James Corner

Lifescape – Fresh Kills Parkland

For over 50 years Fresh Kills on Staten Island served as a landfill for New York City. A long-term strategy based on natural processes, agricultural practice and plant life cycles will help to rehabilitate the severely degraded land over the next 30 years, and transform the site into a huge public park.

Lifescape is both a place and a process. The place is Fresh Kills – once the world's largest sanitary waste landfill, now to be creatively transformed into 2,200 acres of public parkland, featuring extensive and beautiful tidal marshes and creeks, over 40 miles of trails and pathways, and significant recreational, cultural and educational amenities, including a dramatic hilltop earthwork monument to honor the September 11 recovery effort undertaken at Fresh Kills. Lifescape as a place is a diverse reserve for wildlife, cultural and social life, and active recreation. The aesthetic experience of the place will be vast in scale, spatially open and rugged in character, affording dramatic vistas, exposure to the elements, and huge open spaces unlike any other in the New York metropolitan region.

Lifescape as a process is ecological in its deepest sense – a process of environmental reclamation and renewal on a vast scale, recovering not only the health and biodiversity of ecosystems across the site, but also the spirit and imagination of people who will use the new parkland. Lifescape is about dynamic staging and cultivation of new ecologies at Fresh Kills – ecologies of soil, air and water; of vegetation and wildlife; of program and human activity; of financing, stewardship and adaptive management; of environmental technology, renewable energy and education; and of new forms of interaction between people, nature, technology and life. Understanding Lifescape as process is central to the project, for a site of this scale and complexity can not be "designed" in total, nor constructed overnight. Rather, it must be "grown", as in seeding, cultivating, propagating and evolving. The master plan anticipates a thirty-year program, built-up from six phases, each with a number of discrete stages. Thus, design at Fresh Kills is as much about the design of a method and process of transformation as it is about the design of specific places.

TODAY

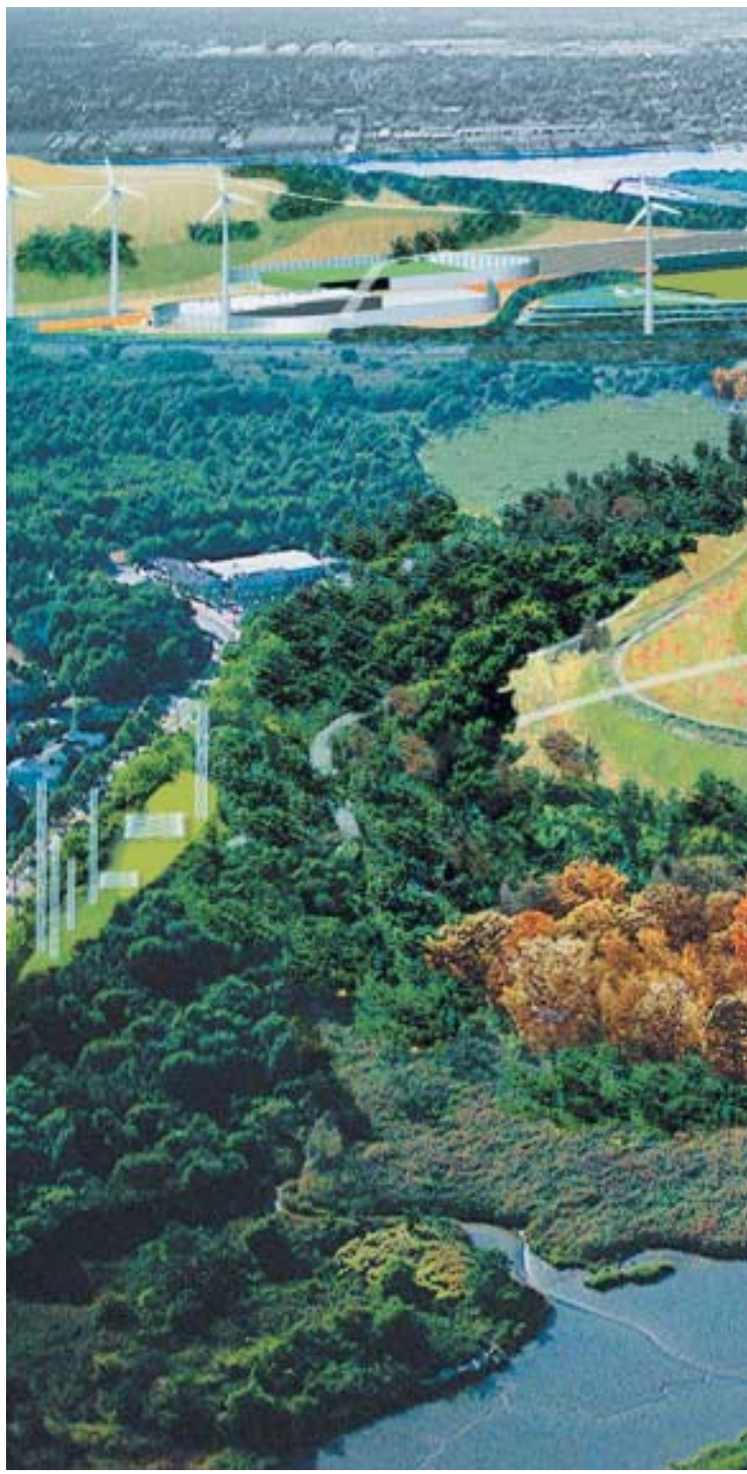
mound-scape
engineering ground

3 YEARS

field-scape
manufacturing soil
and habitat

6 YEARS

open-scape
initiating access
and activity

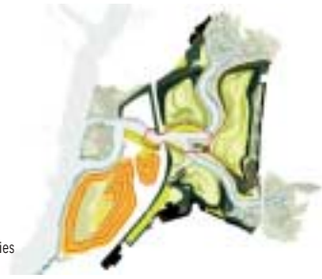


The development plan for the vast former landfill south of Manhattan will be implemented in six stages over the next thirty years. The plan aims to create diverse parkland for wildlife, cultural and social activities and recreation. A circle of woodland encloses the open parkland.

10 YEARS

place-scape
building spaces

20 YEARS



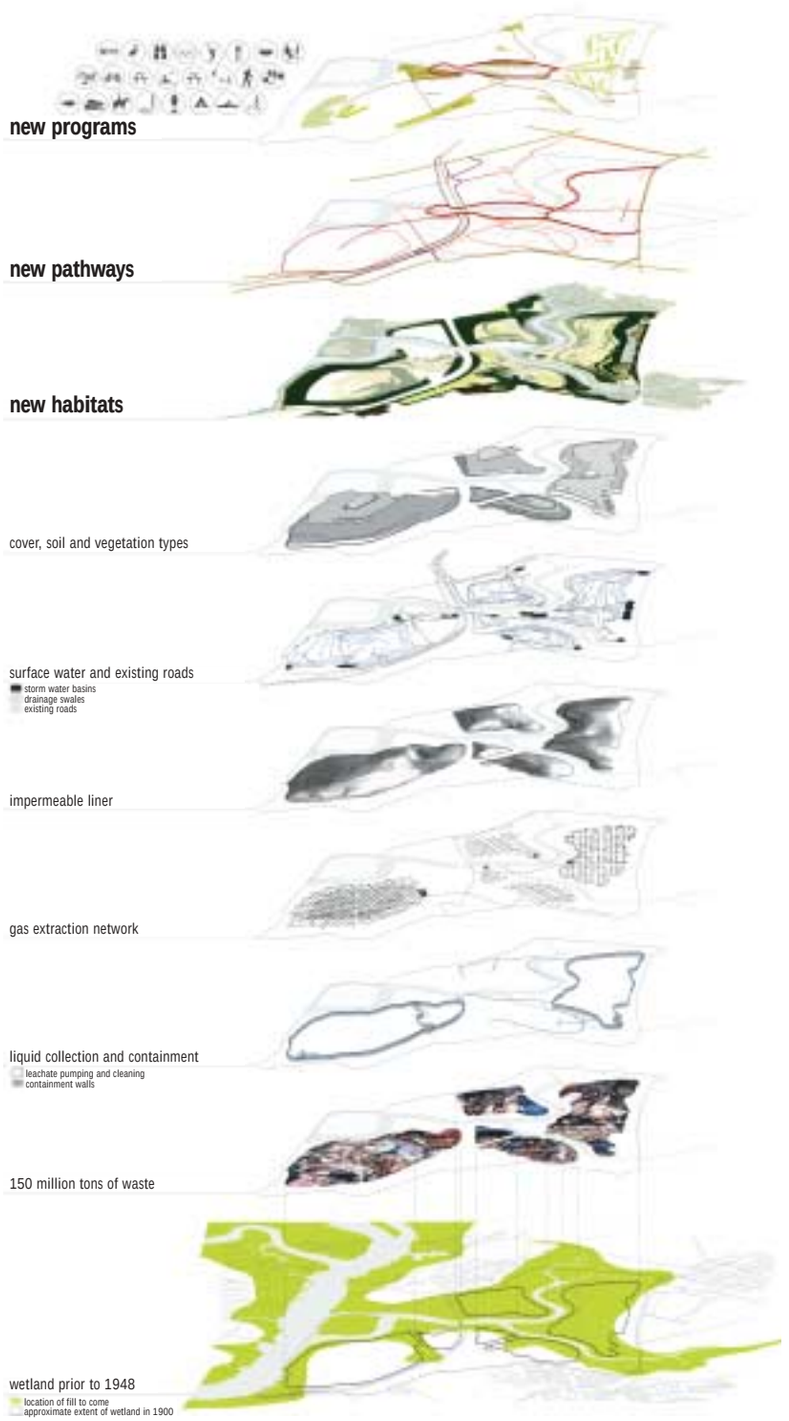
event-scape
diversifying ecologies
and uses

30 YEARS

lifescape
growing new life

The vast landscape is organized in three layers which create a framework for the park. These include locations for activities (event areas and facilities), circulation (roads and paths) and new habitats (landscape). This framework is sufficiently coherent and durable to shape the park but flexible enough to allow for change.

LAYERS OF FRESH KILLS lifescape



The City and State of New York, led by the New York City Department of City Planning, commissioned the plan in 2002. Field Operations leads a multi-disciplinary team in the development of the plan and its details, and at this point (May 2005) the team has just completed the draft master plan, a version that will undergo at least another two or three iterations before an environmental review process and final adoption. The first elements could begin construction in 2007.

Making soils using agricultural practice

In a landfill conversion of this scale, soil strategies pose a fundamental material challenge because they affect all of the potentials for landscape character and ecosystem functioning. Landfills are also feats of human engineering. The heavy equipment on site and the local sanitation authority's experience with earthwork techniques are important assets that can be used to make space and distinguish the physicality, experience and understanding of this park from others. Our strategy proposes an in situ "strip cropping" approach to soil renovation as an alternative to purchase or manufacture of large quantities of new topsoil. The process, borrowed from "green manure" agricultural practice, involves seeding three carefully selected crops per year, and rototilling them into the soil to build organic material. Crops are planted on alternating strips that follow the contour of the land and help control erosion while retaining water for crop growth.

Strip cropping is an inexpensive, large-scale agri-industrial technique for increasing the organic content of poor soils, providing targeted amendments, increasing soil depth, destroying the roots and rhizomes of weeds, aerating compacted soil, and establishing a matrix of native grasses. Organic material improves the water holding capacity of soils and inhibits plants' uptake of metals and cations, which boosts plant growth and protects animals against ingestion of metals in the biomass of plants. In addition to its productive effects, the distinctive visual and spatial qualities of large scale strip cropping in the city are beautiful and experientially interesting – emblematic of large scale environmental renovation and renewal of the site for new uses. Strip cropping is also consistent with the goal of staging implementation so the parkland is inhabited, understood and enjoyed in each stage of its transformation as a legible landscape-in-process.

Creating habitat and making space with plants

Once soils are improved, propagation of plant communities can begin. At this scale, resilient landscapes will be built largely from plants native to Staten Island. Natives are adapted to the island's unique climate, geomorphology and rainfall, and will generally require less ongoing maintenance

once established. Native plant communities also provide habitat for the resident microorganisms and wildlife that have coevolved with them.

Eastern prairie and meadow species will be sown in the improved soils using a variety of techniques, including a machine called the “imprinter” which creates a micro-topography that mimics the action of cattle hooves. Native grasses create a weed-resistant growing matrix – a prerequisite for successful colonization of an open field by native trees. Periodic mowing or grazing of many meadow areas will maintain large tracts of open grassland indefinitely. In other areas, slow infiltration by seeds carried by wind and wildlife will be allowed. Areas targeted for dense, stratified woodland will require greater soil depth than strip cropping can generate – an additional 60 to 90 centimeters is needed to meet New York landfill regulations. Once new soils are installed, they too will be planted first with native grasses. When the grasses are established, the first saplings will be installed in a point-grid, as they are in tree farms. Two waves of interplanting of young trees will follow. After that, seedlings will begin to self-sow, building a layered woodland that will naturalize over time.

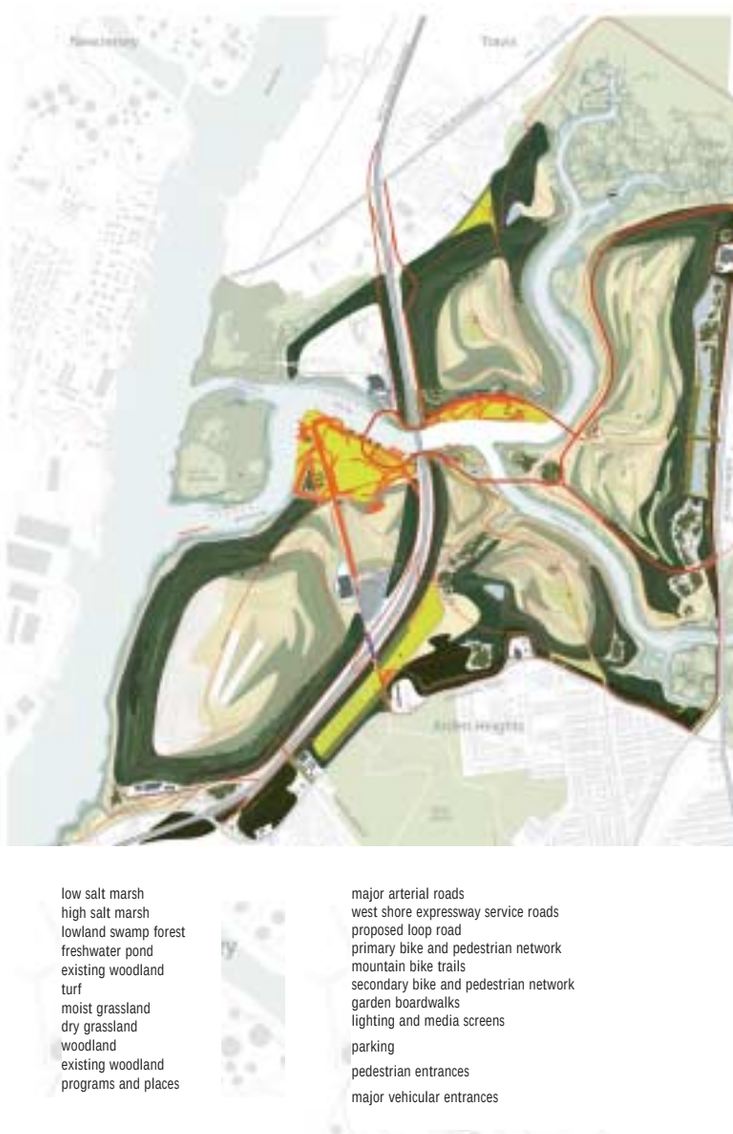
To define the threshold of the parkland while preserving a sense of the scale of this unusually large site, dense woodland is concentrated in a thick, 240-meter rim around the edge of the parkland. The rim preserves the openness of the interior (rather than cutting it into small compartments), and provides a continuous ecological corridor for animals.

At the scale of the site plan, the woodland rim is illustrated as a uniform landscape element. At a more detailed scale, the diversity of species within the forest becomes apparent. Building on the range of moisture conditions, slope angles and landfill infrastructure constraints, a variety of native woodland communities are banded up the slopes.

Earthwork and landform buildings

The design of program areas at Fresh Kills begins with creation of landscape atmospheres. These include well-engineered utilitarian landscapes; rough, wild environments uncommon in the city; and surreal environments created through simple manipulations of space, vegetation, water and light.

Wherever possible, grading and the manipulation of the ground plane is used to create local enclosures – or landform buildings – that support the park program. This approach makes the plasticity of landform at this site more legible to visitors. The material palette builds on the formal and functional language of bulkheads, berms, swales, gabion, rip rap, erosion fabrics and marine fences, as well as opportunities to use recycled materials and high-performance synthetics that react to wind, temperature, sound and other environmental influences.



FRESH KILLS, STATEN ISLAND, NEW YORK
Client: New York City Department of City Planning
Landscape architects: Field Operations, James Corner
International competition: 2001
Master planning: 2003 – 2005
The master planning project is still in progress. An 18-month environmental review process will follow. The first elements could begin construction in 2007. Full build-out is currently phased over a 30-year period.
Size: 890 hectares (2,200 acres)

The most spectacular landform in Fresh Kills is the September 11 earthwork monument. Two earthforms mirror the exact height and width of the towers of the World Trade Center on the ground (above). Right: Fresh Kills should become a place for rest and relaxation. The activities would range from relaxing along the water, to taking long walks, to kayaking.

The most dramatic of the landforms is the September 11 earthwork monument to be located on the west mound at Fresh Kills. For nearly a year, a team of investigators and recovery workers sorted 1.46 million tons of debris from the World Trade Center to search for traces of the missing. To honor those who were lost on September 11 and the extraordinary efforts of the recovery workers, the earthwork monument marks the recovery area. The two earthforms mirror the exact width and height of the towers. The second incline is on axis with the place where the towers once stood, affording a clear vista to lower Manhattan and the entire region around. From the top of the monument, visitors will have a 360-degree view of New York, the harbor, and the estuary. The slow, simple durational experience of ascending the incline, open to the sky and vast prairie horizon, will allow people to reflect on the magnitude of loss.

New potentials for landfills and post-industrial sites

Soil making, successional planting and landform manipulation are three primary large-scale landscape architectural techniques that help produce the Lifescape matrix. While architectural and infrastructural elements can punctuate, support and animate the larger organization of the park, only

living material – earth, water and plants – have the capacity to define space at a reasonable cost on a scale appropriate to vastness of creeks, wetlands and mounds. These landscapes form the "medium" of the park, the matrix within which more focused, differentiated centers occur. The matrix may be further deconstructed into three coordinated systems – habitat (landscape), program (event areas and facilties) and circulation (roads and paths). These layers organize this huge landscape by creating a landscape framework for the park. The underlying framework is flexible enough to accommodate change, yet sufficiently coherent and durable to shape future park development. Over time, the initial framework of inter-related habitat, program and circulation elements will spread and evolve into a layered and fully integrated park matrix.

Thus, rather than erasing the past (landfill), on the one hand, or re-creating a long-lost environment (nature), on the other hand, Lifescape instead proposes a growth emergence from past and present conditions toward a new and unique future. The result will be a synthetic, integrative nature, simultaneously wild and cultivated, emergent and engineered. In this way, the plan seeks to change how we experience reclaimed landscapes in the city and demonstrate new potentials for closed landfills and other post-industrial sites around the world.