

Inner Harbor Turning Basin Phase 1B Design, Port of Oakland

GAIA, with Moffatt & Nichol Engineers as its subcontractor, developed the design for the southwest portion of the Inner Harbor Turning Basin. The design required complying with operational and environmental constraints such as sealing off the area's shallow aquifer, and removing or encapsulating the young bay mud while keeping the area clear for the turning of large container ships. The design had to accommodate the Bay Ship and Yacht repair facility relocation. Since the Corps will only be cost sharing directly in the project's general navigation features, it was necessary to design the general navigation features to a level that will provide the basis for a reasonable government cost estimate for the construction of those features, as well as to prepare an overall design that would allow Bay Ship & Yacht to add on required features to the final design. The work to be performed under this contract will provide the basis for negotiation between the Corps and the Port with regard to the separation of general navigation feature costs and the shipyard relocation costs.

The design was phased, to allow input from various participants, including the Port and the Corps, at each stage of the design effort. We initially prepared conferred with Port permitting personnel to obtain direction on the environment constraints, including methods of handling contaminated dredge materials outside of the immediate bottom area required to construct the navigation turning basin and side slopes. From this input, we prepared concept level drawings to identify the major project components and costs of the GNF. The concept level drawings were revised based on comments and recirculated for final confirmation of the concept.

We prepared plans for the new turning basin including dredging, slope protection, bulkhead, and utility relocations in sufficient detail to prepare a preliminary cost estimate for the construction of the general navigation features. The design included plans for the demolition of the sheet metal building and associated sheds, piers, catwalks, docks, and floats that must be removed for the construction of the turning basin. The cost estimate was developed in sufficient detail to allow review by the Corps and the Port. The final plans and specs were completed on a tight schedule, and contract solicitations for construction is expected in Spring 2004.

Dredging Design Program Support and Dredge Sequencing Development

Under contract to Winzler & Kelly, GAIA supported the US Army Corps of Engineers San Francisco District (USACE-SFD) in its development of the design package for the Oakland 50-foot Channel Deepening Project. GAIA's responsibilities included:

- Integrating the specific material quality, material type, and timing requirements for up to 5 reuse/disposal sites, while maintaining a logical construction program sequence;
 - Incorporating environmental considerations (material quality and air quality) into the dredge sequencing;
 - Coordinating with other subcontractors to ensure correct volume and material type assumptions are used in the design;
 - Working with team members from related projects to develop consistent assumptions regarding dredged material reuse/disposal costs;
 - Monitoring design modifications to ensure that the prior environmental documentation adequately addresses the potential project;
 - Integrating O&M dredging and new work dredging in the sequencing; and,
 - Assisting USACE-SFD with the development of the contracting strategy for the project.
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Environmental Assessment for the Port of Lota, Chile

On behalf of Louis-Berger, Inc., GAIA prepared an environmental assessment report of a port project in Chile. GAIA's work entailed visiting the port site, meeting with Chilean clients (conversing fluently in Spanish), and translating existing technical documents from English to Spanish. GAIA wrote the environmental report in both English and Spanish. This was GAIA's first international job.



The project entailed the expansion of an existing (nonfunctioning) port located in the town of Lota, 20 km south of Concepcion. The town of Lota was known as a mine town up until 1997, when the mine shut down. Because of the closure of the mine, Lota is currently experiencing an economic depression. Governmental agencies see the port expansion project as a new means of industry for the town. The project will entail building new access roads, rehabilitating and existing rail line, dredging the berth area to 12 m deep, and filling approximately 60,000m² of shoreline. GAIA was responsible for providing an environmental overview of

the site and outlining the environmental impacts of the project on the bay of Lota for incorporation in a financial analysis report submitted for international funding by the World Bank and the IMF.

Maintenance Dredging Program Environmental and Permitting Support

GAIA is providing general environmental staff support for the maintenance dredging program to the Port of Oakland. We act as adjunct staff for the Port. GAIA has coordinated the activities of the sediment testing contractor and the survey contractor, coordinated the schedule for berth sampling with wharfingers, reviewed initial chemical and bioassay results, and presented final results to DMMO at regular agency meetings to negotiate in-Bay disposal and landfill disposal.

In addition, GAIA has managed the preparation and approval process for the sampling plan, has secured approvals for individual maintenance dredging episodes from BCDC, COE, and the Water Board, and negotiated with the applicable agencies regarding permit requirements. GAIA is responsible for ensuring that Port Construction Engineering complies with requirements of permits by reviewing dredging operations plans to ensure that pre-dredge and post-dredge reports are submitted. GAIA also works with the Port to prepare year-end reports to regulatory agencies. A portion of GAIA's job entails responding to Port and external requests for information (sediment quality, dredging volume) related to maintenance dredging, maintaining a document library of maintenance dredging files, and updating information for use in Tier I determinations (including records of spills and releases for 2003 and 2004, historical land use information, stormwater outfall locations).



Independent Technical Review of Dredging Contract Plans and Specifications for US Army Corps of Engineers

On behalf of the US Army Corps of Engineers – San Francisco District, GAIA and its subconsultant Moffatt and Nichol Engineers performed an independent technical review (ITR) of the Dredging Plans and Specifications for Phase 3A of the Oakland Harbor Navigation Improvement (-50-Foot) Project. GAIA performed the ITR for the environmental components of the plans and specifications, the ITR for the Detailed Design Report (DDR), and provided project management. Moffatt and Nichol reviewed the dredging and delivery components. We used the Corps' Dr. Checks system to provide comments, receive responses, and provide a backcheck of the comment responses provided by the Corps' engineering staff. We also met with Corps staff as-needed to resolve comments.
