
Landing Global Industry in the City

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The goods of global resource industries pass through the post-industrial city in the form of piles, pipelines, tanks, and silos. Gravel, salt, sand, cobbles, and scrap metal are some of the materials fundamental to making and maintaining the urban environment, but their physical and operational relationship to the city is largely unconsidered beyond conventional single-use zoning practices that simply isolate such resource industries from so-called incompatible uses.

This project questions the absence of designed negotiation between the flows of these global industries and the local places where they land, and proposes a series of design strategies that engage the unique physical and operational dimensions of industries and industrial landscapes within cities.

The strategies proposed here were developed and tested through an ongoing project called the PORT at Rock Chapel Marine in Boston Harbor. This project is the designed transformation of a 13 million gallon asphalt tank farm into a shared-use industrial salt dock and public access landscape, where the operations of the industry are synchronized with public recreation and the everyday life of the city. Today, this is the site of a 100,000 ton kinetic salt pile across the street from one of New England's densest residential neighborhoods and the sole point of public access within the industrial waterfront of Chelsea, Massachusetts - at the margin of the global infrastructure of the sea and the local fabric of the city.

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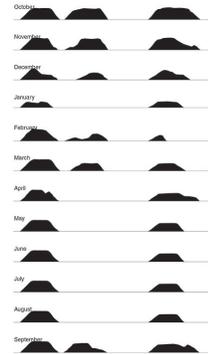
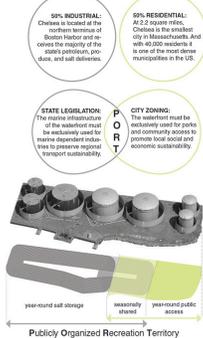
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DISSECT INDUSTRIAL OPERATIONS

Industries are defined by their operations - the kinetic flows of materials and machines, efficiencies of movement, and choreographed processes. While large-scale industries often utilize elements from the same palette of global ingredients - vessels, machine types, track widths, berth depths; they also have specific characteristics, effects, or patterns which can be mined for new opportunities for engagement with the urban context.

At Rock Chapel Marine, the road salt distribution industry is highly seasonal, with peak operations in the winter time for de-icing and a dormant phase through the spring and summer months. Conversely, public demand for recreation space and waterfront access in New England is greater in the summer and less in the winter, creating the opportunity for a symbiotic seasonal shared use of the industrial landscape.

Left: The PORT uses the seasonality of the salt industry to balance between conflicting local and regional interests for the waterfront.
Middle: Constructed global stratigraphy in one season's salt pile.
Right: The changing silhouettes of the salt pile landscape over the course of one year.

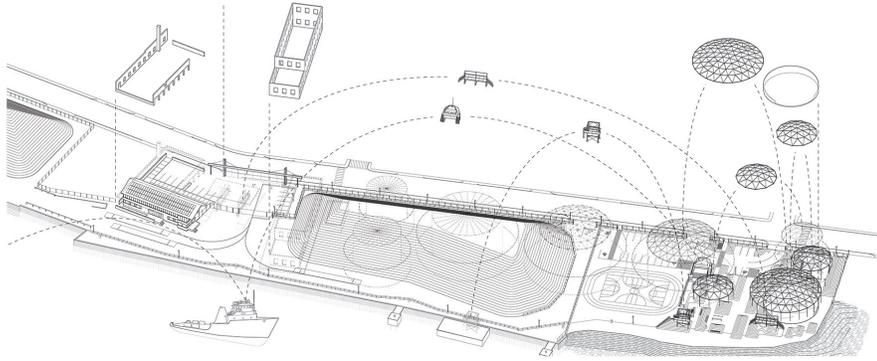


RECYCLE / RE-PURPOSE

Water-dependent industries involve an interchange of goods or materials between marine and land-based vessels in a weather-exposed environment. These processes require robust machines and structures to lift, transport, place, and stockpile or store materials efficiently and safely. Industrial elements are thus designed resiliently to withstand motion forces, scales of material, and exposures that eclipse most other structures in the urban environment. As an industry transitions to new modes of operation or locations, these structures can be reconceived for new uses, tapping their physical integrity and monumental scale.

The PORT utilizes the operating capacities of structures of the oil tank farm and re-purposes them as new experiential and recreational elements. Platforms for loading barges and trucks are used for waterfront viewing, tanks used for storing petroleum retain soil to cap the ground and create a new amphitheater, and geodesic domes are removed from the oil tanks and mounted on columns to become overhead shade trellises and scaffolds for planting and lighting.

Right: Choreography of re-purposed elements

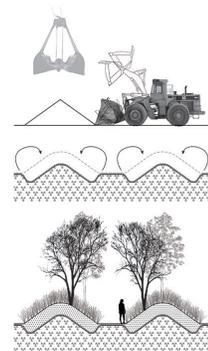
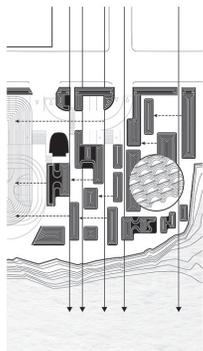


USE INDUSTRIAL CAPACITY

Industries act at large scales using specialized equipment and skilled operators, and correspondingly have the capacity to affect monumental change in the built environment for temporary as well as permanent transformation. Industrial processes can be tapped and translated into new uses that create new capacity for the greater urban context.

At the PORT, the design of raised planters, which serve as an environmental cap, directly employs the industrial processes of mounding, pushing, and sculpting used for efficient salt storage to create topographically similar mounded hedgerows that frame views of the working waterfront and industrial operations.

Left: Views that are framed and filtered through mounded planters
Middle: Front end loader sculpting salt pile.
Right: Front end loaders typically used for sculpting salt pile enclose the cut and fill strategy to construct the vegetated environmental cap at the PORT.



IDENTIFY SLACK SPACES

The standards of global industry - Panamax vessels, shipping containers, cargo trucks and their respective lay-down areas, maneuvering requirements, and turning radii - surpass the scale of typical urban fabric and result in large residual spaces when the two systems intersect. These slack spaces are too small for industrial use, but they are well scaled for community access points or ecological function.

At the PORT, the 5-acre redevelopment inventories industrial slack spaces, unusable easement zones, and stretches of reduced operational capacity to become new networks of native planting and habitat, transitioning from the street to the water in woodland, shrubland, grassland, intertidal, and aquatic zones. During demolition of the oil terminal successional plants that had taken root during the terminals abandonment were inventoried and became the specified planting medium for the new landscape design.

Right: The overlay between patterns of operations and geographic characteristics of the site - pinch points in stockpile areas, berth locations, bollard line easements, utility locations, and machine access setbacks - are translated into a linked network of public access points to the working waterfront, new ecological corridors, and zones of carbon sequestration landscapes to offset industrial trucking impacts.

