Site: New Bedford Harbor
Break: 13.5
Other: 27664

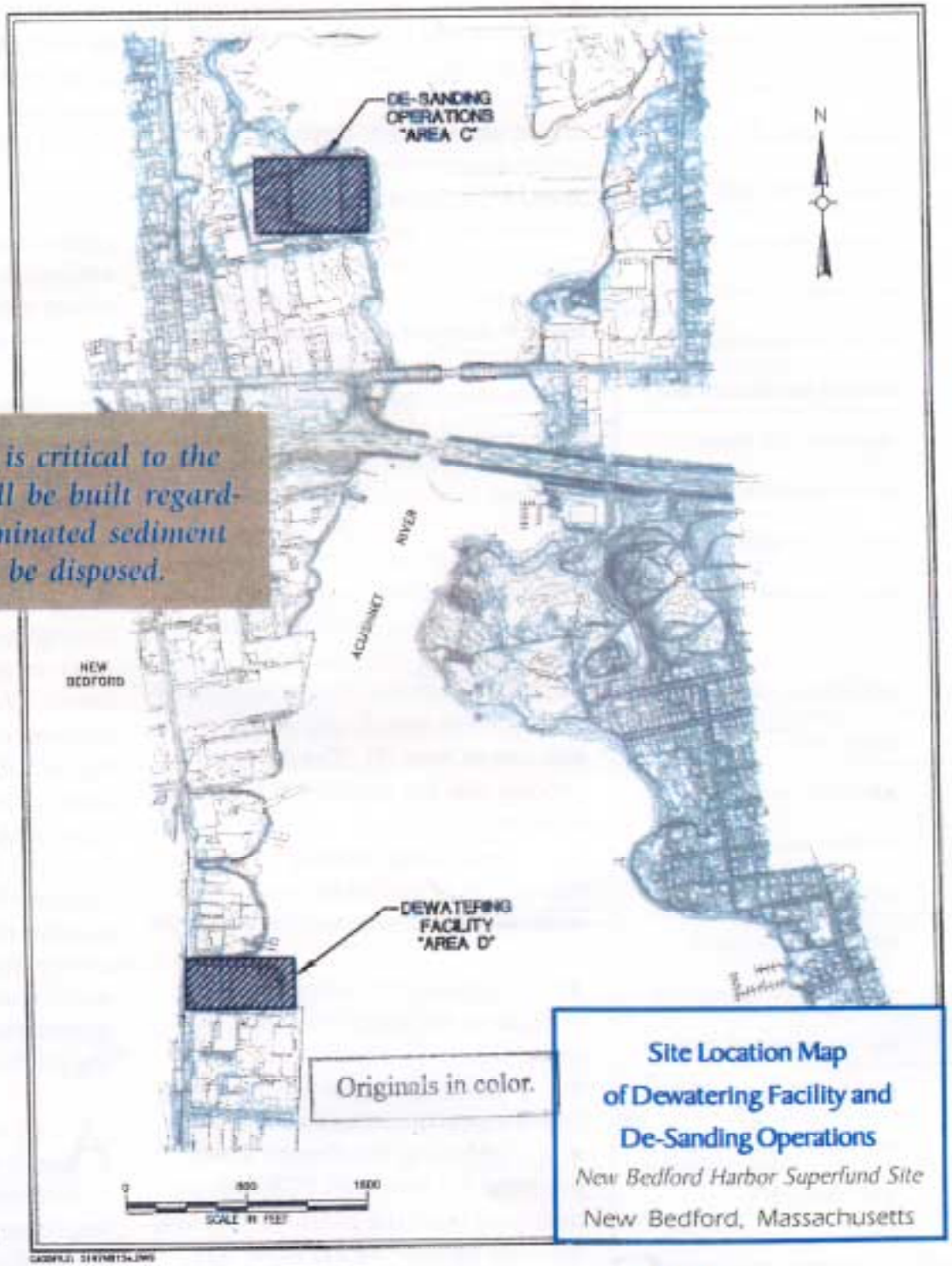
Dewatering Facts

New Bedford Harbor Superfund Site, New Bedford, MA

What is the purpose of the dewatering plant and how will it work?

The dewatering process will remove excess amounts of water from the dredged sediment. *First*, a dredge sends a mixture of water and PCB-contaminated sediment through a pipeline in the harbor to a de-sanding facility at the bottom of Sawyer Street where the sand, gravel, shells and other coarse material within the dredged slurry are removed. *Second*, the slurry is then sent through an underwater pipeline that will be laid in the harbor to the dewatering plant in the North Terminal area of the harbor. *Third*, using a series of mechanical processes, this plant

The dewatering plant is critical to the harbor cleanup and will be built regardless of how the contaminated sediment from Area D will be disposed.



Originals in color.

Site Location Map of Dewatering Facility and De-Sanding Operations
New Bedford Harbor Superfund Site
New Bedford, Massachusetts

SITE HISTORY:

The New Bedford Harbor Superfund Site is an 18,000 acre urban estuary reaching from the upper Acushnet River into Buzzards Bay. Its sediment is highly contaminated with polychlorinated biphenyls (PCBs) and heavy metals. PCBs are man-made, odorless, and colorless chemicals that were used in New Bedford in the manufacturing of electrical transformers and capacitors. The health effects from PCBs may include liver and immune system damage; neurological, developmental, and reproductive effects; and cancer. Due to the health risks from eating fish, shellfish, and lobster from certain areas of New Bedford Harbor and the Acushnet River Estuary, the MA Department of Public Health has restricted fishing and lobstering in these areas since 1979.

squeezes most of the water out of the slurry so that a "filter cake" is produced. This cake is similar to damp soil in consistency.

Why is the dewatering plant critical to the cleanup of the harbor?

Dewatering will reduce greatly the volume of sediment that needs to be disposed (and thus lower the cleanup cost) either in shoreline confined disposal facilities or at an offsite, out-of-state, disposal facility, which is currently being evaluated. Should the decision be made that the contaminated sediment at Area D will be shipped off site for disposal, the consistency of filter cakes allows for the safe loading and transport of the contaminated sediment by either rail cars, trucks or possibly even barges. Alternatively, if offsite disposal is ruled out and the Area D confined disposal facility is built, the dewatering process reduces the volume of sediment that needs to be disposed to such an extent that instead of the four originally planned confined disposal facilities along the New Bedford shoreline, only two would need to be built (one at Area C and a reduced size one at Area D). The dewatering process also has additional benefits, such as:

- providing filtering of the water before it is treated at the water treatment plant and released back into the harbor;
- allowing for some treatment of PCBs in the water treatment process;
- helping control air emissions (see the next question and answer);
- reducing the already small potential for low-level PCB leakage over time from the confined disposal facilities because excess water has been removed from the contaminated sediment.

Are there any health concerns associated with the dewatering process? If so, what can be done to control them?

There is a small potential for air borne PCBs to be emitted as a result of the dewatering process, although EPA's investigations estimate that these PCB emissions should be well below regulatory levels. All of the operations at the dewatering plant will be performed within a closed building to minimize PCB emissions. An air collection and treatment system will be installed to collect and remove any airborne emissions from the mechanical processes within the plant where PCBs could be emitted. This treatment system will ensure that any PCB emissions from the dewatering plant will be well below levels of concern and that neighboring residents and workers are protected.

Additionally, a series of air monitoring stations will be placed strategically around the dewatering plant to measure actual airborne PCB levels. (A year-long baseline air monitoring program has been performed already, hence the current levels of airborne PCBs without an operating dewatering plant are known.) These measured actual airborne PCB levels will be compared to a pre-determined safe level to ensure that nearby residents and workers are protected. All of this monitoring data will be available to the public.

As an added safeguard, a series of early warning trigger levels will be established; allowing implemention of corrective measures well before ambient airborne PCB levels reach a level of concern. Both

the safe airborne PCB level and the early warning levels will be made available to the public in advance of the dredging start-up.

Is the dewatering plant needed regardless of disposal method?

Yes, the dewatering plant will be built regardless of how the PCB contaminated sediment will be disposed. The decision to dewater the sediment was one of the cleanup approach changes made in September 2001 in a decision document (titled *Explanation of Significant Difference*) released to the public. Construction for the dewatering plant infrastructure is scheduled to begin this winter before the spring 2002 decision of whether to dispose of the Area D contaminated sediment offsite or in a permanent confined disposal facility at Area D.

Where will the dewatering plant be located?

The dewatering facility will be located along the shoreline near the intersection of Herman Melville Boulevard and Hervey Tichon Avenue. As part of the construction process, EPA, in partnership with the Army Corps of Engineers, will install a new bulkhead to create approximately two acres of new land in this area.

How was it determined where the dewatering plant should be located?

The location of the dewatering plant was noted in the *September 2001 Explanation of Significant Difference*. Careful consideration of the project's needs and extensive discussions with the City of New Bedford and the Harbor Development Commission (HDC) lead to the dewatering facility's siting decision. The facility must be along the waterfront, have rail access, and have sufficient land. Waterfront access is needed to:

- receive and send dredged-related material to Sawyer Street via underwater pipes;
- provide docking facilities for the harbor cleanup;
- meet Superfund regulatory guidelines.

Being located near the soon-to-be-redeveloped rail yard allows for cost-effective transport and disposal of the dewatered sediments by rail or for the transport of materials for the construction of the confined disposal facility. The selected location also has enough land to house the dewatering facility.

These criteria narrowed the siting options to two areas: the Hervey Tichon Avenue location and the Herman Melville shipyard approximately 2,000 feet to the north. The Herman Melville shipyard location was not viable since it was impractical to bring a rail spur to this site due to the City of New Bedford and commercial and public transit plans for the configuration of the redeveloped rail yard. Furthermore, the rail yard site is itself undergoing a State-directed hazardous waste cleanup and the track configuration for the Hervey Tichon location minimizes the amount of track needed to cross contaminated areas of the yard.

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UPCOMING EVENTS:

The 1998 harbor cleanup plan calls for the dredging of approximately 470,000 cubic yards of contaminated sediment and their permanent storage in four shoreline confined disposal facilities (CDFs). In February 2002, EPA will be making a formal proposal to dispose of Area D contaminated sediment off-site, at an out-of-state licensed disposal facility. Disposing the contaminated sediment offsite will eliminate the need to build the Area D CDF. The other three CDFs would be put on hold and the decision whether to build them would be made in the future. The public will be asked to comment on this offsite disposal proposal. The 30-day public comment period will be publicized and a public informational meeting will be held to answer questions and provide information.

Artistic rendering of the dewatering plant's conceptual design as of 12/14/01

How big will the dewatering plant be, and what will it look like?

The facility's dimensions will be 300 feet x 165 feet with a height to roof peak of approximately 35-40 feet. EPA, working with the plant's neighbors, will take steps to make sure the building and grounds are visually appealing.

What happens if there is an equipment malfunction?

The plant, when in operation, will be staffed with personnel who can address potential equipment problems. There will be four parallel treatment processes. If one malfunctions, the remainder will continue to operate. Additionally, spare parts will be stocked and maintenance plans and service agreements will be in place to maintain efficient operations.

What will be the hours of operation?

The dewatering plant will operate 24 hours per day, six days a week, during the non-winter months when dredging occurs.

Will the facility be noisy or have odors?

All processing equipment will be electric. A diesel front-end loader and fork lift will be operated inside the building. There will also be a small diesel train engine moving rail cars on the north side of the building. This equipment will be operated within all applicable codes and standards for noise and air emissions.

The most significant sediment odors will be encountered, controlled and treated at the Sawyer Street site where sand is removed from the dredged material. We do not anticipate any unusual odor problems at the dewatering plant.

Originals in color.

Will the trains or trucks coming in and out of the plant impact my business?

Trains will be entering and exiting the site from Herman Melville Boulevard. Truck traffic is currently being evaluated. Abutters to the site will be consulted to ensure that ongoing business operations in the area are not adversely affected by truck traffic.

How long will the plant operate?

Depending on annual funding from the national Superfund program, EPA New England estimates the dredging and dewatering process will operate for five to ten years. Dredging is scheduled to begin in 2003. Dredging and dewatering could be done faster if higher funding rates are made available, but given country-wide cleanup needs, this isn't expected to be the case.

What happens to the dewatering plant when the harbor cleanup is done?

Once no longer needed for the cleanup, the entire facility can be integrated into the City's working waterfront. EPA has worked closely with the City and the HDC to ensure that the new bulkhead, the new dewatering warehouse and the new rail spur can all be reused effectively as commercial marine facilities. The bulkhead and foundations will be designed to support commercial marine operations. The dewatering warehouse will be emptied of equipment and thoroughly decontaminated to allow for productive reuse. Thus, EPA will be investing approximately $25 million for this new shoreline infrastructure in a way that helps implement the New Bedford Harbor Master Plan.