

**CITY AND BOROUGH OF JUNEAU  
 STEAMSHIP WHARF AND MARINE PARK IMPROVEMENTS  
 CONCEPTUAL DESIGN REPORT  
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**CITY AND BOROUGH OF JUNEAU  
STEAMSHIP WHARF AND MARINE PARK IMPROVEMENTS  
CONCEPTUAL DESIGN REPORT**

**EXECUTIVE SUMMARY**

KCM, Inc. was authorized by the City and Borough of Juneau Engineering Department to prepare a conceptual design for reconstruction of the Steamship Wharf/Marine Park area. KCM's contract required that the following services be performed:

- Soils Investigations
- Condition Survey of Existing Docks
- Site Survey
- Conceptual Design

The results of each of these tasks is included in this report. The soils investigations are summarized in Appendix B Geotechnical Engineering Report. The condition survey of the existing docks is summarized in Appendix E Underwater Inspection Report and Appendix F Above Water Structural Inspection Report. The site survey and conceptual design are described in the drawings.

The conceptual design process involved a series of five public meetings under the direction of a Project Oversight Committee (POC). The POC consisted of five members of the CBJ Harbor Board CIP committee, four members of the CBJ Parks and Recreation Advisory Committee, the Port Director, Parks and Recreation Director, and the Engineering Department's project manager. This process is described in Appendix A Public Participation.

Through the course of the POC meetings and site investigations, design criteria for the project evolved as follows:

|                                    |  |
|------------------------------------|--|
| Goals                              | Wharf: Improve cruiseship/ground transport operations<br>Park: Enlarge and improve park  |
| Objectives                         | Wharf: Improve bus and van parking, improve disembarking operations, Improve visitor orientation, provide low maintenance facility<br>Park: Improve pedestrian amenities, provide usable area during all seasons, provide safe and secure park, provide low maintenance facility                         |
| Site Opportunities and Constraints | Opportunities: Views, focal points, destinations, sun exposure, access to water/seawalk, pavillion<br>Constraints: Vehicle noise/congestion/view impediment, pedestrian congestion, wind/rain exposure   |
| Existing Structures and Facilities | Generally in good condition, some deterioration of wood decking and structure, steel piling and sheet piling require corrosion protection, concrete deck at Marine Park Expansion will not carry proposed vehicle loads, timber deck at parking garage will not carry proposed building or vehicle loads |
| Geotechnical Considerations        | Settlement is an issue with existing and proposed fills, possible slope stability and seismic issues   |
| Structural Systems                 | Generally recommend pile-supported decks with low density fills inshore, corrosion-protected steel piles and precast concrete deck elements to provide flexible low maintenance structure  |

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• Environmental, Permitting Issues</li> </ul> | <p>State and federal agencies require coastal permit process, federal agencies consider deck and fill similarly (US Army COE Section 404 permit), baseline studies on existing plant life recommended, CBJ Land Use Ordinance requires Conditional Use Permit in Waterfront Commercial Zone although parking related to cruiseship passenger services is permissible in Special Waterfront Zone</p> |
|--|---|

Using these design criteria, a series of alternative site plans was developed. Following reviews at POC meetings, the design team was directed to develop a plan that includes the following major elements:

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• Vehicle Staging:</li> </ul>         | <p>11 bus spaces, 1 combination bus/ADA space, a combination short-term bus/ADA space at curb, 2 combination van/ADA spaces at curb, 6 van spaces at curb.</p>  |
| <ul style="list-style-type: none"> <li>• Public Parking</li> </ul>           | <p>Curb spaces could be used as public parking either during the summer season or during the winter by operational changes in signage. Bus staging area could be used as public parking during the winter yielding 24 to 36 spaces, or fewer if area is used for recreational purposes.</p> |
| <ul style="list-style-type: none"> <li>• Park Shelter</li> </ul>             | <p>Enlarge to approximately twice present size, provide capacity for about 250 people under shelter.</p>  |
| <ul style="list-style-type: none"> <li>• Visitor Center/Restrooms</li> </ul> | <p>Provide two-story, 3000 square foot building for visitor center and other waterfront uses, and 700 square foot public restroom, both adjacent to parking garage structure.</p>   |
| <ul style="list-style-type: none"> <li>• Lightering Float</li> </ul>         | <p>Maintain existing float in its present location, modify ramp if necessary to provide adequate pedestrian circulation in park and Steamship Wharf area.</p>   |
| <ul style="list-style-type: none"> <li>• Vehicle Entry/Exit</li> </ul>       | <p>Analyze with and without left turn pocket for entry to bus staging from the south.</p>   |

The plan is shown in Drawings A1, A2, S1, and S2. The construction cost of the plan is estimated at approximately \$5.3 million, and the total project cost is estimated at approximately \$7.3 million.

# 1 INTRODUCTION

## 1.1 SCOPE OF WORK

In February 1999, the City and Borough of Juneau (CBJ) Engineering Department selected a design team headed by KCM, Inc., to perform Design, Construction Administration and Inspection Services for the Steamship Wharf and Marine Park Improvements. In March 1999, work began on Phase I, which included the following major tasks:

- Soils Investigations
- Condition Survey of Existing Docks
- Site Survey
- Conceptual Design

**Soils Investigations:** The contract requires that the consultant perform the necessary work to reach a recommendation for pile-support of new decking or a bulkhead-supported fill in the area between the shore and Steamship Wharf. The major tasks envisioned in the contract are compilation, review, and analysis of existing data, development of overburden and bedrock mapping, and an estimation of the pertinent soil properties based on existing drill and pile logs and soils tests.

**Condition Survey of Existing Docks:** The contract requires that the consultant perform the necessary work to provide a written technical report summarizing the condition of the existing Steamship Wharf structure. The services are to include visual inspection of the timber piles from the deck level to mean low tide, all the Marine Park H-piles and structure, and all the Marine Park sheetpile and concrete deck. In addition, an underwater inspection of all timber and steel pile in the Steamship Wharf from elevation +10 to the mudline is required.

**Site Survey:** A complete land survey of the Marine Park and Steamship Wharf area is required, including bathymetric soundings as required to complete the design.

**Conceptual Design:** The consultant is required to formulate a conceptual design through a variety of public and staff meetings, including meetings with the Project Oversight Committee (POC), Harbor Board CIP Committee, Parks and Recreation Advisory Committee (PRAC), industry groups, CBJ staff and others. The consultant is required to schedule, conduct and facilitate this process, and envelop the comments, recommendations and direction received into a draft conceptual design. This report is the result of that process.

## 1.2 SCHEDULE

The work was scheduled around a series of public meetings held under the direction of the POC, which included five members of the CBJ Harbor Board CIP committee, four members of the CBJ Parks and Recreation Advisory Committee, the Port Director, Parks and Recreation Director, and the Engineering Department's project manager.

A detailed schedule is shown in Appendix A. The schedule included the following public meetings at which the project was an item of discussion:

|   |                 |
|---|-----------------|
| POC meetings devoted exclusively to the project - | March, 16, 1999 |
|   | March 30, 1999  |
|   | April 13, 1999  |
|   | April 27, 1999  |
|   | May 6, 1999     |

- Harbor Board meetings at which project was on agenda:
  - March 27, 1999
  - April 15, 1999 (CIP Committee)
  - May 11, 1999 (Finance Committee)
  - May 20, 1999 (CIP Committee)
  - May 27, 1999
  
- PRAC meetings at which project was on agenda:
  - April 6, 1999
  - May 4, 1999
  
- Assembly Public Works and Facilities Committee meeting at which project was on agenda:
  - April 21, 1999
  
- Assembly Committee of the Whole meeting at which project was on agenda:
  - May 24, 1999

It was the intent of the CBJ to complete Phase I design services within 75 calendar days, during the period of March 15 through May 28 of 1999. Phase II services, preparation of construction documents and permitting, is intended to occur during the summer of 1999 to allow for construction to begin in the fall or winter of 1999-2000. The actual timing of construction will depend upon final approvals of designs, acquisition of construction funds, and permitting.

## 2 DEVELOPMENT OF DESIGN CRITERIA

### 2.1 GOALS AND OBJECTIVES

The following list of goals & objectives was derived from a discussion of project issues at an interactive public workshop hosted by the Project Oversight Committee on 3/16/99 and subsequent discussions at the 3/30/99 POC meeting (Appendix A). The Project Oversight Committee subsequently accepted these goals & objectives as the guiding principles for investigating and evaluating concept alternatives and for selection of a preferred alternative as a basis for final design.

Goals & Objectives have been separated into categories for Marine Park and for the cruise ship staging facility. The goals describe a vision. A list of measurable objectives for each stated goal has been delineated. Achieving objectives will insure that goals are met.

The vision is to improve cruise ship and ground transport operations while enlarging and improving the function of Marine Park.

**TABLE 1. PROJECT GOALS**  
(Vision statement)

- A. Wharf Goals:** (Improve cruise ship/ground transport operations)
1. Improve bus and van staging areas
  2. Improve disembarking operations
  3. Improve visitor orientation
  4. Provide a low maintenance facility
- B. Park Goals:** (Enlarge & improve park)
1. Improve pedestrian amenities
  2. Provide additional usable area during all seasons
  3. Provide a safe and secure park
  4. Provide a low maintenance facility

**TABLE 2. PROJECT OBJECTIVES**  
(Measurable)

- A. Wharf Objectives**
1. Improve bus and van parking
    - Provide safe and adequate queuing space for pedestrians boarding buses
    - Provide short term parking
    - Provide direct left turn onto Marine Way, northbound
    - Separate large bus and van parking, if feasible
    - Address environmental issues
  2. Improve disembarking operations
    - Enlarge and widen wharf area
    - Accommodate larger vessels
  3. Improve visitor orientation
    - Improve wayfinding/signage
    - Provide multi-lingual signing
    - Provide a more structured and ordered vendor area
    - Provide visitor center/interpretive center
  4. Provide a low maintenance facility
    - Utilize durable, low maintenance materials
    - Provide simple, effective corrosion protection
    - Utilize energy efficient, durable, vandal-resistant lighting

## **B. Park Objectives**

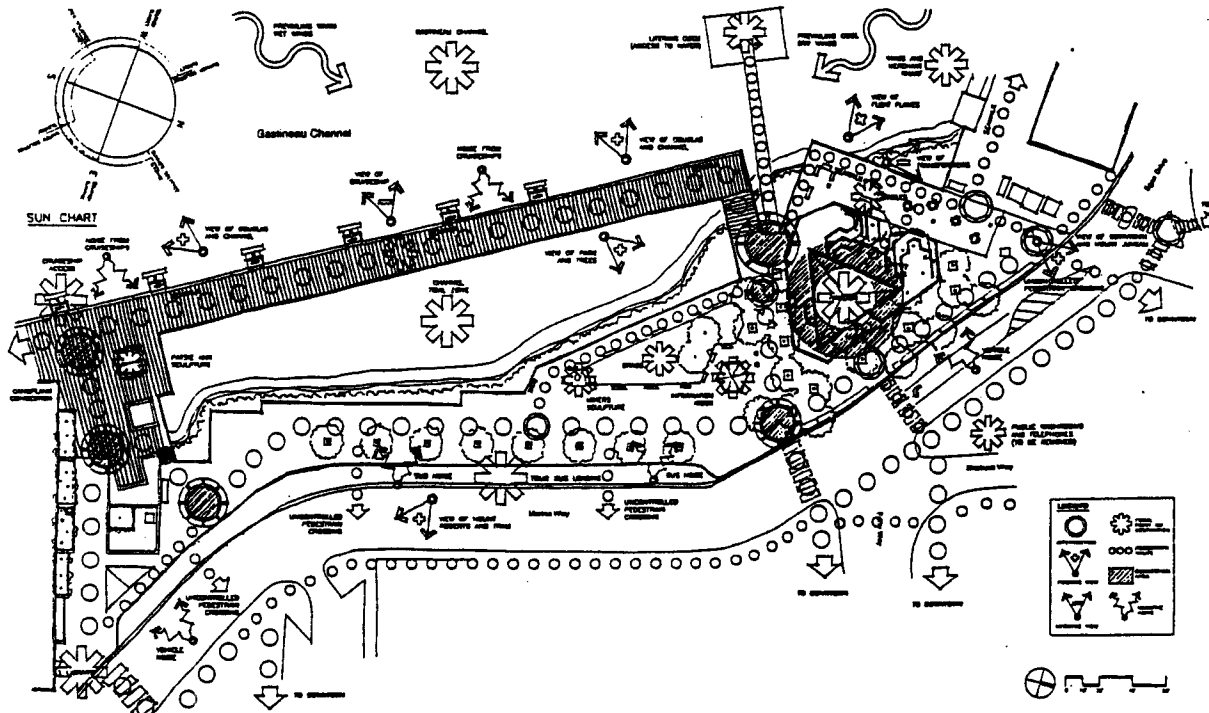
1. Improve pedestrian amenities
  - Improve waterfront promenade
  - Provide additional bike racks
  - Provide more comfortable benches w/ backs
  - Provide picnicking opportunities
  - Improve visual & physical contact w/ water
  - Provide weather protection
  - Provide year around restroom-incorporate first aid storage
  - Provide safe lightering float for convenient drop-off
  - Provide public telephones
  - Add grass berms
  - Additional tree plantings
  - Provide opportunities for seasonal plantings, (hanging baskets)
  - Address environmental issues
2. Provide additional usable area during all seasons
  - Provide additional green area
  - Improve & enlarge shelter
  - Provide enlarged performance area
  - Provide a protected/elevated area for sound & lights at performance venue
  - Provide adequate electrical service to shelter area
  - Provide flexible venues for year around use
3. Provide a safe and secure park
  - Improve pedestrian lighting without increasing unwanted light
  - Improve crosswalks
  - Provide clues to vehicles that they are approaching pedestrian zone
  - Control and secure access to under side of docks
4. Provide a low maintenance facility
  - Utilize durable, vandal-resistant site furnishings
  - Utilize durable, vandal-resistant plumbing fixtures
  - Provide low maintenance landscaping
  - Utilize energy efficient, durable, vandal-resistant lighting

## **2.2 SITE OPPORTUNITIES AND CONSTRAINTS**

The Steamship Wharf/Marine Park area occupies a prominent and important location on Juneau's downtown waterfront. The site is highly utilized by Juneau residents year round and cruiseship passengers during the summer months. Residents utilize the Marine Park area for passive recreation such as gathering, eating lunch, enjoying sunny days, walking along the Seawalk and attending the summer Friday night concert series. Cruiseship passengers use the site to disembark from their ship, to obtain tourist information, to load and unload from tour buses and to gather and relax in the park. Overall the park/wharf is undersized for the current and expected use of the area.

Marine Park is important as it is the only public waterfront park in downtown Juneau and is one of the few green spaces in the area. The Steamship Wharf/Marine Park is a gateway to Juneau for thousands of cruiseship passengers each year.

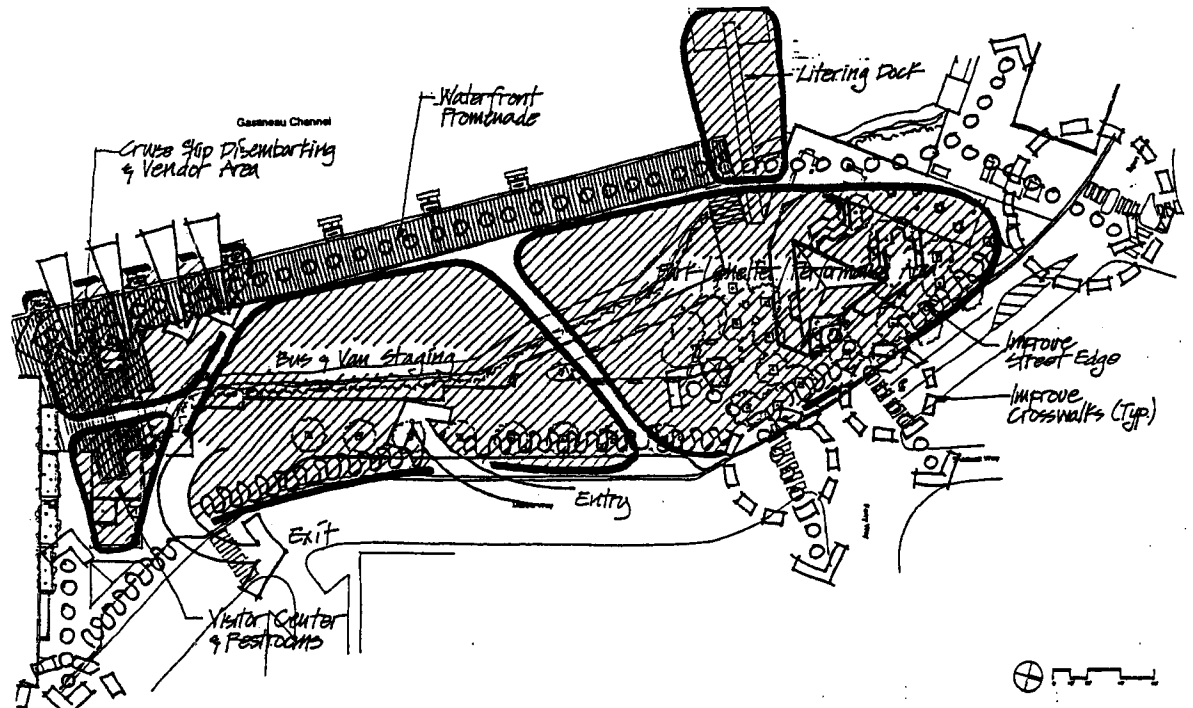
An analysis of the site's opportunities and constraints was performed as illustrated in Figure 1. Based on this analysis and the project goals and objectives, the functional diagram shown in Figure 1 was also developed. Site opportunities and constraints can be summarized as follows:



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**SITE ANALYSIS  
 OPPORTUNITIES AND CONSTRAINTS**

Steamship Wharf & Marine Park Improvements



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**FUNCTIONAL DIAGRAM**  
 Steamship Wharf & Marine Park Improvements  
 Juneau, Alaska 99801

**FIGURE 1. SITE ANALYSIS  
 OPPORTUNITIES AND CONSTRAINTS AND FUNCTIONAL DIAGRAM**



## **Opportunities**

- Better integrate cruiseship operation with park facility
- Improve pedestrian circulation and reduce congestion
- Improve usability of park shelter area
- Provide pleasant 'gateway' to Juneau
- Utilize sun exposure
- Utilize surrounding positive views
- Improve Seawalk circulation
- Provide for water access
- Provide safer pedestrian crossings across Marine Way
- Provide more gathering areas within park
- Provide improved visitor services and signs
- Create a theme for the area/integrate art
- Improve restroom facilities
- Provide programming of park/wharf during non-tourist season

## **Constraints**

- Area required for program items exceeds potential park/wharf area
- Potential conflict between park and tour bus loading
- High vehicular traffic along Marine Way
- Lightering dock/gangway area creates pedestrian and marine congestion
- Potential vehicle noise and fumes from tour buses and passing traffic
- Marine Way and Seward Street cross walk at an awkward location
- Steamship Wharf configured to create conflicts between disembarking cruiseship passengers and Seawalk users
- High pedestrian use can conflict with high vehicular use of area
- Wharf is approximately 4 feet in elevation above surrounding Marine Park
- Required coastal permits may limit options for improvements
- Potential loss of view to tidal areas through expansion of park/wharf area
- Electrical vaults and other utilities near Merchant's Wharf create circulation and aesthetic problems
- Wet summer climate and harsh waterfront winter conditions
- Improve quality of surface runoff before discharge

Opportunities and constraints identify issues that must be analyzed and dealt with in the design. They are not necessarily a listing of 'good and bad', and in many instances, the constraints can be overcome and converted into opportunities. The advisory committee and design team will be required to balance the needs of the program with the opportunities and constraints to create a successful design through consensus of the issues.

## **2.3 EXISTING STRUCTURES AND FACILITIES**

### **2.3.1 Introduction**

A major goal of the Steamship Wharf and Marine Park Improvements project is to incorporate as many of the existing facilities and structures as possible. The use and upgrading as necessary of the existing structures will result in a lower project development cost. The criteria for using the existing facilities was to confirm that their service life will nearly match that of the new facilities and that the existing facilities will not constrain the development of the improvements.

Part of the work has been to assess the condition of the existing structures. To that end, diving and structural inspectors and a corrosion engineer were retained. Another facet of the existing structure

assessment is to verify the live load capacity of the existing structures. These live load ratings are then compared with the proposed usage and the upgrades recommended where necessary.

### 2.3.2 Description of Existing Facilities

Drawing S1 shows the arrangement and configuration of the existing facilities. This drawing was developed by gathering the as-built plans on file with the CBJ and supplementing those plans with field observations.

A summary of the existing facility construction, date of completion and suitability for the proposed construction is shown on Table 3.

**TABLE 3  
EXISTING FACILITY SUMMARY**

| EXISTING ELEMENT        | MATERIALS OF CONSTRUCTION  | DATE COMPLETED                        | ESTIMATE OF SUITABILITY FOR PARK EXPANSION   |
|-------------------------|--|---------------------------------------|--|
| 1 Steamship Wharf       | Wood piling with timber superstructure; Steel pile fender dolphins; North extension: steel piling and timber deck system | Wharf: 1960's<br>Dolphin System: 1991 | Good. Life load capacity and configuration acceptable except for required widening at the ship's gangway area. |
| 2 Parking Garage Apron  | Steel "H" piling, concrete caps and beams; timber plank deck system.   | 1985                                  | Fair. Deck system should be upgraded for higher loadings and better deck arrangement.                          |
| 3 Marine Park Expansion | Steel "H" piling; concrete caps and beams; concrete slab.  | 1987                                  | Fair. Piling and caps suitable for proposed park. Deck system must be upgraded for heavy wheel loads.          |
| 4 Fill at Marine Park   | Cast-in-place concrete curbs and sidewalks on fill or gabions.   | 1978                                  | Poor. Sidewalks have continued to settle and could present pedestrian hazards.                                 |
| 5 Marine Park Shelter   | Heavy timber with metal roof; Foundation is isolated pier footings   | 1978                                  | Fair. Undercover area is small with little flexibility.  |
| 6 Marine Park Bulkhead  | Steel sheet piling; internal wale and tie back system; Reinforced concrete deck slab                                     | 1985                                  | Fair. Piling need corrosion protection system. Deck slab should be upgraded to control effects of settlement.  |
| 7 Lightering Float      | Wood float with foam floatation; Steel guide piles; timber ramp; pile supported abutment.                                | 1975                                  | Fair. Float surfaces should be upgraded. Ramp approaching end of useful life.                                  |

### 2.3.3 Summary of Investigations

Underwater, superstructure, and corrosion potential surveys were conducted by Echelon Engineering, Inc., Wilson Engineering, Inc. and Tinnea & Associates, respectively. Their work is summarized as follows:

**[a] Underwater Inspection Summary (Appendix E)**

The underwater inspection of the Steamship Wharf and associated steel dolphins found the existing piling to be generally in good condition. The wood piling were graded according to their load carrying capacity. Echelon rated 87% of the piling to have 100% of their design capacity while 11% were judged to have

90% capacity. Nine piles were rated below 75% capacity with five piles being rated with zero capacity for vertical or lateral loads.

Steel piling all had 100% of their design section remaining. However, it was found that the protective galvanizing coating on the steel piling (installed in 1991-92) was reaching the end of its useful life.

#### **[b] Superstructure Inspection Summary (Appendix F)**

The survey of the Steamship Wharf, Parking Garage Apron, Marine Park Expansion, Marine Park Bulkhead, and lightering float were conducted by Wilson Engineering, Inc. (WEI) in March and April of this year.

In general, they judged overall conditions as "fair to good". No items were noted as requiring immediate action to protect life safety or prevent immediate property damage (although they did note some weld failures on mooring dolphins south of the project area that should be addressed by the CBJ as soon as possible).

WEI noted numerous areas in the existing Steamship Wharf that should be upgraded and/or repaired as a part of this project. These repairs will either replace isolated deteriorated members or significantly decrease more degradation. Wilson also surveyed the existing members of the Marine Park Expansion and Bulkhead areas. Their estimates of remaining structural section were used for the structural analysis described below.

#### **[c] Corrosion Potential Summary (Appendix E)**

Tinnea and Associates utilized corrosion potential data obtained by them in 1995 and the current underwater investigations. They concluded that corrosion protection systems should be added to the steel piling of the Steamship Wharf dolphins, Parking Garage Apron, Marine Park Expansion, Marine Park Bulkhead and the Lightering Float. The existing steel piling all need either upgrades to their present cathodic protection system or the addition of protection system to the currently unprotected elements, such as the Wharf Dolphins.

The corrosion protection system recommended includes some coating or re-coating with protective covering in the exposed areas and installation of sacrificial anodes that are electrically connected to the piling elements.

#### **[d] Structural Analysis Summary**

Key structural components of each individual structure were analyzed to check their suitability for use in the proposed development. Their load capacities were compared with the probable new design loads such as loaded buses and group assemblies, for example.

**Marine Park Bulkhead:** The existing sheet pile wall at the Marine Park Bulkhead was analyzed. Existing thickness measurements were used as the basis to calculate new reduced section properties. These thickness measurements indicated a reduction in capacity of only 15%. Even though the piles had been corroded, it is concluded that they have sufficient capacity to support the soil and surcharge loads and can be incorporated into the Park improvements. This recommendation is based on the assumption that the rate of corrosion will be dramatically reduced by installation of a corrosion protection system.

**Steamship Wharf:** Based on existing studies by PND, Inc. it is concluded that the existing Steamship Wharf has sufficient capacity to support both normal wheeled and areal loads associated with cruise ship operations.

**Parking Garage Apron:** PND, Inc. also rated the Garage Apron area. They predicted allowable design loads of 2000 pounds per axle and a areal live load of 45 pounds per square foot. These loadings are under

the actual loads of wheeled vehicles servicing the ships or code mandated loads for places of public assembly. It is concluded, therefore, that this area must be upgraded as a part of the project.

Marine Park Expansion: Our analysis of the existing Marine Park Expansion area concluded that the piling and pile caps have enough capacity for the proposed bus staging area. However, the decking system must be replaced by a higher capacity assembly.

## 2.4 GEOTECHNICAL CONSIDERATIONS

The geotechnical report is included in Appendix D. The basic conclusions of the report can be summarized as follows:

- The site consists of a manmade fill over intertidal/marine soils and glacio-marine deposits. The intertidal/marine layer is relatively weak and sloping toward Gastineau Channel.
- Based on the soil conditions and performance of existing smaller walls, a bulkhead-supported fill is not recommended.
- Existing and new fills are expected to experience both total and differential settlement. Slope stability factors of safety may be low depending on strength of underlying intertidal/marine soils.
- In order to reduce settlement and improve slope stability, low density fill material is recommended, both for new fills and as replacement material to “unload” existing fills.
- Based on the existing data and previous seismicity studies, differential settlement of existing and new fills is considered the most likely consequence during a major earthquake.

## 2.5 STRUCTURAL SYSTEMS

### 2.5.1 Introduction

The choosing of an appropriate structural system for the Improvements should be guided by some simple objectives. The structural system must:

- Not constrain project planning alternatives
- Provide a permanent low maintenance facility
- Recognize the unique problems of construction in Alaska
- Provide an economical solution

Recognizing these factors and the constraints of the site, existing facilities, proposed uses, and associated loadings, we propose to design a pile supported structure for the proposed decked over area. In the existing structure areas, such as Parking Garage Apron and Marine Park Expansion, the existing substructures will be upgraded with new deck systems.

The structures will be designed to support their self-weight and other design live loads. The structural live loads and design procedures will comply with the Uniform Building Code as amended by the City and Borough of Juneau. In addition, we propose to design those superstructure members that support highway loads to the Design Specification of the American Association of Highway Officials (AASHTO).

Proposed design live loads are as follows:

- |  |             |
|--|-------------|
| • Areas of public assembly and open spaces | 100 psf     |
| • Areas accessible to highway vehicles     | AASHTO HS20 |
| • Roof snow load                           | 50 psf      |
| • Ground snow load                         | 75 psf      |

The following discussion will be grouped into explanations of system elements such as piling and detailed listings of the proposed structural systems for each of the new or expanded Steamship Wharf and Marine Park areas.

### **2.5.2 Proposed Piling Systems**

A discussion of the use of piling should start with a discussion of available alternatives. To develop the proposed system, we also investigated the use of bulkheaded fills to provide the necessary land areas. We concluded that because of the project's area unique below surface geological strata that piling would provide better area support.

As can be seen from the summary of the Geotechnical Investigations (Appendix D) the present grade of the site is comprised of Alaska-Juneau Mine tailings that were placed at the site probably in the 1930's and 1940's. This fill which is very competent overlays weaker marine sediments. The underlying sediments have relatively low strengths and hence do not provide good foundations for typical building spread foundations or earth fills. For example, the adjacent Garage and Library complex and the Marine View Building were both constructed with pile foundations.

The A-J fill limits the options available for installation of pile foundations. Displacement piles, such as timber or precast concrete, are often difficult or impossible to drive in such fills. Strong steel piling, such as "H" piling, can penetrate the poorly graded rocky fills and marine sediment while still allowing the use end bearing in the underlying bedrock. For this project, we propose the use of a combination of galvanizing for the full pile length and special coatings in the zone above the ground line. These coatings will be shop applied but accommodate field repairs if required.

We also propose the use of batter or sloped piling to effectively resist lateral loads generated by earthquakes, wind, or vehicles. The exact arrangement of the piling will be determined during the final design process.

Another consideration in selection of piling types is the need to drive the piling from the shore side of the existing Steamship Wharf. Because of the size and configuration of the Wharf, we cannot envision a floating pile-driving rig being used to drive the majority of the deck piling. This from-the-shore-out approach will require that the pile-driving rig have interim support on the recently driven piling to quickly construct the facility.

Piling to extend and repair the existing Steamship Wharf will be treated wood piling similar to those existing.

### **2.5.3 Proposed Deck Systems**

#### **[a] Decked Over Area**

On conventional piers and wharves, the traveled surface is usually the top of the decking system. For the decked over areas of the proposed improvements, we propose that the decking be below the surface of the facility. The decking will support roadways, sidewalks and curbs, grass and planting areas. Each of these surfaces requires a different bedding or base. We propose therefore to depress the top deck elevation to bottom elevation of the thickest surface materials. All of the other surfaces will be built up with granular ballast to provide the necessary grades and slopes. Drawing S1 illustrates this concept.

We envision the deck as being constructed of precast concrete planks as shown in Drawing S1. These prefabricated shapes have high load capacities and are adaptable to fast construction techniques. Individual planks are usually grouted at the ends and along their edges to provide continuity and lateral load capacity.

The plank ends will rest on pile caps. The caps will either be precast concrete or steel. This will allow quick assembly after the piling are driven. Speedy erection will allow the pile driving crane to travel along being supported by temporary decking and the newly installed caps.

#### **[b] Parking Garage Apron**

The final configuration of the Apron will depend on the relationships of ship access, pedestrian circulation, and placing of the visitor center and other features at the south end of the project. Each of these uses has different loading criteria. Because of the low load capacity of the existing apron, it is likely that the entire apron will have to be replaced to accommodate the updated uses. Decking will be replaced with the precast system described above. Piling and caps will be added as necessary to support the surface facilities.

#### **[c] Steamship Wharf Widening**

The existing wharf will be widened with materials to match the existing, i.e., treated timber superstructure and deck. This area is being provided to accommodate the gangways from berthed ships.

#### **[d] Marine Park Bulkhead**

The fill area behind the sheet pile bulkhead is overlain with a reinforced concrete slab. This slab is supported on the outside perimeter by the sheet piling and on the interior by fill. Due to settlement of the underlying fill over time, the slab is cracked and slopes unevenly. Holes have been drilled in the slab to drain low spots.

A design challenge in correcting the slab problems is to not recreate the same mechanism that has caused the slab settlement and subsequent distress. Based on anecdotal evidence, we concluded that removing the slab, adding and compacting new fill, and recasting a slab will probably result in additional settlement and continued cracking. Instead, we propose to add a wood deck on sleepers that are attached to the existing slab. This new decking will match the appearance of the Steamship Wharf and span across the depressed areas. This solution will not add any new loads to the existing fill and therefore not increase the rate of long term settlement.

#### **2.5.4 Deck to Shore Bulkhead**

As noted above, the subsurface geological conditions dictate the use of piling to support the proposed decking. The use of a piling supported deck necessitates a transition between the shore and the pile supported deck. This is usually accomplished by the use of a bulkhead to retain the shore fills and provide a cutoff wall for wave caused erosion at the interface under the deck.

Bulkheads can be sheet piling walls at the edge of the decking. Because of the corrosion potential of the steel and the difficulty of driving the piling through the A-J fill, it is recommended that the bulkhead not be sheet piling. We propose instead the use of a precast concrete panel placed vertically at the edge of the deck. The panels would be buried deep enough to act as a cut-off wall and retain the fill. The Geotechnical Engineer (Appendix D) recommends the use of expanded polystyrene foam (EPS) as a structural fill material. This EPS will act as fill while not increasing the possibility of slope instability and settlement problems of the shore side areas adjacent to the deck.

### **2.6 ENVIRONMENTAL AND PERMITTING CONSIDERATIONS**

During the course of the conceptual design effort, it was attempted to determine the general nature and number of permits required for the project, as well as the requirements that those permits may impose upon design and construction. For purposes of discussion, these issues can be divided into state and federal permits and local CBJ permits. Background information on these issues is included in Appendix G.

## **2.6.1 Local CBJ Permits**

### **[a] Planning and Zoning**

Based on information provided by the CBJ Community Development Department, it is our understanding that the project will require a Conditional Use Permit, although the major proposed uses appear to be included under the Permissible Uses designated for the area. The project area is designated in two different sections of the CBJ Land Use Ordinance (Title 49). It is zoned as Waterfront Commercial (WC), and it is also included in the designation of Special Waterfront Areas.

The WC zone is "intended to provide both land and water space for uses which are directly related to or dependent upon a marine environment". Such activities are designated as including "private boating, commercial freight and passenger traffic, commercial fishing, floatplane operations, and retail services directly related to a maritime clientele" (Para. 49.25.250). The ordinance was amended in January of 1999 to specifically require a Conditional Use Permit in the WC zone for "Marine commercial facilities including fisheries support, commercial freight, passenger traffic and similar uses" (Table 49.25.300).

Under Para. 49.70.960 (8)(b)(1)(A), Permissible Uses in Special Waterfront Areas include "Maritime activities including private boating, commercial boating of all types, visitor industry, including cruise ships and transient pleasure vessels...". Under Para. 49.70.960 (8)(b)(1)(T), Permissible Uses also include accessory uses when associated with uses set forth above, including "...parking lots, spaces and structures, driveways, sidewalks, entrance structures, decorative structures, benches, landscaping features, awnings and similar improvements, and utility facilities."

The project will also require a City/State Project Review by the Planning Commission and approval by the Design Review Board.

### **[b] Building Permit**

The project will also require a building permit, under the Building Regulations (Title 19) of the CBJ Code.

## **2.6.2 State and Federal Permits**

State and federal permits can be classified in three different areas: coastal permits, state highway permits, and federal funding requirements.

### **[a] Coastal Permits**

On April 9, 1999, representatives of the CBJ and the design team met with state and federal regulatory agencies to discuss the permitting requirements for the project. Minutes of the meeting are included in Appendix G. Agencies represented included: Alaska Division of Governmental Coordination, US Army Corps of Engineers, US National Marine Fisheries Service, and the US Fish and Wildlife Service. Alaska Departments of Fish and Game, Natural Resources and Environmental Conservation did not attend.

Major issues discussed included the following:

US Army COE: Unless large open areas are provided in a deck, the COE would treat the project similarly whether the area is decked over or filled. The impact of lack of light is considered the same as fill from a permitting standard. Both types of construction will require a 404 permit, which requires consideration of "water dependency" including examination of applicant's intent, current use and alternatives. The COE representative stated that a "park and a parking area" are not normally dependent on water. The COE generally prefers piling a deck to fill.

US National Marine Fisheries Service: The NMFS representative was concerned about stormwater runoff and maintenance of oil/water separators. NMFS is concerned about elevated hydrocarbon levels in

stormwater and treatment will be required. Their position on existing stormwater discharges is that existing problems do not have to be addressed if they are not affected by the proposed project (e.g., the Seward Street outfall passing under the Marine Park).

US Fish and Wildlife Service: If a deck project is proposed, FWS would like to see baseline studies of the existing flora and fauna as far back under the deck as possible. They would also like to see if any distinct changes in habitat occur now due to light impacts.

State of Alaska DGC: The state has a different position on water dependency than the federal agencies and relies more on community preferences for waterfront usage. ADF&G's main concern with the project would be to limit in-water activity during the period of salmon outmigration (April 1 through June 15).

#### **[b] State Highway Permit**

Marine Way is a state highway and any new vehicle access to and from the roadway will require Driveway Permit from DOTPF. The design team has met with DOTPF on several occasions to discuss the project. DOTPF personnel have raised several issues including the following:

- They will need to see trip generation studies to evaluate the driveway application.
- They will carefully review turning radii for the large buses to be utilized at the site. It appears that buses leaving the southern site exit and turning left will require additional space on the east side of Marine Way, where a sub-standard driveway now exists for the police station parking.
- They have concerns about the proximity of the southern exit to the left turn pocket onto South Franklin Street from Marine Way. It appears that the distance meets DOTPF standards for distance of a driveway from an intersection, but slowing traffic along Marine Way could be a hazard to buses exiting the site.
- They have concerns about the northbound left turn into the northern entrance to the site. DOTPF's design section feels that a left turn pocket should be installed here, even if the number of buses entering is limited.
- The crosswalks were designed by DOTPF in 1997-98 and they do not foresee any changes being made unless the proposed site design necessitates it. DOTPF's policy is not to install mid-block crosswalks and they feel that the barriers installed at the Marine Park in 1998 have been effective in reducing jaywalking.

Although DOTPF felt that Unsignalized Intersection Analyses of left turn movements may not be necessary for the driveway permit, they do provide useful planning information in making design decisions on several of these issues and we have included them in Appendix C. As shown in Appendix C, there do not appear to be ITE standard trip generation factors appropriate for the project. Consequently, we have relied upon data developed based on review of cruiseship sizing and tour company dispatch record. This information should be submitted to DOTPF along with the Driveway Permit application as soon as possible in the final design/permitting phase of the project.

#### **[c] Federal Funding Requirements**

The original Marine Park and Tourist Facility constructed in 1978 utilized federal grant money from the Land and Water Conservation Fund to finance a portion of the construction. Under the terms of the federal grant, any conversion of use of the park area funded in this way would require the CBJ and amendment to the grant agreement and possible mitigation for any losses in park use. This grant program is administered by the Alaska Department of Natural Resources, Division of Parks.

Attached in Appendix G is correspondence from DNR to the CBJ describing the area affected by these restrictions. The area basically includes that portion of the project north of an extension of the Ferry Way center line. It appears that any "conversion of use" within this area would require an amendment to the CBJ's grant agreement and possible mitigation. It is our understanding that, based on verbal descriptions of the project, DNR would not consider the proposed changes a conversion of use in this area. The final conceptual plan should be submitted to DNR to verify this in writing.



### 3 ALTERNATIVE SITE PLANS

Alternative site plans evolved over the course of four POC meetings. The documents utilized in the site planning process are included in the meeting packets in Appendix A.

#### 3.1 INITIAL ALTERNATIVES

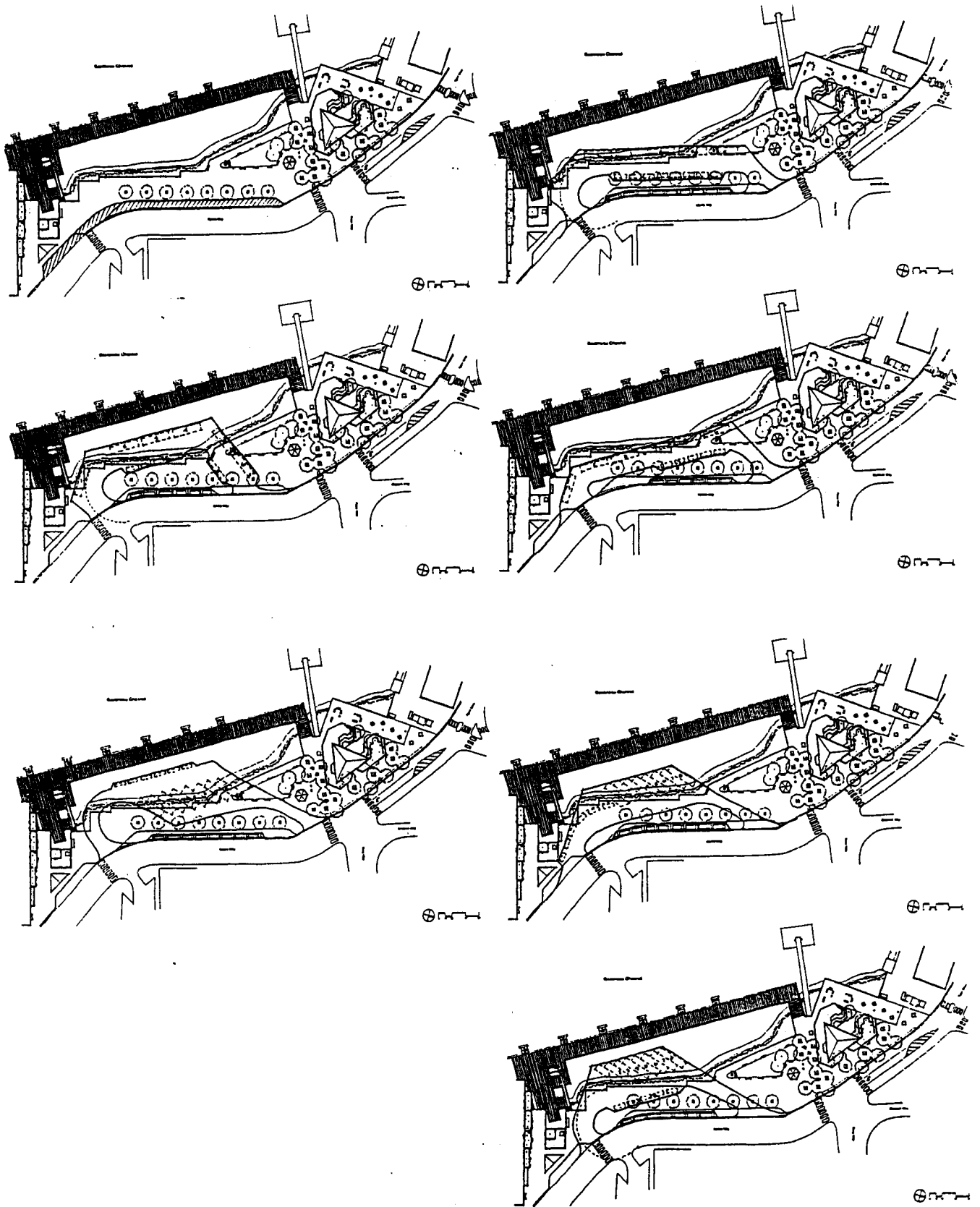
The first alternative site plans were presented at the POC meeting of March 30, 1999. These alternatives were actually developed before the POC had reviewed and accepted the project goals and objectives. A primary purpose of these alternatives was to illustrate the site implications of major program elements that could be anticipated at this point in the design process. Consequently, the design team presented the alternatives more as a collection of possible design elements than as refined site plans, with the purpose of assisting the POC in making decisions on goals, objectives and program components with some concept of how the site might accommodate those items.

The initial alternatives were developed in the following manner:

- Using the information obtained at the March 16, 1999 Programming Workshop, a list of preliminary goals and objectives was developed.
- Based on the goals and objectives, the design team developed a tentative list of major program components. For components on which specific testimony had not yet been received (such as bus and van parking), existing sizes or capacities were used. The major components included: 6 to 8 bus stalls, 6 to 8 van stalls and 6 to 8 short-term public parking stalls, a 1200-square-foot visitor center, public restrooms, a multi-use performance area/shelter, increased wharf width in gangway area, and the options of removal/relocation/retention for the existing lightering float.
- Based on the site opportunities and constraints, a functional diagram was developed that defined the general areas available for the major functions desired (Figure 1).
- Six different parking configurations were evaluated (Figure 2).
- Four different Park Shelter locations and Visitor Center/Restroom locations were evaluated (Figure 3).

The optional parking configurations and shelter and visitor center locations were combined into eight alternative site plans (Figure 4). The major characteristics of these plans included:

- **Bus and Van Staging:** Three of the plans were based on diagonal, nose-in parking of the buses and five were based on parallel parking. All the plans separated the bus parking from the street with an island. Five of the plans had parking on both sides of the island, which necessitated two-way traffic in the offstreet staging area if passenger loading was to be curbside away from through traffic.
- **Traffic Circulation:** Four of the plans provided the ability for buses leaving the site to make a left turn onto Marine Way and proceed northbound. Four plans did not allow this ability and required northbound buses to travel to lower South Franklin Street in order to turn around.
- **Park Shelter Location:** Four of the plans included an enlarged or new shelter in its present location. Two included a new shelter on the concrete deck now used as a picnic area. The

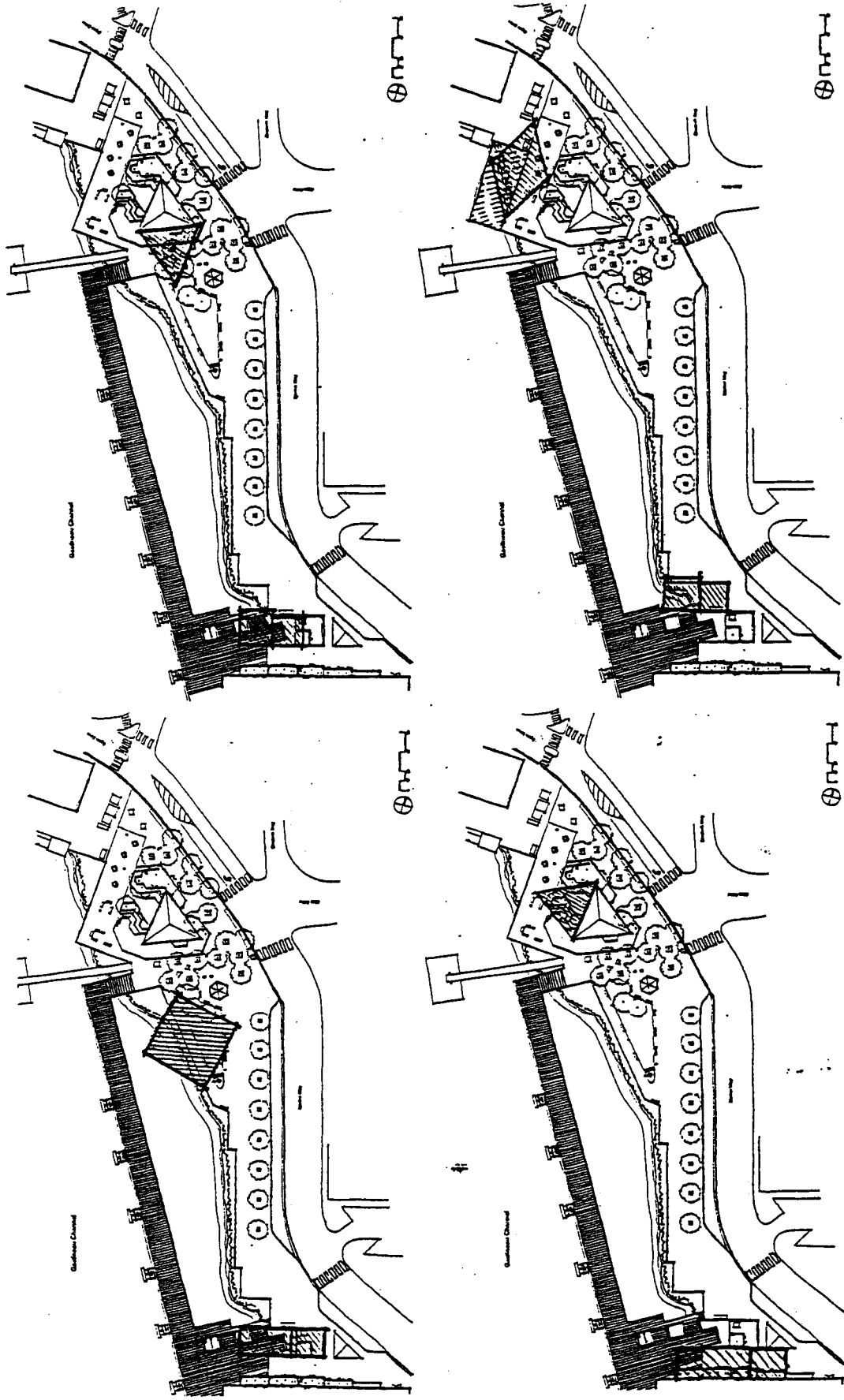


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PARKING CONFIGURATIONS  
 Steamship Wharf & Marine Park Improvements  
 Juneau, Alaska  
 4-90-93

**FIGURE 2. PARKING CONFIGURATIONS**



SHELTER / VISITOR CENTER  
 & RESTROOM LOCATIONS  
 Steamship Wharf & Marine Park Improvements  
 Anchorage, Alaska



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 230 S. Franklin St., Ste. 204  
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FIGURE 3. SHELTER, VISITOR CENTER/RESTROOMS LOCATIONS



remaining two utilized a new shelter approximately the midpoint of the project site, that is between the bus staging area and park area.

- Visitor Center/Restrooms: All the plans located these facilities at the south end of the site, either directly abutting the parking garage or 20 to 50 feet north of the parking garage.

Following presentation of these alternatives, public participation and discussion, the POC directed the design team to proceed with development of alternatives based on 10 to 12 bus staging spaces, 6 to 8 van staging spaces, and public parking where feasible on the site. In addition, the design team was directed to include the capability for buses to make a left turn exiting the site with all alternatives.

### **3.2 REVISED ALTERNATIVES**

Using the direction from the March 30, 1999 POC meeting, three alternative plans were developed and presented at the April 13, 1999 meeting. These alternatives were developed with various combinations of the following major design elements:

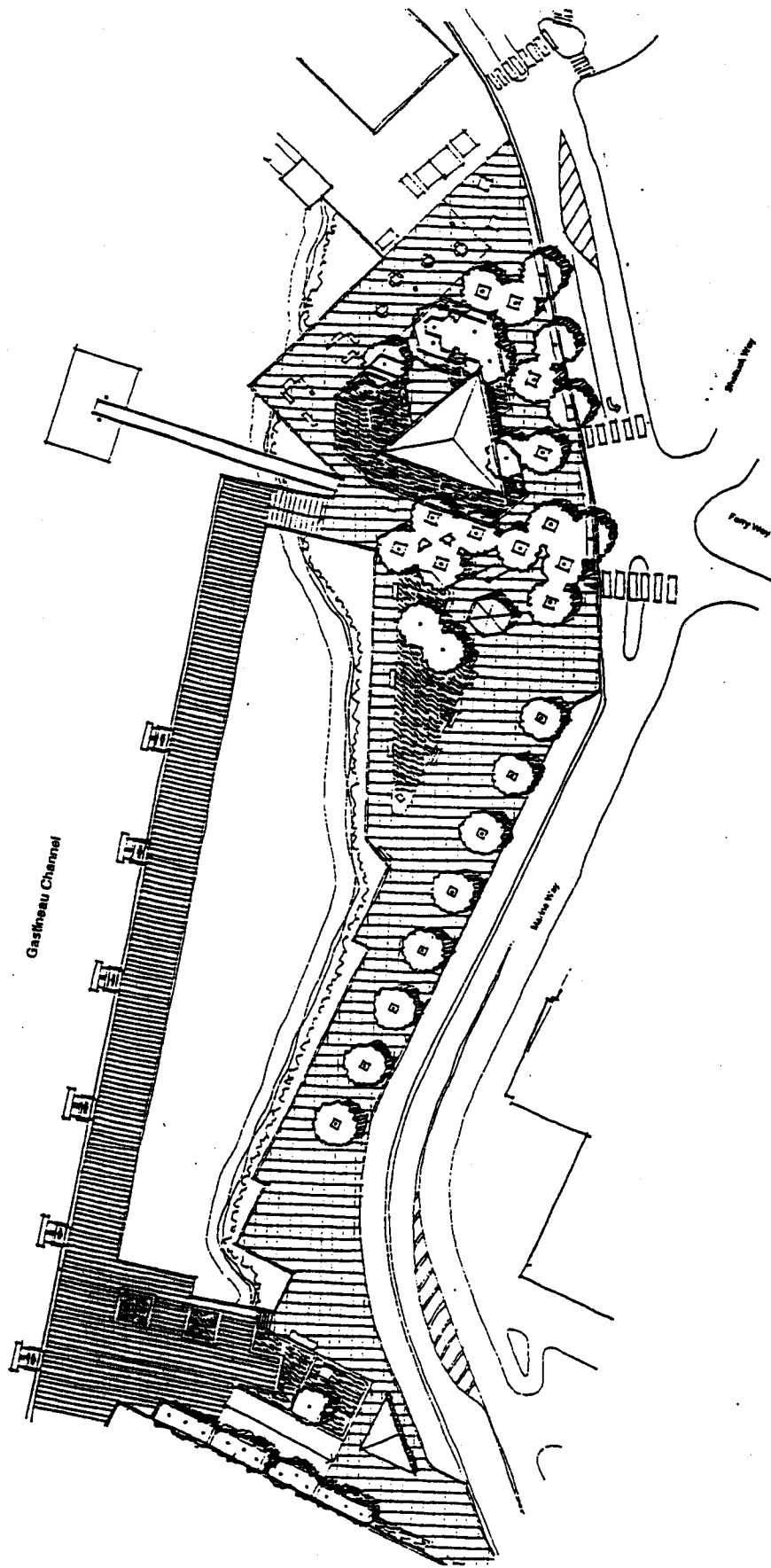
- Bus Parking (diagonal parking, double line parallel, split line parallel)
- Van Parking (on street, on site)
- Park Shelter (expanded in place, new in place, new relocated)
- Visitor Center (at garage, at center of site)
- Restrooms (at garage, at park shelter)
- Lightering (eliminated, relocated ramp, retained as exists now)
- Wharf Access (at ends and center, ends only)

Following presentation of these alternatives, public participation and discussion, the POC directed the design team to proceed with development of alternatives based solely on the use of diagonal nose-in parking. The option of 10 to 12 bus staging spaces was to remain, and the POC requested more definition in the size of the enlarged or new park shelter.

### **3.3 FINAL ALTERNATIVES**

Using the direction from the April 13, 1999 POC meeting, three final alternatives were presented at the April 27, 1999 meeting. With preliminary surveys, geotechnical and structural information now available, the design team was also able to present preliminary construction cost estimates at this meeting. The final alternatives, along with the existing site plan, are shown in Figures 5 through 8.

The major differences between the alternatives are the location of the park shelter, the presence of the lightering ramp and float, and the number of bus staging spaces. Alternatives A-1 and A-2 have 12 bus spaces and Alternative A-3 has 10. The shelter is enlarged in its current location in A-1, a new shelter is installed in the current location in A-2 and a new shelter is installed between the bus staging area and the park area in A-3. The lightering float is removed in A-1, relocated in A-2, and remains in its present location in A-3.

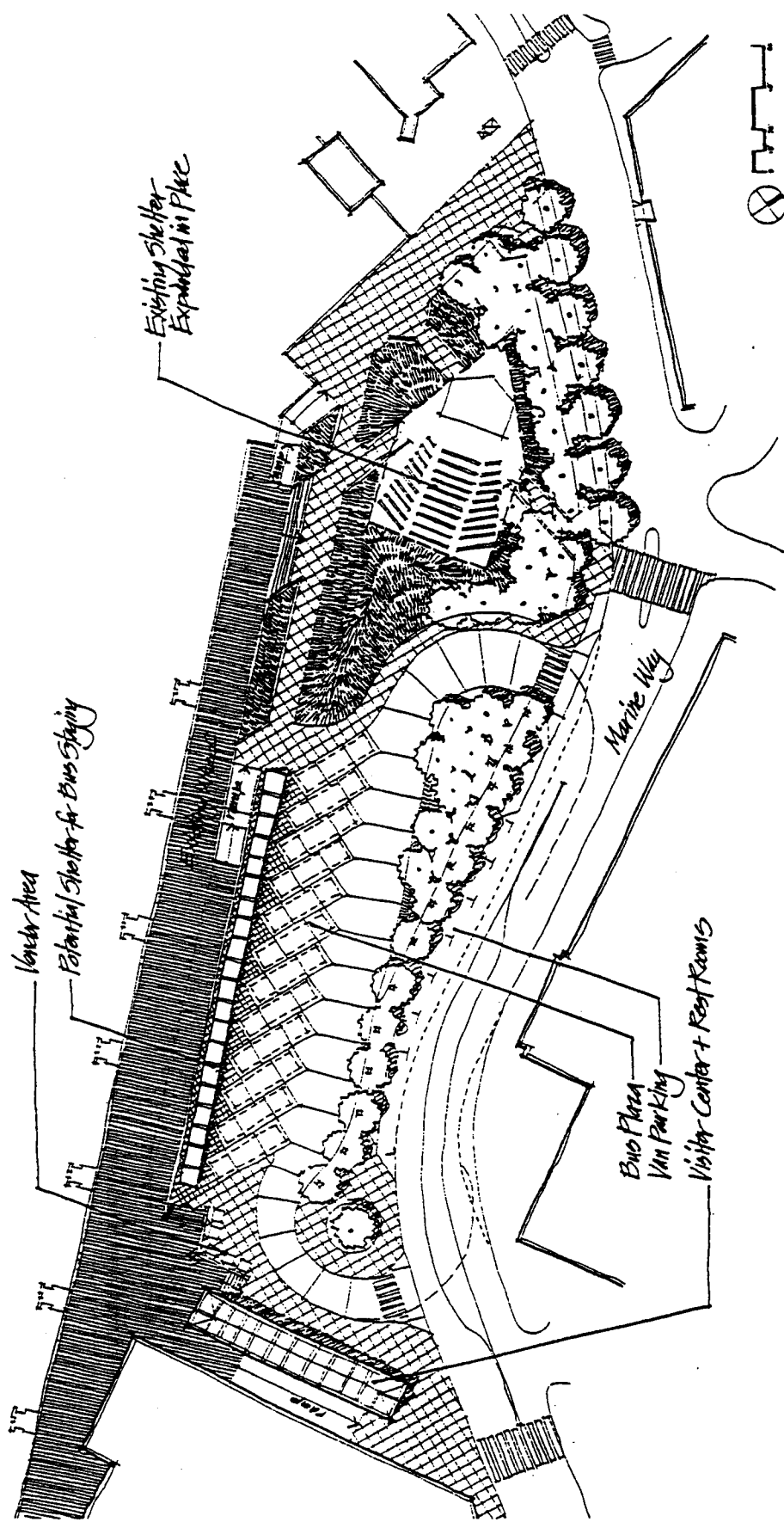


**Existing Conditions**  
**Steamship Wharf & Marine Park Improvements**  
 Juneau, Alaska



**KCM**  
 230 S. Franklin Suite 201  
 Juneau Alaska 99801

**FIGURE 5. EXISTING CONDITIONS**

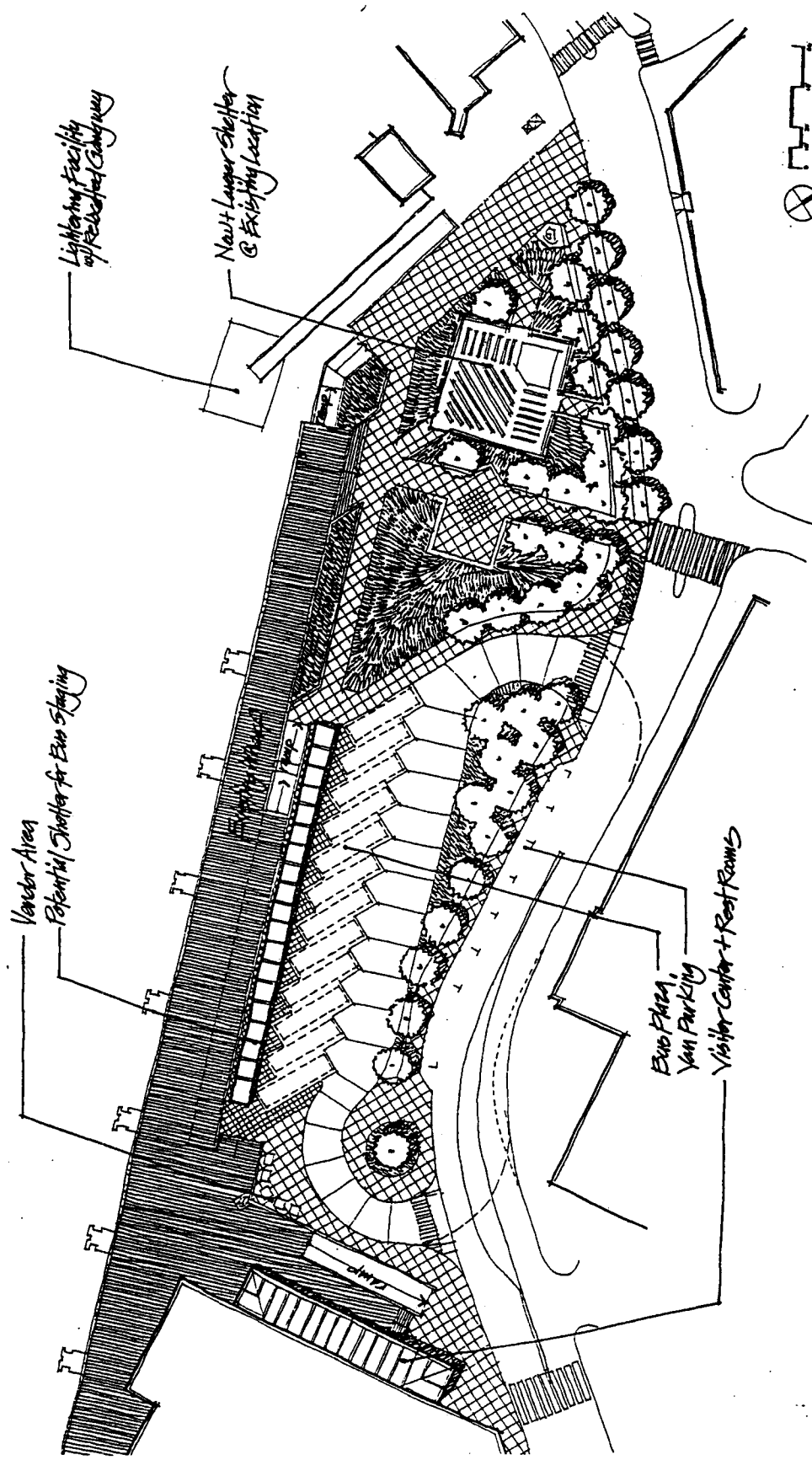


Alternative Concept A-1  
 Steamship Wharf & Marine Park Improvements  
 Juneau, Alaska



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FIGURE 6. ALTERNATIVE A-1

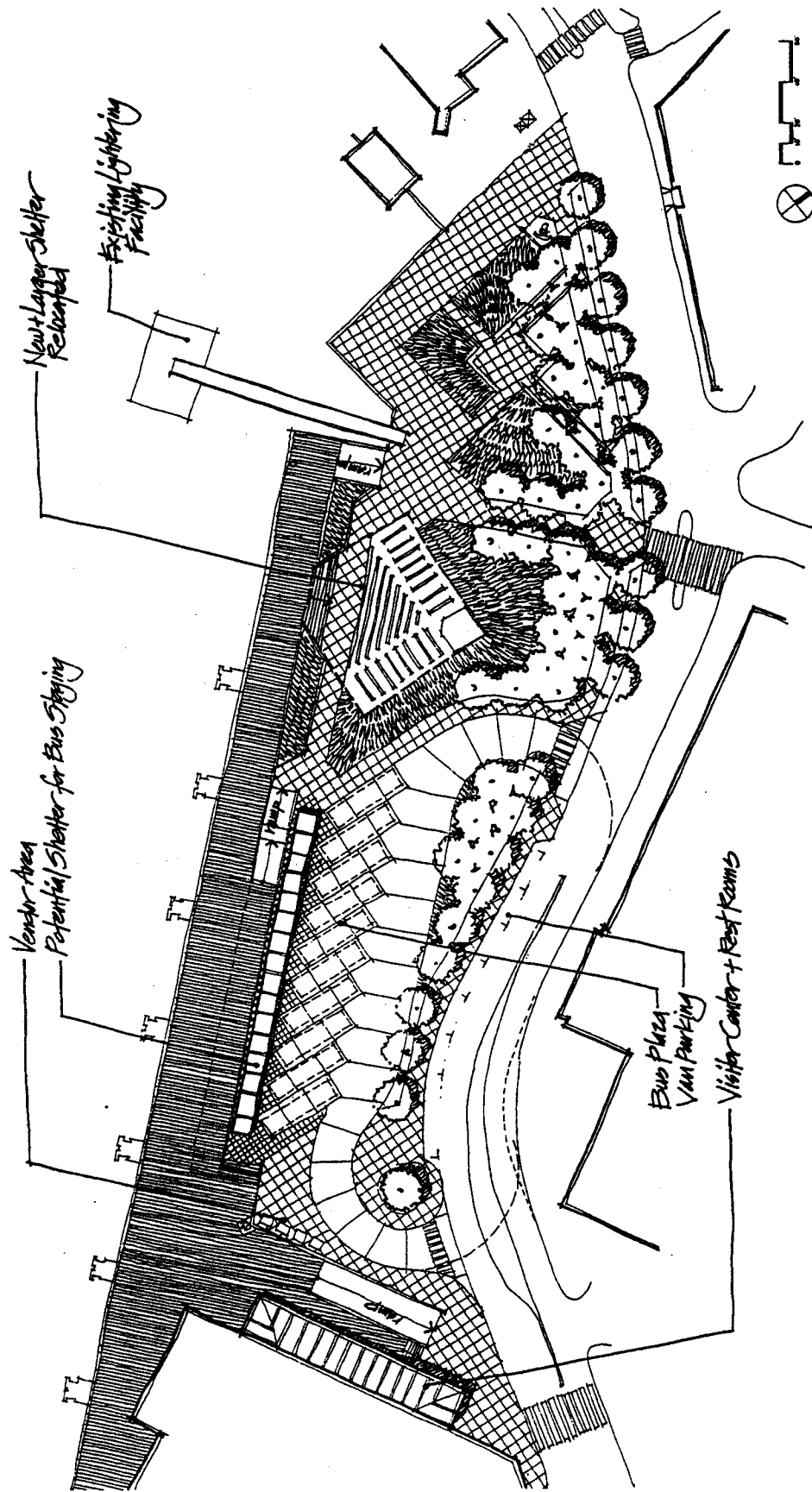


**Alternative Concept A-2**  
 Steamship Wharf & Marine Park Improvements  
 Juneau, Alaska  
 April 28, 1998



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Alternative Concept A-3  
 Steamship Wharf & Marine Park Improvements  
 Juneau, Alaska  
 April 22, 1998



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## 4 PREFERRED CONCEPTUAL DESIGN

### 4.1 DESCRIPTION OF PREFERRED PLAN

Following presentation of the final alternatives shown in Figures 5 through 8, public participation and discussion, the POC directed the design team to proceed with development of a final plan utilizing the following major components:

|                            |  |
|----------------------------|--|
| • Vehicle Staging:         | 11 bus spaces, 1 combination bus/ADA space, a combination short-term bus/ADA space at curb, 2 combination van/ADA spaces at curb, 6 van spaces at curb.  |
| • Public Parking           | Curb spaces could be used as public parking either during the summer season or during the winter by operational changes in signage. Bus staging area could be used as public parking during the winter yielding 24 to 36 spaces, or fewer if area is used for recreational purposes. |
| • Park Shelter             | Enlarge to approximately twice present size, provide capacity for about 250 people under shelter.  |
| • Visitor Center/Restrooms | Provide two-story, 3000 square foot building for visitor center and other waterfront uses, and 700 square foot public restroom, both adjacent to parking garage structure.   |
| • Lightering Float         | Maintain existing float in its present location, modify ramp if necessary to provide adequate pedestrian circulation in park and Steamship Wharf area.   |
| • Vehicle Entry/Exit       | Analyze with and without left turn pocket for entry to bus staging from the south. POC's preference is no left turn pocket, but CBJ and state policies may determine the final design.   |

The conceptual plan is shown in Figure 9. More complete drawings are attached. The construction cost estimate is summarized in Table 4, with detailed backup information in Appendix B.

### 4.2 MEASUREMENT AGAINST GOALS AND OBJECTIVES

The preferred alternative concept plan has been derived and configured to address and accommodate as many of the goals and objectives and program requirements as possible. In those instances where achieving objectives or program requirements presented conflicts or required tradeoffs, priorities were set by the Project Oversight Committee and design decisions made accordingly. The following describes how the preferred concept meets the stated goals and objectives.

#### 4.2.1 Wharf Goals

##### 1. *Improve Bus & Van Parking*

- *Provide safe and adequate queuing space for pedestrians bordering busses*

A twelve-foot wide staging area has been provided for the full length of the bus-parking plaza. It has been separated from the main circulation routes through the site to avoid conflict and congestion. Tour industry representatives have testified that this will be adequate queuing area. The preferred plan provides for the potential to shelter this area. Bus backing guides will be required for safe operation.

- *Provide short term parking*

One Type A and eight Type B parking spaces have been provided along the curb at Marine Way for use by tour vehicles during cruise ship days. On non-cruise ship days these spaces could be used for short-term public parking. There is not enough room in the project area to simultaneously accommodate both public parking and van operations. The Project Oversight Committee established priority for cruise ship and associated tour operations on cruise ship days for the project.

- *Provide direct left turn onto Marine Way, northbound*

A northbound left turn movement from the bus-staging plaza to Marine Way has been provided. A left turn movement into the bus-staging plaza from Marine Way northbound traffic has also been provided.

- *Separate bus and van parking, if feasible*

The preferred concept separates bus and van parking.

- *Address environmental issues*

Specific environmental issues will be addressed during final design. The preferred concept visually screens the major bus staging area from Marine Way and the downtown. Testimony from operators at the POC meetings indicated that diagonal nose-in parking will result in less bus idling at the staging site than parallel parking. Also, drainage systems for the bus plaza will be installed with treatment facilities for removal of sediment and floatable material. In-water work will be limited to dates stipulated by permitting agencies. Baseline studies should be performed on existing flora and fauna to define effects of deck on intertidal area.

## **2. Improve Disembarking Operations**

- *Enlarge and widen wharf area*
- *Accommodate larger vessels*

The wharf has been widened fifteen feet in the ship disembarking area from mooring dolphin five to approximately the midpoint between mooring dolphins two and three. The cruise ship industry feels this is adequate to meet their projected disembarking needs and to minimize conflicts along the wharf. Larger vessels than currently use the wharf can be accommodated.

## **3. Improve Visitor Orientation**

- *Improve way-finding and signage*
- *Provide multi-lingual signing*

The preferred alternative plan has been laid out to minimize conflict and to provide more direct routes from the disembarking area to bus staging or to the crosswalks to downtown. The bus staging area is located so as to be separate and buffered from through-site circulation. Landscaped areas, paving and multi-lingual signing will reinforce these circulation routes. Specific materials and signs will be developed during final design.

- *Provide a more structured and ordered vendor area*
- *Provide a visitor center / interpretive center*

A 3000 square foot, two-story visitor center has been located adjacent to the parking garage at the south end of the site. It is intended that the vendor area be located adjacent to the visitor and out of the bus staging area and adjacent to but out of the main circulation areas. An alternative would be to locate the vendor area in the visitor center. These ideas will be explored more fully during final design.

## **4. Provide a Low Maintenance Facility**

- *Utilize durable, low maintenance materials*
- *Provide simple, effective corrosion protection*
- *Utilize energy efficient, durable, vandal-resistant lighting*

Materials and finishes will be selected during final design with the criteria for low maintenance and effective corrosion protection. The preferred concept cost estimate anticipates lighting that is durable, vandal-resistant and energy efficient. Specific fixtures will be selected during final design.

### **4.2.2 Marine Park Goals**

#### **1. Improve Pedestrian Amenities**

- *Improve the waterfront promenade*

The wharf has been widened to allow better flow of promenade users during cruise ship operations. Continuity of the promenade has been improved by shortening the lightering float gangway and minimizing its intrusion into the park area. The bulkhead to the north of the lightering dock has been extended to

accommodate a direct connection between the wharf and the bulkhead area should the lightering dock and gangway be removed or relocated at some future date.

- *Provide additional bike racks*
- *Provide more comfortable benches w/ backs*

Space has been provided for additional bike racks and benches. Bike racks and benches with backs will be located and specified during final design.

- *Provide picnicking opportunities*

The picnic area has been maintained and reconfigured. Additional picnicking opportunities have been provided with seating along the edges of the grass areas and within the shelter.

- *Improve visual & physical contact with the water*
- *Provide safe lightering dock for convenient drop-off*

Views have been maintained along the western edge of the wharf and bulkhead. The lightering dock has been maintained to provide physical access to the water. Views of the intertidal area between shore and wharf, along with views through the wharf from shore, have been removed as a result of the primary purpose of the project (i.e., to provide a deck over the water to allow off-street tour bus staging). The issue of pedestrian safety on the docks during mooring operations was discussed during the public design process. It was determined that this was an operational policy issue that did not require a design response at this time.

- *Provide weather protection*

The park shelter has been increased to approximately twice its current size. In addition, the potential for an additional protective shelter is indicated to protect the bus staging area. It would have general use during the off-season.

- *Provide year around rest room w/ first aid storage*
- *Provide public telephones*

Year around rest rooms [700 square feet] and telephones are provided at the Visitor Center adjacent to the parking garage.

- *Provide additional grass berms*
- *Provide additional tree plantings*
- *Provide opportunities for seasonal plantings [hanging baskets]*

Park surface area has been increased by approximately 4500 square feet, thereby allowing more opportunity for grass berms and other planting areas. Some of these planting areas could be used for flowers and other seasonal plantings. Hanging baskets are indicated along the waterfront promenade and will be accommodated from lighting fixtures in the park. The preferred alternative shows approximately a 50% increase in trees in the park area.

- *Address environmental issues*

Specific environmental issues will be addressed during final design, similar to those described for the wharf goals.

## **2. Provide Additional Usable Area during All Seasons**

- *Improve & increase shelter*
- *Provide enlarged performance area*
- *Provide a protected/elevated area for sound & lights*
- *Provide adequate electrical service to shelter area*
- *Provide flexible venues for year around use*

The shelter has been enlarged and reconfigured to accommodate 250 people in an efficient and flexible arrangement, including a larger, elevated performance area and a secure area for sound and light control. The performance and spectator areas will accommodate a greater variety of performance formats and will

be more protected from the elements to encourage more year around use. Additional outdoor venues for gatherings, performances and events [including the potential for ice-skating] have been provided. Adequate water and electrical service will be provided as part of final design.

### 3. *Provide a Safe & Secure Park*

- *Improve pedestrian lighting without increasing unwanted light*
- *Improve crosswalks*
- *Provide clues to vehicles that they are approaching a pedestrian zone*

The preferred concept cost estimate anticipates providing increased lighting throughout the park and bus staging area for safety and to accommodate nighttime activities. These will be designed and located during final design with the criteria of minimizing source visibility and light overspill. Crosswalks have been enlarged and will be paved in material different from the street surface and more like the paving in the park area. This, along with warning signs, will announce to drivers that a pedestrian zone is approaching. The design of the park and bus staging facility is laid out to better channel pedestrian circulation to crosswalks, to minimize on-site vehicle/pedestrian conflicts, and to provide more barriers to shortcuts.

- *Control and secure access to under side of docks*

The underside of the docks will be designed where possible to eliminate the possibility of habitation or long term stays. Additional barriers or fences will be included where appropriate design solutions may allow access.

### 4. *Provide a Low Maintenance Facility*

- *Utilize durable, vandal-resistant site furnishings*
- *Utilize durable, vandal-resistant plumbing fixtures*
- *Provide low maintenance landscaping*
- *Utilize energy efficient, durable vandal-resistant lighting*

The preferred concept cost estimate anticipates providing durable, vandal-resistant furnishings, fixtures and lighting. Lighting will be selected on the basis of its energy efficiency. Landscape features that are low maintenance will be specified during final design. Planting materials will be native and drought tolerant.

## 4.3 IMPLEMENTATION OF CONCEPTUAL DESIGN

In order to construct the preferred conceptual plan, there are numerous tasks to be completed.

### 4.3.1 Funding

It is our understanding that construction is to be funded by the issuance of bonds based on port fees paid by cruise ships mooring at CBJ docks. Available funding will have to be determined and the bonding procedures initiated. If the project budget necessitates changes in the design or phasing of construction, the design and construction estimates should be so modified.

Major elements of the project that can possibly be phased include: the major deck construction, the new park shelter and associated site modifications, and the visitor center/restroom facility.

### 4.3.2 Permitting

The permitting process should begin as soon as practical. Some conditions and stipulations that evolve from the permitting process may have effects on the final design. The major permits to be obtained are:

- CBJ Land Use Permits (Conditional Use Permit)
- State and Federal Coastal Permits
- State DOTPF Driveway Permit

Some of this permitting can be initiated based upon the Conceptual Design described herein. Other permits may require further design work in order to complete the application processes. Some permits will require baseline studies on existing site conditions.

#### **4.3.3 Property Acquisition**

The Conceptual Design includes the widening of Marine Way at the present police station site. In order to accomplish this, private property will have to be obtained. In addition, there has been testimony suggesting that property be obtained at Merchants' Wharf adjacent to the site.

#### **4.3.4 Final Design**

When the Conceptual Design is accepted and approved, the final design process can begin. Again, the exact scope of final design may vary depending upon funding constraints or other factors that develop during the permitting process, but major elements of the design can be finalized based on the approved Conceptual Design.

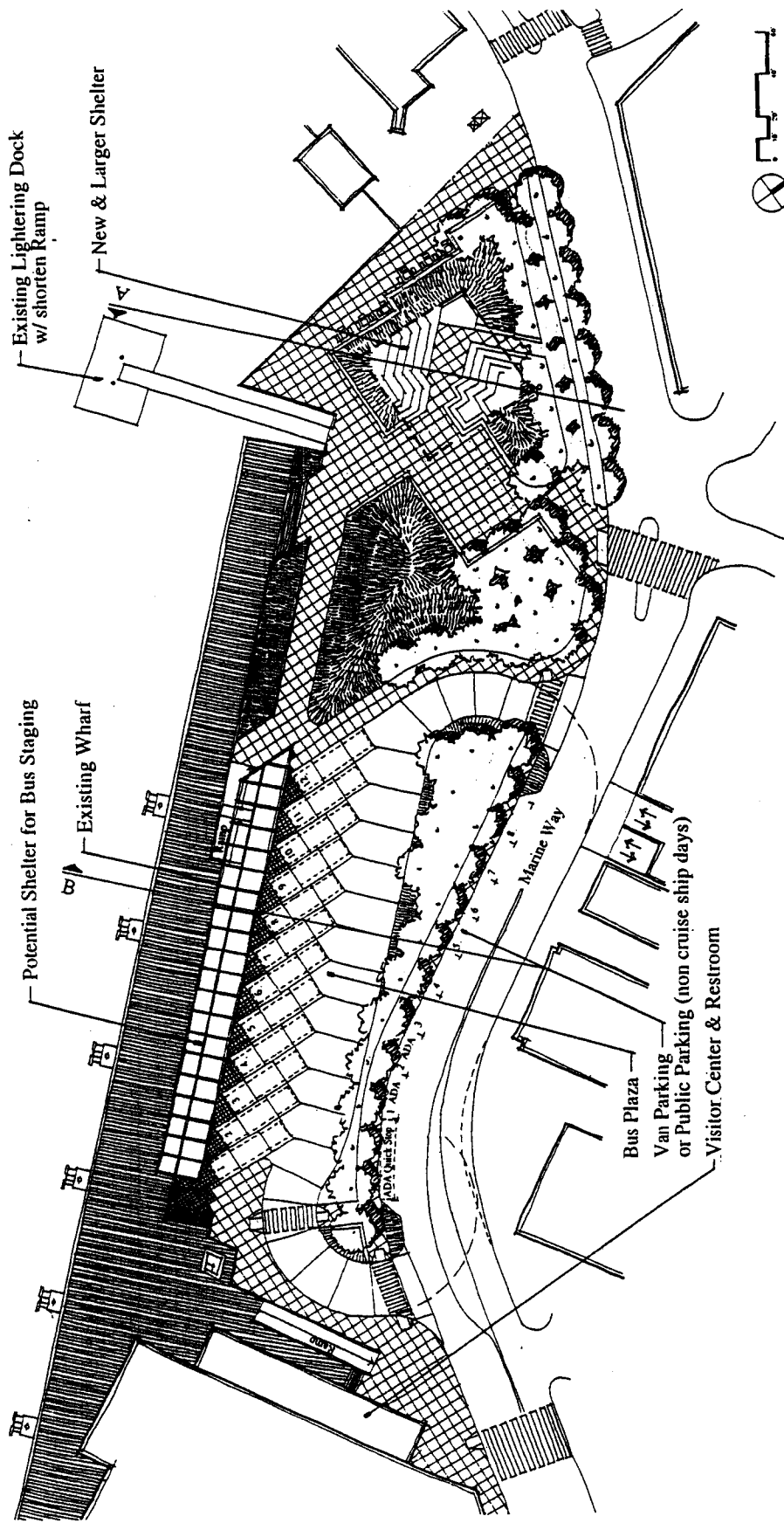


FIGURE 9. PREFERRED CONCEPTUAL DESIGN PLAN

**A1-Preferred Conceptual Site Plan**  
 Steamship Wharf & Marine Park Improvements  
 Assessor, Alaska  
 May 1, 1998



**KCM**  
 530 E. Franklin Bldg. 204  
 Sitka, Alaska 99801

**TABLE 4. CONSTRUCTION COST ESTIMATE**  
**STEAMSHIP WHARF AND MARINE PARK IMPROVEMENTS**  
**SUMMARY OF CONCEPTUAL DESIGN PROJECT COST ESTIMATES**  
**BASED ON EXISTING AREA DESCRIPTIONS**  
**26-May-97**

| ITEM   | COST                                     |
|--|--|
| Overall Contractor Costs   | \$ 670,000                               |
| Bus Plaza  | \$ 1,347,000                             |
| Existing Wharf   | \$ 224,000                               |
| Lightering Float   | \$ 112,000                               |
| Marine Park  | \$ 1,318,000                             |
| Marine Park Expansion  | \$ 216,000                               |
| Parking Garage   | \$ 1,113,000                             |
| Wharf Expansion  | \$ 265,000                               |
| <b>Total Construction Cost-Basic Project</b>   | <b>\$ 5,265,000</b>                      |
| Construction Contingency 15.0%   | \$ 790,000                               |
| Permits and Site Investigation 2.5%  | \$ 132,000                               |
| Design and Constr Docs 8.0%  | \$ 421,000                               |
| Constr Admin and Inspection 7.5%   | \$ 395,000                               |
| CBJ Project Administration 5.0%  | \$ 263,000                               |
| <b>Total Project Cost</b>  | <b>\$ 7,266,000</b>                      |
| <b>Possible Additional Construction Costs</b>  |  |
| Bus Shelter  | \$ 168,000                               |
| Left Turn Pocket on Marine Way   | \$ 47,000                                |
| Ice Rink in Bus Plaza  | \$ 89,000                                |
| Possible Right-of-Way Acquisition<br>600 sf At Police Station<br>1000 sf At Merchants Wharf<br>Art | (Undetermined)<br><br><br>(Undetermined) |