

February 3, 2005

Hunters Point Shipyard Restoration Advisory Board (RAB)

Dear RAB Members,

There was a resolution introduced by Mr. Maurice Campbell, but was unable to be brought up for a vote at the December 7, 2004 RAB meeting due to quorum. Despite not being able to vote on this resolution, the Navy has decided to take action and respond to the issue in hopes of clearing up any questions or concerns the Board and Mr. Campbell may have. The resolution in question asks to examine the Navy's report, "Final Nonstandard Data Gaps Investigation Landfill Liquefaction Potential Report dated August 13, 2004," and how it compares to the USGS Hazard Zone Map dated November 17, 2000. Liquefaction is a very technical issue and will be addressed in four steps. First, a very broad general definition and description of liquefaction will provide background on this subject and ensure everyone is on the same page. Second, the USGS Hazard Zone Map for the Bay Area dated November 17, 2000, will be briefly explained. Next, the results of the Navy's report, "Final Nonstandard Data Gaps Investigation Landfill Liquefaction Potential Report, August 13, 2004", will be addressed explaining the conclusions and how it compares to the USGS Hazard Zone Map for the Bay Area. Finally, some backup information on liquefaction in the Bay View/Hunters Point area during the 1989 Loma Prieta Earthquake is provided.

STEP 1: What is Liquefaction and Why does it occur?

Liquefaction is a phenomenon where the strength and stiffness of a soil is reduced by earthquake shaking or other rapid loading, such as construction blasting. It occurs in soils in which the space between the individual particles is completely filled with water. The water exerts a pressure on the particles and presses them together. Earthquake shaking causes the pressure exerted on the soil particles by the water to increase. This increase in pressure causes the soil particles to readily move. The following qualitative description of soil liquefaction has been given by Seed and Idriss (1982): "If a saturated sand is subjected to ground vibrations, it tends to compact and decrease in volume; if drainage is unable to occur, the tendency to decrease in volume results in an increase in pore water pressure, and if the pore water pressure builds up to the point at which it is equal to the overburden pressure, the effective stress becomes zero, the sand loses its strength completely, and it develops a liquefied state."

STEP 2: USGS Hazard Zone Map

- 1 The USGS Hazard Zone Map dated November 17, 2000, is now found in interactive format (included here as an enclosure) through the following USGS link: <http://www.abag.ca.gov/bayarea/eomaps/liqrefac/liqrefac.html>
- 2 The map represents potential liquefaction risks, as noted by the disclaimer on the map itself, "This map is intended for planning use only, and is not intended to be site-specific. Rather, it depicts the general risk within neighborhoods and the relative risk from community to community."

STEP 3: Final Parcel E Nonstandard Data Gaps Investigation Landfill Liquefaction Potential report dated August 13, 2004

- 1 This report was completed to determine a very site-specific liquefaction potential to an earthquake at Parcel E-2, in direct response to the possible potential liquefaction shown in the USGS Hazard Zone Maps for the Bay Area.
- 2 The report concluded that during a 7.9 earthquake Parcel E-2 (the Landfill) may have a lateral shift of only 4-5 feet and a settlement of approximately 10 inches.
- 3 This amount of lateral shift and settling could cause some small breaches in a containment remedy, but would be quickly and easily repairable. A component of the remedy would need to be an inspection after a seismic event; this would allow for a timely repair to any damage incurred.
- 4 The overall stability of Parcel E-2, slope stability analysis, and other closure features to prevent lateral movement will be assessed in the Parcel E-2 Remedial Investigation/Feasibility Study Report due out in early summer 2005.

STEP 4: Other Pertinent Information:

- 1 An article from the National Information Service for Earthquake Engineers at the University of California, Berkley, entitled, "Key Geotechnical Aspects of the 1989 Loma Prieta Earthquake", is included to further explain liquefaction in general as well as specific liquefaction that occurred in the Bay Area during the 1989 Loma Prieta Earthquake.
Note: This report discusses the destruction caused by liquefaction throughout the Bay Area during the 1989 Loma Prieta Earthquake, but goes on to say that liquefaction did not occur in the South San Francisco area and was concentrated on the eastern shore of the bay. Therefore, Hunters Point Shipyard did not experience liquefaction during this earthquake.

I hope this clears up any questions or concerns you have about potential liquefaction at the Landfill on Parcel E-2. If there is any further information that I can give you feel free to contact me. Thank you.

References:

Stewart, Jon, "Key Geotechnical Aspects of the 1989 Loma Prieta Earthquake," National Information Service for Earthquake Engineering, University of California, Berkley.

Seed, H.B., Idriss, I.M. (1982). *Ground motions and soil liquefaction during earthquakes*, Monograph, Earthquake Engineering Research Institute, Berkeley, California.

Very Respectfully,



Keith S. Forman
BRAC Environmental Coordinator
By direction of the Director

Enclosure: (1) California Geological Survey, Seismic Hazard Zones of Required Investigation Map

(2) "Key Geotechnical Aspects of the 1989 Loma Prieta Earthquake" by Jonathan Stewart, National Information Service for Earthquake Engineering, University of California, Berkley.

**Request for the Regulators to Look At Parcel E Landfill based on USGS
Hazard Zone Map November 17th 2000
Pending Liquefaction Hazard Potential to Local Residents and Workers**

Mayor Gavin Newsom, CCSF took what is clearly discretionary action by approving (*i.e.*, entering into) the CA with the U.S. Navy. The CA sets a specific timetable for giving CCSF a portion of the Hunters Point Shipyard for residential development (herein referred to as Parcel A), as well as giving commercial development rights to Lennar/BVHP, a private, non-governmental organization.

On November 7, 2000, CCSF voters passed, with 87% approval, Proposition P calling upon the US Navy to remediate the Hunters Point Naval Shipyard to the highest levels practical to assure the flexible reuse of the property. The Navy is required under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. § 9601 *et seq.*, and its implementing regulations, 40 CFR Parts 300–311, to take community acceptance into account in its cleanup decisions. On July 30, 2001, CCSF's Board of Supervisors (the Board) passed unanimously a resolution implementing the will of the voters as expressed by Proposition P. The Board's vote confirmed as the policy of CCSF that the Navy should clean the Hunters Point Naval Shipyard of toxic and hazardous pollution to the highest practical level. Since the voters empowered the Board to enforce Proposition P, and the Board then proceeded to do so,

There are also legal mandates for a subsequent or supplemental^[1] environmental analysis to augment the study done in 1999, which provides no complete or adequate environmental analysis of the impacts associated with the development envisioned and allowed by the CA and DDA. The impacts that are being ignored pose imminent threats of grave if not fatal harm to human life and

safety, as well as the environment.

The impacts and their potentially grave harm must be analyzed by considering the pertinent documentation from the Navy and the Hunters Point and San Francisco Fire Departments, particularly in regard to the residential development being planned for Parcel A under the CA and DDA. It is common knowledge that this area has been the site of a series of fires during the summer months of the years 2003, 2002, 2001 and 2000. The ignition of these fires was fueled by flammable, explosive chemicals whose presence is documented in the Parcel A Record of Decision and include petroleum products, pesticides, volatile organic compounds in the air and soil, and gaseous emissions from the partially capped industrial landfill on Parcel E, which is immediately adjacent to Parcel A. [2]

The US Navy and Tetra Tech Em, Inc., have provided documentation that five separate fires occurred in upland Parcel A between July and August of 2003 at the exact site where the Lennar/BVHP developers propose to begin the demolition and deconstruction of existing Parcel A buildings in time for CCSF/SFRA proposed construction of 1600 homes this summer.

As a further example of matters that must be fully investigated and analyzed to adequately protect human health and safety as well as the environment, Hunters Point Fire District Run report #45, dated September 11, 2001, documents that at 3:15 p.m. that day both SFFD and HPFD were dispatched to Crisp Avenue near Parcel A where they encountered "fire moving at a rapid speed with flames 15 to 25 feet high". The fire was observed moving towards the parking lot area of Building 815 in the Parcel A region of the Shipyard. According to the email alert sent by the Navy under the Community Notification Plan "family dwellings above the fire were threatened. After deployment of several hundred feet of hose and equipment, the fire was

extinguished at 5pm". HPFD was reactivated to the Building 815 site to extinguish hot spots over the next two days as verified in fire run reports #56 and #47. A total of seven fires were responded to in September of 2001. All occurred in the Parcel A and B regions of the Shipyard.

Further CEQA/NEPA analysis is legally required for the proposed development of Parcel A given the additional facts that:

1. Parcel A has undergone boundary changes as documented in the Parcel A FOST Revision 2 dated August 26, 2002, to include sub parcels N-13a and N-18A. Additionally, in the Draft final FOST dated March 19, 2004, Parcel A boundaries were revised to exclude radiation-impacted buildings 813 and 819 situated along Spear Avenue. A NEPA compliant EPA risk assessment protecting human health is, therefore, a requirement (morally as well as legally).
2. On August 16, 2000 the Parcel E landfill, adjacent to Parcel A, was the site of a fire that burned for 6 hours. Several areas estimated to be less than five acres continued to burn for several weeks according to the ATSDR Consultation Summary. The Parcel E landfill has been classified by ATSDR as a Completed Exposure Pathway, meaning that in assessment of risk to nearby residents, it could be shown that "exposure to contaminants could have occurred in the past, is occurring or will occur in the future. Further the Navy expects a five foot lateral movement in a major earthquake, which could mean further ignition and toxic releases into the community.
3. An August 2002 landfill gas survey detected flammable, explosive methane gas emanating from the Parcel E landfill within 100 feet of Parcel A in concentrations exceeding 80% in air. This represents a violation of state law mandating that methane gas concentrations be less than 5% in

air. A recent decision by the California Integrated Waste Management Board forbids construction within 1000 feet of the detection of methane gas. The Navy publicly acknowledges in the Draft Final FOST that it was required to use active extraction to remove subsurface methane gas from beneath laboratories and kennels operated by the University of California at San Francisco at the boundary of Parcel E and A in January of 2004.

4. The Draft Final Historical Radiological Assessment, released on February 25, 2004, documents Parcel A to be the site of five MARSSIM Class 1 Radiation impacted/contaminated buildings including buildings 816, 821, 813, 819 and FUDs site 815. Many of these buildings do not meet earthquake safety standards including one with two 15,000 gallon decontamination tanks. Parcel A covers approximately 75 acres and is the site of 61 buildings and 43 foundations according to the 1995-ROD. The Navy conducted investigations on nine Parcel A sites only. Additionally, radiation impacted buildings on Parcel A have been cleared for unrestricted use by an outdated cleanup standard that is well below the EPA recommended level and is currently being challenged in California Superior court.
5. Parcel A buildings and foundations have been determined to contain lead and asbestos. Deconstruction of these structures during development may lead to the release of these toxins into surrounding air and soil, thus producing pathways for exposure for future Parcel A residents.
6. Proposition P, which contains a Declaration of Policy, passed by a landslide 87% of the CCSF electorate after the November 7, 2000 municipal election. Proposition P states, in pertinent part: "[T]he National Contingency Plan, the regulation governing cleanup of a toxic site, established community acceptance as one of its nine principal criteria. The Bayview Hunters Point community wants HPS cleaned to a level enabling

the unrestricted use of the property- the highest standard for cleanup established by the U.S. environmental Protection Agency." Proposition P was ratified by the CCSF Board of Supervisors on July 30, 2001, and signed by the Mayor on August 10, 2001.

7. The Memorandum of Agreement between the City of San Francisco and the Navy, signed on November 2, 2000, stipulates that cleanup of Parcel A and the remaining five shipyard land parcels adhere to strict health based preliminary remediation goals to provide total estimates of carcinogenic and non carcinogenic health hazards under the residential scenario. The Parcel A Human Health Risk Assessment Report (HHRA) assesses the probability and magnitude of potential harm to human health from exposure to threaten and actual releases of hazardous substances on Parcel A sites. The HHRA and supporting documents do not support the Navy's contention that the nine sites explored on Parcel A pose no threat to human health or the environment. The Navy reports hazard indices up to 36 times greater than health protective standards for children exposed to soil on Parcel A under a residential scenario; soil lead contamination above California preliminary remediation goals; hazard indices 100 times greater than health protective standards for vegetable consumption at numerous Parcel A sites; and an exceedingly high cancer risk of 2×10^{-3} at the major IR site investigated. Studies conducted by the San Francisco Department of Public Health in 1995 and 1997 identify a high incidence and mortality from cancer among BVHP residents. The scientific documentation by the Navy of hazard indices and cancer risks above health protective standards on Parcel A is in violation of multiple federal, state and local laws and regulations in addition to violating the terms of the original Conveyance Agreement signed by Mayor Willie Brown on November 2, 2000. These laws and regulations include the

CERCLA act of 1980 as amended by the SARA act of 1986, NEPA, CEQA and Proposition P.

Executive Order 12898, 59 Fed. Reg. 7629 (1994), Section 1-101, requires that each federal agency, including the US Navy and US EPA, make achieving "Environmental Justice" part of its mission by identifying and addressing any disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority populations and low-income populations. The BVHP neighborhood is a predominately African-American community of color that is disproportionately impacted by existing environmental hazards and has a disproportionately high number of families with household incomes below the poverty level compared to the CCSF as a whole.

Title VI of the Civil Rights Act of 1964 requires CCSF, and the SFRA, in coordination with the California Environmental Protection Agency, Department of Toxic Substances Control, to identify and address any disproportionately high human health, socioeconomic, or environmental impacts of their programs, policies, and actions on minority or low-income populations. CEQA is primarily a public disclosure statutory scheme allowing the affected community to be informed and members of the public to voice their opinion, and to have input, about projects that may affect their environment. CEQA requires a review of the environmental impacts of overall activities ("the whole of an action" -- 14 Cal. Code Regs. § 15378(a)) defined as "projects." (Pub. Res. Code § 21065.) This strong, broad right of public participation under CEQA has a political component (*i.e.*, CEQA allows the compilation of a record concerning the approval of development projects that can be used by the public to vote environmentally insensitive decision makers out of office come election day), the violation or deprivation of which has constitutional ramifications on an affected community as well as the public at large.

In mandating separate Disposition Development Agreements and "conveyance agreements" for the development of the shipyard (Parcels A- E), SFRA as the lead agency under CEQA, is "piecemealing" the overall activity. CEQA strongly forbids this kind of "chopping up [of] a proposed project into bite-size pieces which, individually considered, might be found to have no significance on the environment." (*Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 716, citing *Orinda Assn. v. Board of Supervisors* (1986) 182 Cal.App.3d 1145, 1171, 1172; see also *Bozung v. LAFCO* (1975) 13 Cal.3d at 283-284; *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 309.)

CEQA provides that a proposed project may have a significant effect on the environment when the possible effects on the environment are individually limited but "cumulatively considerable." (Pub. Res. Code § 21083(b); 13 Cal. Code Regs. § 15065. "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." (14 Cal. Code Regs. § 15065.) In addition to analyzing the direct impacts of a project, the CEQA Lead Agency must also consider a project's potentially significant cumulative impacts.

Recent statutory law has invigorated CEQA's role in ensuring "**the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies**" (i.e., **environmental justice**)." (Emphasis added; see SB 115, Solis; Stats. 99, ch. 690, Gov. Code § 65040.12 and Pub. Res. Code §§ 72000-720001.)

In conjunction with the regulatory provisions of the federal Clean Air Act and Division 26 of the Health and Safety Code,^[3] CEQA provides an ideal mechanism for ensuring that Environmental Justice will be addressed in all

activities and projects that may have a significant effect on the environment.

CEQA requires that environmental documents (*i.e.*, an environmental impact report (EIR) or a negative declaration) be prepared whenever a public agency proposes to undertake a discretionary activity (which is defined extremely broadly as the "whole of an action" being engaged in) that may have a significant effect on the environment. (See Pub. Res. Code §§ 21002.1, 21061, 21064, and 21080.1; *see also* 14 Cal. Code Regs. §15002.)

In enacting CEQA, the Legislature expressly declared a number of important policies with which activities and documentation must be consistent, and which must be complied with and enforced, including:

"It is the intent of the Legislature that all agencies of the state government which regulate activities of private individuals, corporations, and public agencies which are found to affect the quality of the environment, ***shall regulate such activities so that major consideration is given to preventing environmental damage, while providing a decent home and satisfying living environment for every Californian.***" (Pub. Res. Code § 21000(g) (emphasis added).)

It is California policy to "[d]evelop and maintain a high-quality environment now and in the future, and ***take all action necessary to protect, rehabilitate, and enhance the environmental quality of the state.***" (Pub. Res. Code § 21001(a) (emphasis added).)

It is the policy of this state to require that public agencies "[t]ake all action necessary to ***provide the people of this state with clean air and water, enjoyment of aesthetic, natural, scenic, and historic environmental qualities, and freedom from excessive noise.***" (Pub. Res. Code § 21001(b) (emphasis added).)

State policy calls for ensuring "that the long-term protection of the environment, consistent with ***the provision of a decent home and suitable living environment for every Californian shall be the guiding criterion in public decisions.***" (Pub. Res. Code § 21001(d) (emphasis added).)

State policy requires "governmental agencies at all levels to ***develop***

standards and procedures necessary to protect environmental quality" (Pub. Res. Code § 21001(f) (emphasis added).)

California policy requires "governmental agencies at all levels to **consider qualitative factors as well as economic and technical factors and long-term benefits and costs ...**" (Pub. Res. Code § 21001(g) (emphasis added).)

"The interrelationship of policies and practices in the management of natural resources and waste disposal requires **systematic and concerted efforts by public and private interests to enhance environmental quality and to control environmental pollution.**" (Pub. Res. Code § 21000(f).)

"Every citizen has a responsibility to contribute to the preservation and enhancement of the environment." (Pub. Res. Code § 21000(e).)

The recent enactment of Public Resources Code sections 71110 through 71115, and Government Code section 65040.12, in conjunction with other statutory and regulatory requirements, such as the Bay Area Air Quality Management District State Implementation Plan, and EPA regulations, require the SFRA, as well as other agencies, to infuse **Environmental Justice** into every aspect of decision-making. This panoply of statutory authority supplements the general authority to "do such acts as may be necessary for the proper execution of the powers and duties granted to, and imposed upon [a public agency] ..." (Health & Saf. Code § 39600.) Further, the rules, regulations, and standards that the SFRA and other agencies adopt must be "consistent with the state goal of providing a decent home and suitable living environment for every Californian"^[4] (*Id.* § 39601(c).)

All associated activities constituting the "whole of an action" being carried out by the public agencies involved capable of having an adverse environmental impact (14 Cal. Code Regs. § 15378(a); see also Pub. Res. Code § 21065), must be subjected to

environmental review pursuant to CEQA to ensure that all the project's adverse, potentially significant impacts on the Bayview Hunters Point community, as well as the entire region in which the project is located, are fully and fairly investigated, identified, analyzed, evaluated and, perhaps most importantly of all, **mitigated** – while also ensuring that project alternatives capable of avoiding or reducing the impacts are considered and, if feasible, adopted.

Therefore be it resolved that;

For good cause shown, the Bay View Hunters Point Restoration Advisory Board respectfully requests the Hunters Point Regulators (FFA Members) and the City of San Francisco take action on this item.

Vote	Ayes	Nays	Abstentions
_____	_____	_____	_____

[1] See Attachment A September 19, 2003 letter from Eve Bach, Staff Economist/Planner, Arc Ecology, to Ms. Joy Navarrette, Environmental Review Planning Department asking for a supplemental EIR/EIS on the DDA and CA.

[2] Information on these vital subjects is readily available, and we respectfully request that to the extent it hasn't been done yet, a full investigation be conducted prior to an further discretionary action involving the CA and DDA. If such an investigation has been done or commenced, please consider this our request under the California Public Records Act for an opportunity to inspect all writings in your possession concerning such an investigation.

[3] 42 U.S.C. § 7401 *et seq.* (Public Law 88-206, 77 Stat. 392, December 17, 1963, as last amended by the Clean Air Act Amendments of 1990, P. L. 101-549, November 15, 1990); Health & Saf. Code § section 39000 *et seq.*