

## (REDOX) I(n)land/I(s)land

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This design project reconsiders the embodied energy (intellectual, cultural, material, financial) of existing buildings as part of a redevelopment strategy for existing waterfront property.

McCormick Place is optimally situated on Chicago's lakefront. Given the potential public position of this amenity, we propose to REDOX the site by providing 2 new surfaces for outdoor public spaces capitalizing on the embodied energy of the existing building. By raising, launching, and floating the existing roof structure into the lake new public land, called the ISLAND, is created. (Figure 1) The remaining surface on the land, the INLAND, is draped with a surface that allows for flexible program as the seasons change. Both the INLAND and the ISLAND are occupiable. The INLAND is portioned with 70% flexible surface and 30% algal tubes while the ISLAND is 70% raceway algae pond. (Figure 2)

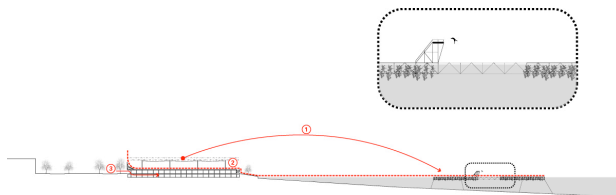


Figure 1. Diagram: floating McCormick Place roof

The harvesting of the algae has two positive effects – first it will aid in improving the overall quality of the water in the lake and second, the lipids found in the algae will be converted into biofuel. To date, researchers have discovered that since algae is comprised of 50% oil, it can produce up to 10,000 gallons

of biofuel per acre – which is 1500% more than the most commonly used plant to create biofuel - palm.



Figure 2. Diagram: connections at multiple scales

### (RE)DOX - Reducing

A flexible open space (not found anywhere else on the Chicago downtown waterfront at this scale) covers 70% of the 810,000 square feet of land while the edge to the east showcases the algae farm collection, public swimming pools, and specimen from the Shedd Aquarium (ie. a linear aquarium). (Figure 4) The east edge serves as a dynamic water zone lining the public promenade of the lakefront.

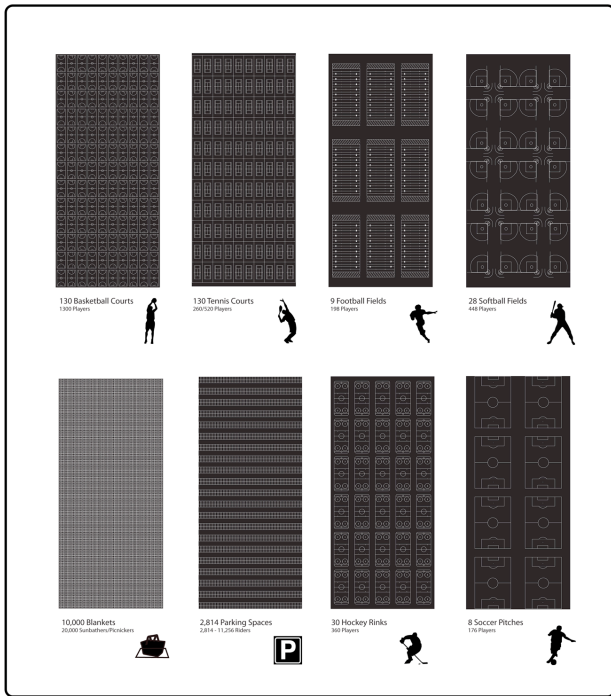


Figure 3. Flexible programs

As a flexible surface, the INLAND has the potential of hosting not only active activities, but passive ones as well. It can easily accommodate 20,000 picnickers or 40,000 spectators watching the July 4th fireworks. (Figure 3) The raised public space provides a 'privileged position' along the waterfront for the public. Commercial activities, water based think tank, etc. slides underneath the skin without compromising the public virtues of the site, its edges or the lakefront. (Figure 4) The flexible skin hosts football fields, soccer pitches, softball fields in warmer weather and during the winter months a winter-sport haven with various ice skating venues. A new "ceiling" includes a canopy of lights and shading devices reemphasizing the spatial parameters of the original site. (Figure 5)



Figure 4. Linear aquarium and canopy

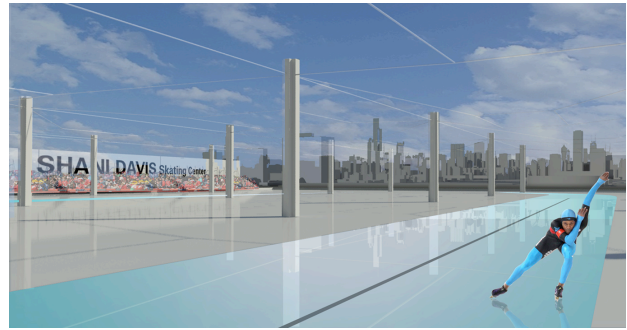


Figure 5. Winter scene

**RE(DOX) - Oxidation**

The ISLAND becomes a recreation barge and an algae farm. (Figure 6) The recreation portion highlights lake style swimming, diving, and beaches in the summer and ice skating, ice fishing, and curling in the winter. The position on the lake gives recreational users a new 'privileged position' in the water. A deck is placed along one edge facing out into the lake. A beach surrounds the diving pond. Volleyball nets dot the sand. We also occupy the southern portion with many shallow rink like algae ponds. Restorative algae ponds increase the vitality of the Lake Michigan while filling the ISLAND with recreational users.

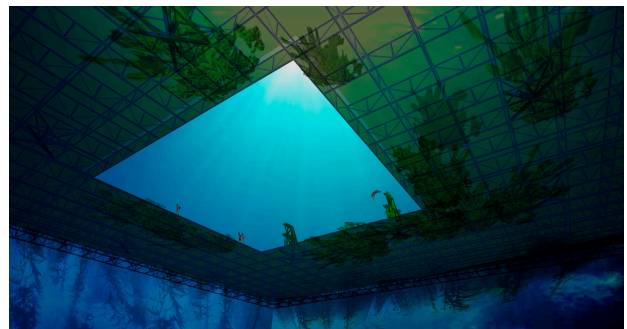


Figure 6. Floating roof - recreation + algae

**Urbanism**

The project operates at two scales: neighborhood and city/park. Access to the residential neighborhood is made with a public bridge and landscape extension of the park while a connection to the museum campus is emphasized at the city scale. (Figure 2)