



M E M O R A N D U M

DATE: Friday, November 9, 2007

TO: Treasure Island Development Authority Board of Directors

FROM: Jack Sylvan, Office of Base Reuse

RE: Information on the Federal Emergency Management Agency's Floodplain Mapping Process for San Francisco and Implications for Treasure Island

EXECUTIVE SUMMARY

The Federal Emergency Management Agency (FEMA) has published preliminary draft Flood Insurance Rate Maps (Maps) for the City and County of San Francisco (City). The Maps identify areas within the City that may be subject to flooding hazards, mainly along the shoreline of the bay and along the coast. Staff from the Office of Base Reuse and the TIDA Project Office are working with the public, City, Port of San Francisco (the Port), FEMA, and the master developer, Treasure Island Community Development (TICD), to prepare comments on the preliminary draft Maps for submittal to FEMA.

Once the Maps are finalized and published by FEMA, the City may join the National Flood Insurance Program (NFIP). The NFIP provides affordable flood insurance for communities that participate in the Program. To participate in the NFIP, the City would need to adopt a Floodplain Management Ordinance that meets the minimum floodplain management criteria of the Program. The City has already begun the public process to determine whether to join the NFIP.

The preliminary draft Maps identify areas on Treasure Island that may be subject to flooding (Attachment A to this memo). The redevelopment plans for Treasure Island will incorporate site improvements to remove these areas from flood hazard areas or avoid development in flood hazard areas.

Most importantly, Treasure Island is no more subject to potential flood hazards today than it was before the FEMA preliminary Maps were published. Nor is an individual's access to affordable flood insurance today different than it was prior. However, if the City joins the NFIP, federally-backed affordable flood insurance would be available to property owners and tenants on Treasure Island.

DISCUSSION

San Francisco does not currently participate in the NFIP, nor has FEMA ever published a final Flood Insurance Study or Maps showing flood hazards in the City. As a result, FEMA is proposing to adopt new Maps for all of San Francisco and has released preliminary draft maps for public review and comment. The preliminary draft Maps have identified some areas on Treasure Island that would be subject to flood hazards.

Flood Hazard Mapping and the National Flood Insurance Program

Most communities in the Bay Area were mapped for flood hazards by FEMA in the 1970s and 1980s. San Francisco has never been mapped, except for the San Francisco International Airport which has an identified Special Flood Hazard Area. FEMA published preliminary Maps on September 21, 2007 for the entire City and County of San Francisco. The maps have been prepared to update flood hazard information for San Francisco and to encourage San Francisco to join the NFIP.

The NFIP is a federally managed program created in 1968 to reduce the risk posed by floods throughout the United States. Under the NFIP, the federal government provides financial backing for affordable flood insurance in exchange for the adoption of floodplain management regulations by communities participating in the NFIP. The NFIP is managed by FEMA, and participation is voluntary; however, there are certain financial disincentives for communities that do not participate, as described below.

The Maps show identified Special Flood Hazard Areas. These areas are typically near riverine or coastal areas and have a 1% chance of flooding in a given year (base flood or 100-year flood). Flood zones on the maps for San Francisco are shown as Zone A (areas of coastal flooding with no wave hazard; or waves less than three feet in height) or Zone V (coastal high hazard areas with significant wave action). The maps are used for insurance purposes and as the basis for local floodplain management.

To join the NFIP, the City must adopt a Floodplain Management Ordinance, as discussed in more detail below. Once the City joins the NFIP, property owners in the community have the opportunity to purchase federally backed affordable flood insurance. On average, the cost of insurance for a home is \$400 per year for \$100,000 of coverage or approximately \$140 per year for \$10,000 of coverage for residential contents for a rental unit.

The following incentives exist to encourage local communities to join the NFIP:

- Federally-regulated lenders (including Fannie Mae and Freddie Mac) may not make, purchase, increase or extend any loan on an insurable structure in a Special Flood Hazard Area unless the owner has flood insurance;
- Residents and businesses may not purchase federally backed flood insurance if the community does not join the NFIP;

- Federal agencies may not provide financial assistance for acquisition and construction purposes in Special Flood Hazard Areas if a community does not join the NFIP; and
- FEMA cannot provide flood-related disaster assistance in Special Flood Hazard Areas to communities and individuals in communities that do not join the NFIP.

Most communities that are mapped with Special Flood Hazard Areas join the NFIP, and it is anticipated that San Francisco will choose to join the NFIP.

Floodplain Management Ordinance

As mentioned above, to join the NFIP, San Francisco would need to adopt a Floodplain Management Ordinance. The purpose of a Floodplain Management Ordinance would be to adopt specific regulations for areas at risk of flooding to minimize risk to people and property. To achieve this, the ordinance would identify a Flood Plan Administrator and include design standards for new development within a Special Flood Hazard Area, if new structures are not removed from the floodplain. In addition, the ordinance would include regulations to control the alteration and/or development of flood channels and facilities so that the changes do not increase the potential risk of flooding.

Within the Zone A Special Flood Hazard Area, the major impacts of these restrictions to new development would be that most new development would be required to be removed from the floodplain to avoid being subject to the design standards. This would usually occur through the grading of land to increase the building site to an elevation higher than the base flood level, or through improvements to flood-protection facilities (i.e., seawalls) to remove the risk of flooding within the area.

Within a Zone V Special Flood Hazard Area, which mainly affects the Port's piers and the immediate areas along the coast subject to wave action, except for extraordinary situations, the City would be required to restrict construction of buildings on the seaward-side of the mean high tide (i.e., on the existing waterfront piers). The City could adopt variances to the ordinance that would allow construction for functionally-dependent (i.e., water-oriented) purposes or to exempt historic structures from this restriction. Roadways and buildings raised above the wave height could be constructed in Zone V areas on the landside of the mean high tide. Buildings constructed in Zone V areas would have to be elevated on piers so that waves could pass underneath them.

Implications of the Flood Insurance Rate Maps for Redevelopment of Treasure Island

Attachment A includes the preliminary draft Maps for Treasure Island. Based on these maps, Special Flood Hazard Areas are identified at the northwest and southeast corners of the Island (A zones). In addition, there is a sliver of Zone V shown along the coastline perimeter, as is the case along the entire San Francisco waterfront.

The infrastructure and land use plans for the redevelopment of Treasure Island are being developed to address potential flood hazards as depicted by the FEMA Maps. This can be done through two primary methods, both of which will be considered:

- 1) Improving and increasing the elevation of the perimeter seawall
- 2) Increasing the elevation of roads and structures via grading

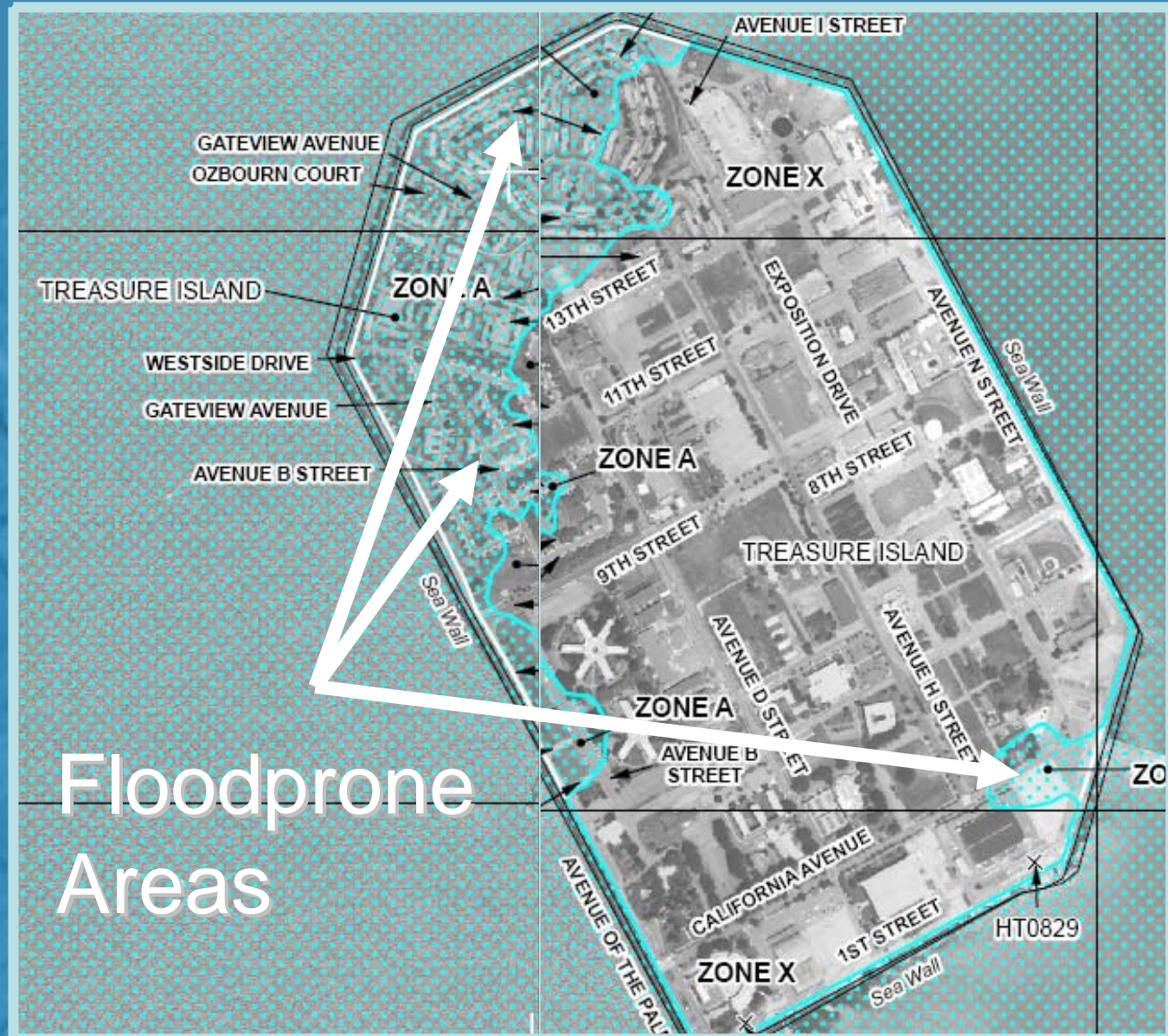
Ultimately, the infrastructure and land use plans attached to the Disposition and Development Agreement approved by TIDA and the Board of Supervisors will include infrastructure and site improvements to mitigate potential flood hazards. After that the FEMA Maps will be amended to remove those areas from the flood hazard areas via a formal FEMA process.

NEXT STEPS

The tentative schedule for the completion of FEMA's mapping effort and the is:

- September 21, 2007: FEMA publishes preliminary San Francisco Maps
- October 16, 2007: Technical Committee Meeting with FEMA to discuss assumptions
- October 17, 2007: Presentation at Treasure Island Community Meeting
- October 22, 2007: Start official public hearing process with the Board of Supervisors' Land Use Committee
- October-December 2007: 60-day protest period (to be headed by the City)
- November 2007: TIDA to provide comments to City for submittal to FEMA
- December 22, 2007: City submits formal comment package to FEMA
- March 2008: FEMA notifies City that the map will be finalized and City has six months to adopt Floodplain Management Ordinance
- September 2008: FEMA publishes Final Maps and Floodplain Management Ordinance must be implemented

Preliminary FIRM



Floodprone
Areas

