

DUBAI | reclaimed

SANDSTORM INDUCED ELECTROSTATIC HARVESTER

In recent years, the world has watched Dubai mature from an economy based upon trade and crude oil production into a full-fledged tourist destination. Its air conditioned beaches, luxury condominiums, and pristine golf courses have lured visitors from across the globe, and have given Dubai a legitimate economic recourse as the city reaches and surpasses peak oil production.

The rapid development of this new industry has, however, come at a cost. In conventional terms, this cost equates to a potential default on a \$26 billion debt. Environmentalists assess it in other ways: 44 tons of carbon emissions per capita, annually. However, what is obscured by the glistening highrises and these quantifiable assessments of cost is the neglect of local history and identity. The Dubai that existed prior to 1970 is all but lost, replaced by imported architecture, migrant workers, and wealthy expatriates. Here, the grass grows thick and green despite poor soil, negligible rainfall, and unrelenting heat. In this unnatural and excessively engineered environment, it is difficult to find a genuine Dubai.

DUBAI|reclaimed seeks to rectify that.

ENERGY STRATEGY

By employing an innovative system of electrostatic harvesters, we harness energy from a resource that is native to Dubai: sandstorms.

The process begins when airborne particulate from a sandstorm moves against polypropylene coated metallic rods. These rods collect a static charge in much the same way as a child's balloon becomes charged when rubbed against her hair. Each of these rods are connected to a wiring harness that transfers the charge to a bank of capacitors, which then charge a large underground battery.

CULTURAL REVERENCE

The harvesters are positioned in a dispersed field set within the desert terrain. The site will not be invasively planted, and will be left free to grow whatever native plants take root. It will take a future form of its own choosing that embodies the authentic character of Dubai.

Within the larger field of electrostatic harvesters are five occupiable ones, dedicated to each of the five daily salawat. Inside of these are spaces for quiet reflection and prayer. Here, members of the Islamic faith may practice, while other visitors are free to observe the beauty of the harvesters, be moved by the spirituality of the interior spaces, and experience Dubai in its most genuine, unadulterated form.

CONTRASTING SKYLINES

The site is located along the Ras Al Khor Wildlife Sanctuary, with a clear view of the Dubai financial district. From this vantage point, visitors to the area will be left to contemplate these two competing skylines. One represents excess and invasiveness, while the other suggests minimalistic intervention coupled with a celebrated cultural identity.

ENVIRONMENTAL IMPACT

Sand is a natural resource that is plentiful in Dubai, and is an integral part of its environment. By harnessing the power of sandstorms, we create energy through a unique local phenomenon that produces no secondary emissions.

The landscape will be gently manipulated to create a minimal field of electrostatic harvesters. The ecosystem will then be free to take whatever form nature imparts upon it. Native plants will grow freely, and wildlife will exist in the same capacity it did prior to the erection of the harvesters.

The static electricity produced on the rods of the structure will be completely contained by the underground capacitor. All electricity will be isolated within each harvester, with no risk to visitors.



DUBAI



DUBAI SKYLINE
VISUAL PROJECTION



SANDSTORM
POTENTIAL ENERGY



RAS AL KHOR
WILDLIFE SANCTUARY



MECCA
VIRTUAL PROJECTION

NORTH-WESTERLY WINDS CARRY SAND PARTICULATE

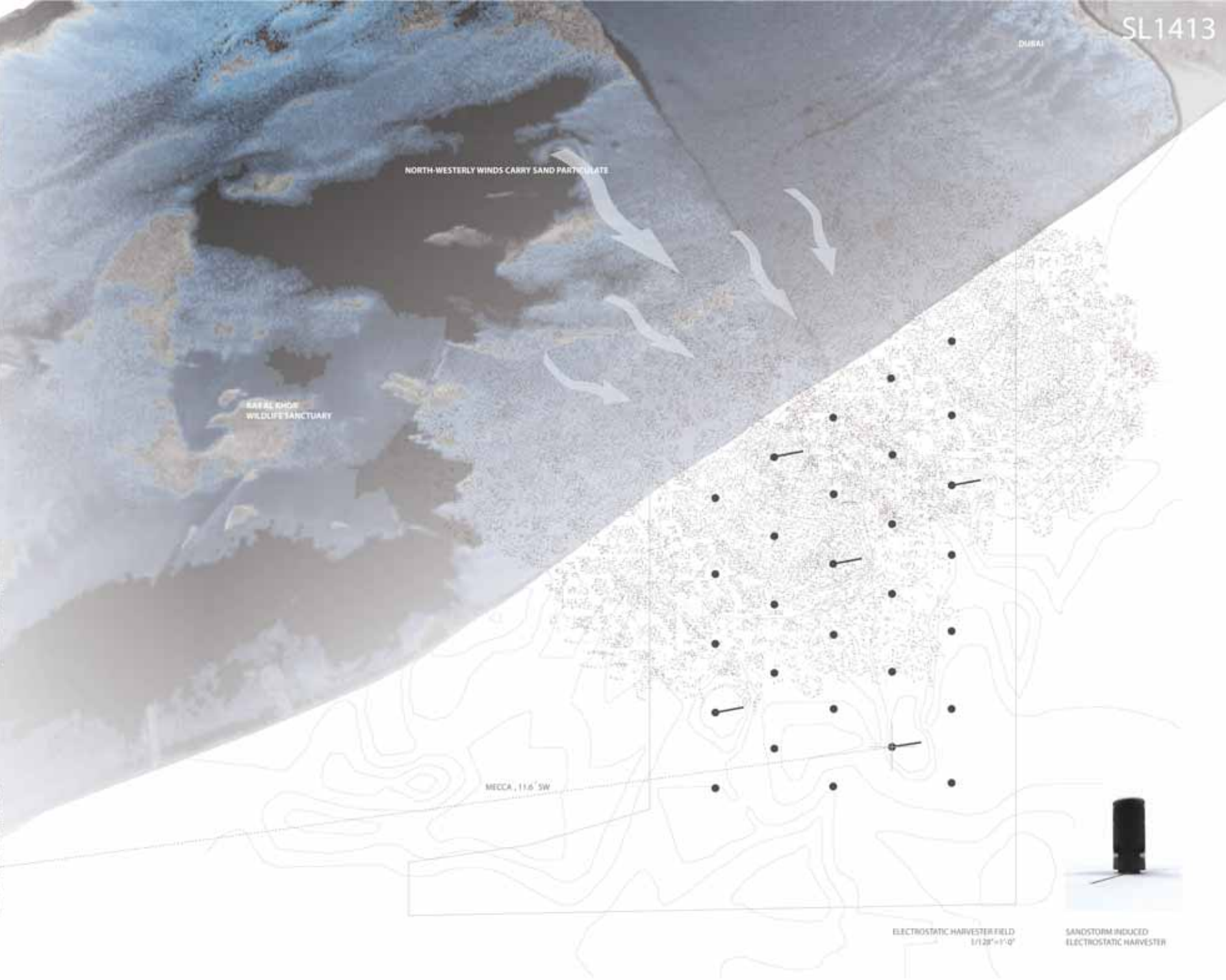
RAS AL KHOR
WILDLIFE SANCTUARY

MECCA, 11.6° SW

ELECTROSTATIC HARVESTER FIELD
1/120" = 1'-0"

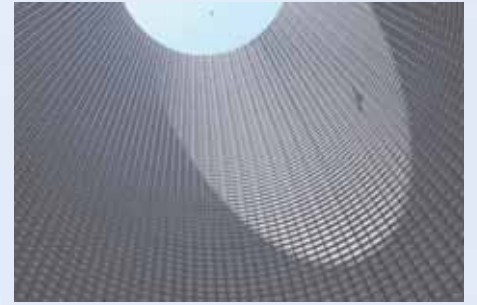


SANDSTORM INDUCED
ELECTROSTATIC HARVESTER

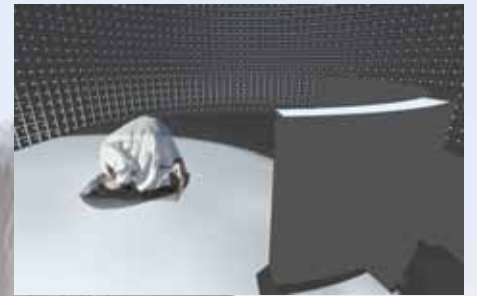




PRAYER PLATFORM: PLAN, 1/8"=1'-0"



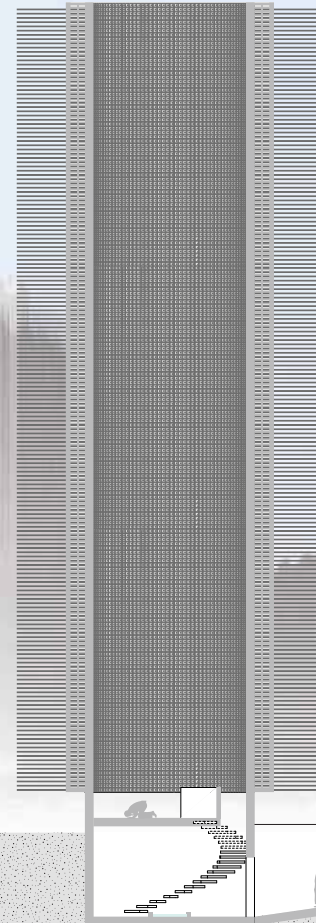
REFLECTION / GENERATION



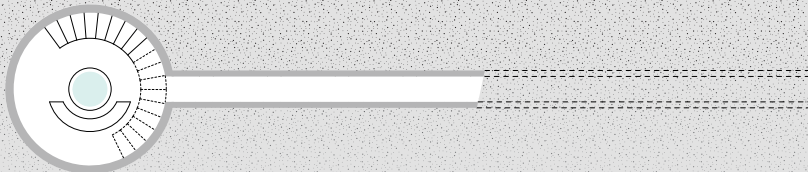
PRAYER / CONTEMPLATION



ENTRY / CLEANSING



ELECTROSTATIC HARVESTER: SECTION A-A, 1/8"=1'-0"



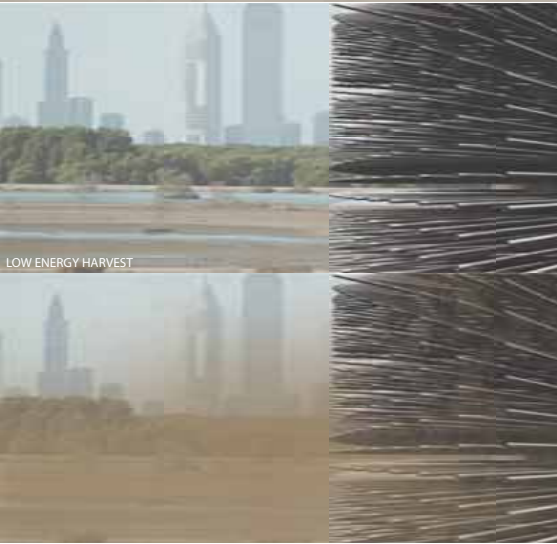
ENTRY / CLEANSING PLATFORM: PLAN, 1/8"=1'-0"



HARVESTER FIELD: SANDSTORM / ENERGY COLLECTION



HARVESTER FIELD: WIND GAUGE / LIGHT PERFORMANCE



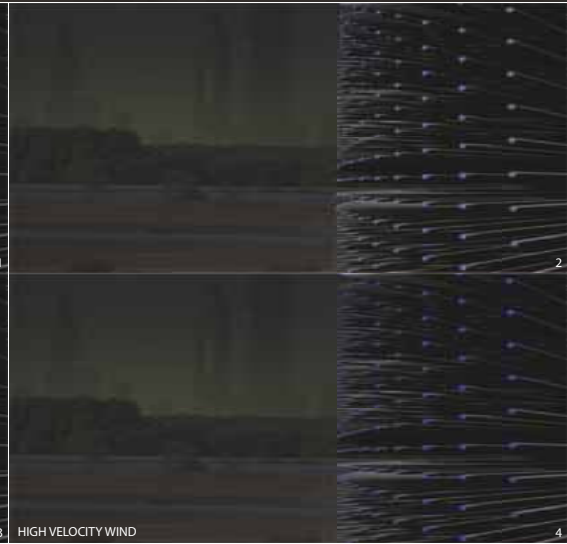
LOW ENERGY HARVEST



PEAK ENERGY HARVEST



LOW VELOCITY WIND



HIGH VELOCITY WIND