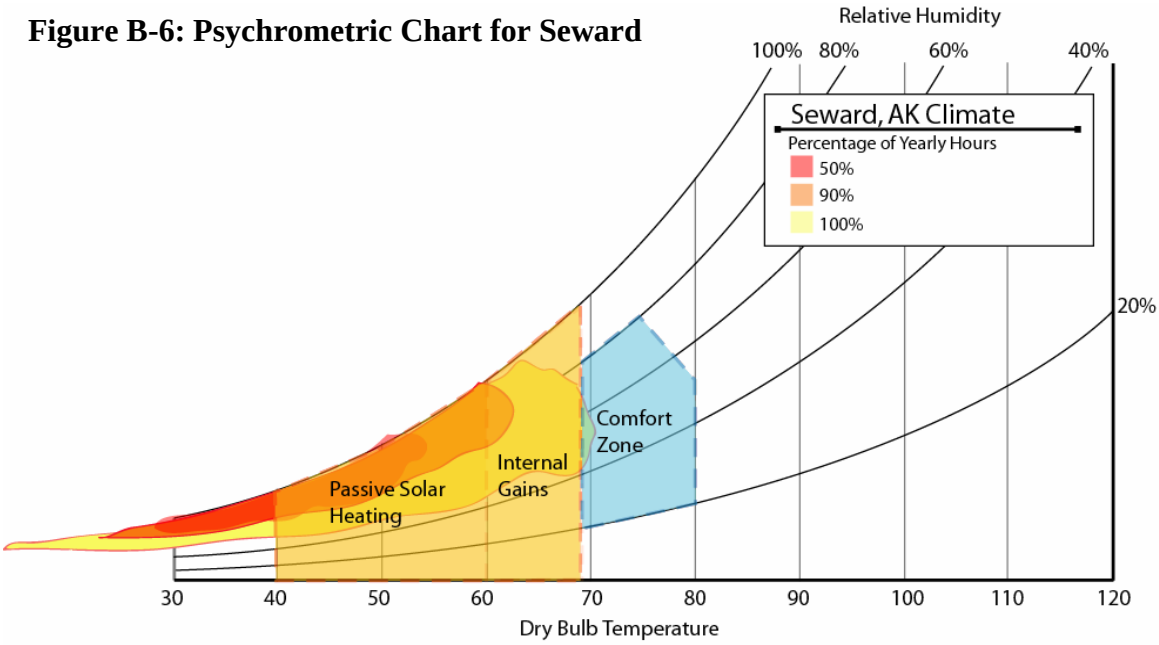
Figure B-5: Daylighting Design Responses



2. Temperature Swing Analysis

Both the average relative humidity and the normal daily temperature are combined on the psychrometric chart to determine a more precise comfort zone, **Figure B-6**. The psychrometric chart also reflects how the normal thermal comfort zone may be extended through the use of selected building strategies.

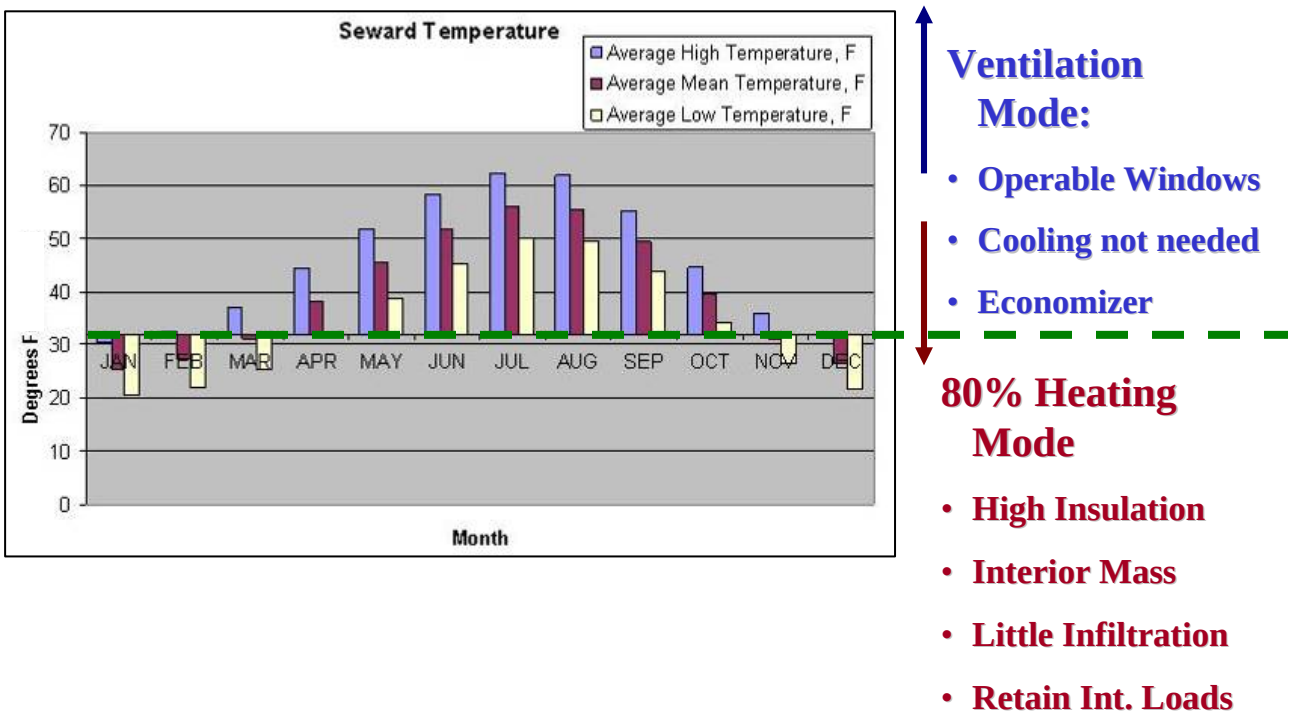
Figure B-6: Psychrometric Chart for Seward



In Seward, the temperature and relative humidity average in the low range, evidenced by most of the data falling to the left of the thermal comfort zone. For most of the year, heating is necessary to warm indoor spaces. An ideal design response for winter conditions is to design a highly insulated enclosure to retain solar gains and to limit glazing to prevent heat loss. As there are limited daylight hours available during the winter, designing for direct solar gains to heat the building is not a realistic design response.

During the summer conditions internal building gains move the temperature and relative humidity into the thermal comfort conditions. An ideal response would be an open, naturally ventilated building. This could be accomplished with large operable windows to provide good ventilation deep into the building and exposed thermal mass to moderate high temperatures. For Seward, a well-ventilated building would not require a chiller. **Figure B-7** below depicts the average temperatures of Seward and reflects these two different seasonal design responses (abundance/scarcity).

Figure B-7: Temperature and Design Considerations



Temperature Design Responses

1. **Utilize operable windows to allow ventilation during the summer**
2. **Utilize exposed thermal mass to moderate daily temperature swings**
3. **Use interior insulated shutters to vary apertures thereby reducing thermal loss during the winter and increasing daylight during the summer**

3. Occupancy Swing Analysis

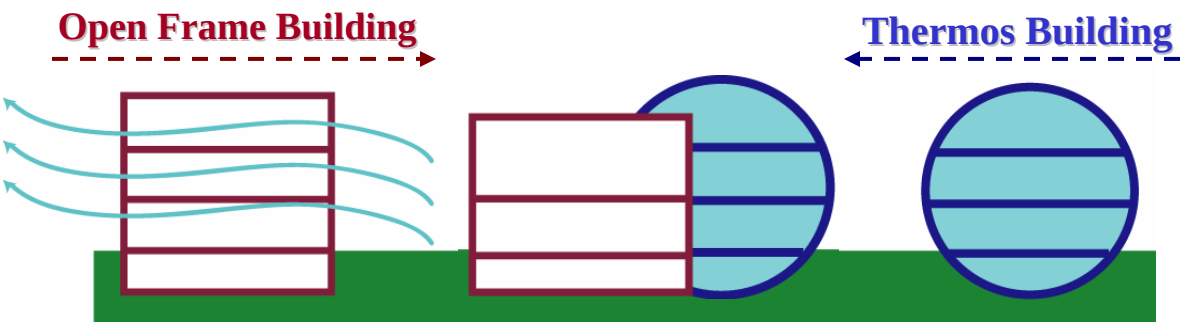
The Partner Agencies all feature occupants that will use the building during the entire year. Staff levels will remain relatively constant during the year, with the exception of a small percentage of seasonal staff. However, The Visitor's Center and the Conference Facilities have large occupancy swings from the summer to the winter. Almost all of the visitors will be arriving during the summer months and will dwindle down to small numbers during the fall, winter and spring seasons. Per the neighboring Sealife Center, 95% of visitors arrive from May-August. The Conference Center is anticipating roughly 20 events that will occur during the swing seasons of the year: September-November and February-March. Conferences are unlikely to occur during the winter months.

As the building has two different types of occupancy patterns, steady and variable, the design of the building needs to respond to both conditions shown in **Figure B-8** below. In the one-building scheme (Scheme 1), this can be accomplished by separating the two occupancy types into separate areas of the building so that the area of the building with variable occupancy could reduce operating times without affecting the other steady state office component of the building. In the two-building scheme (Scheme 2), this is accomplished by putting the different occupancy types in different buildings.

Another efficiency that is inherent in the occupancy separation is that the heating and ventilation systems can be different and optimized for the occupancy type. For steady occupancy areas, a radiant floor heating system is a highly efficient method to provide a thermally comfortable environment. During the summer, operable windows could supply ventilation to cool spaces and prevent heat buildup.

These systems, however, are not ideal for highly variable occupancy such as the Visitor's Center and Conference Facility. The systems for these spaces should have quick response times so that as the number of occupants increases (such as at the start of a meeting) the heating and ventilation systems can maintain thermal comfort. An Under Floor Air Distribution system is ideal for these spaces as it responds quickly to changes in occupancy and is the most efficient method for the supply of conditioned air.

Figure B-8: Occupancy Patterns and Building Conditions



Visitor's/Meeting Center

- **Variable Occupancy**
- **Expandable**
- **Quick Systems Response**

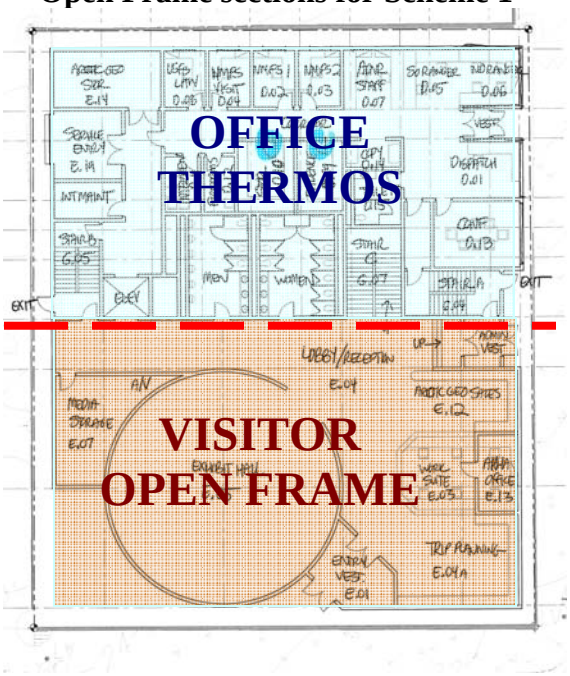
Office Center

- **Steady Occupancy**
- **Contraction**
- **Steady Systems Response**

For the schematic design proposed for Scheme 1 (**Figure B-9),** this separation could occur at the hallway (red dashed line) that appears between the two building functions.

A final consideration can be made for spaces that may be used during off-peak hours. The meeting room has the potential to be operating after closing hours for community meetings and events. If this space is designed as a room within the building, then the community room, lobby, restrooms, and all other spaces that are connected with the entry would have to be conditioned during evening in which an event is held. However, if the community room is separated from the building and contains restrooms and an exterior entrance, then it could operate independently of other spaces in the building. This could reduce security concerns, heating and staffing required to

Figure B-9: Potential Thermos & Open Frame sections for Scheme 1



operate the community room after hours. Neither Scheme 1 nor Scheme 2 proposed designs take advantage of this opportunity at this time, but both schemes have the potential to develop this option during design development.

Occupancy Design Responses

1. **Physically separate the building into two occupancies: variable (Visitor's Center and Conference Facility) and steady (Office Spaces)**
2. **Design separate heating and ventilating systems that can efficiently respond to the two occupancy conditions**
3. **Provide a separate entry and restrooms for the community room to allow for after hours operation**

4. Bridging Abundance and Scarcity

In order for the project to optimize the design for sustainable siting, daylighting, temperature and occupancy swings, it must be able to adapt to the conditions of their abundance and scarcity. The two Schemes use the site differently – each approach shows sustainability benefits and liabilities.

Scheme 1 has the advantage of consolidating all building construction on one site, reducing the building footprint and providing more opportunity for providing low impact development opportunities for handling stormwater on the non-building site. If Scheme 1 is pursued, this non-building site should be analyzed in the design development (DD) phase to optimize its use. There is potential to balance parking needs with other potential uses (LID demonstration area, etc.). Scheme 1 also has an inherently smaller building envelope. This presents a thermal advantage during the heating season and the visitor portion of the building can potentially be used as a buffer area during low-occupancy winter times. But this smaller envelope means a reduced perimeter zone which is more challenging for natural ventilation in the summer season and for daylighting and views to interior spaces during all seasons. These heating/cooling/daylighting approaches need more development in DD.

Scheme 2 has the advantage of better potential access of all spaces to daylight, views and natural ventilation because of its more extensive envelope. However, this larger envelope poses a significant liability in the dominant heating season. In addition, the larger building footprint spreads development over the two sites which may make LID approaches more challenging to implement.

The table below shows some of these concerns for these issues and the potential they show for the current Scheme 1 and Scheme 2 designs.

SUSTAINABLE FEATURE	SCHEME 1	SCHEME 2
Minimize development footprint	Small building footprint inherent in scheme; parking footprint needs development in DD	Large building & parking footprint
Minimize heat island impact	Both sites need development in DD	Both sites need development in DD
Handle stormwater runoff on-site	Easy stormwater management potential for parking site; building site needs development in DD	Both sites need development in DD
Split Thermos/Open Frame Sections	Potential split at hallway; needs development in DD	Split inherent in programmatic division of 2-building scheme
Minimize envelope for winter heating condition	Inherent in proposed 1-building scheme	Larger envelope poses significant liability in heating seasons; needs development in DD
Breathable envelope for summer ventilation/cooling condition	Needs development in DD; potential to use main hallway as ventilation shaft; potential to duct ventilation through visitor UFAD to office space	Easy potential for natural ventilation inherent in proposed 2-building scheme
Separate meeting space with entry & restrooms	Needs development in DD	Needs development in DD
Daylight for all spaces (except exhibits)	Needs development in DD; potential to use main hallway as daylight shaft to interior spaces	More perimeter space makes this easier in this scheme
Views for all spaces (except exhibits?)	Needs development in DD	More perimeter space makes this easier in this scheme

Potential Sustainable Design Responses

1. **Use top and side lighting to daylight from multiple directions; toplight interior hallways to share daylight with interior building areas**
2. **Design thermal screens or wall systems that seasonally reduce the heated volume**
3. **Expose thermal mass to collect sunlight in swing seasons and moderate summer peak conditions**
4. **Provide large operable wall systems that allow spaces to expand during the summer and contract during the winter**
5. **Proivde walk-off mats at all entrances to allow occupants to remove snow and ice from boots prior to entering**

Figure B-10: Sustainable Design Responses

1. Top-lit Hallway

2. Thermal Screen Walls

3. Exposed Mass

4. Operable Wall Systems

5. Recessed Floor Mats

6. Radiant Floor

Green Basis of Design Overview

Each of the building features that respond to the swing from abundance to scarcity, have design implications that span the traditional roles of design team and consultants. It is therefore critical that all members of the design team are aware of how their design decisions impact others and, consequently, the overall performance of the building.

A Green Basis of Design (GBOD) document will be updated in the Design Development phase to communicate integrated design decisions to all on the design team and to the owner. Components, systems and design features will be described in the GBOD that serves to capture owner requirements, design standards and sustainable design goals. It also serves as a preliminary commissioning document that can be used to evaluate the design at the end of each design phase thereby ensuring that the owner's needs and the sustainable design goals of the project are being met by the design team.

DRAFT VERSION!!
This section is being updated

F. CIVIL ENGINEERING DESIGN NARRATIVE

Overview

Two schemes are proposed for the development of the Mary Lowell Center which both utilize a combination of two sites. Scheme 1 proposes a combined administration and visitor center located at the corner of 5th and Washington Streets in downtown Seward, currently the location of the Legends Restaurant. Parking for about 45 vehicles will be located across 5th Avenue about ½ block north of the building. As now planned, the building for Scheme 1 will have space for about 100 permanent users and 35 seasonal users, and will have a capacity to handle over 700 visitors at any one time.

Scheme 2 proposes a visitors center on the northwest corner of 5th and Washington Streets and an administration building on the site proposed for parking in Scheme 1. Currently, the Harbor Dinner Club and Mai Residence are located on this proposed site. Parking for approximately 30 vehicles will be provided on the administration building's site. The visitor center in Scheme 2 will have the capacity to handle 700 visitors while the administration building will provide space for 100 permanent users and 35 seasonal users.

Both sites will require the following site utilities under Scheme 2:

- water supply for both domestic and fire protection use that meets applicable flow and quality requirements,
- conveyance of sanitary wastewater to appropriate treatment and disposal,
- removal of storm water from the site, meeting applicable flow and quality requirements, and
- electrical power, telephone, and cable television.

Scheme 1 will require all of the above site utilities to the building site only with the exception of storm water removal, which will be provided for both sites.

The approximate size requirements for each of these services are:

- Building(s) – 3" potable water, 6" fire protection, 4" sanitary sewer, 3-phase power, roof drainage to storm drain, telephone and cable requirements to be determined.
- Parking area–storm water treatment and 12" storm drain for parking area

NEED INFO ON WHAT TO DO ABOUT HEATING

Existing Utility System Capacity and Requirements

Most of the utilities are provided by the City of Seward, with the exception of telephone and cable television service which are provided by private companies. The city uses Municipality of Anchorage standard details and specifications for design and construction of utilities, including services, with the exception that minimum cover requirements are

9-ft for water systems and 6-ft for sewer systems. The following information is based on review of existing city records and discussions with city and state staff.

Water service

The city water system consists of a 12" cast iron pipe along 4th Avenue and a 6" asbestos cement pipe along 5th Street, with a pipe of unknown size connecting the two along Washington Street. The 12" CI pipe was installed after the earthquake in 1965, and the 6" AC pipe was installed in the early 1950's. Although the city reports no recent problems with either pipe, both pipes are aging and especially the 6" AC may be approaching the end of its economic life. The city has no current plans for major pipe replacements in the area, although they did replace the 4" gate valve serving the building site (currently Legends Restaurant) last summer. City staff estimates the available pressure in this area at about 60 to 70 psi.

The water pipe along Washington has been identified as either a 6" AC or 4" wood stave pipe on city utility drawings, but no excavations have been done to verify its size, material or condition. If it is taken out of service, the city has requested that the pipe be disconnected at its connections to the mains on 4th and 5th Avenues, and the mains be repaired with pipe sections or full-circle repair clamps to replace the existing tees. The existing details at each main are unknown.

The Seward Fire Department indicates that, during a fire call to the 5th and Washington site, they will approach the building from both the east and west sides, and would like to have relatively short access to the main water service entry and alarm panel. With the depth of the water system in Seward, most large diameter service entries are in basements with a nearby stair to street. The present building design allows for this along 5th Avenue near Building Grid 8-F. No basement is available at the Washington Street side of the building.

Sanitary Wastewater –

The city has sewer mains in the alleys between 4th and 5th and between 5th and 6th Avenues. The sewers drain down to Railroad Avenue. The sewer crossing the Washington Street right-of-way does not appear to be within the area being vacated for the new building, so the city should be able to access and maintain the sewer without any special easements.

Based on the present building designs for both sites, a 4" sewer service is required based on fixture units, although a 6" service may be desirable for the combined building in Scheme 1 for possible visitor load peaks. The existing sewers in both alleys appear to be of sufficient capacity to accommodate the new facilities.

Storm Drainage

The proposed facilities in both schemes will have significant areas of impervious surface, and will increase storm water runoff somewhat from that which occurs now. Also, the

increased vehicle parking areas will result in more contaminants entering the storm water, and some form of treatment will necessary where the drain system leaves that site.

Earlier planning documents included consideration of on-site retention of storm water to reduce effects on downstream watercourses, but because the city or MLC storm drainage is discharged directly to Resurrection Bay, there appears to be no need for on-site retention.

Because the area of each site is well below one acre, it appears that State of Alaska Department of Environmental Conservation regulations are applicable to handling storm water. At the 5th and Washington site, all storm water will be from either roof or pedestrian areas, which the ADEC considers to be suitable for discharge without treatment. At the Harbor Dinner Club site, where parking will be provided for both schemes, runoff is susceptible to contamination and treatment will be required in accordance with 18AAC72.600. In order to receive a "letter of non-objection" from ADEC, the proposed system must show the ability to remove total suspended solids exceeding 20 microns in size from storm water runoff during storms less than a 2-year, 6-hour event. ADEC has indicated a preference, when feasible, for passive treatment such as drainage swales over mechanical systems.

Presently, the city storm drain system in the area consists of catch basins located at three corners of the 5th Avenue/Washington Street intersection. Most of 5th Avenue and Washington Street drain into these three catch basins. Runoff from properties in the area generally drain to the street gutters or alleys. Storm drains appear to range from 12" to 24" in size and the city reports no problems with the capacity of the system.

It appears that the 5th and Washington site, which will consist of mostly roof drainage with some entry plaza area drainage, can be connected to the existing storm drain system without adversely affecting the system. The increased runoff from the parking area could present problems if discharged directly to the street or alley, as now occurs.

Electrical Power - Power is provided by the city of Seward. Two primary circuits are available on overhead poles along the alley between 4th and 5th Avenues, down to Washington Street. The primary power is three-phase, 12,470-volt, Y-configuration, and should be adequate for the anticipated building loads. The buildings for both schemes will probably require pad-mounted transformers in the alleys, which could encroach upon the narrow alley unless additional space is obtained either within the new building site from the property across the alley. (*For details of the project electrical needs, see Section D. Electrical Narrative.)*

Telephone, Cable Television – TelAlaska provides phone service and GCI provides cable television service. It appears that data communications can be provided either by TelAlaska's DSL service or GCI's cable service. Both companies share poles with the city electrical system. (*For details of the project electrical needs, see Section D. Electrical Narrative.)*

Scheme 1 Design Narrative

The proposed utility systems are shown on Drawing C-01.

Water service

Two options are considered for the water service at the combined visitor center/administration building in Scheme 1.

Option 1, the less costly option, would be to install a new 6" service near the existing the 4" service on 5th Avenue, entering the proposed building in the basement mechanical room. This line would serve both the buildings domestic water and fire protection demands. The major disadvantage of this option is that it relies on the older, pre-earthquake water main on 5th Avenue although there have been no recent reports of problems with the pipe.

Option 2, would replace the existing main on Washington with a new 6" ductile iron main and tee off this main on the west side of the building to the mechanical room in the basement. The major disadvantage to this plan would be the cost of construction of the new line and required restoration of Washington Street but these cost could be alleviated by the use of trenchless technologies (pipe bursting of existing main or horizontal drilling along side of it) to install a high density polyethylene pipe which will resist effects of possible corrosive soils due to the sites proximity to Resurrection Bay.

Since the city has requested the removal of the existing water main on Washington all the way to the existing mains on 4th and 5th, the additional cost of installing a new main in this section is probably not a major incremental cost in the total project budget. Given this factor, and the additional security that connecting to both existing mains on 4th and 5th would provide, it is recommended that the Option 2 be implemented as shown on Drawing C-01. **DOES THE CITY STILL WANT THIS IF WE DON'T HAVE TO MESS WITH WASHINGTON STREET?**

Sewer Service

The sewer connection appears relatively straightforward, making use of the nearby sewer main in the alley between 4th and 5th Avenues for the 5th Avenue and Washington Site. The new sewer service will be a minimum of 4" but a 6" ductile iron service may be recommended to handle peak visitor volume. The main is approximately 7 to 9 feet deep and the alleys are only 20 feet wide, so trench shoring will be required.

Storm Drainage

No new storm drainage will be needed for the visitor/administration building site but the parking area on the Harbor Dinner Club site will need a new system. The storm drain system at the parking site on 5th Avenue will require some form of treatment before discharge of runoff. A swale is proposed on the south side of the site with discharge to a new 12" corrugated polyethylene pipe storm drain in the alley between 5th and 6th

Avenues. If porous soils are encountered at the swale site, most of the runoff during normal rainfall events may infiltrate resulting in little or no discharge. It is possible that mitigated runoff from major rainfall events could be discharged to the street or alley as now occurs. Without more subsurface soils information, it is not possible to estimate infiltration and flow mitigation, so the new storm drain will be included in schematic design plans.

Electrical Power, Telephone, Cable Television

All of these will be installed in underground conduit from overhead systems in the alley at each site. A pad-mounted transformer will be required at the building site.

Paving

It is assumed that the following pavement work will be required for Scheme 1:

- Pave the alley between 4th and 5th from north side of building site to Railway
- Remove and re-pave trench sections on 5th Avenue for the new water service.
- Remove and re-pave trench section across Railway Avenue for the new storm drain crossing.

Alternatives to Address the Percentage of Available Budget for Scheme 1

There appear to be few if any elements of the civil utility systems that can be modified to significantly address the project budget. Most of the utility systems connections are required regardless of the building alternatives.

Some relatively minor changes could be made if the size of the proposed buildings is significantly reduced, including:

- The water service could be reduced from 6”,
- The sewer service could be installed at the minimum required 4”.
- The electrical power service may be reduced sufficiently to allow use of a pole-mounted transformer on the city system.

If the parking lot proposed on 5th Avenue is reduced or eliminated, the drainage swale and storm drain could be reduced in size or eliminated.

Scheme 2 Design Narrative

The proposed utility systems are shown on Drawing C-02.

Water service

Water service for the visitor center in Scheme 2 could be provided as discussed for Scheme 1, installing a 6” ductile iron water service from the existing 6” AC pipe in 5th

Avenue. For the administration building a 6" ductile iron water service would be installed from the existing 6" AC pipe in 5th Avenue also supply the administration building. Both lines would provide fire protection and water demand for the buildings. Since this is the only water supply available for the administration building, the building will have to rely on the older pre-earthquake water main.

Sewer Service

The sewer connection will be constructed similar to Scheme 1 for the visitor center, making use of the nearby sewer main in the alley between 4th and 5th Avenues for the visitor center site. The administration building will connect to the sewer main in the alley between 5th and 6th Avenue. Both sites will have a minimum service size of 4" but the visitor center's main may be increased to 6" for expected visitor peak loads. Both mains are 7 to 9 feet deep and the alleys are only 20 feet wide, so trench shoring will be required.

Storm Drainage

No modification of the storm drain at the visitor center is required expect to connect the roof drain to the existing system. The storm drain system at the administration building site on 5th Avenue will require some form of treatment before discharge of runoff. Since the site as planned is mostly impervious with little room for any pretreatment features, treatment of stormwater will mostly likely have to be achieved by mechanical methods. A treatment system would be installed in the southeast corner of the parking lot and connect to a new 12" corrugated polyethylene storm drain system in the alley between 5th and 6th Avenues.

Electrical Power, Telephone, Cable Television

All of these will be installed in underground conduit from overhead systems in the alley at each site. A pad-mounted transformer will be required at the building site on Washington Street.

Paving

It is assumed that the following pavement work will be required for Scheme 2:

- Pave the alley between 4th and 5th from north side of building site to Railway
- Remove and re-pave trench sections on 5th Avenue for the new water service
- Remove and re-pave trench section across Railway Avenue for the new storm drain crossing.

Alternatives to Address the Percentage of Available Budget for Scheme 2

There appear to be few if any elements of the civil utility systems that can be modified to significantly address the project budget. Most of the utility systems connections are required regardless of the building alternatives.

Some relatively minor changes could be made if the size of the proposed buildings is significantly reduced, including:

- The fire protection service could be reduced from 6”,
- The sewer service could be reduced from 4”,
- The electrical power service may be reduced sufficiently to allow use of a pole-mounted transformer on the city system.

G. ACOUSTICAL DESIGN NARRATIVE

Introduction

This narrative presents acoustical design criteria and recommendations for the Mary Lowell Center in Seward, Alaska. Design criteria are directed toward control of reverberant sound levels within communication spaces, and mechanical noise control to ensure appropriately low noise levels from the facility HVAC system. The design recommendations include wall types for sound isolation, sound-absorptive finishes for reverberant sound control, and open plan office recommendations to optimize the open plan acoustical environment.

Schemes 1 and 2

At the Schematic Design level, there are no significant distinctions between the one-site scheme and the two-site scheme. The types of separations will vary, but the basic principals outlined here will apply to either scheme. Specific solutions based on acoustical design considerations will be refined once a scheme is chosen and the actual adjacencies and exposures are clear.

Design Criteria

Reverberation Time

Reverberation time is a measure of the time required for sound to decay within an occupied space. Excessive reverberation time will produce low speech intelligibility, and a lack of clarity and intelligibility during playback of recorded program material. The recommended reverberation time for key areas are presented in Table G-1.

Table G-1
Recommended Reverberation Time (in seconds)

Room	***Reverberation Time***
Conference Rooms	0.6 to 0.8
Exhibit Hall	0.8 to 1.0
Theater/Multi-purpose Room	0.8 to 1.0
Meeting Rooms	0.8 to 1.0

Mechanical System Noise Criteria

Effective control of mechanical system noise is critical for the success of all occupied areas within the facility. Mechanical system noise levels are specified as Noise Criterion (NC) levels, which is a standard system of rating the noise level in an occupied space by

comparing actual or predicted sound levels with a series of established octave-band spectra. Recommended NC levels for key areas are presented in Table G-2.

Table G-2
Recommended Noise Criteria (NC) Levels

Room	***NC Level***
Conference Rooms	30
Offices	30
Open Plan Office Areas	35
Exhibit Hall	25-30
Theater/Multi-Purpose Room	25-30
Meeting Rooms	30

Acoustical Wall Types

Four wall assemblies are recommended for acoustical isolation performance. The acoustical walls should extend to the structure, and be caulked airtight at the base of the wall assembly. The wall types are based on wood stud construction; significantly lighter construction will be acceptable if light gauge metal studs are used rather than wood studs.

Wall Type W-5a: Moderate Isolation Wall Type 1 (100% and 90%) - This assembly is recommended for standard private offices and other areas requiring a moderate level of isolation from adjacent spaces. The wall assembly for 100% and 90% performance is as follows: staggered 4” studs on a 2”x 6” plate, with one layer of 5/8” gypsum board on one side and two layers of 5/8” gypsum board on the other side. The stud cavity should be filled with a 6”-thickness of glass fiber or cotton batt insulation. This wall has an acoustical rating of STC 52.

Wall Type W-5b: Moderate Isolation Wall Type 1 (75%) - For 75% acoustical isolation performance, the recommended assembly is staggered 4” studs on a 2”x 6” plate , with one layer of 5/8” gypsum board on each side. The stud cavity should be filled with a 6”-thickness of glass fiber or cotton batt insulation. This wall has an acoustical rating of STC 46.

Wall Type W-5c: High Isolation Wall Type 2 (100% and 90%) – This assembly is recommended for areas requiring a higher level of privacy, such as executive offices, conference rooms, interview room, and meeting rooms. The wall assembly for 100% and 90% performance is as follows: staggered 4” studs on a 2”x 6” plate, with two layers of 5/8” gypsum board on each side of the stud assembly. The stud cavity should be filled with a 6”-thickness of glass fiber or cotton batt insulation. This wall has an acoustical rating of STC 56.

Wall Type W-5d: High Isolation Wall Type 2 (75%) - For 75% performance, the recommended assembly is 4" staggered studs on a 2"x 6" plate, with two layers of 5/8" gypsum board on one side and one layer of 5/8" gypsum board on the other side. The stud cavity should be filled with a 6"-thickness of glass fiber or cotton batt insulation. This wall has an acoustical rating of STC 52.

Multi-Purpose Room

Key acoustical considerations for the Theater/Multi-Purpose Room are sound isolation, reverberation time, mechanical noise control, and room configuration.

Reverberant Sound Control

The multipurpose room ceiling should provide a significant level of sound absorption to control reverberant sound to appropriate levels. The acoustical ceiling alternatives include lay-in acoustical ceiling; areas of continuous fabric on supporting framework backed with a 2"-thickness of glass fiber insulation board; fabric-covered acoustical panels suspended horizontally from the deck; acoustical clouds, or acoustical baffles or banners suspended vertically from the deck.

If the ceiling is lay-in acoustical tile, the tile should be glass fiber tile with a Noise Reduction Coefficient (NRC) of 0.80 or higher. If the ceiling is acoustical clouds, the acoustical material can be standard lay-in tile with glass fiber tiles having NRC 0.80 or higher, or continuous fabric backed with a 2"-thickness of glass fiber insulation board.

If the deck above the multipurpose room is exposed, it will also be effective to treat the deck with a spray-on acoustical treatment, such as "K-13", a cellulose-based acoustical treatment manufactured by International Cellulose. The material can be black or other dark color to minimize the material visually.

Additional sound absorption may be provided by curtains used for exterior light control or, alternatively, 60 to 100 square feet of acoustical wall panel can be located on the limited wall space available for such treatment.

Meeting Rooms

Reverberant sound control in the Meeting Rooms will be provided primarily by the ceiling finish material, as there is very limited wall area available for acoustical wall panels or other treatments. Sound absorption in addition to the ceiling area may be provided by curtains used for exterior light control. The recommended options for the ceiling material are presented in the Acoustical Ceiling section below.

The Meeting Rooms are well positioned to minimize sound intrusion from adjacent spaces, and fixed wall assemblies will not require high level acoustical performance for sound isolation. Perimeter walls, however, should be filled with batt insulation to provide adequate sound isolation using a single stud assembly.

It is assumed that operable partitions will be used to divide the Meeting Rooms. The partitions should have an STC rating of 51 or higher. Recommended manufacturers are Modernfold, Hufcor, and Advanced Equipment.

Acoustical Ceilings

The recommended assemblies for acoustical ceilings are presented below:

Standard Lay-in Acoustical Ceilings (100% and 90%) - the acoustical tile should be glass fiber tile with a Noise Reduction Coefficient (NRC) of 0.80 or higher.

Standard Lay-in Acoustical Ceilings (75%) - the acoustical tile should be mineral tile with a Noise Reduction Coefficient (NRC) of 0.55 or higher.

Open Plan Office Ceilings – The recommended ceilings for open plan office areas are glass fiber acoustical "clouds", or standard lay-in acoustical ceiling. The clouds can be sections of ceiling that cover the workstation groups within the open plan areas. This arrangement can provide control of ceiling-reflected sound between work groups, and will also visually define the workgroup areas. The acoustical cloud material can be standard lay-in tile with glass fiber tiles having NRC 0.80 or higher, areas of continuous fabric on supporting framework backed with a 2"-thickness of glass fiber insulation board, fabric-covered acoustical panels suspended horizontally above the workgroup areas, or acoustical baffles or banners suspended vertically above the workgroup areas.

If the deck above the workgroup areas is exposed, it may be effective to treat the deck with a spray-on acoustical treatment, such as "K-13", a cellulose-based acoustical treatment manufactured by International Cellulose. The material can be black or other dark color to minimize the material visually, with acoustical clouds suspended above the open plan workgroups.

Multipurpose Room, Meeting Rooms, and Exhibit Hall Ceilings: The Theater, Meeting Rooms, and Exhibit Hall ceilings should provide a significant level of sound absorption to control reverberant sound to appropriate levels. If the ceilings are lay-in acoustical tile, the tile should be glass fiber tile with a Noise Reduction Coefficient (NRC) of 0.80 or higher. Other alternatives are acoustical clouds, spray-on acoustical finish, or hanging baffles or banners. These options are as described above for the open plan office areas. The selected treatment should be applied to the entire ceilings areas of the Multipurpose Room, Meeting Rooms, and Exhibit Hall.

Emergency Generator Room Floor and Ceiling: The specific assembly for emergency generator noise control will be developed when the generator noise level is provided by the equipment supplier. It is expected that the approach for the ceiling assembly in the generator room will be comparable to two layers of 5/8" gypsum board, suspended on resilient hangers, with a 6"-thickness of glass fiber batt insulation above the gypsum board ceiling. This is a very preliminary recommendation, and will be further developed as design progresses and more information is available about the equipment planned for the generator room.

Open Plan Office Acoustical Design

The key acoustical elements for acoustical privacy in open plan office areas are workstation divider height, sound-absorbent ceilings, workstation orientation, acoustical wall treatments, and background noise level. It is understood from programming documents and project plans that the preferred approach for open plan areas is to group staff members to support and maintain group identities. Measures to optimize acoustical isolation within and between work groups are presented below.

Divider Height – The key acoustical element for workstation divider height is that the dividers break line of sight between workstations. If occupants have visual contact while seated, there will be essentially no acoustical isolation between workstations. The recommended divider height is a minimum of 60 inches, which is approximately 12 inches above typical seated ear height. If visual contact between workstations must be maintained, the upper section of the dividers can be plexiglass or other transparent material. This approach will also allow natural light penetration into the workstation office areas while maintaining a higher level of sound isolation. If the surface of the divider is sound absorbent, the divider will contribute to the overall sound control between workstations by minimizing reflections.

Sound Absorbent Ceilings – Ceilings are a major sound reflection path between workstations. The recommended approach to control reflected sound is to use glass fiber lay-in acoustical tile. The tile should have a Noise Reduction Coefficient (NRC) of 0.80 or higher. The workgroups in the current project plans are shown clustered together, with staff assembled in a team approach. An effective method for controlling ceiling reflections is to suspend sections of acoustical ceiling above each workgroup using acoustical lay-in tile as specified above. The ceiling sections, or "clouds", will serve to control sound reflections between workgroups, as well as define each work group area with the individual ceiling elements. For additional sound control, the deck above the cloud areas can be treated with a spray-on acoustical treatment, such as "K-13", manufactured by International Cellulose. The material is available in black and other dark colors, to minimize visibility of the material above the ceiling lights and acoustical clouds.

Workstation Orientation – Workstation orientation is an important element for controlling line of sight, and therefore acoustical isolation, between workstations. Occupants sharing the same work areas are effectively in the same room, with no acoustical isolation between workstations. If additional privacy is required, the workstations must be oriented so that dividers isolate individuals and workstation openings are not directly in line between work spaces. In the current project plan, it appears that workgroups will be clustered in groups of two to four individuals that will effectively be in the same acoustical space. It is important to recognize that phone calls, conversation, and all other activities will be clearly audible to others within the same four-person work space. It is important to have effective divider height between the work groups, and to orient occupants to optimize isolation if a higher level of privacy is preferred.

Acoustical Wall Treatment – The most effective location for sound-absorbent wall material is directly in line with the workstation occupants while talking on the phone or speaking with co-workers. Workstation dividers that have a sound-absorbent finish should be located in workstation corners, and on other wide, flat surfaces that will otherwise reflect sound to adjacent workstations. The acoustical finishes can also provide a tackable surface, although the acoustical performance is effective only if the acoustical surface is exposed. Workstation dividers can be obtained that include sound-absorbent finishes to optimize sound control within the workstations.

Background Noise Level – A low background noise level, although often preferred in the workplace, can be detrimental to acoustical privacy in an open plan work space. A low noise level allows all other sounds to be more easily heard, including speech and other activities in adjacent spaces.

The use of a sound masking system is an effective method for increasing the background noise level to improve acoustical privacy. The system is designed to introduce noise that is optimized to reduce distraction for neighboring office staff, and to maintain a degree of privacy in closely separated conversations. The system uses loudspeakers above a suspended ceiling, or near the deck of an open ceiling, to distribute carefully balanced and equalized broadband noise throughout the open plan area. The masking system noise is adjusted in both loudness and spectrum to avoid being intrusive or distracting in itself, while still allowing normal conversations between co-workers within the same work group.

Sound masking is a very effective method for optimizing acoustical privacy, and is recommended for consideration at the Mary Lowell Center, particularly for occupants concerned with acoustical isolation.

Mechanical System Noise Control

The primary noise sources in a conventional mechanical system are air handling units, fans, chillers and other equipment used to condition or distribute air. The proposed

combination of natural ventilation and hydronic radiant heating will minimize the noise producing equipment in the system, and therefore noise control requirements will also be minimized.

The mechanical system noise control measures that are currently anticipated include the possible need for silencers on the system fans planned for the facility, boiler vibration and airborne noise isolation, and acoustically lined transfer elbows on supply registers in rooms with underfloor ventilation systems. Areas that are mechanically ventilated using ducts may require acoustically lined ductwork to control fan noise.

The mechanical system noise control will be developed as design progresses, using acoustical design criteria as indicated in Table G-2 above.

-End of Narrative-

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H. LIGHTING DESIGN NARRATIVE

Introduction

The lighting for the Mary Lowell Center will support the variety of activities that will take place here. The presence of the building at night will be defined in part by the glow from within the building's public spaces and from lighting at entries to identify them. Interior lighting will be tailored to each space type to provide effective and efficient illumination.

Schemes 1 and 2

At the Schematic Design level, there are not significant distinctions between the lighting principals for the one-site scheme and the two-site scheme. Adjacencies and specific requirements will vary, but the basic principals outlined here will apply to either scheme. Specific solutions will be refined once a scheme is chosen and the actual program, control and aesthetic requirements are clear.

Lighting Design

Alaska does not have an energy code but we will use ASHRAE 90.1 2004 as a baseline for this project.

All light sources will be high color quality and long life. Every effort will be made to minimize the number of lamp types. The primary light sources will be metal halide and fluorescent lamps. Use of incandescent or tungsten halogen lamps will be minimal and limited to art or displays, stage lighting or similar applications. Ceramic metal halide lamps (CMH) with electronic ballasts will be used for all metal halide lamps. T5 or T8 lamps will be the linear fluorescent lamps with 32 watt triple tube compact fluorescent lamps where lower wattage lamps are needed. All fluorescent lamps will have electronic ballasts.

Lighting will be developed to maximize visibility with the minimum energy use. This will be accomplished with energy efficient sources in fixtures with high quality reflector systems and the use of high color rendering lamps.

Room	Illumination target
Lobby reception	20-30 fc
Retail Sales	50-100 on merchandise 20-30 ambient
Multi-purpose rooms	30-50
Exhibit hall	Varies with exhibits
Offices	30-40
Atrium	10-25
Restrooms	10-20
Stairs	10-20
Auditorium	10-20
Large Meeting Rooms	30-50
Back of House/Service spaces	10-20

Design Narrative

Exterior

The project is located on a very prominent corner of downtown Seward and there is a strong desire to have the building project a warm and welcoming glow at night. In addition, we would like to achieve the LEED point for exterior lighting so all of the exterior fixtures will be full cut-off fixtures which direct the light downward. The lighting will be kept close to the building perimeter so as not to trespass onto neighboring properties. Because the public spaces have large glazed areas, the interior lighting will provide most of the building's glow at night. At each entry, lighting incorporated into the canopy will delineate the entry. Metal halide fixtures will be used.

An interpretive story or timeline is planned around the building entry. Metal halide wall wash fixtures suitable for exterior use will be incorporated. Lampposts or bollards will illuminate the pathways or other open space.

Building exits will have metal halide security lighting to get people safely away from the building.

Lobby/Reception/ Retail Sales

The lobby/reception area is the heart of the building. From there people will gather travel information, be directed to other parts of the building or acquire necessary permits. General illumination will be provided by fluorescent or metal halide sources that will be integrated into the architectural system. Adjustable metal halide fixtures will provide the

feature lighting needed for the retail sales area. Similar lighting may also be provided for directional signage or interpretive material located in this area. Decorative pendant fixtures may be incorporated to assist in way finding or to enhance the architectural envelope.

Auditorium

The primary use of this room will be to show a film every 15 minutes after a short introduction by park service personnel. On occasion it will have learning programs or large staff meetings. As such there will need to be two separate lighting systems. One system will light a podium or small stage, and then dim for the movie. A second system will provide meeting level lighting and illuminate the walls. The system for movies and presentations will consist of a pipe that can house dimmable lights. Low level lighting around the perimeter from recessed wall lights will provide emergency egress lighting during a film. For meetings and other large gatherings, a system that provides downlight and wall washing with fluorescent sources will be used. These will be dimmable so they can accommodate a variety of activities. A four-scene preset system will be used in this room to make room set up easy for a variety of users. Lighting controls will be separate from AV and window shade controls.

Multi-purpose room

The multi-purpose room will be used during the day and also for evening events. It will be used as a classroom and community meeting room. There will be projection in the room at times. Daylight will provide the illumination whenever possible. Electric lighting will be dimmable but not controlled automatically with daylight because of the many different functions that might occur here.

Direct/indirect pendant mounted fixtures will provide the general and task illumination. The downlight component will be controlled separately so that low levels of illumination can be provided in projection situations. Since most of the wall surface is glazed, there will not be any wall washing in these rooms. The rooms can be subdivided into smaller rooms with a movable partition. Because the rooms are relatively small and have only one type of light, we are not recommending a dimming system for these rooms, only wall box dimmers. This means that to control the room as one, lights will have to be adjusted at two locations. Since the entry doors are close together, this should not be a problem.

Exhibit Hall

Traditional exhibit hall lighting has historically been incandescent because of the multiple lamp styles and wattage options available and their ease of dimming and control. We are proposing to use more metal halide (MH) and fluorescent sources here for better energy efficiency and reduced maintenance. Where exhibit lighting needs to be focused

and provide high color quality textured light and is always "on" during operating hours MH sources will be used. For softer more diffuse light situations fluorescent sources will be used. Where lights need to be dimmable or frequently change from "off" to "on" tungsten halogen (incandescent) or fluorescent lamps will be used. Fixture selection will depend on the exhibit plan. At this time we anticipate track mounted accentlight fixtures with metal halide and some incandescent lamps, monopoint mounted fixtures where dimming is required and possibly some concealed fluorescent striplights for washes of light. Control will be important to the function of the room as there is intent to alternate projected images with static images and the static images will require tightly controlled lighting that does not spill onto the projected images.

Open Offices and adjacent circulation

For the highest levels of user satisfaction and energy efficiency, we are recommending a "one fixture per workstation" lighting system. The system will have separately controlled direct and indirect components with photo cell dimming control for the indirect component and individual desktop dimming control for the downlight component. The fixtures will be controlled through a network that can shut some or all lights off during unoccupied times. They will also have occupancy sensors that turn off the downlight component if a work station is unoccupied for a period of time. The indirect component will be controlled as a whole for a particular area so it will always feel as though the space is illuminated when it is occupied. Networked software with controls at each work station computer will allow individual users to adjust their lighting according to their preference. Studies have shown that this level of control leads to a high degree of user satisfaction and that often, people use less light than full output when they are allowed to control it themselves.

Enclosed Offices

The enclosed offices vary in size but they will typically have the same lighting as the open office areas with the same controls. Larger offices will also have fluorescent wallwash fixtures.

Atrium

The atrium will have general ambient lighting provided by fluorescent and metal halide sources. Wallwashing and accentlighting will light the tallest wall and any art or interpretive features will also have directed lighting.

Small Conference Rooms

These rooms will have a fixture similar to the office fixtures over the conference table except that it will be a stand alone fixture without network control or photocell control. Non-glazed walls will have fluorescent wallwash fixtures.

Restrooms

Restrooms will be illuminated with linear fluorescent fixtures along the stalls and over the sinks. The fixtures may be recessed in coves or wall mounted, depending on the ceiling selected for these rooms. Compact fluorescent (CFL) downlights will illuminate the circulation areas.

Open Stairs

These stairs are open to encourage people to use them rather than elevators. As such they need to have a higher degree of finish than exit stairs. The lighting may have a decorative nature such as pendant fixtures or accentlight for special features such as interpretive displays, special handrails or upgraded materials. The light source will most likely be metal halide within the stairs and fluorescent sources at the landings.

Enclosed exit stairs.

These stairs have a more utilitarian nature and are required building exits. As such the lighting will be on emergency power and will be fluorescent.

Large Divisible Meeting rooms and adjacent Circulation/Pre-function Space

The large meeting room areas will have high ceilings and a view out towards the bay that is one of the best in Seward. As such, these rooms will depend on daylight during the times it is available. They will also have a multipurpose nature to them and could be used for dining or a party as well as meetings and presentations. To maximize the view, all of the lighting will be well shielded, recessed fluorescent fixtures. This will also work well with ceiling mounted projectors and recessed projection screens. General down lighting will be dimmable and controlled in multiple zones. Non-glazed, permanent walls will be illuminated with recessed fluorescent wallwashers.

A four scene preset control with room combine features and an RS232 AV interface will be incorporated into this room.

Back of house spaces (non-public corridors, catering, janitors, etc.)

Rooms with lay-in tile ceilings will have recessed, two-lamp 2x4 lensed fixtures. Spaces with no ceiling will have surface or pendant mounted two-lamp fluorescent striplights.

Alternatives to Address the Percentage of Available Budget

100% Alternative:

- All of the lighting and controls described above will be the 100% alternative

90% Alternative:

- This alternative will eliminate the personal control at the desk for employees at their work stations. Dimming and photocell control will remain the same.
- Four-scene preset in the auditorium will be replaced with wall box switches and dimmers.

75% Alternative:

- All fluorescent dimming will be eliminated.
- Where dimming is combined with photocells, the photocells will remain but only control the lights in an on/off mode.

End of section

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H-1. AUDIO VIDEO DESIGN NARRATIVE

Introduction

This Audiovisual Narrative describes audiovisual systems capabilities and equipment costs for the new Mary Lowell Center in Seward Alaska.

This narrative is not a technical specification and does not provide details such as manufacturer or model number. The information supplied herein is at the conceptual design level of analysis and will be combined with the Opinion of Probable Cost (OOPC) in order to facilitate decisions about eventual audiovisual capabilities. The OOPC is the estimated cost of the audiovisual equipment and installation costs for the systems as described in the Programming Report. These decisions will help finalize architectural and infrastructure decisions, as well as validate any current assumptions about cost planning.

This report covers only audiovisual capabilities. Acoustical, Architectural, Power and Telecommunications requirements are detailed by others.

Schemes 1 and 2

The one-site scheme and the two-site scheme each have similar requirements for AV equipment and design. Adjacencies and specific requirements will vary, but the basic principals outlined here will apply to either scheme. Specific solutions will be refined once a scheme is chosen and the actual adjacencies, control and aesthetic requirements are clear.

Design Narrative

For readers unfamiliar with Sparling audiovisual consulting, we provide systems design and the related infrastructure and architectural expertise to the project team. We do not furnish equipment in any manner, and therefore have no vested interest in the type or amount of equipment that will eventually be purchased. Our only objective is to meet the client's needs and ensure a sensible, competent approach to audiovisual planning.

The recommendations presented on the pages that follow are based on information and requirements provided by the project team during a meeting on December 1, 2005.

The project team should be clear about the difference between providing infrastructure and purchasing equipment. If proper infrastructure provisions have been made from the start, equipment may easily be added or upgraded later as additional funding becomes available without jeopardizing the integrity of the overall audiovisual systems design.

"Infrastructure" refers to the necessary base building provisions such as power outlets, conduit, junction boxes, floor boxes, projection screens, etc., needed to use with audiovisual equipment.

"Equipment" refers to particular audiovisual devices that have specific costs and capabilities associated with them.

Infrastructure must be planned and provided for initial occupancy, whether the audiovisual equipment is purchased or not. Equipment can be thought of similar to furniture - various choices can be made about its' quality and quantity. Some equipment can be purchased for initial occupancy, while other equipment purchases can be deferred.

Projection, video, audio, and control system features are each described separately, with an overview of the significant pieces of equipment in each system. The information supplied is a summation to be combined with the budget material in order to make financial project and audiovisual capabilities decisions.

We refer to the equipment as having one of the following installation designations: dedicated, portable or future provisions.

"Dedicated" indicates that the equipment will likely be used frequently and is permanently dedicated or installed in a specific room. Items with this designation appear in the budget of that space.

"Portable" indicates that the equipment is needed less frequently and can be shared with other meeting rooms and stored in a central Equipment Pool. Only a few items with this designation may appear in the budget.

"Future Provisions" indicates that the capability may not be required initially, but infrastructure and systems design provisions should be made to adapt to equipment at some time in the future. Items with this designation do not appear in the budget, as we do not anticipate their immediate purchase.

Exhibition Room

This room will be designed to support multiple exhibits with multi media content. Each exhibit will have the capability of displaying several still or static images. Next to the still image in each of the exhibits there will be a space to utilize a stretched video image. The projection systems for each exhibit are will be two, or more if needed, 16:9 projectors.

The areas that require program audio for the patron to better experience the exhibit will have audio provided to a very localized area. This is to reduce the over all ambient noise level of the exhibit hall as well as reduce bleed over of audio program into other exhibits.

In addition to localized exhibit audio coverage, zone audio coverage will be provided. The zones will be laid out around the exhibit spaces, in such that each zone can further enhance the exhibit. The zone audio system can also be used as a playback or paging system.

In the Disaster Exhibit there a 61" plasma display will be wall mounted. Provisions will be called out for a wall mount and recommendations for the wall supporting the display.

Source playback devices and material for all projectors and displays will be located at one central rack location. This will provide easy access for user interfacing, monitoring of the system and changing of content.

The following capabilities have been identified for this space:

Projection Systems

- Eight (8) 16:9 DLP/LCD data/video projectors; ceiling mounted; dedicated.

Video Systems

- One (1) large format Plasma Monitors for exhibit use.
- Ten (10) DVD/VHS Combo Players; dedicated.
- Video/Computer switcher scalier; dedicated.

Audio Systems

- Four (4) Localized exhibit audio system, narrow dispersion pattern speakers with dedicated audio playback per exhibit; dedicated.
- One (1) Zoned distributed audio system; dedicated.
- Two (2) wireless microphones; dedicated.

Control Systems
The control system should have two modes of operation. The first is basic control of functions for user's equipment within the room. This will allow the operator to play a video source, or adjust audio volume for example. The second mode is comprehensive control of set-up and operational parameters for all equipment. This will allow trained personnel to perform technical set-up of audiovisual room functionality. The AV control system shall also be set-up to trigger environmental elements such as lighting scenes and shade control as available to each space.

- One touch screen; dedicated.

Meeting Rooms

This area will be designed as one space that is able to be divided into multiple spaces up, to three individual spaces, with A/V functionality.

In-room presentations, which require the display of computer, video, and other related electronic media materials, would make use of the projector in each space. An AV router would allow any input to be sent to the monitors. Each room will also have an electric, roll-down front projection screen for use the projector. Each projector will be on a motorized lift so that when it is not in use it can be retracted in to the ceiling and be out of sight.

Computer interfaces or line drivers will be provided at the floor and wall box locations to allow laptops to be connected directly to the audiovisual system. The images from the laptops can then be displayed via the video projector for presentation. Additional video and audio connections should be provided at a lectern location for connection of other portable video type (non-computer) devices.

A program audio and voice reinforcement system should be provided utilizing, divisible by space, ceiling mounted distributive speaker arrangement.

With a room of this size and complexity, we would suggest a control system that would control all installed audiovisual equipment functionality. A touch screen could be connected at three (3) wall locations each accessible by the respective space in which the touch screen is located..

The following capabilities have been identified for this space:

Projection Systems

- Three (3) motorized, roll-down front-projection screens; dedicated.

Video Systems

- Computer and video connections (and associated audio) at the floor and wall box locations; dedicated each division.
- Three (3) DVD/ VHS Player; dedicated each division.
- Video/Computer switcher; located in AV Control Room.
- CATV connection to tuner in rack; dedicated.

Audio Systems

- Program sound system with ceiling mounted speakers to provide the audio portions of a video or multimedia presentation; dedicated.

Control Systems
The control system should have two modes of operation. The first is basic control of functions for user's equipment within the room. This will allow the presenter to play a video source, or adjust audio volume for example. The second mode is comprehensive control of set-up and operational parameters for all equipment. This will allow trained personnel to perform technical set-up of audiovisual room functionality. The AV control system shall also be set-up to trigger environmental elements such as lighting scenes and shade control as available to each space.

- Three (3) touch screen; dedicated per division.

Interpretive Film

A specified segment of the meeting rooms noted above will be used to view pre-recorded material. This space may also be used as a general class room or presentation space.

Video playback and in-room presentations, which require the display of computer, video, and other related electronic media materials, would make use of a ceiling mounted video projector. An AV router would allow any input to be sent to the projector. The room would also have an electric, roll-down front projection screen for use with the ceiling projector.

As in the rest of the meeting room space, computer interfaces or line drivers will be provided at the floor or wall box locations to allow laptops to be connected directly to the audiovisual system. The images from the laptops can then be displayed via the video projector for presentation. Additional video and audio connections should be provided at a lectern location for connection of other portable video type (non-computer) devices.

Lectern connectivity will utilize a flush floor box at the front of the room. Cables from the lectern will connect to the floor box when in use.

A program audio and voice reinforcement system should be provided utilizing a combination of a distributed ceiling speaker arrangement and stereo speaker setup around the projection screen. Two (2) wireless microphones would be used either by the presenter or other participants.

With a room of this size and complexity, we would suggest a control system that would control all installed audiovisual equipment functionality. A touchscreen could be

connected at the lectern location or several other connection points throughout the room to control all aspects of the AV system.

The following capabilities have been identified for this space:

Projection Systems

- One (1) motorized, roll-down front-projection screens; dedicated.
- One DLP/LCD data/video projectors; ceiling mounted; dedicated.

Video Systems

- Computer and video connections (and associated audio) at the lectern for display on the video projector; dedicated.
- DVD/VHS Player; Dedicated.
- Video/Computer switcher; dedicated.
- CATV connection to tuner in rack; dedicated.

Audio Systems

- Program sound system with ceiling and stereo wall mounted speakers to provide the audio portions of a video or multimedia presentation; dedicated.
- Voice reinforcement system using the same ceiling speakers as the program audio with two (2) wireless microphones; dedicated.

Control Systems
The control system should have two modes of operation. The first is basic control of functions for user's equipment within the room. This will allow the presenter to play a video source, or adjust audio volume for example. The second mode is comprehensive control of set-up and operational parameters for all equipment. This will allow trained personnel to perform technical set-up of audiovisual room functionality. The AV control system shall also be set-up to trigger environmental elements such as lighting scenes and shade control as available to each space.

I. INTERIOR PLANNING AND DESIGN NARRATIVE

Introduction

The planning and design of the interior office environment will provide a functional as well as an aesthetically pleasing space, enhancing collaboration and teamwork while maintaining a comfortable and inviting atmosphere.

The planning will consist of a mix of enclosed and open office modules, formal and informal meeting spaces, as well as support and amenity provisions.

Proposed design elements include natural references in materiality, environmentally responsible finishes and furnishings, as well as the creation of a positive connection to the outdoors, with views and daylight access as priorities.

Schemes 1 and 2

At the Schematic Design level, there are not significant distinctions between the interior design principals for the one-site scheme and the two-site scheme. Adjacencies and interior/territorial views will vary, but the basic principals outlined here will apply to either scheme. Specific solutions will be refined once a scheme is chosen and the actual adjacencies, sight lines, and aesthetic requirements are clear.

Design Descriptions

The following descriptions focus on: Overall Design Aesthetic
Interior Amenity and Working Spaces
Office Components and Systems
Proposed Finishes and Materials

<u>Overall Design Aesthetic</u>

- Views and connectivity with the outside environment to blur the boundaries between interior and exterior.
- Views and connectivity throughout the interior workspace to encourage an accessible and approachable, collaborative teamwork environment.
- Bring the outside in through references to nature, literal or figurative, in materiality, graphics and furnishings. Design concepts could include abstract interpretations at feature locations, such as “ice” (glass), “snow” (sculptural wall material), or “water” (raindrop light fixtures).
- Inclusion of indigenous, possibly locally reclaimed, materials such as wood, trees, and stone. Propose reusing old large timber members pulled from one local source, the Old Solly’s building.

- Creation of a comfortable, inviting workplace. General employee population has strong attachment to outdoors, and should want to come to the workplace, and feel comfortable and productive staying inside, regardless of the season.
- Interior atmosphere will support seasonal changes in weather, daylight, temperature. Design concepts include the addition of lower levels of warmer lighting (table lamps) in lounge and informal meeting spaces, and ancillary seating provided at atrium and exterior view locations.
- Specify environmentally responsive and responsible products throughout. Use of "green" products and materials and reclaimed/recycled/recyclable finishes and furnishings.
- Multi-agency facility design must feel cohesive and holistic, yet support and maintain group identities. This could be accomplished via finish, color and graphics.
- Planning of spatial relationships and requirements will successfully accomplish programmed requirements and provide a well designed, productive yet flexible workplace.

Interior Amenity and Working Spaces

- Plan will be open to atrium and exterior wherever possible. Pull offices and workstations inboard of atrium and perimeter glazing to allow equal access to light and views.
- Provide varying areas of privacy and seclusion that are not necessarily individual enclosed offices. Offer small conference or one-on-one/phone rooms in addition to larger formal conference/meeting spaces.
- Consider areas that offer higher levels of acoustic privacy and offer possible benefits of noise reduction system (mechanical or otherwise).
- Include informal, chance encounter/"bump into" locations, for instance: computer kiosk/printer counter, informal seating on stools at countertops, small seating groupings with low tables. Encourage interaction.
- Provide amenity spaces (on First Level) to be used by both public and staff. Design concepts include: "Living Room" seating area/lounge at Library space, may include soft seating, low tables, table lamps, and a fireplace.
- Lighting design should promote cool and calming atmosphere in summer months and warmer, more personal lighting scheme in winter.
- Attention to daylight, sun location at various seasonal times vs. glare, window – to – workspace relationship and sun screening will all be carefully considered.

Office Components and Systems

- Emphasize "Whole Building Approach" to environmental architectural solutions to include all furnishings and fixtures.
- Specify only environmental "Green Guard", FSC and LEED certified products throughout. Included will be: Office components, systems furnishings, casework

and office, guest, break and lounge seating. Manufacturers will have proof of renewable and recyclable materials, low air and water emissions, responsible disposal, packaging and transportation, and clean production technologies.

- Glass and/or translucency used wherever possible. Locations could include: office fronts, doors, conference room, workstation panels, atrium and stair.
- Provide egalitarian components, no status-related furnishings or finishes.
- Standardize office sizes to 10x12 and 12x12.
- Standardize workstation sizes to 8x8, 8x9 and 8x10. Seasonal/temporary staff will utilize central computer carrels or shared work counter/tables.
- A standard workstation may be composed of non-handed, off-modular worksurfaces, which provide highest level of flexibility. These may be freestanding with a screen system, or a panel-based system. Also included would be vertical or off-desktop storage and paperflow management tools, below desk drawer units or files, ergonomic computer, monitor and keyboard equipment and accessories, and ergonomic seating.
- Workstations will utilize mid-to-low vertical panel heights to maintain exterior views and encourage collaboration. Propose stackable panels system to allow for flexibility in transparency and visual privacy. Consider sliding screens or clip-on desktop panels for instant privacy, flexibility and coordination with electrical and mechanical systems. Power/Comm. wiring to route through workstations, not ceiling.
- Planning design will create symbolic boundaries and distinction between "inside" and "outside" personal workspaces through: signage, lighting levels, color, materiality, aisle widths, furniture, and partition type/size/solid/translucent.
- Planning design and office/workstation components will allow for future re-organization and flexible re-configuration. Procurement of a single manufacturer for both offices and workstations will allow for seamless interchangability.

<u>Proposed Finishes and Materials</u>

- Flooring
  A. Recycled or reclaimed end grain fir and wood products
  B. Natural recyclable linoleum/resilient products
  C. Recycled rubber/high-wear resilient products
  D. Natural cork
  E. Environmentally responsible Carpet Tile and backing
  F. Environmentally responsible Broadloom Carpet and backing

- Ceiling
  A. Aluminum foam acoustic ceiling/wall panels, horizontal surfaces, made from recycled aluminum
  B. Natural fiber acoustic ceiling/wall panels
  C. Acoustical wood ceiling/wall panels, made with renewable wood sources

D. Acoustically transparent coating
E. Suspended acoustic shapes
F. Transparent suspended ceiling products

- Wall Coatings and Misc. Surfaces
  A. Odorless, solvent-free Organic Paint and Stain
  B. Post-industrial stone products
  C. Recycled metal tile
  D. Recycled glass tile and stair treads
  E. Eco-friendly porcelain wall and floor slab
  F. Recycled terrazzo/agglomerate wall and floor tile
  G. Industrial strength cement/wood pulp wall and floor tile/slab
  H. Recycled tumbled stone wall and floor tile
  I. Eco-friendly agglomerate wall, floor and paving tile
  J. Natural Stone

Alternatives to Address the Percentage of Available Budget

Following a review by Cost Estimator, the items listed may be offered as cost saving alternatives:

<u>100% Alternative:</u>

- Replace total glazing at all offices and conference rooms with side lights and solid wood doors
- Replace carpet tile with broadloom throughout, coordinate with electrical and mechanical for alternate to sub-floor systems.
- Eliminate “specialty finishes” and “features”, and replace with painted surfaces only.
- Specify budget-conscious/re-engineered and pre-owned furnishings and workstations throughout.
- Eliminate built soffits and suspended ceiling features and replace with ceiling tile products throughout.
- Reduce or eliminate specialty lighting.

<u>90% Alternative:</u>

- Reduce total glazing at all offices and conference rooms to side and transom lights only.
- Replace all glazed doors with wood doors with center light.
- Replace carpet tile in conference rooms with broadloom.
- Reduce “specialty finishes” and “features”.
- Investigate a combination of new and pre-owned furnishings and workstations.
- Reduce built soffits and suspended ceiling features.

- Reduce specialty lighting.

<u>75% Alternative:</u>

- Reduce total glazing at offices to side and transom lights only.
- Replace glazed office doors with wood doors with center light.
- Reduce “specialty finishes” and “features”.
- Investigate value engineered new furnishings and workstations.
- Reduce built soffits and suspended ceiling features.
- Reduce specialty lighting.

K. EXHIBIT DESCRIPTIONS DESIGN NARRATIVE

Introduction

The gallery is approximately ____ square feet, fifteen feet tall, and circular. People who come into the gallery may proceed in any direction, but in Western cultures people generally turn right upon entering. Therefore the interpretive story begins to the right of the entry and continues counter clockwise around the gallery; it begins as a story of the past and continues to the present. For those who elect a different route, the story is divided into discernable segments whether 'backwards' or 'forwards.'

Schemes 1 and 2

The gallery configuration, story line and interpretive plan will not be affected by the decision between the one-site scheme and the two-site scheme. The entry sequence, and the ability to create separation between exhibits and lobby functions may vary, but these aspects of design would require refinement as we move into Design Development in either case. The only significant variation in the gallery space between the original Schematic Design effort (in 2005) and now is that the VE process identified the need for additional circulation space between and among exhibits. In response, the gallery diameter was increased from ___' to ___', and the area increased from 1600square feet to ___square feet, with the additional space being given over to visitor circulation.

Storyline

The overall story focuses on the natural resources and how people came to utilize them. The underlying message is about Change – the slow or sometimes rapid and catastrophic rate of change and its impact; our initial perception of a 'limitless' resource that has changed over time and now recognizes the vulnerability of our natural world; and lately a fundamental change in how we manage our land and care for its resources.

The story begins with the geologic processes that formed the region and the resulting glaciers, watersheds, forests and wildlife that evolved; proceeds through the arrival of early people and later Europeans, and the resources such as fur and mining that attracted them; and culminates with current stewardship practices and the presence of the agencies who now manage our public lands and resources.

Appearance (organizing design systems)

The gallery is rich with visual and physical complexity, yet an underlying organization is perceived by the visitor – an organization that keeps rein on the complexity and helps people navigate.

Two juxtaposed systems are at work in the room and form the basis of the exhibit design and layout:

1. An *environment of natural landscape segments* includes scenic diorama pieces of a glacier, nunatak, spruce forest, Lowell cabin, railroad trestle, archeological dig and fishing scene; and
2. An *environment made or marked by human hand* includes the encircling architectural wall and its graphic surface treatment, several freestanding graphic 'kiosks,' and cutaway graphic surfaces that expose the sides of diorama pieces as 'story surfaces' with text, imbedments, images and discovery elements.

The two exhibitry systems are carefully balanced to convey beauty, richness, and information, and to facilitate circulation. They are obviously all manmade elements, but the visitor will accept and understand the ways in which they play off each other. Less obviously, the two methods combine to elegantly deliver complex messages within a relatively small space, while leaving 8' – 10' wide 'museum standard' circulation paths.

People
Because visitors relate most easily to stories about people, several figures appear within the exhibits: an NPS researcher at a *nunatak*; USFS fire fighters in the forest; May Lowell outside her cabin; a railroad construction worker; a desolate miner in the gold field; an Alutiiq archeologist; and a fisherman.

Wildlife
Because much of the resource is based in wildlife, animals such as fish, mammals, and birds appear as models within the settings. Additional animals appear in photo panels.

Animation
Additionally, the gallery is animated by changing images in four locations:
1. Overhead video projections fit within an encircling band of photomurals;*
2. Slow, magical 'reveal' scenes appear on scrims at the Successional Forest;
3. Rearscreen projection displays multiple historic images across a window in the Lowell cabin; and
4. Video 'Disaster' excerpts from NPS loop on a monitor at Yesterday and Today.

These kinetic elements impart a sense of activity to the space when few visitors are present.

* Projections may be excerpted from the Show – see accompanying Show Narrative.

Humor
An opportunity exists to convey some Alaskan humor and quirkiness within this exhibit. For example, Alaska Nellie and her bear could be shown making roof repairs in the Yesterday and Today setting – an unexpected surprise that visitors will never forget.

Audio

And finally, 5 audio segments will help visitors believe in the realism of these settings by adding a touch of magic – a feeling of mystery connecting the past with the present, and taking them momentarily out of the gallery and out of themselves.

For example, standing under a train trestle with a dejected gold miner in view, visitors might hear the whistle and rumble of the train on the Alaska Railroad tracks accompanied by a narrator saying: *"The ghost of gold still travels the Kenai …"*

Or approaching a calving glacier, visitors might hear a cacophony of kittiwakes accompanied by a line from the show film:* *" … glaciers heave downward and crack into the sea … the earth shifts and waters rise …"*

* See accompanying Show Narrative

APPROACHING THE EXHIBIT GALLERY

Optional Sculpture: Freestanding within entry plaza.
Subject TBD.

Timeline Wall Graphic: Wall-mounted within building entryway.
Features highlights from region's natural and cultural history, Seward, and the formation and legacies of the participating agencies.

Trip Planning Map: Wall-mounted across exterior side of Gallery.
Establishes location of gallery Storyline while providing reference information for the Trip Planning area.

Gallery Intro and Title: Wall-mounted next to and above the Gallery doorway.
Introduces Main Message of Exhibit.
Issues invitation to visit the Theater/Auditorium.
Issues invitation to 'Get out there!'

Theater Title: Wall-mounted outside of Multi-Purpose Room, above its doorway.
Ties Show and Gallery experiences together.

WITHIN THE EXHIBIT GALLERY

Main Message: *This dramatic region is characterized by a changing landscape and dynamic underlying geology which affects plants, animals and people; in turn, people's changing attitudes have effected this environment over time.*

Subthemes:

- Habitats are dynamic – this area is continually changing through plant and animal succession.
- Agencies use a variety of strategies to manage habitats based on their different mandates.
- Habitats are complex and interrelated and can be disrupted by human activity.
- The factors that limit species diversity are not always what one might expect.

PLEASE NOTE: The subject of Geology is interspersed throughout the exhibits, and appears on the kiosks. The term 'kiosk' is a placeholder used to describe stacked dimensional interactive units that contain graphics, images, artifacts, and discovery items. The 'kiosks' come in three heights – short, medium and tall – in order to fit easily into their surroundings. The graphic grid wall around the room's perimeter employs full-color, screened-back, and/or duotone photos, line art and quotations. Names and titles will be revised as the project proceeds – words shown here are placeholders.

Exhibit 1: GEOLOGY, CLIMATE AND GLACIERS

<u>Content Description:</u>

Forces Shape the Region.

Geology.

- Plate tectonics and geology are foundation of ecosystem.
- Ring of Fire and park/forest within it.
- Slow steady changes contrast with abrupt ones (slow steady crustal movements vs. earthquakes / avalanches that create dramatic changes in an instant).

Climate and Glaciers.*

- Glaciation / Ice Age.
- Climate and glaciers define and restrict what can grow or live here.
- Glaciers still here due to ocean circulation and storm patterns which cause icefield formation that feeds glaciers.
- Vivid examples of attempted ice field crossings and snow storms.

*(Change/retreat /recognizing glacial landforms are covered at Exit Glacier).

Media Description:
Towering rock spire with mountain goat and portion of a glacier.
Tall kiosk with focus on What's here and Why is it here?
3D regional topo model.
Cutaway glacier with relationship between geology, climate, glaciers, plants and animals.
Cutaway rock with exposed geologic strata, imbedded rock samples, and diagrams of region's basic geology.
Wall mural(s), scenic and detail photographs and quotations range along the back wall.
Video projection alternates with photomurals overhead.
Cutaway sections may incorporate pull-out discovery drawers or panels, inset objects, images and text.

Exhibit 2: FJORDS AND TIDEWATER GLACIERS

Content Description:
Habitat interconnections.

Habitat Formation and Range.

- A continuum of interconnected habitats range from nearly barren icefields through temperate rainforest, to rich marine waters.

Fjords/Tidewater Glaciers.

- Glaciers carve deep fjords of cold, oxygen rich water.
- Glacial movements transport nutrients within their sediments.
- Calving or melting glaciers mix fresh water with salt water.
- Focus story – Harbor seals use icebergs for pupping – what will be effect of climate change? OASLC (Ocean Alaska Science and Learning Center) programs provide research and education to support Kenai Fjords National Park and Alaska Sea Life Center.
- Focus story – Upwelling of nutrients from calving ice creates rich environment for fish and the sea birds that eat them – an example is Kittlitz's Murrelet, a recently listed threatened species.

Media Description:
Nunatak and surrounding ice flow / glacier.
Figure of NPS field researcher monitoring the nunatak.
Glacial calving at leading edge of ice.
Cutaway glacier with graphic surfaces showing relationship between tidewater glaciers, nutrients and sealife.
An audio program with directional speakers conveys cracks, groans, snaps and splashes of calving glaciers, along with sounds of seabirds and one line of narration.
Wall mural(s), scenic and detail photographs and quotations range along the back wall.
Video projection excerpts from the Show alternate with photomurals in overhead band.
Cutaway sections may incorporate pull-out discovery drawers or panels, inset objects, images and text.

Exhibit 3: NUNATAKS

Content Description:
Icefields and Nunataks

- Nunataks are small islands of life amidst a sea of ice.
- Wildlife is hidden within the nunatak.
- Focus story – NPS inventories and monitors the surprising array of life making use of the icefields.
- Sidebar: Scientists and their fieldwork.

Media Description:
Wildlife models within the scene.
Cutaway of ice field / glacier and nunatak.
Medium kiosk with nunatak model on top and graphics about refugia.
Wall mural(s), scenic and detail photographs and quotations range along the back wall.
Video projection excerpts from the Show alternate with photomurals in overhead band.
Cutaway sections may incorporate pull-out discovery drawers or panels, inset objects, images and text.

Exhibit 4: SPRUCE FOREST

Content Description:
Spruce Forest.

- Extent of boreal spruce forest and threats to it.
- What lives here.
- Focus story – Spruce bark beetle effects on forest habitat and wildlife.
- Climate change effects on forest habitat and wildlife.
- Focus story – USFS management of forest.

Media Description:
Wall-mounted graphics about animals and forestry management.
Forest setting with spruce tree and nurse stump.
Animal model in den beneath the stump.
Crawl through tunnel for kids.
USFS fire crew figures doing fire suppression.
Short kiosk with giant spruce bark beetle and pull-out discovery shelves about infestation.
Wall mural(s), scenic and detail photographs and quotations range along the back wall.
Video projection excerpts from the Show alternate with photomurals in overhead band.
Cutaway sections may incorporate pull-out discovery drawers or panels, inset objects, images and text.

Exhibit 5: FOREST SUCCESSION

Content Description:
Glaciers move and shape the forests.
- Glacial retreat.
- Emergent forests.
- Forest succession.
- Climax forest.
- Alutiiq village.

Media Description:
Evocative and 'magical' scenes morph into one another and show succession over time, concluding with the village(s) that preceded the Lowell's arrival. (Uses theatrical scrims and programmed lighting changes.)
Bas relief models of animals and people set between the theatrical scrims.
A railing panel details the processes.
An audio program with directional speakers adds to the sense of 'magic' by conveying sounds of insects, birds, scuffling mammals, wind and rain and native voice.
Wall mural(s), scenic and detail photographs and quotations range along the back wall.
Video projection excerpts from the Show alternate with photomurals in overhead band.

Exhibit 6: YESTERDAY AND TODAY

Content Description:
History of Seward: Human Use of Resources.
- Early People.
  - Focus story – The people who were here first.
- Lowell Cabin.
  - Focus story – Frank Lowell was a fur trader personifying the attitude toward wildlife as subsistence and economic resource; Mary Lowell was an Alaskan native and skilled at frontier survival and subsistence.
  - Rate of change accelerated due to technology and population, accompanied by slower rate of change in attitude toward resources.
  - Examples of focus stories: Herring Pete at Nuka Island in the Park, and a fox farm at Lower Russian River (?) in the Forest (and/or Alaska Nellie and her bear).
  - Examples of changing dichotomy: Then – exotic species valued and introduced, but bounty placed on native bald eagles. Now – exotics removed as an issue in Park and Forest, while bald eagles are protected.

Media Description:
Figure of Mary Lowell stands near her porch, shading her eyes from the sun and looking out across the water, as if waiting.
Alutiiq baskets holding forest products sit on Mary's porch.
The smell of wood smoke is in the air.
A 'construction armature' employs timber from Old Solly's to provide a framework for artifacts, historic photographs and scale models.
A featured photo of tree stumps recalls the earlier forest that was removed.
Rearscreen projection on the cabin's window expands the number of images visitors see.
A video monitor shows clips from NPS archival 'disaster' footage about quake & Valdez.
An audio program with directional speakers conveys the sounds of construction, voices debating where and how to build, the clang of fire bells, the sounds of chickens, dogs and mules, and/or oral histories.
Optional figures of Alaska Nellie and her bear peer from a rooftop.
Video projection excerpts from the Show alternate with photomurals in overhead band.

Exhibit 7: MINING AND TRANSPORT

Content Description:
The need for transportation grew from economics and greed for gold.

- Mining and Transport (resource extraction).
- Focus stories – accelerated human use of resources, Harry Johnson & Alaska Nellie (also may be oral histories available from people involved).
- Ties into geology – gold mining, perils of travel, difficulties with railroad.
- Extraction and trade was motivation for traveling the interior, giving rise to Iditarod and construction of Alaska Railroad.

Media Description:
Railroad trestle with construction worker on cantilevered tracks extends overhead.
Fragment of hillside below the trestle, where a miner sits dejectedly among rocks and rubble, beside a flume and his mining gear.
A medium kiosk with gold ore and gold artifacts, samples of coal, photos of oil tankers, astounding facts, and other resource-related discovery items.
Audio track whistle and narrative.
Wall mural(s), scenic and detail photographs and quotations range along the back wall.
Video projection excerpts from the Show alternate with photomurals in overhead band.

Exhibit 8: AGENCIES AND STEWARDSHIP

Content Description:

Stewardship and Changing Attitudes.

Seeds of Change.

- Seward, Park and Forest as they are today – are still tied to natural processes and still using natural resources, but with more focus on recreation and stewardship.
- Examples of how these agencies and others accomplish this, including some of the specifics of current management issues, projects, research.

USFS: Outdoor Recreation Management and the Forest.

TBD.

NPS: Cultural Management and the Park.

- Focus story – Alutiiq use of natural resources and relationship to the land; maintaining their traditions; recovering their history.
- Hope, AK.
- Others (TBD).

Media Description:

A split foreground scene shows (NPS) archeological dig site with figure and artifacts, and (USFS) riverside scene with fisherman.
Archeological artifacts.
Background images from all agencies show various services and activities.
One large flipbook combining all agencies contains changeable information.
Large root wad on a fallen tree.
A medium kiosk examines the changes in attitudes, and shows a transition toward a tourism economy and stewardship attitude.
Wall mural(s), scenic and detail photographs and quotations range along the back wall.
Video projection excerpts from the Show alternate with photomurals in overhead band.
Cutaway sections may incorporate pull-out discovery drawers or panels, inset objects, images and text.