

Alameda Reuse and Redevelopment Authority

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Governing Body

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February 7, 2008

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BRAC Environmental Coordinator
Navy BRAC Program Management Office
1455 Frazee Road, Suite 900
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Re: Comments on the November 27, 2007 Draft *Feasibility Study Report, IR Site 24, Alameda Point, Alameda, California*

Dear Mr. Macchiarella:

Debra Kurita
Executive Director

Thank you for providing the Alameda Reuse and Redevelopment Authority (ARRA) with a copy of the Navy's November 27, 2007 Draft *Feasibility Study Report, IR Site 24, Alameda Point, Alameda, California (FS)*. IR Site 24 is an aquatic site just south of the seaplane lagoon and adjacent to, and including, the piers.

David Brandt
Deputy Executive Director

The *FS* is a clearly written and well organized report. However, the *FS* also should address the likelihood that Outfall J is a continuing source of contamination to IR Site 24 sediment. Alternative 5 (Dredging to remove contaminated sediment) does not include long-term monitoring activities. If Alternative 5 were selected in IR Site 24's Record of Decision, follow-up sediment sampling should be conducted to verify that discharges from Outfall J do not recontaminate the sediments. Please modify Alternative 5 to include follow-up monitoring.

Comments

1. **Surface sediments are as contaminated as deeper sediments.**

In 2005 and 2006, the Navy collected and analyzed sediment samples from three depths at each of 31 locations in IR Site 24: surface (0 to 2 inches), deeper (2 to 10 inches), and deepest (10 to 20 inches). *FS* Figure 3-1 shows that four of these locations are within IR Site 24's AoEC (Area of Ecological Concern). *FS* Table 2-2 presents analytical results for sediment samples from these locations. The results confirm that sediments within the AoEC are contaminated: AoEC sediment concentrations for 13 CoPECs (Chemicals of Potential Ecological Concern) are higher than at the reference location (PA C-12), which is outside of IR Site 24. For PCBs, tributyltin, cadmium, and lead, surface sediment concentrations are greater

than the ER-M (effects range-median) at all four AoEC sample locations.¹ In the case of HPAH6, surface sediment concentrations exceed the ER-M at three of the four AoEC locations, and in the case of DDx, at two of the four locations.

In IR Site 24's AoEC, surface sediment is about as contaminated as deeper sediment. Ten CoPECs are at least as contaminated in the surface sediment sample as in the corresponding deeper sample at two or more of the four AoEC sample locations. These CoPECs that are prominent in surface sediment are HPAH6, LPAH6, DDx, PCBs, tributyltin, cadmium, chromium, copper, lead, and zinc.

Deposition of particulate matter causes sediment to build up in many aquatic environments, especially in the absence of high-energy forces such as strong currents or waves. The *FS* assumes these forces to be minimal at IR Site 24's AoEC. Thus, the widespread occurrence of surface sediment that is about as contaminated as deeper sediment is unexpected, because the *FS* states that source of contaminated particulate matter (the storm drain line leading to Outfall J) has been abated. Two possible explanations for contamination in the surface sediment are: (1) the depositional environment at the AoEC is poorly understood, and (2) ongoing discharges from Outfall J continue to contain suspended contaminants that deposit as sediment in IR Site 24's AoEC.

- The *FS* assumes deposition is occurring at IR Site 24's AoEC.

“The sedimentation rate at IR Site 24 is currently unknown; the sedimentation rate at nearby IR Site 17 (Seaplane Lagoon) has been estimated at approximately 0.6 to 0.7 inches (1.5 to 1.7 cm) per year (Battelle 2005). Monitored Natural Recovery (MNR) is considered appropriate for the AOEC at IR Site 24 because this area is protected from high-energy forces such as boat wakes, propeller scour, keel drag, or large-boat anchoring that would minimize the effectiveness of the natural sedimentation process.”(*FS*, p. 4-8)

Given the presence of contamination in surface sediment at IR Site 24's AoEC, it is difficult to account for ongoing sedimentation, except by contaminated particulate matter. At a sedimentation rate of 0.6 to 0.7 inches per year, at least six inches of clean sediment should have accumulated. This clean layer is not apparent in the sediment sampling results. In contrast to the *FS*'s conceptual model, perhaps episodic, intense storms create high energy conditions at Outfall J that erode newly deposited surface sediment. Thus, the contamination in surface sediments that was observed in the 2005 and 2006 samples may have been deposited long ago, while the Navy was active at Alameda Point. Possibly, periodic storm-induced scouring prevented this historically contaminated sediment from being covered by later sedimentation.

¹ *Final Remedial Investigation Report, IR Site 20 (Oakland Inner Harbor) and IR Site 24 (Pier Area), Alameda Point, California*. Navy, August 30, 2007, Tables 4-8 and 4-9. (ER-M is not applicable to tributyltin. Table 4-9 uses the value reported by Weston, 1996, as the threshold value for this substance.)

- The *FS* discounts the possibility that Outfall J could be a continuing source of contamination.

“The storm drain line leading to Outfall J was cleaned and inspected in 1991 (TtEMI 1996); this line served buildings located east of IR Site 24 in Environmental Baseline Survey (EBS) Parcels 154 and 201. The largest buildings in EBS Parcels 154 and 201 are Buildings 166 and 167, which were historically used as aircraft maintenance hangars. Activities conducted in these buildings reportedly included painting, resin mixing, parts washing in solvent dip tanks, metals machining, paint stripping/sandblasting, aircraft defueling and refueling, and replacing or filling of lubrication and hydraulic fluids. The open spaces of EBS Parcels 154 and 201 were historically used for aircraft parking and maintenance and for chemical, equipment, and material storage, which included hazardous material storage yards and an industrial dust silo (BEI 2007b). It is suspected that industrial wastewaters and potentially contaminated surface runoff from the parcels may have discharged through storm drain lines leading to IR Site 24 (TtEMI 2006b). Further evaluation of the northern portion of EBS Parcel 154 near Building 167, as well as evaluation of the sediment in the storm sewer segment that originates south of Building 167, was recommended in a site inspection report that was completed in August 2007 (BEI 2007b). No further evaluation, beyond an evaluation of the aircraft parking and staining areas, was recommended for EBS Parcel 201 (BEI 2007b).” (*FS*, p. 2-2, emphasis added)

The further evaluation recommended in BEI 2007b² is warranted, but this work cannot rule out Outfall J as a continuing source of contaminated surface sediment to IR Site 24's AoEC. Even if the storm drain line leading to Outfall J was flawlessly cleaned and inspected in 1991, Navy operations at Naval Air Station Alameda continued beyond that date, until 1997, during which time recontamination of the storm drain system could have occurred. Thorough cleaning, inspection, and sampling sometimes can justify the inference that a storm drain line is free of contamination. However, when persuasive information to the contrary exists, such as contaminated surface sediments at the outfall, the inference is unreliable, and further assurance is needed.

Recommendation: Revise the dredging alternative (Alternative 5) to include a surface sediment monitoring five wet-weather seasons after dredging of the AoEC is completed.

2. **The area drained through Outfall J is very large and the condition of its storm drain lines is not completely known.**

The *FS* implies that the storm drain line discharging through Outfall J serves EBS Parcels 154 and 201 only. (For example, see the underlined passage in the quote in Comment 1, from *FS* page 2-2.) This implication is very misleading. According to the Alameda Point storm

² *Final Site Inspection Report, Transfer Parcel EDC-12, Alameda Point, California.* Navy, October 10, 2007, pp. 7-4 to 7-6. (The original quote cites the draft final version of this document.)

sewer study, the storm drain lines that discharge through Outfall J serve a much greater area.³ Lands tributary to Outfall J include much of OU-2A and OU-2B: specifically, Outfall J serves all of IR Sites 13, 19, and 22; most of IR Sites 4, 9, 23, and 27; and a portion of IR Sites 3, 11, and 35. Additionally, Outfall J drains all or portions of EBS parcels 134, 138, 139, 141, and 164, which are not within IR sites. The same heavy metals, PAHs, and PCBs that are found in surface sediment at Outfall J are principal contaminants in many of these IR sites.

According to the Alameda Point storm sewer study, the condition of some storm drain line segments discharging through Outfall J is unknown. The *FS* should objectively discuss the likelihood that former storm sewer inspection and cleaning completely removed all contamination from the storm drain lines upstream of Outfall J.

Recommendation: Revise the *FS* to disclose that Outfall J drains a much greater area of former industrial activity than EBS Parcels 154 and 201, and that the condition of some segments of the storm drain lines upstream of Outfall J is unknown.

Summary

Surface sediments at IR Site 24's AoEC are contaminated with heavy metals, PAHs, PCBs, and DDx. Possibly, this contamination is in historically contaminated sediment that has not been covered by more recent sedimentation. However, another likely explanation is that the storm drain system tributary to Outfall J is a continuing source of contamination to sediment at IR Site 24's AoEC. It is impractical to prove that the storm drain line system that Outfall J serves is not a continuing contaminant source. An effective way of assuring that no future sediment contamination from Outfall J would be to modify the Alternative 5 (Dredging) to include follow-up sediment sampling. Surface sediment sampling should be conducted five wet-weather seasons after the dredging of IR Site 24's AoEC has been completed.

Thank you for considering ARRA's comments. If you have any questions or need additional information, please contact Dr. Peter Russell, the ARRA's environmental consultant, at (415) 902-3123.

Sincerely,



Debbie Potter
Base Reuse and Community Development Manager

³ *Storm Sewer Study Technical Memorandum Addendum and Response to Agency Comments on the Draft Final Storm Sewer Study Report, Alameda Point, Alameda, California.* Navy, August 30, 2001, Figure 1.

Mr. Thomas L. Macchiarella

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