

SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION

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TO: All Design Review Board Members

FROM: Will Travis, Executive Director [415/352-3653 travis@bcdc.ca.gov]
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SUBJECT: Treasure Island and Yerba Buena Island Redevelopment Project, City and County of San Francisco; Second Pre-Application Review
(For Board consideration on February 8, 2009)

Project Summary

Project Sponsors: Treasure Island Development Authority (TIDA) and Treasure Island Community Development (TICD)

Project Representatives: Jack Sylvan, Treasure Island Redevelopment Project Director, TIDA; Kevin Conger, Principal, CMG Landscape Architecture, on behalf of TICD; Dilip Trivedi, Principal, Moffatt and Nichol on behalf of TICD.

Project Site. Treasure Island and Yerba Buena Island are located in the center of the San Francisco Bay within the City and County of San Francisco. The proposed Redevelopment Plan Area includes approximately 400 acres of land on Treasure Island, approximately 150 acres of land on Yerba Buena Island (YBI) and about 550 acres of tidal and submerged lands adjacent to the islands. The US Navy currently owns the land and is in the process of conveying most of these areas to the Treasure Island Development Authority (TIDA). The Bay surrounds the project site on all sides.

Treasure Island. From 1936 to 1939, the Works Progress Administration created Treasure Island (TI) for the 1939 Golden Gate International Exhibition using fill from the Bay and the Sacramento Delta. In 1941, the U.S. Navy took possession of the land and occupied the island for more than five decades. The former military base on TI covers approximately 450 acres. Currently, 900 residential units and approximately 91 buildings for non-residential uses cover approximately 65% of TI, yet only a portion of the residences and buildings are usable. The U.S. Department of Labor Job Corps occupies an approximately 36-acre site in the center of the island. The entire island has approximately 3.35 miles of shoreline, resulting in approximately 36-acres of land located within the Commission's 100-foot shoreline band (Exhibit 10).

The overall site is relatively flat with minimal native vegetation. Current ground elevations range from approximately six feet above sea level on the northwestern edge to approximately 14 feet above sea level near the southern edge.



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Yerba Buena Island. Private parties, the U.S. Army and the U.S. Navy have owned Yerba Buena Island since the 1840s. The U.S. Coast Guard currently operates an approximately 35-acre site on the southeast side of the island, and the California Department of Transportation (Caltrans) occupies an approximately 20-acre parcel that includes portions of the San Francisco-Oakland Bay Bridge and tunnel. On the island there are currently 100 residential units and 10 non-residential buildings within the Redevelopment Plan Area. Not all of the buildings are habitable.

Yerba Buena Island is a very steep island with valuable habitat and vegetation. The entire island ranges from sea level to approximately 340-feet above sea level at its peak. With over 1.8 miles of shoreline, approximately 21 acres are within the Commission's 100-foot shoreline band.

Proposed Project and Public Access/Amenities. The proposed redevelopment of Treasure Island and Yerba Buena Island includes: 6,000 to 8,000 residential units; 450,000 square feet of retail space; up to 500-hotel rooms a cultural center; a new ferry terminal and transit program; approximately 300 acres of new public park and open space; and an approximately 3.5-mile public shoreline trail around TI and various trails on YBI. The proposed project would redevelop both Treasure Island and Yerba Buena Island over four phases spanning 10 to 15 years. Currently, the project sponsors are working on transferring the land from the U.S. Navy to the Treasure Island Development Agency (TIDA) and developing a Draft Environmental Impact Report.

The project sponsors state that the goal of the proposed project is to create the most sustainable large development project in the United States. They have partnered with the Clinton Climate Change Initiative's Climate Positive Development Program, which supports the development of large-scale urban projects that demonstrate that cities can grow in ways that are "climate positive." In addition, they have agreed to implement economically viable Green innovations in buildings, utilize clean energy, and use green technology in waste, water and transportation management.

The redevelopment of Treasure Island and Yerba Buena Island includes five primary components: (1) residential; (2) open space and recreation; (3) transportation; (4) commercial and adaptive reuse; and (5) community and public facilities.

1. **Residential.** The proposed TI project includes from 6,000 to 8,000 residential homes. Thirty percent of the units would be at below-market rate, and 435 of those units would be used to house formerly homeless individuals and families through the Treasure Island Homeless Development Initiative Program.

New development on YBI includes a wellness lodge, a hotel, and new residential units in the center and on the west side of the island placed primarily on sites where buildings currently exist.

2. **Open Space and Recreation.** The proposed TI project includes approximately 300 acres of new open space (Exhibit 1). The project sponsor's goal of the open space is to create a single cohesive park with a variety of experiences. The project itself would be implemented over multiple phases lasting several years. Therefore, the proposed project has been designed to be adaptive with varying design approaches and landscape typologies to evolve over time

(Exhibit 13). While a multi-use path would be built connecting the entire perimeter, the applicant has broken the open space into six areas, including the Cityside Waterfront Park, the Northern Shoreline Park, the Eastern Shoreline Park, the Clipper Cove Promenade, the Waterfront Plaza and Cultural Park (Exhibit 2).

The project sponsors propose an approximately 20-acre Cityside Waterfront Park to be an iconic, dramatic and highly visited open space (Exhibit 3). The landforms, windrows and 30-foot-wide multi-use path are all key elements in the overall design of the Treasure Island open space system. Seating and gathering areas may be designed on the protected leeward side of the windrows, which would align with the inland neighborhood streets, overlooks and water access points. The landforms would be designed with a gentle slope for seating and casual recreation, and a sculpture park may be integrated into the park design.

The project sponsor has designed the 100-acre Northern Shoreline Park to take advantage of the dramatic views and to continue the waterfront promenade with a simpler material, such as crushed stone or asphalt (Exhibit 4). Two waterfront access points are proposed that would accommodate vehicle parking and loading of water recreation equipment, restroom facilities, and 'warming hut' cafes. A swimming area is proposed on the wind/wave protected side of the existing jetty, along with a recreational lawn area to support a range of activities. The northern shoreline would also include a sailboat and small craft launch site, an approximately four-acre stormwater wetland, and an environmental education center. In order to utilize the man-made character of the island, the large landforms along the northern edge would offer dramatic views and exposure to the winds.

The Eastern Shoreline Park would be similar in design to the Cityside Waterfront Park (Exhibit 5). Again, a simple, open design utilizing windrows, sloping landforms, and casual recreational areas with seating would offer ample area for both pedestrians and bicyclists to enjoy the Bay and views towards the east and the new span of the Bay Bridge. A large swimming facility may be incorporated to connect to the proposed adjacent sports recreation park. The park would be designed to align with the Eastside Commons, where a community gathering space may be designed.

Pier One, at the southeast corner of Clipper Cove, would provide a variety of water-orientated programs, including, fishing, public access, and a Tall Ship program. The base of the pier and the surrounding areas would either incorporate a swimming beach, an event space, or a community center up to 35,000 square feet.

Continuing southwest, Clipper Cove Promenade would provide access along the marina waterfront, and create a linear open space orientated toward the water and marina activities (Exhibit 6). The promenade would be paved with various seating elements, while vertical elements along the roadside include palm trees, light poles, marine related loading areas, and bus loading zones, would be built to coordinate with bicyclist, pedestrians, and other activities. Storm water planters with bench seating, as well as decks, may be placed along the waterside of the promenade.

The Waterfront Plaza is proposed as a multi-modal transit facility between pedestrian, ferry, bus, bike, and automobiles (Exhibit 7). The project sponsors have designed this area with an urban character to create a sense of arrival; this area would support daytime and nighttime attractions with outdoor gathering spaces. The plaza would interface with the

proposed hotel and retail and incorporate a seawall along the edge. The Plaza would be designed in conjunction with the Ferry Terminal and connect to the plaza in front of the historic building.

The Cultural Park is envisioned to connect to the island center and adjacent neighborhoods, Hotel, and possibly a cultural building, such as a museum (Exhibit 8). Protected from the wind, this space would be a gathering hub with a pedestrian street. It has been designed to be a simple space with a bosque of trees in crushed stone paving or lawn. The space may be incorporated into the proposed cultural center.

According to the project sponsor, the open space at YBI would be designed to enhance the existing habitat and improve programmed spaces (Exhibit 9). Specifically, the proposed 6-acre hilltop park would be a destination for active and passive recreation, while providing sweeping panoramic views of the Bay. The Senior Officer's Quarters Historic District (SOQHD), also known as the Great Whites, would include an open space, including terraced gardens, planting beds, picnic areas, interpretive signage and garden walks. The landscaping may be enhanced to support the reuse of the site, and would serve as a destination for visitors. Finally, the beach park, which provides access to Clipper Cove, would maintain access from the parking lot and pedestrian pathway off of Treasure Island Road.

3. **Transportation.** The primary mode of transportation for the proposed project is public transit. Through parking management, pricing and other policies, auto access would be discouraged.

Located at the southwest corner of TI and adjacent to the commercial core described below, a new ferry terminal would provide service to downtown San Francisco and be within a 12-minute walk of 80% of the proposed residences. Bus service off the island would also be provided from the San Francisco Civic Center, the San Francisco Transbay Terminal and from the East Bay. Buses are proposed every five to 15 minutes. On the island, electric or alternative fuel shuttle-buses would be provided, and a fleet of bicycles would be available at the ferry terminal for visitors and residents to use. The project sponsors have proposed to establish a comprehensive transit pass built into the housing cost of the residents and the hotel room rates. In addition, a proposed congestion-pricing program would charge residents to use their car during peak travel periods (6am to 9am and 4pm to 7pm, Monday through Friday).

4. **Commercial and Adaptive Reuse.** The proposed project includes a mixed-use commercial core located at the southwest corner of the island. Redevelopment of three historic buildings is proposed to help create approximately 450,000 square feet of retail and restaurant space between the ferry terminal and Clipper Cove. A public promenade adjacent to the proposed retail and entertainment amenities would be built near the new Clipper Cove marina.

The YBI project proposal includes rehabilitating for public use the historic Nimitz House, eight Senior Officers' Quarters known as the "Great Whites," and the Torpedo Building primarily located on the east side of the island.

Combined, the TI and YBI development would also include up to 500 hotel rooms.

5. **Community and Public Facilities.** The proposed project includes various community and educational facilities including a community center, a childcare space, a school, and a space for the Treasure Island Homeless Development Initiative. Public amenities, such as a Treasure Island Sailing Center and a new Treasure Island Historic Museum are also included in the project proposal. Education facilities would include a Treasure Island Elementary School and the Delancy Street Life Learning Academy Charter High School.
6. **Bay Fill.** Currently, the project sponsors have not provided Bay fill quantities for the related development, the ferry terminal, or any shoreline protection.

Seismic Stabilization. Prior to redevelopment on Treasure Island, the project sponsors have proposed to increase all seismic safety standards on the island and the historic buildings through a geotechnical stabilization plan (Exhibit 11).

Treasure Island was constructed in the late 1930s by placing 30 million cubic yards of dredged sand fill over a sand shoal. For this reason, there are three primary geotechnical issues for the proposed project. First, the layer of sand shoal and dredged sand fill ranges from 30 to 500 feet deep, and is at best medium dense (Exhibit 12). Therefore, the sand is subject to liquefaction and settlement during earthquakes, which would result in immediate settlement and possible lateral movement of the sand material. Second, beneath the sand layer is a 20- to 120-foot-deep layer of young bay mud. The project sponsor states that any further increase in loads, whether due to placement of new fill or construction of new buildings, would trigger further settlement of the mud. And finally, the applicant is concerned about the seismic stability of the perimeter and causeway. Both may be subject to erosion, storm damage and earthquake-induced liquefaction of the sands and young bay mud.

In order to mitigate for these impacts and to prevent flooding due to extreme storm events and/or sea-level rise, the applicant has proposed a three-part approach. The first step would be to create a long-term stable platform by densifying the sand fill within the planned development area. The applicant proposes to use a technique called deep dynamic compaction, which consists of repeatedly dropping a large weight onto the soil, and using a vibro-compaction, which utilizes a vibrating probe into the soil. The objective is to turn the medium-dense sands into dense sands. Approximately 100-acres of land would be densified in order to stabilize the island and the areas that would be developed.

The second step would be to elevate the ground surface in order to protect the island from flooding. Densification of the sands would lower the current ground surface; therefore, new fill would be placed around the island to bring the ground surface elevation above flood levels. The depth of the new fill would vary, with smaller amounts on the southern side and greater amounts in the northwest corner. The applicant proposes that the fill would be obtained from excavation of basements, grading of undeveloped portions of the island, and from offsite sources.

Finally, the causeway, and possibly the perimeter, would be densified. According to the applicant previous studies suggest that densifying the perimeter berm may increase the potential for deep-seated failure of the young bay mud, especially in the northwest corner of the island. The project sponsors propose additional investigation of the perimeter, and possibly stabilizing the perimeter by placing additional, temporary fill (or surcharging) to increase the strength of the bay mud, or by using a deep soil mixing or jet grout technique.

The geology of Yerba Buena Island is characterized as a bedrock ridge. The proposed development on the island would be constrained by existing historic structures, vegetation, site topography, planting and circulation. The geotechnical considerations include designing foundations based on existing cut slopes and hillside fills, retaining walls, steep perimeter slopes, and the Treasure Island Road viaduct.

Sea Level Rise Adaptations. Existing grades on Treasure Island range from perimeter elevations of 10- to 14-feet above mean sea level to interior elevations of six- to 14-feet above mean sea level (based on NAVD 88). Based on a report completed by Moffatt & Nichol, the 100-year high tide, or Base Flood Elevation (BFE) for TI is estimated at 9.1 feet above NAVD 88. Based on the California Climate Action Team Reports on Climate Change, the expected sea level rise rates are as follows: (1) a low rate of 0.08 inches (2 mm) per year; (2) a medium rate of 0.18 in (4.6 mm) per year; and (3) a higher rate of 0.55 in (14 mm) per year. Using these numbers, the Commission is currently recommending that bayfront developments consider a 16-inch sea level rise value by 2050 (mid-term) and a 55-inch sea level rise value by 2100 (long term) above the 100-year high tide.

The project sponsors strategy for all new development on Treasure Island would be based on 36-inches of sea level rise, not BCDC's recommended 55-inch value. An adaptation strategy for long-term improvements to the drainage and perimeter protection system would be implemented in the event that sea level rise exceeds that value.

The project would include setting all buildings, streets and entrances to subterranean parking at an elevation of 36-inches above present Base Flood Elevations, and six-inches higher for all finished floor elevations of the proposed buildings. Thus, the applicant states that if no shoreline improvements occur, buildings and vital infrastructure would not be flooded during a storm surge.

The applicant has stated that the proposed perimeter, along with a proposed gravity-based storm drainage system would accommodate up to 16-inches of sea level rise. For sea level rise rates above 16-inches, more frequent wave overtopping along the perimeter, particularly along the western and northern edges, would occur. The proposed adaptation strategy to address higher sea level rise includes installing storm drain pumps, which would provide necessary drainage and maintain the necessary freeboard along the perimeter. The installation of the piping infrastructure for the proposed pumps would be a part of the initial project development.

If sea level rise should exceed 36-inches, the project sponsor has proposed a variety of flexible adaptation measures around the island. The strategy would utilize the approximately 300-foot-wide set backs around the majority of the perimeter to construct levees, berms, beaches, and seawalls. For example, along both the western and eastern edge of the perimeter, the project sponsor proposes to elevate the outward edge by four to six feet (Exhibit 17-20). These options include either keeping the proposed promenade in place and creating an elevated levee, or moving the promenade on top of the proposed elevated levee edge. The promenade and shoreline edge along the northern shoreline provides multiple adaptation options for future sea level rise (Exhibit 21-27). The proposed options include: elevating the perimeter edge one to three feet; creating a one- to three-foot high interior berm with a public access path either approximately 100- to 150-foot inland or approximately 300-foot inland; and constructing a elevated edge with a path either 150-foot or 300-foot inland and allowing the entire bayward

area to be tidally influenced. At the naturally protected southern edge of the island, a small seawall would need to be constructed to provide protection from waves (Exhibit 15 and 16). Along the marina, a floodwall or terraced berms would need to be constructed to accommodate sea level rise above 36-inches. Similarly, the project sponsors have stated that sea level rise above 36-inches would require that the fixed pier structures at the ferry terminal be raised and a flood protection system similar to the southern shoreline be installed.

Due to the existing elevations on Yerba Buena Island, from sea level to 340-feet above sea level, minimal sea level rise adaptation measures have been proposed. The project sponsor proposes to minimize grading and retaining walls on YBI to the maximum extent possible in an effort to retain existing topography. There is an existing beach at Clipper Cove that may be inundated due to sea level rise.

San Francisco Bay Plan Policies. The *San Francisco Bay Plan* (Bay Plan) **Public Access** policies state that access should “be provided in and through every new development in the Bay or on the shoreline,” be designed—using the Commission’s *Public Access Design Guidelines*—“to encourage diverse Bay-related activities and movement to and along the shoreline,” be conveniently located near parking and public transit, “permit barrier free access for the physically handicapped...and include an ongoing maintenance program.” These policies state in part that “public access should be sited, designed and managed to prevent significant adverse effects on wildlife,” and that, “whenever public access to the Bay is provided as a condition of development, on fill or in the shoreline, the access should be permanently guaranteed.”

The Bay Plan **Appearance, Design and Scenic Views** policies state in part that “all bayfront development should be designed to enhance the pleasure of the user or viewer of the Bay” and that “maximum efforts should be made to provide, enhance, or preserve views of the Bay and shoreline, especially from public areas, from the Bay itself, and from the opposite shore.” These policies also state, in part, that “[s]horeline developments should be built in clusters, leaving open area around them to permit more frequent views of the Bay,” and, further, “towers, bridges or other structures near or over the Bay should be designed as landmarks that suggest the location of the waterfront when it is not visible especially in flat areas.”

The Bay Plan **Transportation** policies state partly that “ferry terminals should be sited at locations that are near navigable channels...” and, wherever possible, “near higher density, mixed-use development served by public transit.” In addition, these policies state that shoreline projects and bridges over the Bay “should include pedestrian and bicycle paths that will either be a part of the Bay Trail or connect the Bay Trail with other regional and community trails.”

The Bay Plan **Recreation** policies partly state that “ferry terminal configuration and operation should not disrupt continuous shoreline access.” Regarding new marinas, the recreation policies state, in part, that development “should include public amenities, such as viewing areas, restrooms, public mooring docks or floats and moorages for transient recreational boaters, non-motorized small boat launching facilities, public parking, [and] substantial physical and visual access...” These policies also state, in part, that waterfront parks should also include launch facilities for a variety of boats, including non-motorized, and camping facilities accessible by boat.

The Bay Plan **Safety of Fills** policies state in part that, “[t]o prevent damage from flooding, structures on fill or near the shoreline should have adequate flood protection including consideration of future relative sea level rise as determined by competent engineers.” Additionally, the policies state that, “[t]o minimize the potential hazard to Bay fill projects and bayside development from subsidence, all proposed development should be sufficiently high above the highest estimated tide level for the expected life of the project or sufficiently protected by levees....”

Lastly, **Bay Plan Map** No. 4 identifies Yerba Buena Island as a site for waterfront beach/park priority use and describes further Bay Plan policies as follows:

- **Yerba Buena Island South of Bay Bridge** - “[W]hen no longer owned or controlled by the federal government, redevelop for recreational use.”
- **Yerba Buena Island North of Bay Bridge** - Provide “(1) a large public open space at the center of Yerba Buena Island; (2) a large public open space on the plateau on the eastern peninsula, adjacent to and beneath the eastern span of the San Francisco-Oakland Bay Bridge; and (3) a linked system of trails near the shoreline and at the upper elevations that connect vista points and open spaces. Vista Points should provide views of the Bay Bridge, San Francisco Skyline and other important Central Bay features. The remainder of the island upland of the shoreline band may be developed for other uses consistent with the Bay Plan recreation policy 4-b, and with the applicable public trust provisions and statutes.”
- **Yerba Buena Island and Treasure Islands - Clipper Cove** - “[E]xpand marina and other water-oriented recreation uses, provide water access for small water craft, such as kayaks, and for swimming. Preserve beaches and eelgrass beds.”
- **Treasure Island** - “When no longer owned or controlled by the federal government, redevelop for public use. Provide continuous public access to Bay in a manner protective of sensitive wildlife. Provide parking and water access for users of non-motorized small boats, including at north end of the Island. Develop a system of linked open spaces, including a large open space at the northern end of the island.”

Public Access Issues. The staff believes that the project raises a number of issues for the Design Review Board (Board) to address in its review. At this conceptual stage, the applicant and staff are seeking the Board’s input and advice on the general concept of the proposed public access and open space and the related geotechnical improvements. More specifically the Board’s advice is sought on: whether the proposed project provides adequate, usable and attractive public access spaces, and whether the project provides adequate connections to and continuity along the shoreline.

1. **Does the proposed project provide adequate, usable, and attractive public access spaces?** In addition to the Bay Plan Public Access policies, the *Public Access Design Guidelines* (Guidelines) state that public access spaces should be “designed and built to encourage diverse, Bay-related activities along the shoreline”, to create a “sense of place”, and be “designed for a wide range of users.” The Guidelines also state that, “access areas are utilized most if they provide direct connections to public rights-of-way such as streets and sidewalks...” The Guidelines further state that this may be accomplished by “incorporating the designated Bay Trail route into shoreline projects and providing clear and continuous

transitions to adjacent developments,” and that the public access areas should take “advantage of existing site characteristics and opportunities.”

The proposed project, which includes 6,000 to 8,000 residential units, 450,000 square feet of retail space, up to 500-hotel rooms, a cultural center, a new ferry terminal and transit program, would also result in approximately 300 acres of new public park and open space, including an approximately 3.5-mile public shoreline trail around TI and various trails on YBI.

As outlined above, the open space and public access has been categorized into six areas. The **Cityside Waterfront Park** would provide views to the City and windrows with gently sloping landforms, seating areas, and a 30-foot-wide promenade. The **Northern Shoreline Park** would provide vistas with exposure to the wind, two possible water access areas with parking, restrooms and ‘warming hut’ cafes. In addition, the existing jetty would provide a swim area, beach and recreation lawn. The **Eastern Shoreline Park** would also provide views, windrows, a gently sloping landform, seating, and provide waterside access. Pier One would provide a variety of water related programs, and possibly include a community center and event space. The **Clipper Cove Promenade** would provide access to and views of the marina, and would accommodate a variety of shoreline activities. The Waterfront Plaza would serve as the transportation center for the island, including ferry, bus, bicycle, vehicular and pedestrian connections. The **Cultural Park** would connect to the Waterfront Plaza, the hotel, retail shops and nearby neighborhoods. The park may be incorporated into the design of the potential cultural center.

Other open spaces include wetlands and other areas for passive uses, neighborhood parks, a 20-acre organic urban farm, and a 25- to 40-acre regional sports park. While a marina near Clipper Cove will be a part of the overall redevelopment plan, the current project sponsors have not included it in the current proposal.

In part, the public trail system proposal includes: (1) a Class I multi-use trail along the entire shoreline; (2) various Class I and II trails and various open space areas on Treasure Island; and (3) a Class II trail on Yerba Buena Island. Design details of several key shoreline features, such as the ferry terminal and marina are not yet available.

In addition, the proposed project includes adaptive measures for sea level rise over 36-inches that would alter the proposed shoreline access. The project sponsors have proposed a variety of adaptation strategies, including: creating 4- to 6-foot high levees, interior berms, sea walls, terraced berms, and tidal beaches.

The Board should advise the Commission and the project sponsors whether the conceptual ideas and goals of the various public access and open space areas are sufficient to accommodate the expected level of use and variety of users, designed to take advantage of existing site characteristics and opportunities, facilitate access in and through the developed areas, and are conveniently located near transit and parking facilities. Further, the Boards advise is sought on whether the proposed sea level rise adaptation strategies adequately accommodate existing and future public access to and along the shoreline.