

# LAND RECLAMATION

Land reclamation is the process of creating new land from materials dredged from ocean, river, or lake beds. Reclamation is a process used for everything from creating new islands to reclaiming eroded land, and from repairing degraded land to restoring wildlife habitats.

## Dredging



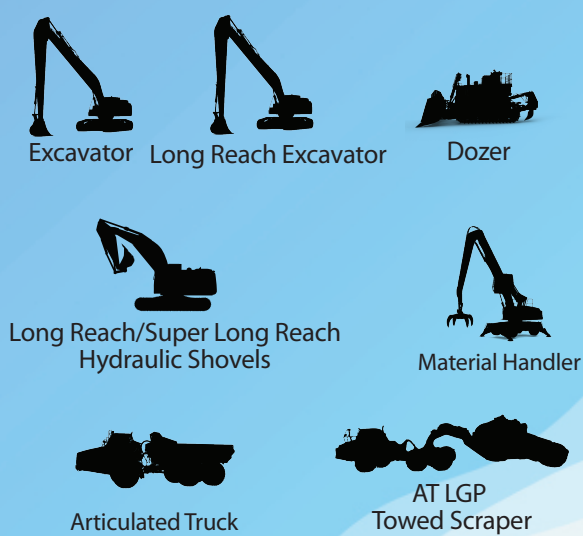
Process by which bottom sediments are removed from fresh water sources, transported via ship, barge or pipeline, and then discharged either in deep water or on land for beneficial reuse. Comprised of sand, silt and clays, dredged material is a valuable resource that benefits society.

## Capping



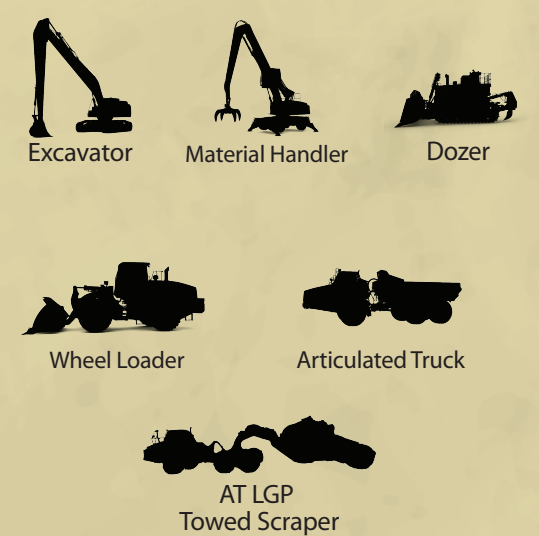
Controlled placement of contaminated material, followed by a covering of clean isolating material called a cap or sand blanket. Capping requires an engineered design to physically isolate, reduce dispersion, and prevent re-suspension and transport of contaminated sediments into the water column.

## Protecting



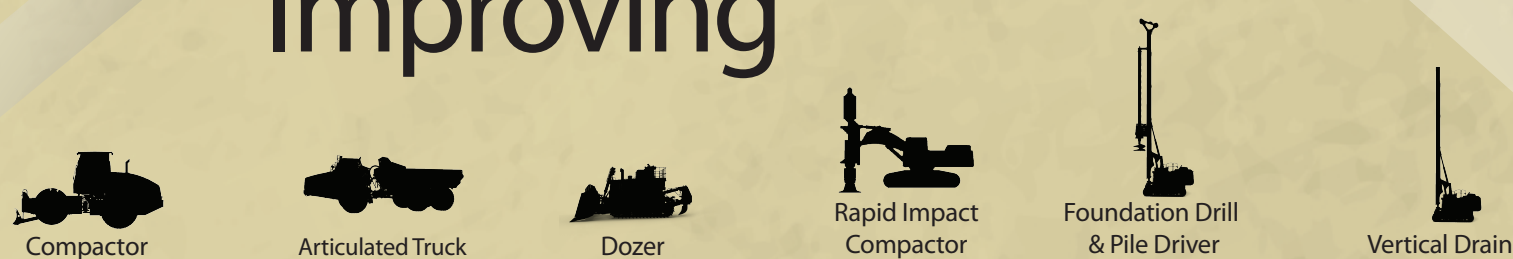
Construction of nature-based or built structures, such as reefs, mangroves, levees or seawalls, provide protection against major events such as seismic activity, storm surge, flooding, and erosion. These are built using a variety of techniques and materials and vary in scope depending on the size and goals of the project.

## Filling

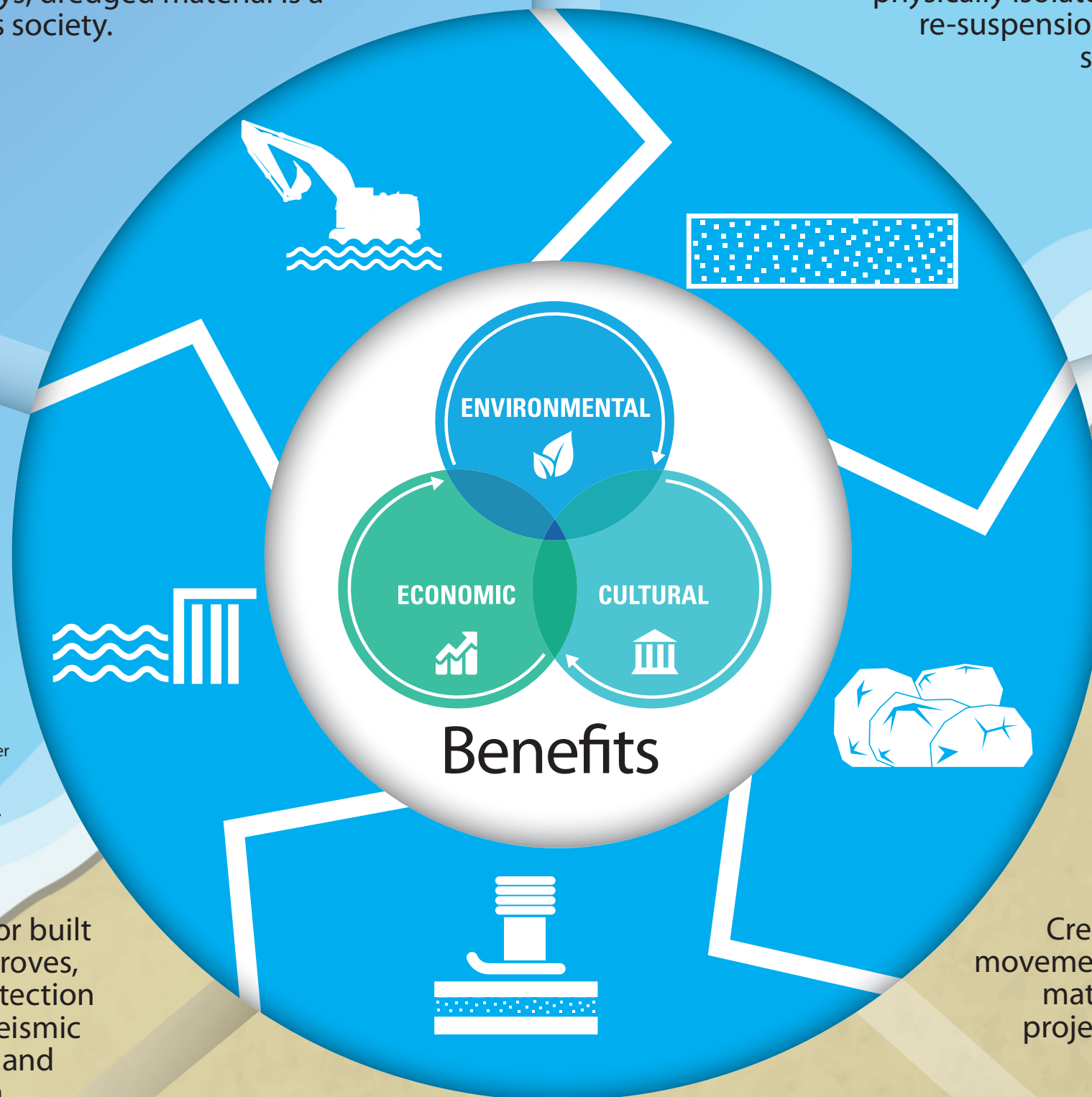


Creation of new land by dry earthen movement or hydraulic fill using dredged material or other fill. For reclamation projects, the base layer of fill serves as the foundation for a more comprehensive infrastructure project. Once the base layer of fill is established, surcharge is often placed on top to aid compaction of the reclaimed area.

## Improving



Improvement of soil to prevent excessive settlement, enhance soil stiffness, improve the strength of the land fill, and stabilize contaminants (if present) to ease environmental impact. Improvement techniques may include deep cement mixing, rapid impact compaction, compaction, and/or the use of vertical drains, stone columns, or compaction piles. Ground improvement activities speed up the land settlement process, which enables infrastructure projects to move forward.



## Ongoing Activities

### Infrastructure Development



This phase consists of the actual construction of infrastructure on the reclaimed land. This could include roads, buildings, parks, ports, cropland, railroads and more.



### Environmental Protection

Environmental awareness is increasing each year, and agencies are continually improving protection measures. Some examples include contaminant remediation techniques, dredge material disposal, coral translocation plans, protecting marine parks and being respectful of animal breeding patterns.

Caterpillar has what it takes to support land reclamation projects every step of the way, no matter where you are in the dredge cycle. Find out more at [cat.com/dredging](http://cat.com/dredging).

