HARBOR DREDGING PROJECTS

NORTH COAST HOPPER DREDGING - WASHINGTON & OREGON

Client: USACE - Portland District
Quantity: 2,700,000 cubic yards
Dredge Type: Trailing Suction Hopper Dredge
Dredge: Dodge Island
Duration: June - October 2010

Great Lakes dredged maintenance material from the mouth of the Columbia River and various points along the river. Project operations entailed strategically disposing 2.3 million cubic yards of the dredged material in-water. In addition, 400,000 cubic yards of material was pumped upland to the Southwest Washington Littoral Drift zone, near the mouth of the River.

NY HARBOR SKVK-1

Client: USACE - New York District
Quantity: 2,300,000 cubic yards
Dredge Types: Backhoe Dredge & Clamshell Dredge
Dredges: New York, No. 54 & No. 55
Duration: 2008 - 2011

This project entailed mechanical dredging of 2.3 million cubic yards of mud, sand, glacial till and solid rock within New York Harbor and Kill Van Kull Channel with disposal at five sites, including four artificial reefs within the Atlantic Ocean.

BERTHS 55 & 56, OAKLAND

Client: Port of Oakland
Dredge Type: Cutter Suction Dredge
Dredge: Florida

- Mechanical dredging of a total of 81,000 cubic yards of shoaled material and bay mud
- Stripping 540,000 cubic yards from surface areas with land equipment
- Cutterhead dredging 1.1 million cubic yards of stiff material
- Hydraulic fill: In two lifts, first to 10 feet, then to 30 feet
In 1980, the Corps of Engineers embarked on a phased program to deepen the entrance channels to the Port of New York/New Jersey from 35 feet to 40 feet, then to 45 feet, and eventually to 50 feet. In the execution of this work, Great Lakes has performed many key projects, thus becoming the dominant contractor in this sector of the market. The projects required the excavation of a full range of materials that included soft and stiff clays, red shale, serpentine rock, glacial till and granite.

**Client:** USACE - Wilmington District  
**Quantity:** 6,500,000 cubic yards  
**Dredge Type:** Cutter Suction Dredge  
**Dredges:** No. 54 & No. 55  
**Duration:** February - April 2009

This project involved dredging and disposing of 6,500,000 cubic yards of new work material. In the first phase, the existing Baldhead Shoal Channel was relocated some 13,000 feet southeast of its prior mouth. The new channel deepened the existing seabed to a depth of -44 feet, with channel width varying from 720 feet to 500 feet. The approximate total contract area was 12.2 million square feet. The second phase involved deepening and widening the port’s channel in the Cape Fear River from Keg Island to Lower Brunswick, removing 2.2 million cubic yards of material with a cutter suction dredge along with drilling and blasting for the removal of 340,000 cubic yards of limestone, with material to be transported via barge to an ocean disposal site.

**Client:** USACE - Baltimore District  
**Quantity:** 3,300,000 cubic yards  
**Dredge Type:** Clamshell Dredge  
**Dredges:** No. 54 & No. 55  
**Duration:** February - April 2009

This project entailed the maintenance dredging and upland disposal of 3,300,000 cubic yards of shoaled material within the Chesapeake Bay and Baltimore Harbor. The clamshell dredges No. 54 and No. 55 were used to complete this project.
Client: USACE - San Francisco District; Jacksonville Port Authority  
Dredge Type: Cutter Suction Dredge  
Dredge: Texas

Jacksonville’s main shipping channel, a 23-mile stretch of the St. Johns River, extends from the river’s mouth to the Jacksonville Port Authority’s Talleyrand Marine Terminal near downtown Jacksonville. The Water Resources Development Act (WRDA) authorized the deepening of Jacksonville’s harbor from its current depth of -38 feet to a depth of -40 feet (to -41 feet in areas of limestone rock bottom) from the mouth of the St. Johns River to Drummond Point. Dredging included deepening the west channel of JAXPORT’s Blount Island Marine Terminal, taking the channel from -30 feet to -38 feet.

Client: USACE - San Francisco District  
Quantity: 2,877,500 cubic yards  
Dredge Type: Clamshell Dredge  
Dredge: No. 53

This new work navigational improvement project involved deepening Richmond Harbor to a 38-foot depth. The new work dredging totaling 2,877,500 cubic yards was performed by clamshell dredges using environmental buckets, with offshore disposal at the San Francisco Ocean Disposal Site (SF-DODS). Tight environmental requirements applied with respect to the towing and disposal of dredged materials. Great Lakes made 470 disposal trips to the SF-DODS with no misplaced materials, far exceeding the performance record of any dredging contractor prior to or since this project.

Client: USACE - New England District  
Quantity: 2,627,000 cubic yards  
Dredge Type: Clamshell Dredge  
Dredges: No. 51 & No. 55

This project involved maintenance and new work dredging to deepen Providence Harbor to a 38-foot depth. The new work dredging totaling 2,627,000 cubic yards was performed by clamshell dredges using environmental buckets, with barge overflow prohibited.

- New work dredging entailed construction of deep CAD cells
- 1,400,000 cubic yards of contaminated materials.
- Ocean disposal totaled 1.5 million cubic yards, and upland disposal 215,000 cubic yards.
- Capping medium to cover contaminated materials placed in CAD cells totaled 257,500 cubic yards.
MIAMI HARBOR DEEPENING

**Quantity:** 1,120,000 cubic yards  
**Dredge Types:** Cutter Suction Dredge, Trailing Suction, Hopper Dredge, Clamshell Dredge & Drillboat  
**Dredges:** Texas, Northerly Island, No. 54 & Drillboat Apache

This project involved removing approximately 1,120,000 cubic yards of material from Fisherman Channel through the Lummus Turning Basin, creating a depth of 42 feet. The material was placed at the Ocean Dredged Material Disposal Sites. Additional work was apportioned in five options:

- Maintenance dredging of 210,000 cubic yards of shoal material from Cut 3 through the Main Turning Basin to 42-ft depth.
- Construction dredging of 194,000 cubic yards of material from the berthing area adjacent to Fisherman Channel and Lummus Turning Basin to a 42-ft depth.
- Construction dredging of 5,000 cubic yards of material from the Dodge Island Cut berthing area to 34-ft depth.
- Maintenance dredging of 22,000 cubic yards from Cuts 1 and 2.
- Maintenance dredging of 43,000 cubic yards from port berths adjacent to the main ship channel and Fisherman’s Channel.

BOSTON HARBOR NAVIGATION IMPROVEMENT

**Client:** USACE - New England Division  
**Quantity:** 200,000 cubic yards  
**Dredge Types:** Trailing Suction Hopper Dredge, Backhoe Dredge & Clamshell Dredge  
**Dredges:** Sugar Island, New York, No. 51, No. 53 & No. 54

The chief purpose of the project was to increase navigational safety and efficiency and eliminate or greatly reduce delays for larger vessels by deepening the harbor’s five principal tributaries from -35 feet to -40 feet. This involved removal and disposal of environmentally sensitive contaminated sediments not approved for off-shore disposal. Instead, large underwater disposal cells were excavated on the bottom of the harbor. Contaminated material was placed in these cells, then covered with a 3- to 5-foot thick capping layer of clean sand excavated from a simultaneous maintenance project in the Cape Cod Canal. Material removed from the cells was taken to the Massachusetts Bay Disposal Site. This was the first project of its kind to employ deep, in-channel disposal cells on such a scale. The company’s resourceful management of the project earned a special quality award from the Federal Government.