

WHITE PAPERS

PIER 30/32

JAMES R. HERMAN INTERNATIONAL
CRUISE TERMINAL &
BRYANT STREET PIER
MIXED-USE DEVELOPMENT

San Francisco, CA



LCOR Incorporated

December 1999

Table of Contents

1. Program
2. Cruise Terminal Operations
3. Berthing
4. Traffic
5. Environmental
6. Engineering
7. Community Outreach
8. Financing
9. Tenant Profile

1. Program

During the process of developing its preliminary program and conceptual design for South Beach Landing, the LCOR team met several times with focus groups from San Francisco and the Bay Area, and with a small group of South Beach neighbors. The concept presented to the Port of San Francisco reflects LCOR's initial response to the neighborhood concerns expressed during those meetings. Now that the preliminary program and conceptual design have been developed, further neighborhood input is welcomed with a pledge to continue developing the program and design to respond to neighborhood issues.

The preliminary program and conceptual design have the following elements responsive to the neighborhood input received to date:

Mix of Uses

A lively mix of uses to enliven the South Beach waterfront is proposed, including a state-of-the-art cruise terminal able to serve two 1,000-foot ships simultaneously, shops and restaurants, a water shuttle service, a Broadway-style theater, conference center, museums, offices, a hotel and time-share units. Even with this broad mix of uses, the density of the proposal is modest, given the large land area of Pier 30/32 and Seawall Lot 330.

Neighborhood-Serving Retail

South Beach has a shortage of neighborhood-serving retail uses. A significant portion of the ground floor of the hotel project on Seawall Lot 330 is reserved for neighborhood retail. Marketing efforts are focused on obtaining a gourmet grocery to anchor the complex. Pier 30-32 will provide opportunities for additional services of interest to the neighborhood and the City as a whole in small scale pedestrian oriented shops, including clothing stores, sporting goods, several fine restaurants and a wine tasting complex within a garden setting.

Neighborhood Entertainment

The LCOR proposal includes a 1,000-seat live performance theater to be operated by a Broadway producer. Also included is a 15,000 square feet of museum space, plus extensive exhibition areas.

Open Space

Fully one-third of the pier ground floor will be devoted to open space, including major plazas at the foot of Brannan Street and at the northeast corner of the pier, a continuous Port Walk along the pier perimeter incorporating active water uses, and pedestrian streets. On upper floors, plan two winter gardens and the open-air wine tasting garden are planned. On the Seawall Lot, a major open space at Beale and the Embarcadero will protect views from Bayside Village and front onto neighborhood-serving retail.

Brannan Street Wharf

LCOR will be finance for the Port the removal of Piers 34 and 36 and construction in their place of the proposed Brannan Street Wharf, a major public park along the Embarcadero just opposite the Delancey Street complex.

Traffic

When cruise ships are in port, they require a steady stream of buses, trucks, taxis and private vehicles to service them. In recognition of the residential nature of South Beach, LCOR has designed a generous ground transportation center on Pier 30/32 that has sufficient parking, loading and queuing space to keep all of these vehicles off the Embarcadero and neighborhood streets.

Parking

Private parking on Piers 30/32 has been limited to minimize vehicular crossings of the Herb Caen Promenade. Instead, parking has been dispersed in one or two levels under the Seawall Lot. In addition, LCOR is in discussions with Caltrans to possibly develop the Bay Bridge paint yard site at Bryant between Beale and Main with a parking garage, perhaps with residential units above. Altogether, approximately 730 to 880 parking spaces are proposed.

Scale

Various uses on Pier 30/32, including the cruise terminal, retail, restaurant, theater and office space are separated into discrete buildings, linked by open spaces and pedestrian streets. Monolithic structures have been avoided, and the Brannan and Bryant Street view corridors are preserved across the pier.

Architecture

LCOR's preliminary pier design combines traditional waterfront elements along the Embarcadero and the retail promenade with signature modern architecture for the cruise terminal, conference center and theater. For the Seawall Lot hotel, a moderne design reminiscent of other maritime buildings in San Francisco, such as the Maritime Museum at Aquatic Park, is being developed.

Hotel Massing

Even though the entire Seawall Lot has a 105-foot height limit, the taller elements of the hotel proposal have been limited to the corner of Beale and Bryant, where views from Portside and Bayside Village will be least affected.

2. Cruise Terminal Operations

Berthing Considerations

By all accounts, LCOR is the only proponent that follows the requirement of the RFP to provide two 1,000 feet long berths. This is one reason that a north berth was not used, as it is only 845' feet long and thus, by the best of all worlds, the maximum length vessel it could accommodate is 795 feet long. This is an inadequate length due to the fact that the majority of ships operating in this market are larger, and that the newer and future ships are also longer. In fact, 57% of the fleet operating in North American waters will not fit. As well, 62% of the ships built after 1990 are longer and cannot be accommodated. In addition, the comparison of major cruise companies give results that are even more striking. With the exception of the NCL fleet, of which 22% do not fit, 70% of the Princess fleet does not fit, 71% of the Carnival fleet does not fit and a staggering 83% of the Royal Caribbean fleet does not fit.

Since this berth is designed as a homeport, it has to have the highest level of availability. In most ports, the berth has to be 100% useable short of a hurricane or typhoon in the region. Cruise lines will have thousands of passengers and supplies waiting for the vessel, and as opposed to a port-of-call which can be bypassed, a home port can not. As such, the 190 feet width of the north slip does not provide industry standards of three beam widths to make sure the berth is useable during most weather circumstances. Modern cruise mega-liners now frequently exceed the once-standard breadth dimension of 107 feet of beam, designated "Panamax," for the maximum allowable width for a vessel transiting the Panama Canal.

When in port, such a vessel will normally require a fuel delivery which will invariably be done more efficiently from a barge. Barge delivery is cheaper than truck and more desirable, since it spares the burden of extra trucks on the local streets. The width of the barge (40 feet) and the length of the tug boat (50 feet) required to handle it dictates a need for a slip width clearance of 300 feet in order to have the comfort zone preferred by most captains of modern half-billion dollar cruise ships. Most ships today have beams of 115 feet. Simple mathematics will dictate that such an operation cannot occur in a 190-foot area ($115' + 40' + 50' = 205'$).

Squeezing a modern mega-liner into a more narrow berth might plausibly cause some marine operations departments as well as some insurance underwriters to have doubts about scheduling calls at a terminal with less than optimum clearance.

Gangways

Gangways are an essential and expensive component of the project. LCOR is providing two state of the art gangways capable of moving horizontally along the pier and vertically to reach the different door heights of the ships. The gangway will also be self leveling continuously adjusting to the tide while maintaining an ADA slope standard of 1:12. The gangway will be either 6' or 8' wide to provide for ease in disembarkation of the ship. In addition, the gangways will be movable so that they can be stored in an out of the way location during the off-season, or while cruise ships are not in port. This is an important component in maintaining uninterrupted

vistas and public access along the waterfront. The gangways will allow the ships to be boarded without conflicting with apron operations. They will also allow for uninterrupted access by trucks or emergency vehicles along the apron.

Ground Transportation

Efficient landside passenger and vehicle traffic flow is the basis for building a successful cruise line business. Cruise vessel port calls are scheduled rigidly around morning arrivals and early evening departures. With the new generation of mega-ships carrying up to 3,500 passengers, systems for moving baggage, stores and inland transport must be designed for processing 7,000 passengers within an eight-hour period for a single mega-ship. For the James Herman Terminal, the LCOR design team has successfully blended the means for home-porting two mega-ships at the same time.

The spillover effect of this amount of inland vehicle traffic has the potential for local urban gridlock unless proper flow and stacking provisions are built into the terminal design. The cornerstone of the LCOR plan has been to work from the realization that success depends on keeping traffic flowing off and onto the Embarcadero to avoid the risk of gridlock.

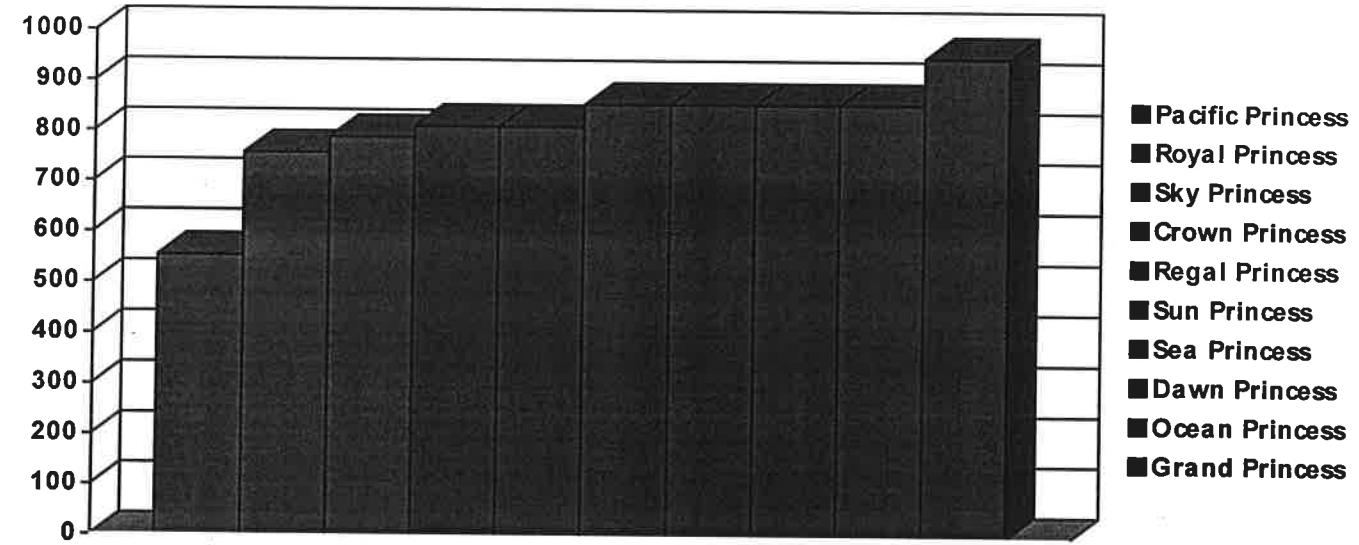
This has been achieved by providing maximum length traffic lanes for the terminal that flow in a semicircular pattern rather than dead-ending at any point. The-terminal length of all lanes have been maximized in order to obtain the greatest amount of queuing capacity.

While the passengers are walking in the terminal, their route will be equally direct and efficient, except for times when early arriving pre-boarded passengers might frequent the California Wine Experience or other specialty retail stores. Baggage will flow directly to or from buses, airport drayage trucks, taxis or private cars.

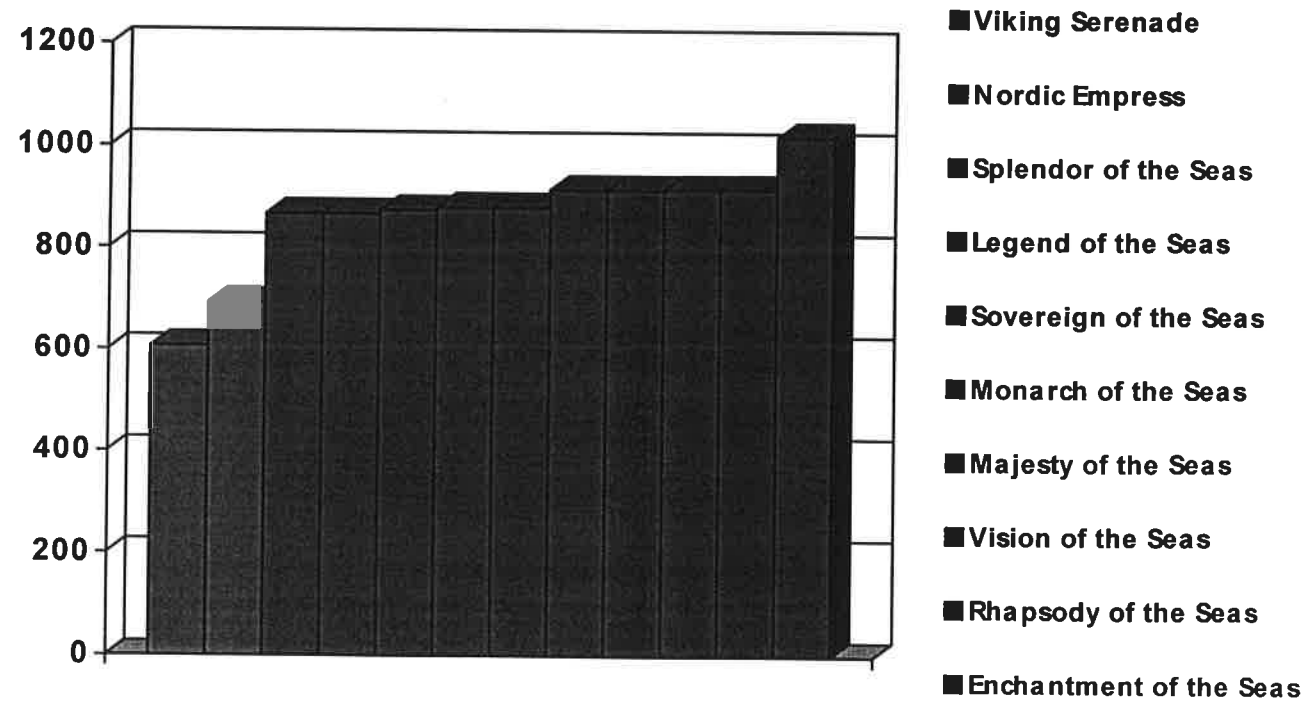
The Ground Transportation Area (GTA) is the most active area of the terminal. The LCOR-designed facility allows simultaneous boarding of 20 buses undercover as well as 10 buses simultaneously discharging with luggage cages located immediately adjacent to each bus. The area, although under cover, is an outdoor space creating a pleasant arrival area and not inside a parking garage. Marshalling for an additional 20 buses is achieved along the main loop road, resulting in no storage of vehicles in the Embarcadero. Taxi and private vehicle curbside is immediately in front of the terminal. Parking for passengers is convenient in front of the terminal with the entrance located after the passenger drop-off area. When not in use as a GTA, the area can be closed off to vehicular traffic and pedestrianized to be used as an outdoor market/exhibit space in conjunction with the first floor of the terminal.

SHIP LENGTHS

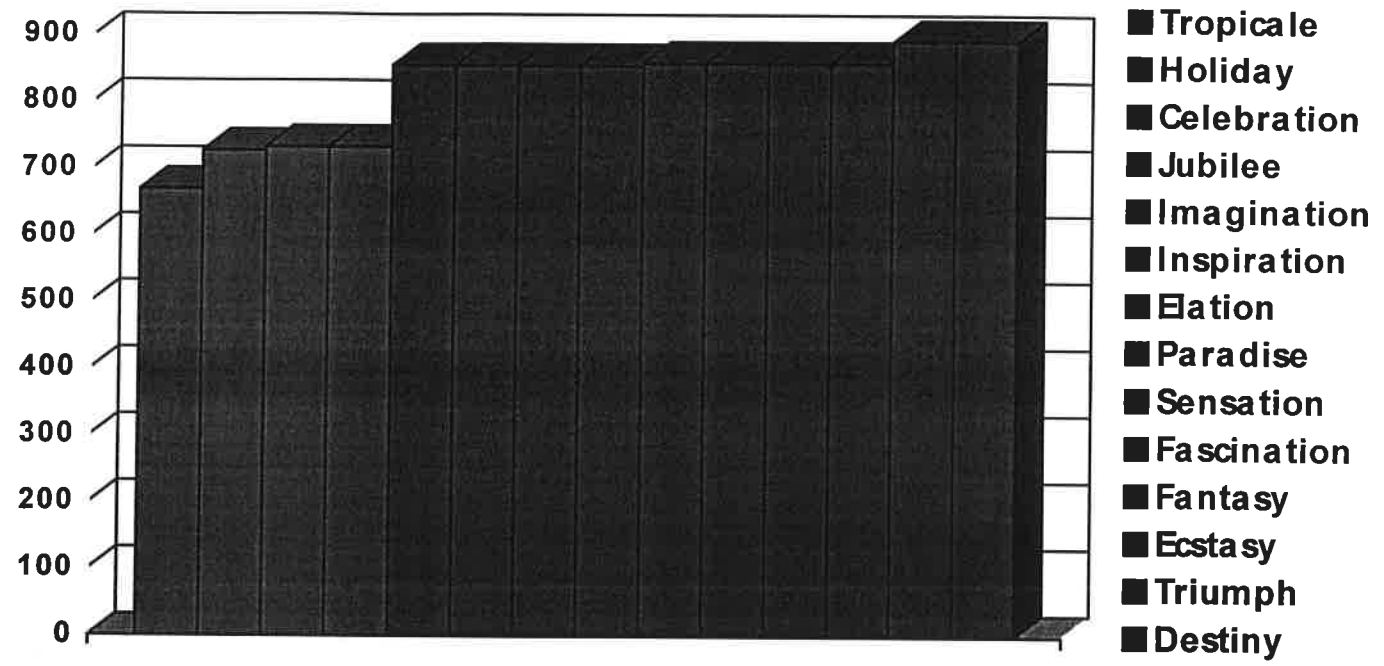
Princess Fleet



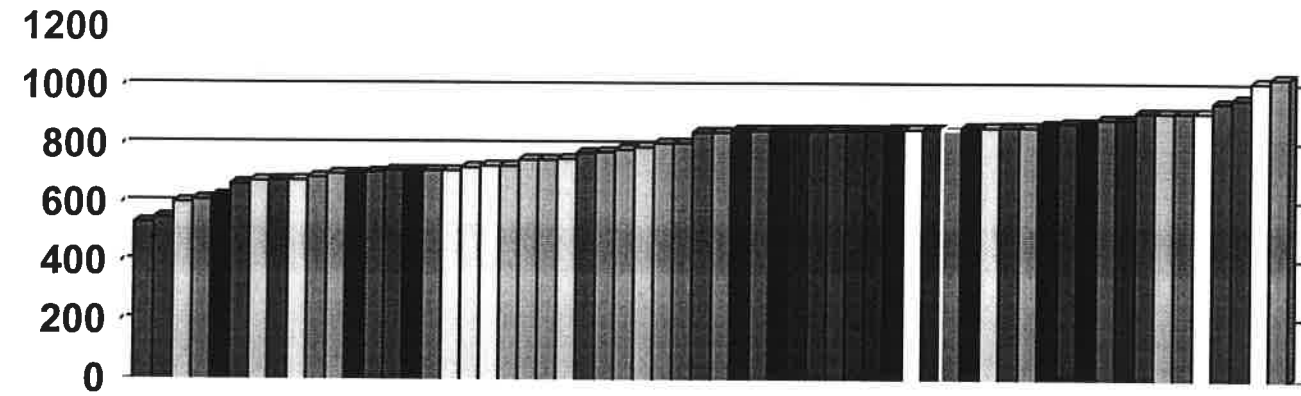
Royal Caribbean Fleet



Carnival Fleet



North American Fleet (Ships in this market - i.e. Carnival, RCI, NCL, Holland American, Celebrity, Cunard, Princess)



- | | | | |
|-----------------------|-----------------------|------------------------|-------------------------|
| ■ Norwegian Dynasty | ■ Pacific Princess | ■ Viking Serenade | ■ Norwegian Crown |
| ■ Vistafjord | ■ Tropicale | ■ Norwegian Majesty | ■ Horizon |
| ■ Zenith | ■ Nordic Empress | ■ Nieuw Amsterdam | ■ Noordam |
| ■ Norwegian Sea | ■ Ryndam | ■ Veendam | ■ Maasdam |
| ■ Statendam | ■ Holiday | ■ Celebration | ■ Jubilee |
| ■ Norwegian Dream | ■ Norwegian Wind | ■ Royal Princess | ■ Rotterdam VI |
| ■ Volendam | ■ Sky Princess | ■ Westerdam | ■ Crown Princess |
| ■ Regal Princess | ■ Norwegian Sky | ■ Century | ■ Imagination |
| ■ Paradise | ■ Elation | ■ Inspiration | ■ Sun Princess |
| ■ Sea Princess | ■ Ocean Princess | ■ Dawn Princess | ■ Fascination |
| □ Fantasy | ■ Sensation | ■ Ecstasy | ■ Mercury |
| ■ Galaxy | ■ Legend of the Seas | ■ Splendor of the Seas | ■ Sovereign of the Seas |
| ■ Monarch of the Seas | ■ Maestrv of the Seas | ■ Carnival Triumph | ■ Carnival Destiny |

3. Berthing

Contrasting the Northern Face of Pier 30 Versus Southern Face of Pier 32

The proposed developments before the Commissioners are both similar and different in many respects. One major difference is the selection of the northern berth versus the southern berth as the complimentary berth to the eastern berth, which was selected by both teams. Having examined the merits of numerous berthing configurations, LCOR selected the southern and eastern berth combination for a number of reasons. The purpose of this paper is to compare and contrast the relative merits of the use of the northern versus the southern berths in order to demonstrate why the southern berth is superior and was therefor selected.

Dredging

Scope

For comparison purposes, dredging would either be needed in one or the other of the following two areas:

1. The area adjacent to Pier 30 on the north face the length of the pier and 150 feet wide or,
2. The area adjacent to Pier 32 on the south face the length of the pier and 150 feet wide.

Environmental Considerations

The ultimate disposition and disposal of the dredge material will be based on the results of the chemical, physical, and bioassay tests that will be required to secure the Army Corps of Engineers (ACOE) permit. However, the Port has already commissioned a "Chemical, Physical and Bioassay Testing of Sediments for Potential Dredging at Piers 30 and 32."¹ The result of this work indicates that "the material from these test sites [Pier 30/32] may not meet the criteria for disposal at the in-bay disposal site and may require disposal at an upland site." Upland disposal means that the material must go "upland" to a landfill as opposed to in-bay or offshore i.e., to "ocean disposal." Most landfills will not take material which is classified as hazardous so it is often put in railcars and sent out of State at a very high cost. On page 13 of the RFQ the Port states, "Preliminary studies indicate that any dredged material from the north berth will require upland disposal." On the same page of the report the following statement is made. "Based on recent study by the Port's Environmental Services Division, some relatively low levels of contaminants were identified in the southern berth, although not above expected levels." Thus LCOR has allowed for this material to go to ocean disposal, a probable disposition of these dredge spoils based on historical precedent.

¹ *Chemical, Physical, and Bioassay Testing of Sediments for Potential Dredging at Piers 30 and 32*, 8/98, Advanced Biological Testing, Inc.

Siltation

The siltation patterns at the two berths have been discussed as being a differentiator between the selecting one berth over the other. Siltation patterns are impacted by changes made in the submarine topology around an area in question. In order to definitively quantify the movement of silts and sands at these two berths, one would study the effects that dredging one berth versus the other berth would have. These questions are often answered by physical modeling, mathematical modeling (or both), or by direct observation. Suffice to say that the southern berth will not necessarily silt up faster nor slower than the northern berth.

Conclusive documentation on the siltation pattern of the material in and around the berths is not available. However, the Port of San Francisco 12 year maintenance Dredging Records show that Pier 30-32 berth has been dredged in 1984/85 and 32,000 CY were removed from a length of 1,800 ft by 150 feet wide to a depth of -35 feet.

The length of the southern face in the pier is around 1,000 feet and the east face is approximately 550 feet. It appears if one extends the dredging beyond the faces of the pier – as would be expected – that one will arrive at the 1,800 linear feet of dredging described in the records which is then the combined lengths of the southern and the eastern faces. Thus, it appears that the Port has not dredged the northern berth in the last 12 years, which would account for the increased amount of silt in that berth.

Maintenance vs. New Dredging

The Port has gone on record with BCDC in a letter to Mr. McAdam dated September 3, 1998 stating that “Based on our review of the dredging records, we believe that the dredging on the south side of Pier 30/32 should be classified as maintenance dredging.” The distinction between maintenance dredging versus new dredging is critical from a regulation and funding point of view. Maintenance dredging is much more favorably viewed by the Port, the Army Corps of Engineers, and BCDC and is readily doable. This would not be the case at the northern berth as that berth has not been historically maintained and thus will likely be classified as new dredging.

The RFQ states that maintenance dredging will be paid for as negotiated between the Port and the Developer. Once the initial dredging is accounted for as a “sunk cost” to the Developer and depending on the initial characterization of the type of dredging required (new versus maintenance), the subsequent cost of maintenance dredging could be funded differently. If the Port will not receive funds earmarked for maintenance dredging, sources of funding for the annual dredging will be something both the Port and the Developer will be even more concerned with.

Cost

The cost of disposal will be affected by the results of the chemical, physical, and bioassay tests due to the high difference in upland versus ocean or in-bay disposal. The other component of cost will be related to the physical dredge quantities and the type and quantity of presently unknown sub-marine debris that will undoubtedly be encountered.

The following costs are estimated:

Pier 30 (northern berth):

Dredging at Pier 30 is more problematic based on the foregoing. Also the quantities are greater than at the southern berth.

- The cost is \$7,000,000 based on:
 1. The presumption that the material will go upland
 2. Upland disposal is as much as \$50/cy to \$55/cy
 3. The amount of dredging at Pier 30 on the order of magnitude of 140,000 cy

Pier 32 (southern berth):

- The cost is \$1,050,000 based on:
 1. The presumption that the material will go to ocean disposal
 2. Ocean disposal is as much as \$15/cy
 3. The amount of dredging at Pier 32 is on the order of magnitude of 70,000 cy

Clearly, the cost of dredging the northern berth is initially much higher than that of the southern berth, and also potentially higher on an annual basis.

Size of the Northern Berth vs. the Southern Berth

General

It is widely recognized that the physical layout of the southern berth is superior to the northern berth. The basin width between the southern edge of Pier 28 and the northern edge of Pier 30 is 180 feet at the Embarcadero while the distance between south face of Pier 32 and the next adjacent pier (Pier 36, following the demolition of Pier 34) is three times as great.

Functionality of the Layout of Northern Berth

The RFQ requires that the berth configurations must allow for access to the vessels by barge and for maneuvering tugs and other vessels associated with cruise ship docking operations. The berths are totally nonfunctional if ships simultaneously berth at the south face of Pier 28 and the north face of Pier 30. Under this scenario, the Port would be forgoing any in-water maritime use of the southern face of Pier 28.

Based on *Port Engineering* by Bruun, it may be concluded that the northern berth is inadequate, as follows:

Minimum Basin Width = 2 x (width of the design vessel @ 110 feet) + 2 x (a lighter i.e., bunkering @ 23 feet) = 266 feet minimum basin width

Width at the Embarcadero = 180 feet << 266 feet minimum basin width

Width at Pier Head = 270 feet approximately = minimum basin width

Average width at mid-pier = $(180 + 270)/2 = 225$ feet < 266 feet

Currents

On a flood tide, the harbor tugs will have difficulty controlling the vessel, as it will want to move into the north face of Pier 30. The tugs will not have much maneuvering room to hold the ship off of the face of the pier and may need to play the tides to safely berth in this confined space. On the other hand, on an ebb tide this same situation will not occur on the south face of Pier 32 as the distance between the next adjacent pier is much greater.

Again, the RFQ requires that the berth configurations must allow for access to the vessels by barge and for maneuvering tugs and other vessels associated with cruise ship docking operations. The southern berth (Pier 32) will be accessible at all times and is clearly superior from a maneuvering and operations point of view.

In summary, the LCOR proposal minimizes the dredging and dredging cost, and optimizes the existing physical layout to meet the Port and Operator's requirements.

4. Traffic

The Embarcadero is a major access route from the San Francisco Peninsula and the developing South Beach Area to the Financial District, Chinatown, North Beach and the Fisherman's Wharf areas. On a typical day, The Embarcadero carries approximately 46,000 vehicles (total both ways) near Pier 30/32. Because of on-going and planned new construction in the vicinity of the Pier, traffic on The Embarcadero is expected to increase to about 50,000 vehicles per day by the year 2005.

If the proposed cruise terminal complex were to be developed without regard for the effects of the project on the surrounding areas, there would be a high potential for increased traffic congestion and the creation of bottlenecks on The Embarcadero. If left unattended, potential traffic congestion could affect not only the immediate areas near Pier 30/32, but also traffic moving through the area coming from or going to downtown and the northeast quadrant of the City.

Good traffic engineering design practice seeks to avoid traffic congestion in the vicinity of Pier 30/32 caused by:

- Traffic queuing on The Embarcadero due to poor design of the Pier 30/32 vehicular entrance;
- Excessive amount traffic on The Embarcadero, approaching the roadways' capacity;
- Vehicles looking for places to park;
- Buses, taxis or other vehicles double parked on The Embarcadero;
- Delivery vehicles and/or trucks staged on The Embarcadero;
- Slow-moving vehicles trying to find their way to the cruise terminal complex or the hotel;
- Vehicular traffic queues within Pier 30/32 extending and spilling onto The Embarcadero; and
- Large, single garage locations acting as a magnet for automobiles.

As part of the effort to develop the optimal design for the cruise terminal and the adjacent hotel, the LCOR Team has adhered to good practices traffic engineering and has developed a concept that prevents those impacts from occurring, while enhancing other aspects of the transportation system in the vicinity of Piers 30/32. The objective of the proposed design is to make the South Beach Landing project a *good neighbor* along the Waterfront.

The following is a detailed list of the key transportation elements contained in the LCOR proposal:

- The main vehicular entrance to the Pier 30/32 complex has been consolidated at the existing signalized intersection of Bryant Street and The Embarcadero. This design facilitates vehicular movements in the area, minimizes points of conflict on The Embarcadero and improves ingress and egress to and from the Pier.

- The vehicular access control point to the twin cruise ship terminal is located well inside the Pier, approximately 800 feet from The Embarcadero. This distance ensures that potential for automobile, truck or bus queues spilling back into The Embarcadero is eliminated.
- The proposed terminal will be capable of handling 20 buses simultaneously on site, within the Pier, to pick up cruise passengers, with an additional 20 holding spaces for buses marshalling. This number represents about 50 percent of the total number of buses required to take disembarking passengers from two simultaneously arriving ships to the airport, which is more than sufficient, since at any given time more than half of the buses would be on the freeway en-route to or from the airport. This terminal design concept will therefore ensure that no buses are laying over at The Embarcadero or its vicinity.
- The Pier 30/32 complex will accommodate sufficient parking spaces to provide service to the Pier complex and to the cruise ships. Ship supply trucks will be accommodated in the apron prior to arrival times of the ships. Similarly, luggage trucks will be pre-positioned at 8 designated loading spaces prior to passenger arrival. Up to 40 service delivery trucks will be able to use the apron as a loading/unloading area, in addition to 10 designated spaces located on the Pier roadway and inside the garage. This design will ensure that no service or delivery vehicle needs to double-park on The Embarcadero, even when cruise ships are present at the Pier.
- The number of parking spaces being provided at Pier 30/32 complies with the minimum requirements recommended by the Port of San Francisco as part of the RFP process. Only about 230 parking spaces will be provided at the Pier. This will ensure that vehicular traffic accessing the Pier is kept to a minimum, and can be successfully handled by a single ingress and egress point. This configuration will also minimize traffic conflicts with pedestrians along the Promenade.
- In addition to the Pier 30/32 garage, parking spaces will be provided at two other nearby locations in order to distribute traffic destined to the project more evenly. These two locations include the seawall lot (500 spaces underground the proposed hotel) and the Caltrans' Bay Bridge Maintenance Yard (600 spaces) located on Main Street, between Bryant and Harrison Streets. Both locations provide the opportunity of keeping project bound traffic off of The Embarcadero and minimize the potential for traffic congestion by dispersing parking traffic at multiple separate sites. The proposed number of parking spaces strikes a balance between the need to provide parking and the desire to discourage automobile access.

In addition to the above elements of design, the South Beach Landing – Pier 30/32 project will provide other project-specific traffic-related improvements. These include:

- The intersection of Bryant Street and The Embarcadero will be reconfigured, providing better access to Pier 30/32. Traffic signal timings will be adjusted to provide appropriate traffic clearances for all movement, including Muni light rail vehicles.
- Two intersections currently unsignalized – Bryant Street at Main Street and Bryant Street at Beale Street – will be signalized as part of the South Beach Landing Project. The proposed new signals will facilitate safe traffic flows in the area and minimize delays.

- The Caltrans' Bay Bridge Maintenance Yard site will be improved from a visual and an operational point of view. The site will accommodate in an enclosed structure Caltrans' maintenance vehicle facility, a 600-space parking garage and an 18-stall staging area for Golden Gate Transit buses (GGT). GGT buses are being displaced from their current layover site at the corner of Main and Folsom Streets due to the start of construction of a proposed office and residential development project. GGT buses will be temporarily relocated to the Mission Bay area, south of the Ballpark, which will add non-revenue time and expense to the GGT bus operation and will be detrimental to their overall service. By providing a new enclosed layover facility closer to their existing terminal, the project is able to enhance GGT operations in the area.
- The project will take full advantage of the light rail transit improvements planned to occur on The Embarcadero. When the Third Street Light Rail Project opens in early 2004, two light rail lines, the J-Church and the N-Judah, will operate directly across from Pier 30/32 and the hotel site, at a combined frequency of one train every three minutes during the peak commute period and five minutes in between. As patronage demand increases related to the proposed South Beach area development and the Mission bay area plan, the L-Taraval will also operate along The Embarcadero, as well as the E-line, connecting the Caltrain Station in the south to Fisherman's Wharf area in the north. As a result, light rail service frequencies immediately across from the project will be comparable to those currently in the City's Financial District area.
- The South Beach Landing – Pier 30/32 project has been designed to take full advantage of the existing and planned transit improvements in the area. The project uses have been selected with a pedestrian, non-motorized and public transportation focus. In addition, the proposed pedestrian areas and public open spaces orient directly towards the existing light rail station at the intersection of Brannan and The Embarcadero.
- The project will include a "Transit Store" on site, which will provide both visitors and local residents which a location to obtain transit information (schedule, fares, etc.) and purchase transit tickets and passes (Muni passport, Muni FastPass, BART tickets, GGT or Caltrain monthly passes, etc.).
- Bicycling is a major use in the waterfront area and designated bicycle lanes and bicycle routes already exist along The Embarcadero and nearby streets. The South Beach Landing – Pier 30/32 project will further enhance the bicycling experience by providing bicycle rental facilities on site, so that both visitors and residents alike can enjoy the waterfront in a relaxed and environmentally friendly way.
- The South Beach Landing – Pier 30/32 project also provides other water-related transportation services in addition to cruise ship berthing, such as water-taxis, water shuttles to the San Francisco International Airport and other Bay area locations, pleasure boats and excursion-type ferry service.

5. Environmental

Reduced Dredging and Disposal Requirements

The LCOR proposal will be subject to environmental review under the California Environmental Quality Act (CEQA). The CEQA environmental review process requires that any significant environmental issue (water quality, noise, air quality, etc.) be mitigated to the greatest extent possible.

One noteworthy environmental benefit of the LCOR proposal is the location of the second berth. The LCOR proposal places this berth along the southern side of the existing Pier 30/32 as opposed to the north side of the pier. The Port, in September 1998, conducted an alternatives analysis of possible sites for the new James R. Herman International Cruise Terminal. That analysis looked at berthing issues at Pier 30/32 and identified that the feasible locations for berths would be on the east and south sides. The east berth area is currently deep enough to accommodate cruise ships and would not require dredging. The south berth area is approximately 23 feet deep and would require dredging to accommodate cruise ship docking. The Port's analysis calculated that approximately 120,000 cubic yards of material would need to be dredged from the south berth to obtain the necessary 35-foot depth needed for cruise ship operation. There would also need to be some on-going maintenance dredging; however, this amount appears to be relatively minimal. The north berth, on the other hand, was determined by the Port to not be a feasible location for docking cruise ships due to shallow depths (11 to 13 feet) which would require extensive dredging. As well, upland disposal of the dredged material from the north berth area may be required because preliminary studies for the Port indicate a higher level of contamination than found in the south berth area. The depth of the north berth area also indicates that this area is filling in more rapidly than the south berth area. This would require additional maintenance dredging to maintain the proper depths for cruise ship operations when compared to the south berth area .

Bay dredging is one of the primary environmental issues associated with development of Pier 30/32. While construction techniques and management practices exist to reduce the environmental impact of dredging, there would still be temporary and possible long-term impacts to the Bay's water quality and aquatic ecology from any dredging. As a result, a sound environmental strategy for both construction and long-term maintenance of the project is to reduce the total amount of dredging and maintenance dredging. Based on the initial information available about the aquatic environs of Pier 30/32, it would appear that construction and maintenance of the south berth would result in less environmental impacts on the aquatic ecology of the Bay when compared to construction and maintenance of the north berth location.

Benefits of Centralized Heating and Cooling

Centralized heating and cooling systems are employed by enterprises and institutions which utilize multiple buildings for their operations such as industrial complexes, densely populated urban areas and building clusters with high thermal loads. The underlying benefits of central cooling and heating systems reflect the economies of scale of large chillers and boilers. The

combined components of a central plant can operate more energy-efficiently than unitary equipment. Heating and air conditioning equipment generally operate more efficiently at or near maximum capacity; at part-load performance the equipment is less efficient. Central plants can be designed to base-load (maximum capacity) one or more units to carry the combined part-loads of the individual zones. The result is that one base-loaded chiller, for example, can run more efficiently than multiple part-loaded unitary units.

Another benefit of the central plant is diversity – central plants can be smaller than the sum of individual units. Individual units must be sized to serve the area for which they are designed. However, since different zones do not peak at the same time, the capacity can be “shared” by multiple buildings. For example, east facing buildings may peak at a different time than west facing buildings. Benefits of diversity can be achieved whenever the daily or seasonal pattern of heating or cooling demand varies among the buildings being served. Under such conditions, the backup system for one building can also be used to help backup systems in other buildings.

Centralized systems are popular because they provide reliable thermal energy services in a more efficient manner than individual systems, taking advantage of the pooling of total thermal energy demand from the participants in the system. This allows a centralized heating or cooling system economies of scale in equipment sizing and also to use the different demand schedules of the participants in the system to operate at higher load levels, increasing overall efficiency. Thus, the centralized system can provide a more reliable service with greater efficiency, using less total resources than would be employed to provide heating and cooling to buildings with individual systems.

Centralized systems have an average life span of 20 years, compared to 10-15 years for smaller, individual units. Not only does this reduce capital costs, but has positive environmental impacts such as resource and disposal issues. Recent advances in chilling technology, as well as increased emphasis on environmental side effects of energy consumption, have greatly enhanced the economic benefits of centralized cooling facilities. The relevant issue facing most large cities is not whether, but when and where to locate new central cooling facilities.

Environmental benefits arise because of the reduction in greenhouse gases that accompany the introduction of the new technology. User benefits arise from the cost savings afforded by the new technology and the greater reliability it provides. Moreover, because it economizes on building space needed for cooling, increased economic activity can be carried on within the boundaries of the service area. Finally, centralized cooling, through its environmental benefits, reduces potential future environmental compliance costs for businesses and non-profit institutions located within a metropolitan area. This further enhances the economic development prospects of the community.

The process of cooling a building has both direct and indirect environmental consequences: directly through the leakage of chlorofluorocarbon (CFC) refrigerants, and indirectly through greenhouse gases and other noxious substances emitted during the production of the electricity needed to power the cooling system.

Large chiller manufacturers utilize either HCFC-123 or HFC-134a refrigerants instead of CFC-22 used by most unitary equipment manufacturers. The HCFC and HFC refrigerants have lower Ozone Depletion Potential (ODP) and lower Global Warming Potential (GWP) values than the CFC refrigerants, making them “friendlier” to the environment. Also contributing to the improvement is the sharply reduced leakage rate of fewer larger chillers versus many compressors located throughout the complex.

New chillers will be more energy efficient than more commonly installed equipment in the Bryant Street Pier complex. This translates directly into reduced demand for electric power, the source of pollutant emissions. The reduced need for electric power is estimated to reduce annual emissions of CO₂, of SO₂, and of NO_x.

6. Engineering

Pier 30/32 Rehabilitation and Seismic Strengthening

The LCOR Team has performed a condition assessment and seismic strengthening evaluation of the existing Pier 30/32. The most important aspects are highlighted below:

Structural Assessment:

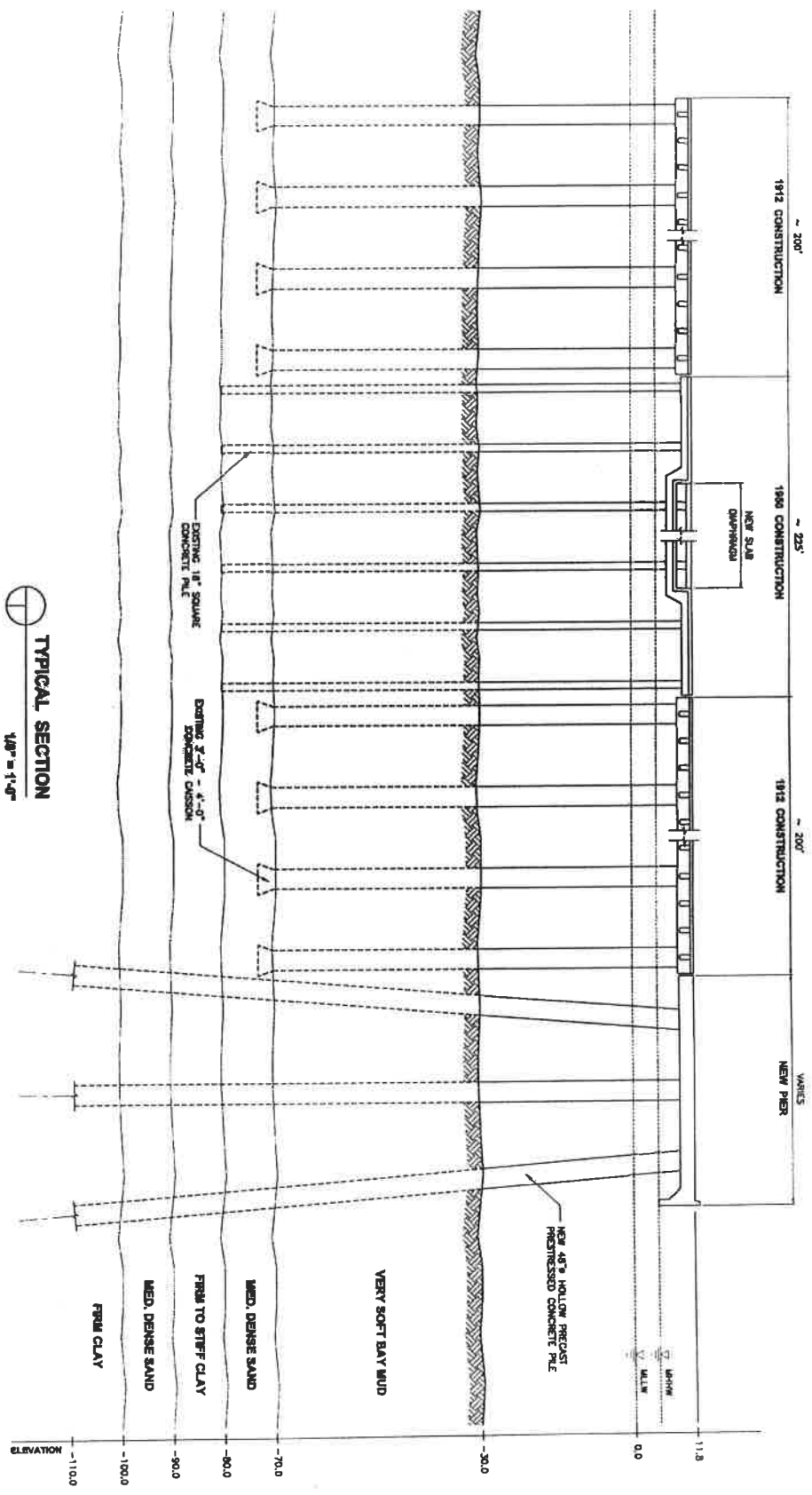
- As shown on the attached sketch, the 1912 caissons only extend to the top of the first stiff soil layer. Similarly, the 1950 piles extend only about 5-10 feet into the medium dense sand layer. This provides sufficient vertical capacity but little or no lateral capacity, and the pier is therefore not designed to withstand powerful earthquakes.
- By studying the existing plans, soil reports and the most recent condition assessments of the piers, the LCOR team has performed an evaluation of the seismic capacity of the existing pier. Based on this evaluation, it is anticipated that the pier is capable of withstanding a lateral spectral acceleration equivalent to about 0.25g – 0.35g. For comparison, modern marine facilities in the Bay Area are designed for lateral spectral accelerations in the order of 0.8g – 1.3g. Pier 30/32 is therefore clearly seismically deficient.

LCOR Team Retrofit Solution:

- The only way to strengthen the existing pier is by reducing the lateral displacement demand on the existing piles. This is achieved by adding new large-diameter piling (approximately 250-300 48-inch diameter hollow prestressed concrete piles) underneath the new strip of pier that is being added to the south and east ends of the existing pier. The new piling is connected to the new slab through strong seismic connections that enables large seismic forces to be transferred between the new piles and the new deck.
- The new added pier sections along the south and east ends of the existing pier therefore solve two design issues at the same time: (1) the pier sections enable the existing pier to accommodate two 1,000-foot cruise ships simultaneously, and (2) they provide for an evenly spaced seismic restraint of the existing pier.
- To be able to transfer the seismic forces through the entire pier, a new slab is being placed on top of the deteriorated 1950 slab as shown on the attached sketch. This enables the pier to act as a diaphragm, providing a sound load transfer to the new seismically strong piling.

Alternative Retrofit Solution:

- Based on the competing Pier 30/32 layout presented to the Port of San Francisco, no new pier sections are added other than structures that cannot provide lateral support of the existing structure. The current concept requires that any new piling have to be installed through the existing deck and tied into the existing structure. Installing new piling through the deck is not a concern; the problem is how to efficiently transfer the large moment from the seismic pile into the existing pier deck. This will require unusual and complicated detailing that is not cost effective and does not provide a sound simple seismic load path.



TYPICAL SECTION
1/8" = 1'-0"

NO.	REVISION	DATE	BY	CHKD	APP'D

LCOR

SOUTH BEACH LANDING
PIER 30 - 32

CAUTION
NOT FOR CONSTRUCTION
DO NOT SCALE
DATE: _____
SCALE: _____

7. Community Outreach

The LCOR team's Community Outreach concept is a signature program unto itself. Not only has LCOR seriously embraced the whole suite of requirements that the Port of San Francisco originally spelled out as goals for Community Outreach, but the team has and is listening to individuals, groups, and community organizations all across the Bay Area.

What has emerged is a comprehensive program with the following three components:

1. Interactive Community Input Directives
2. Maritime Core Activities, Research, Learning
3. Workforce Development Programs

Together, these three major components provide for the sorts of activities and needs *on the community level* that are central to Bay Area residents:

- The need to voice opinions and actually effect change.
- The education of both children and adults.
- On-site research in the public interest.
- Workforce development – actual on-site job training programs provided to local residents.
- A host of cultural and artistic activities.

The highlights of this very comprehensive Community Outreach program include:

1. Interactive Community Input Directives

It is critical to include conduits to communities, and the means to incorporate community voices throughout all stages of development. Beginning with multiple and ongoing focus groups held with residents of diverse local communities to probe in detail their opinions, needs and wishes, LCOR has listened and responded to such community voices. While one goal was to effectively promote the involvement of different communities in order to truly capture the international character of the city of San Francisco, the focus has been, and continues to be, to capture the desires of the real "San Francisco" and its people.

While this process is ongoing, it will be formally continued by implementing a series of formal "Citizen's Advisory Boards" that will be convened throughout the development process to solicit input and develop consensus from community representatives on areas from project design to environmental, traffic, safety, and waterfront access issues. LCOR has established a Web site (www.soha.com) to allow for ongoing community input from Bay Area residents throughout the pre-development process

2. Maritime Core Activities, Research, Learning
3. Workforce Development

The LCOR team is bringing to the project – free-of-charge for community residents – a series of exciting, ongoing and newly created maritime-based programs to *entertain, enhance, enrich, educate, and train for jobs* at the water’s edge. Collectively, these programs will bring alive the maritime past and future to this development as well as to communities all across the Bay Area. Numerous local labor unions, national and local museums and cultural organizations have committed to participate with LCOR in this comprehensive outreach program.

In particular, the SS James R. Herman, a former Navy vessel being conveyed to AeroSea Research Group through an act of Congress, will serve as a research vessel promoting both education and vocational/apprenticeship training programs. Agreements are being finalized for the research vessel to become an adjunct medical research facility for University of California at San Francisco, complementing the new Mission Bay Campus. The vessel will also be utilized “on-site” as an educational facility for Space Camp California, and for the LCOR team’s own “Maritime Through Space” community programs, both of which will directly partner with the San Francisco Unified School District. The already mentioned vocational/apprenticeship programs, in partnership with local maritime unions and the City College of San Francisco, will serve as an exciting and ongoing training tool for many of our youth.

There is an immense scale of cultural opportunities that are being endowed to this development by the LCOR team. From a youth “art and maritime” engagement program, along with provisions throughout the complex for ongoing, rotating art exhibits from around the world, the development also includes 20,000 square feet of space for museum operation within the complex as well as an almost 30,000 square foot Broadway theater facility. These are truly unprecedented cultural gifts to the City of San Francisco.

The LCOR Development team is acutely responsive to the concerns and needs of both the community and city of San Francisco as a whole. It is a program that embraces the highest goals for community involvement in keeping with a primary maritime focus as expressed by the San Francisco Port Commission for the Bryant Street Pier project. In unprecedented ways, the LCOR community outreach plan folds in exciting, on-going programs that address all major aspects of life, while at the same time making comprehensive and continual provision for addressing and inviting citizens’ opinions and concerns. As a matter of course, the program emphasizes minority participation in a diverse and culturally enriched program. In short, the LCOR community outreach plan goes far beyond traditional “outreach.”

Each aspect of these exciting Community Outreach programs is presented to the community at no cost either to the Port or to community participants. Moreover, these ongoing programs are intended to thrive throughout the life of the Pier 30/32 Project.

8. Financing

The guiding principle of the LCOR financing proposal is that the Port should succeed in its objectives of creating a new cruise terminal and enhancing its finances and the neighborhood's amenities *without expending one dollar from its current revenue sources and without pledging its balance sheet to secure financing.*

LCOR proposes an appropriate mixed-use development plan that admirably meets the Port's objectives and provides an exciting citywide destination for the South Beach neighborhood. To implement the plan, LCOR offers two alternative business options, each meeting the Port's fundamental objectives and each providing an attractive outcome for the City and the region. In each option, LCOR has provided for \$29,000,000 in repairs to Pier 30/32.

Option 1: Private Development

The Port will lease Pier 30/32 and Seawall Lot 330 to LCOR and receive rental income combining guaranteed rent and participation rent for the duration of the 66-year Primary Lease term (plus any options). LCOR will carry out the full development plan using conventional taxable real estate financing. All Public Infrastructure (pier modifications, public roadways, municipal utilities, and open space) will be dedicated to the Port. All other improvements on the site, including the cruise terminal, conference center, offices, retail space, restaurant space, parking, hotel, theater, and water taxi landing, will be privately designed, financed, owned and operated. Similar to the Port's role for many of its other real estate assets, the Port effectively will be landlord without any operational responsibilities.

Option 2: Public Terminal

Under Option 2, the Port will own the cruise terminal and the convention center in addition to the original site with the public infrastructure improvements provided in Option 1; all other improvements will be developer-owned. The Port will lease the portions of the site underlying the private improvements to LCOR in return for guaranteed and participation rent. The Port will also receive the net operating income of the terminal and conference center. The Port will issue tax-exempt non-recourse Port revenue bonds to finance the public infrastructure improvements, the terminal and conference center. The sole security for the Port's non-recourse bonds and their sole repayment source will be the terminal and conference center net operating income and Developer rent payments. LCOR proposes to design and build the Port-financed improvements as an element of the overall development plan and convey them to the Port on a turnkey basis. LCOR will finance, construct, own and operate all other improvements. LCOR will work closely with the Port to ensure that the public infrastructure, the terminal, and conference center, are designed and constructed in accordance with the Port's requirements.

LCOR proposes that the terminal and conference center together be Port owned because, in fact, they will be operated as a single facility with two functions. When ships are in port, the terminal will function as a point for passengers to embark and disembark. During the remainder of the time, the terminal will function as exhibit space for conventions and public events.

The Port's revenues from the combination of rent paid by LCOR and the net income from terminal and conference center operations will fully pay principal and interest on the Port's non-recourse bonds and provide net revenues in excess of the rental income it would receive under Option 1.

LCOR recommends that the terminal and conference center operations be carried out under a long-term operating contract with a qualified private operator. This will eliminate any exposure of the Port to operational expenses and strictly preserve its status as a landlord.

LCOR recommends that the Port proceed under Option 2 because it provides a superior financial return with minimal added risk, relative to Option 1.

Financial Outcome for Option 2

The Port will receive ground rent from the site lease and net operating income from the cruise terminal and convention center as new revenue from the project. From these amounts will be deducted the debt service on the non-recourse bonds. The ground rent to be paid to the Port under Option 2 has been structured into five types of lease payments and provides for periodic adjustment of the rent to reflect appropriate changes in economic conditions. The five types of ground lease payments the Port will receive, net of all non-recourse debt service, are as follows:

1. LCOR will provide the Port with "Holding Rent" during the development period equal to \$2,600,000.
2. LCOR will provide the Port with a "Guaranteed Rent" beginning when operations commence. The average annual payment is \$4,800,000. The cumulative payment during Years 1-28 totals \$129,438,704.
3. LCOR will also provide the Port with "Participation Rent" based on net operating income of the private improvements. This type of payment will be subordinate to payments to the equity investors to achieve a predetermined preferred return. This annual payment to the Port is projected to be \$2,682,966. The projected cumulative total of payments in Years 1-28 is \$72,440,082.
4. LCOR also has committed to pay the Port an innovative type of payment called "Home-Run Insurance." This annual payment is equal to 50% of the net operating income generated beyond the income projections. In other words, if the proposed project performs beyond current expectations, the Port shares in the project's success. For example, if the performance of the mixed-use development and hotel were 10% greater than current projections, the Port would receive approximately \$13,261,580 in Years 1-28.
5. The fifth type of payment to the Port is a 10% position on the net proceeds from the sale or refinancing of the project. This payment to the Port is projected to total \$43,994,611.

The net operating income of the combined cruise terminal and convention center is projected to total \$174,943,972 over the 28-year pro-forma period, averaging \$6,247,999 per year.

Debt service on the non-recourse tax-exempt bonds is estimated to total \$229,194,575 over the same pro-forma period.

The net return to the Port after deducting debt service is \$150,228,183 for the same period. This is before taking into account the potential return from "Home Run Insurance" and sale and refinancing participations.

9. Tenant Profile

The LCOR proposed development for Pier 30/32 will be comprised of a number of different elements:

- Cruise Ship Terminal
- Convention / Conference Center
- Hotel and Timeshare Units
- Live Theater
- Office
- Retail
- Restaurants
- Museums
- California Wine Experience
- Health and Fitness Center

Each element of South Beach Landing will draw its primary customers from different segments of the population. The enclosed matrix approximates the primary audience for each segment. This mix was planned for sustainability, appeal to the designated target markets and acceptability and appropriateness for the local community.

The proposed live theater operator, Reinis Productions, is a well-established, successful theater operator in San Francisco and currently has two hits on Broadway in New York.

The two proposed museums, The Craft and Folk Art Museum and The Museum of the City of San Francisco are both established museums in San Francisco which need larger locations than their existing venues and improved locations.

The mix of restaurants is designed to focus on the many target markets as indicated in the enclosed matrix. LCOR has, from the beginning, proposed keeping Red's Java House in its existing location. Letters of Interest have been received from Wolfgang Puck, California Café and Café Tu Tu Tango, all well-established, successful operations, and a unique venue, the California Wine Experience (incorporating 24 Letters of Interest from various established California wineries.) Additional restaurants will be drawn from local operators to achieve a distinct San Francisco flavor with an emphasis on experience and sustainable contribution to the urban character of South Beach Landing. Included will be casual cafes, a pastry shop and a café or bistro with live music.

The mix of retail stores considers sustainability with its group of established national creditworthy tenants. The focus includes retail concepts by retailers serving a wide customer base. Proposed tenants which have executed Letters of Interest include Armani, Off Rodeo Drive, and REI. Emphasis will be placed on fashion and value in selecting tenants. Serious consideration will also be given to local Bay Area tenants. Among locals which have expressed interest are Georgiou, Barcelino and Any Mountain, Ltd. The retail space on the Seawall Lot will focus on neighborhood-serving retail and a health and fitness center offering comprehensive wellness programs. LCOR has received Letters of Interest for 233,000 sq. ft. of retail space, 31,500 sq. ft. of restaurant space, 20,000 sq. ft. of museum space, 29,529 sq. ft. of theater space, 341,000 sq. ft. of office space and 20,000 sq. ft. of health and fitness space.