

**Post-waste landscapes:
design principles for
a paradigm shift**

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Freshkills, NYC

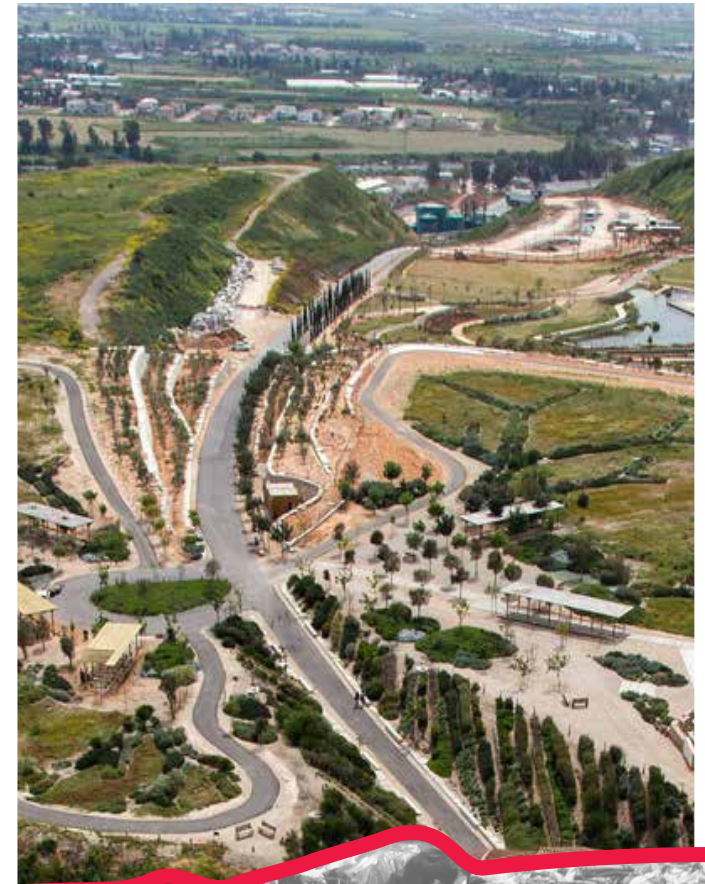
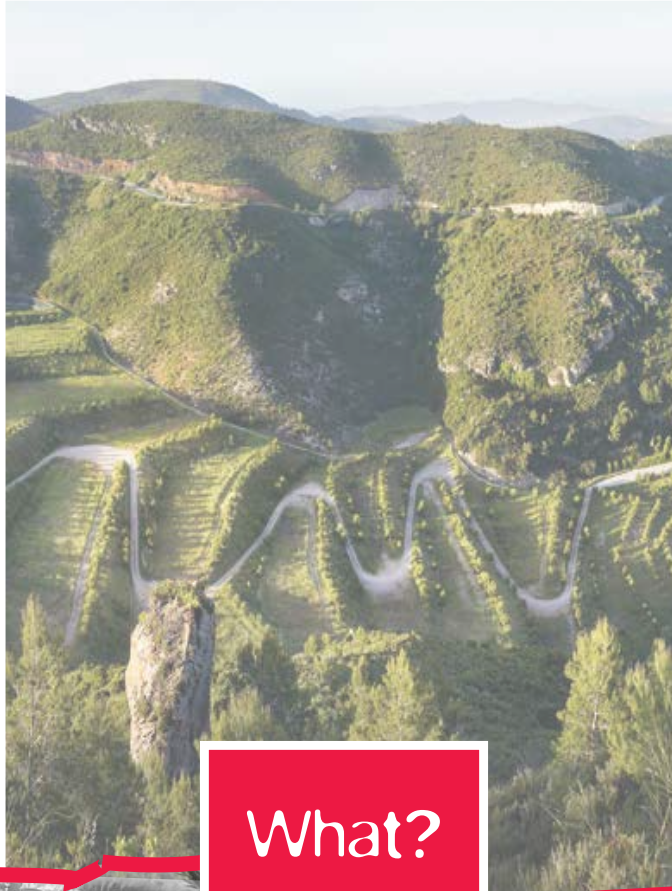
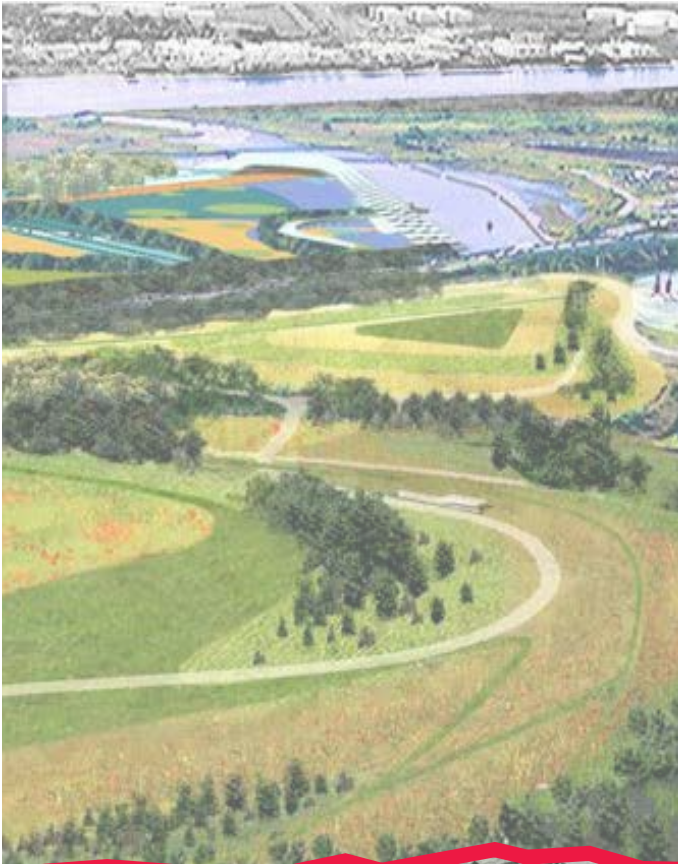


Vall d'en Joan, BCN



Ariel Sharon Park, TLV





What?
How?



First covered pit 3000 B.C., Crete

Industrial revolution

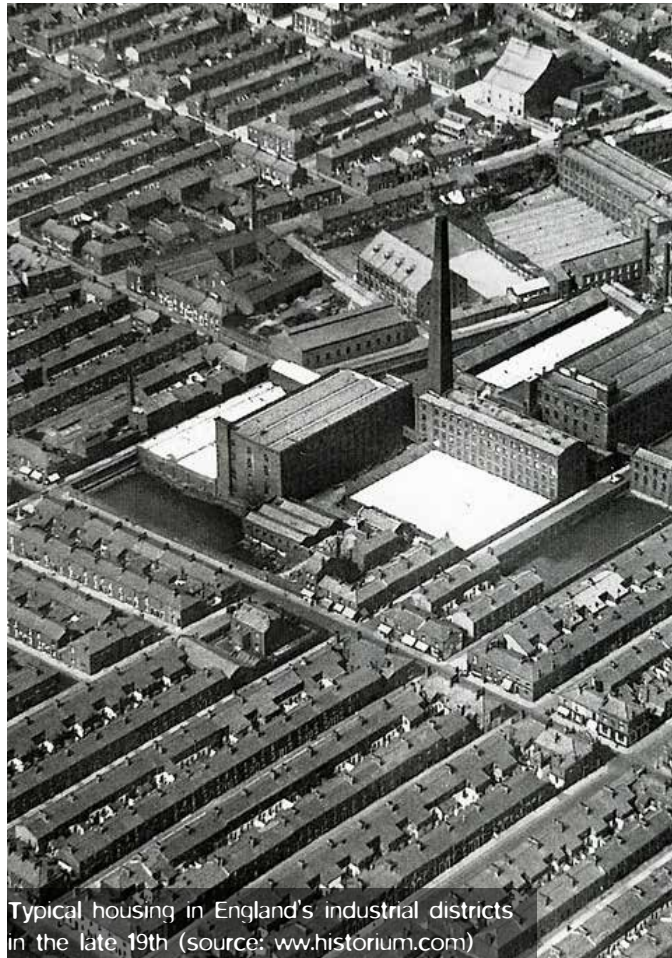
increased production

sky-rocketing population

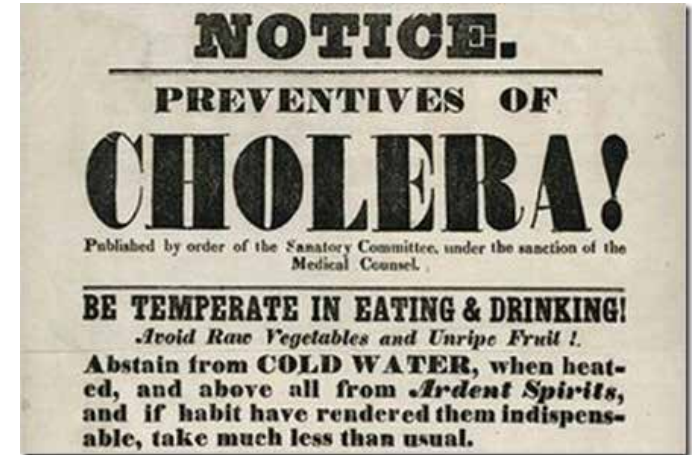
unregulated waste management



Manfield's Factory, Northampton (c1900)
(source: <https://www.northampton.gov.uk/museums>)



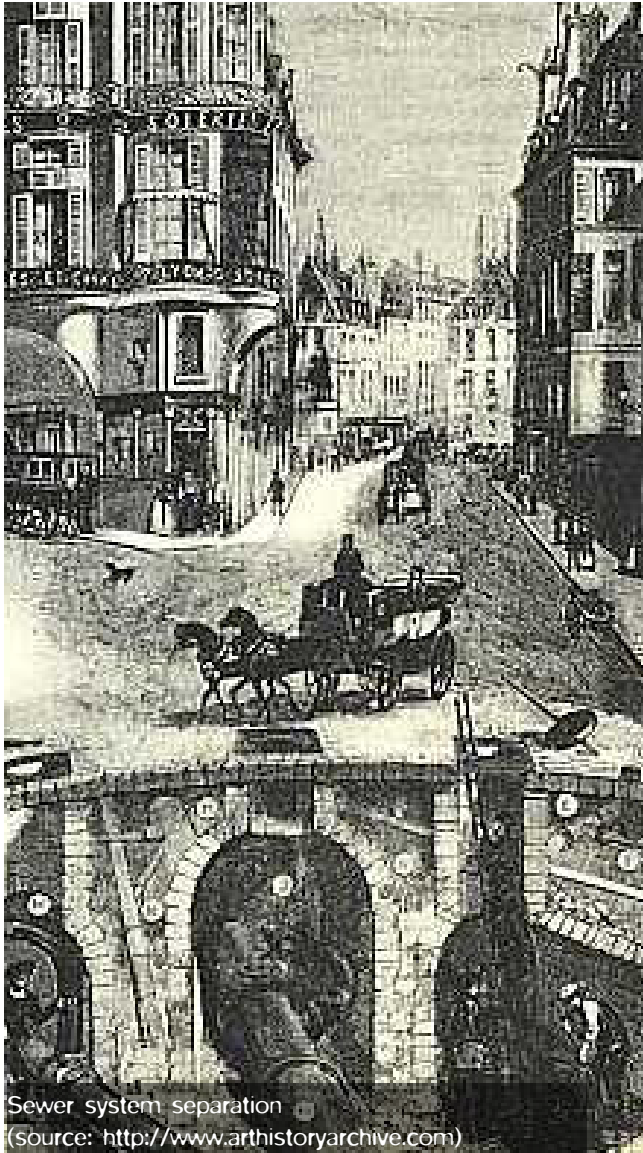
Typical housing in England's industrial districts
in the late 19th (source: www.historium.com)



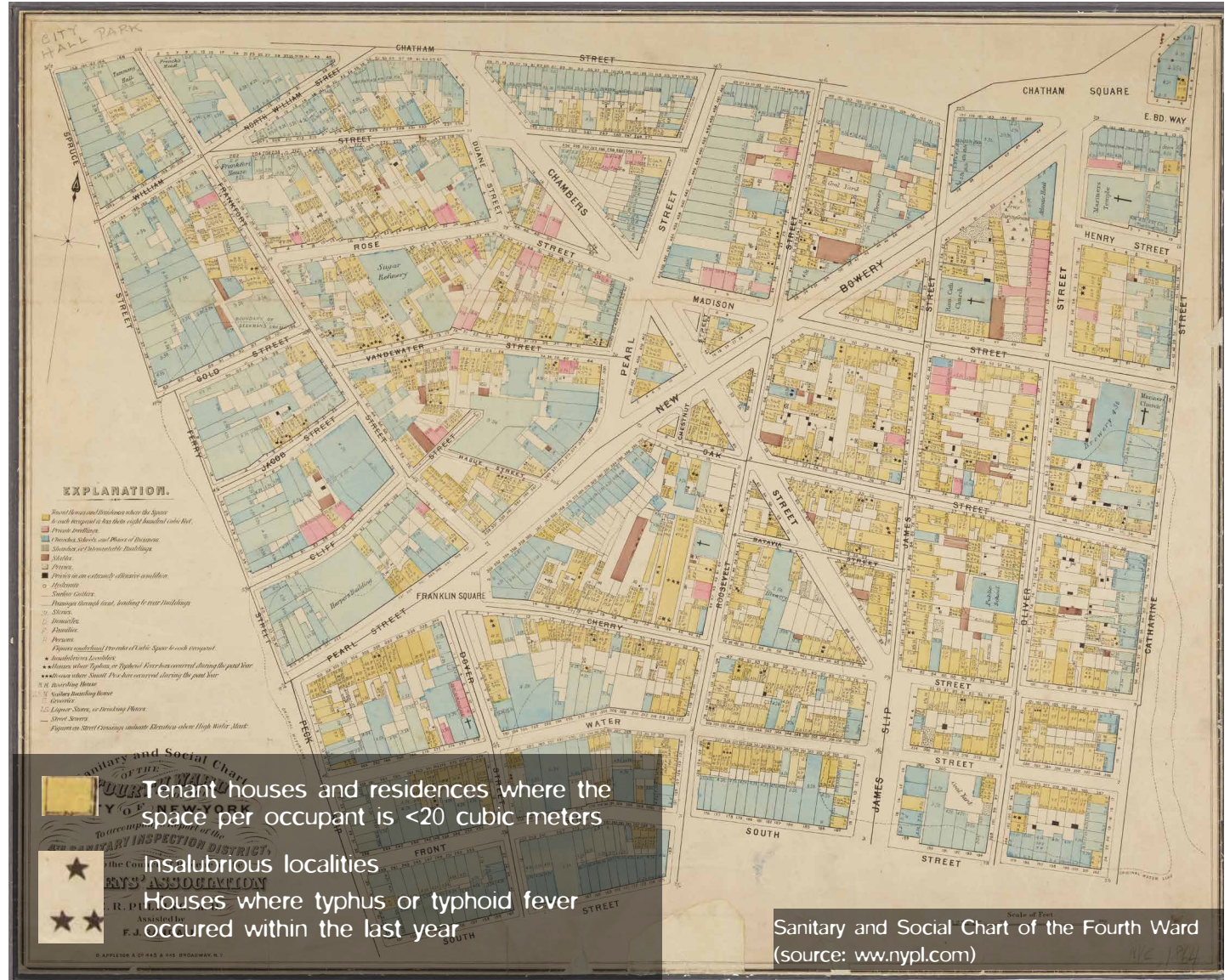
Solid waste in the Streets of Victorian London
(source: <http://www.branchcollective.org>)

Haussman's Paris

New York's Financial District in 1864



Sewer system separation
(source: <http://www.arthistoryarchive.com>)



1848

1875

1891

1956

Series of Public Health Acts

Clean Air Act



ANNO UNDECIMO & DUODECIMO

VICTORIÆ REGINÆ.

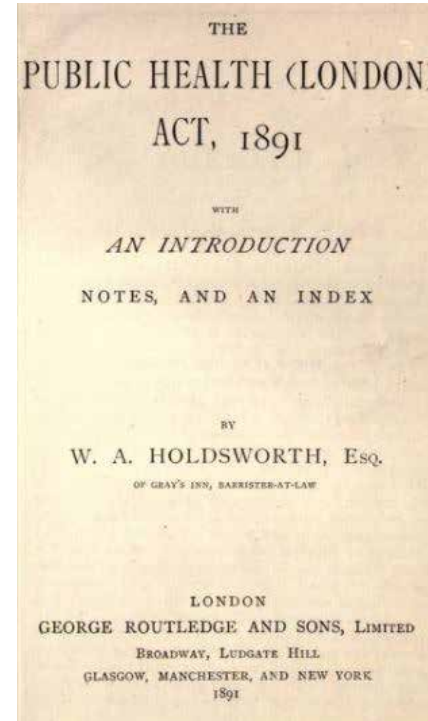
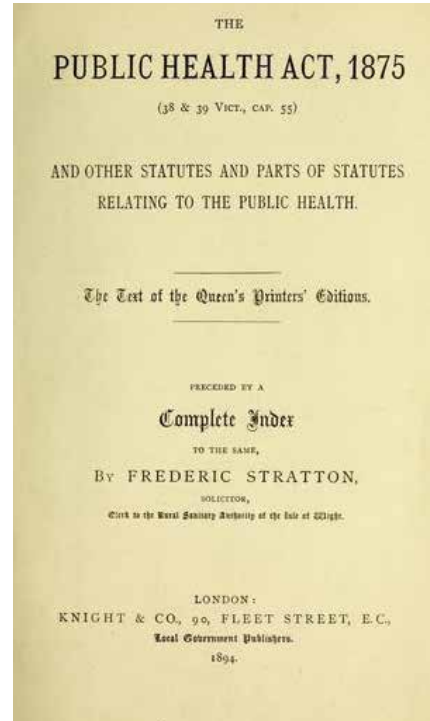
C A P. LXIII.

An Act for promoting the Public Health.
[31st August 1848.]

WHEREAS further and more effectual Provision ought to be made for improving the sanitary Condition of Towns and populous Places in *England* and *Wales*, and it is expedient that the Supply of Water to such Towns and Places, and the Sewerage, Drainage, cleansing, and paving thereof, should, as far as practicable, be placed under one and the same local Management and Control, subject to such general Supervision as is herein-after provided: Be it therefore enacted by the Queen's most Excellent Majesty, by and with the Advice and Consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the Authority of the same, That this Act may from Time to Time be applied, in manner herein-after provided, to any Part of *England* and *Wales*, except the Parts next herein-after mentioned; (that is to say), the City of *London* and the Liberties thereof, the Parts within the Limits of certain Commissions of Sewers bearing Date at *Westminster* the Thirtieth Day of *November* in the Year of our Lord One thousand eight hundred and forty-seven, also the Parts within the Limits of a certain other Commission of Sewers bearing date at *Westminster* the Fourth Day of *December* in the Year last aforesaid, and the Parts subject to the Jurisdiction of the Commissioners acting in the Execution of an Act of the Fifth Year of the Reign of King

8 U

George



4 & 5 ELIZ. 2. Clean Air Act, 1956. CH. 52



CHAPTER 52

An Act to make provision for abating the pollution of the air. [5th July, 1956]

BE it enacted by the Queen's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:—

Dark Smoke

1.—(1) Subject to the provisions of this Act, dark smoke shall not be emitted from a chimney of any building, and if, on any day, dark smoke is so emitted, the occupier of the building shall be guilty of an offence.

(2) Emissions of smoke from any chimney lasting for not longer than such periods as may be specified by the Minister by regulations shall, in such classes of case and subject to such limitations as may be so specified, be left out of account for the purposes of this section.

(3) In any proceedings for an offence under this section, it shall be a defence to prove either—

- (a) that the contravention complained of was solely due to the lighting up of a furnace which was cold and that all practicable steps had been taken to prevent or minimise the emission of dark smoke; or
- (b) that the contravention complained of was solely due to some failure of a furnace or of apparatus used in connection with a furnace, that that failure could not reasonably have been foreseen, or, if foreseen, could not reasonably have been provided against, and that the contravention could not reasonably have been prevented by action taken after the failure occurred; or
- (c) that the contravention complained of was solely due to the use of unsuitable fuel, that suitable fuel was

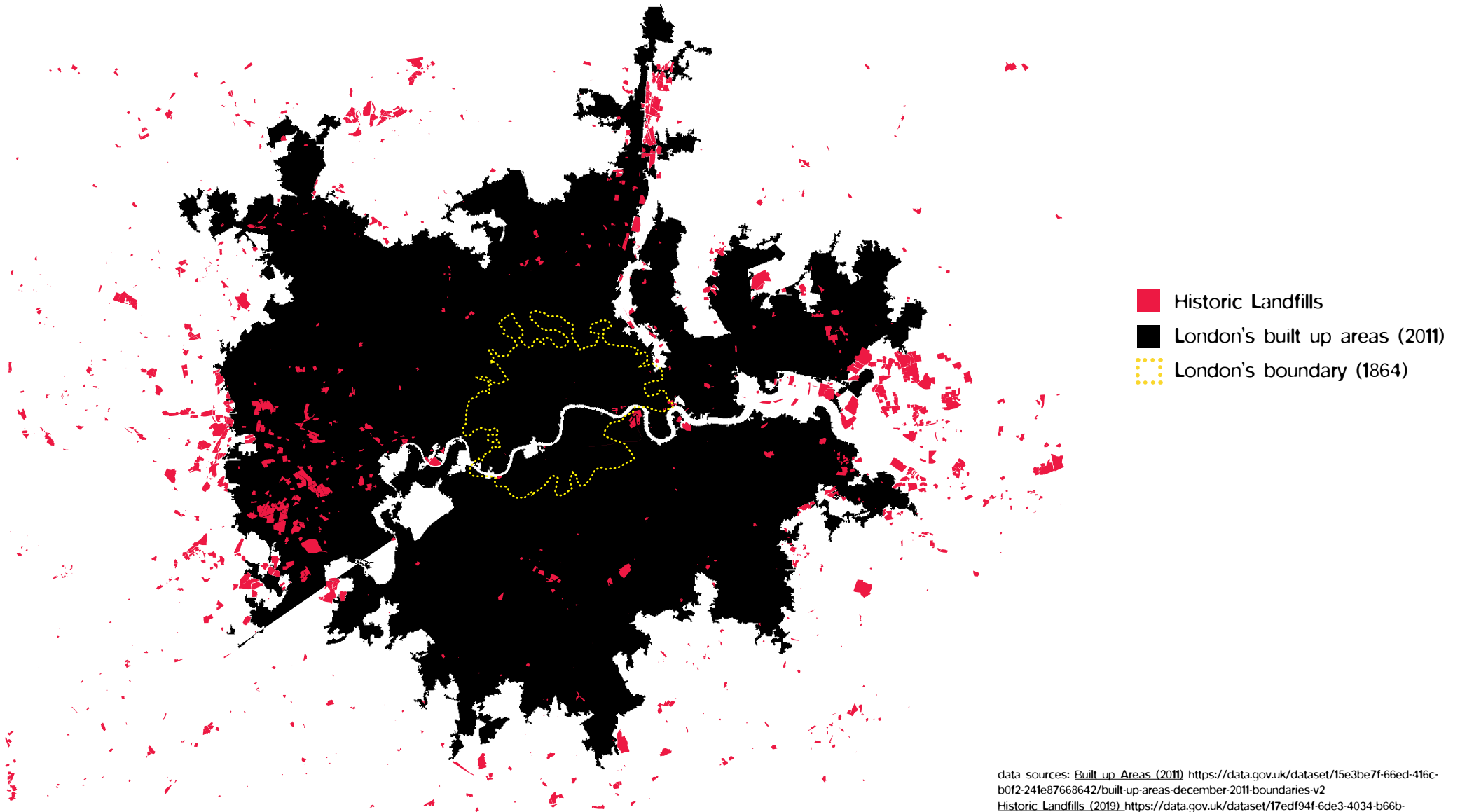
A 2

1

LOCAL AUTHORITIES;

WASTE DISPOSAL
AT THE PERIPHERY

Geographic and mental distance



data sources: [Built Up Areas \(2011\)](https://data.gov.uk/dataset/15e3be7f-66ed-416c-b0f2-241e87668642/built-up-areas-december-2011-boundaries-v2) <https://data.gov.uk/dataset/15e3be7f-66ed-416c-b0f2-241e87668642/built-up-areas-december-2011-boundaries-v2>
[Historic Landfills \(2019\)](https://data.gov.uk/dataset/17edf94f-6de3-4034-b66b-004ebd0dd010/historic-landfill-sites) <https://data.gov.uk/dataset/17edf94f-6de3-4034-b66b-004ebd0dd010/historic-landfill-sites>
[Historic Boundary](https://oldlondonmap.com/) <https://oldlondonmap.com/>

1995

2006

2015

European Union Framework Directive

Landfill Tax Escalator (UK)

COUNCIL DIRECTIVE
of 15 July 1975

WASTE COSTS!

£ 84,40/ ton

THE COUNCIL OF THE EUROPEAN COMMUNITIES,
Having regard to the Treaty establishing the European Economic Community, and in particular Articles 100 and 235 thereof;
Having regard to the proposal from the Commission;
Having regard to the Opinion of the European Parliament (1);
Having regard to the Opinion of the Economic and Social Committee (2);

Whereas that proportion of the costs not covered by the proceeds of treating the waste must be defrayed in accordance with the 'polluter pays' principle,

be laid down, whereas Article 235 of the Treaty should be invoked as the powers required for this purpose have not been provided for by the Treaty;
Whereas the essential objective of all provisions relating to waste disposal must be the protection of human health and the environment against harmful effects caused by the collection, transport, treatment, storage and tipping of waste;
Whereas the recovery of waste and the use of recovered materials should be encouraged in order to conserve natural resources;
Whereas the programme of action of the European Communities on the environment (3), stresses the need for Community action, including the harmonization of legislation;
Whereas effective and consistent regulations on waste disposal which neither obstruct intra-Community trade nor affect conditions of competition should be applied to movable property which the owner disposes of or is required to dispose of under the provisions of national law in force, with the exception of radioactive, mining and agricultural waste, animal carcasses, waste waters, gaseous effluents and waste covered by specific Community rules;
Whereas, in order to ensure the protection of the environment, provision should be made for a system of permits for undertakings which treat, store or tip waste on behalf of third parties, for a supervisory system for undertakings which dispose of their own waste and for those which collect the waste of others, and for a plan embracing the essential factors to be taken into consideration in respect of the various waste disposal operations;

Whereas that proportion of the costs not covered by the proceeds of treating the waste must be defrayed in accordance with the 'polluter pays' principle,

(1) OJ No C 32, 11. 2. 1975, p. 36.
(2) OJ No C 16, 23. 1. 1975, p. 12.
(3) OJ No C 112, 20. 12. 1973, p. 3.

278 landfills

160 landfills



UK Residual Waste to Landfill and Operational Landfills in England (source: <https://www.isonomia.co.uk/losing-ground-the-decline-of-englands-landfills/>)

UK, Ireland and Northern Ireland

23,231 historic landfills





(source: www.archdaily.com)

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Freshkills Park, NYC
Landfill to park



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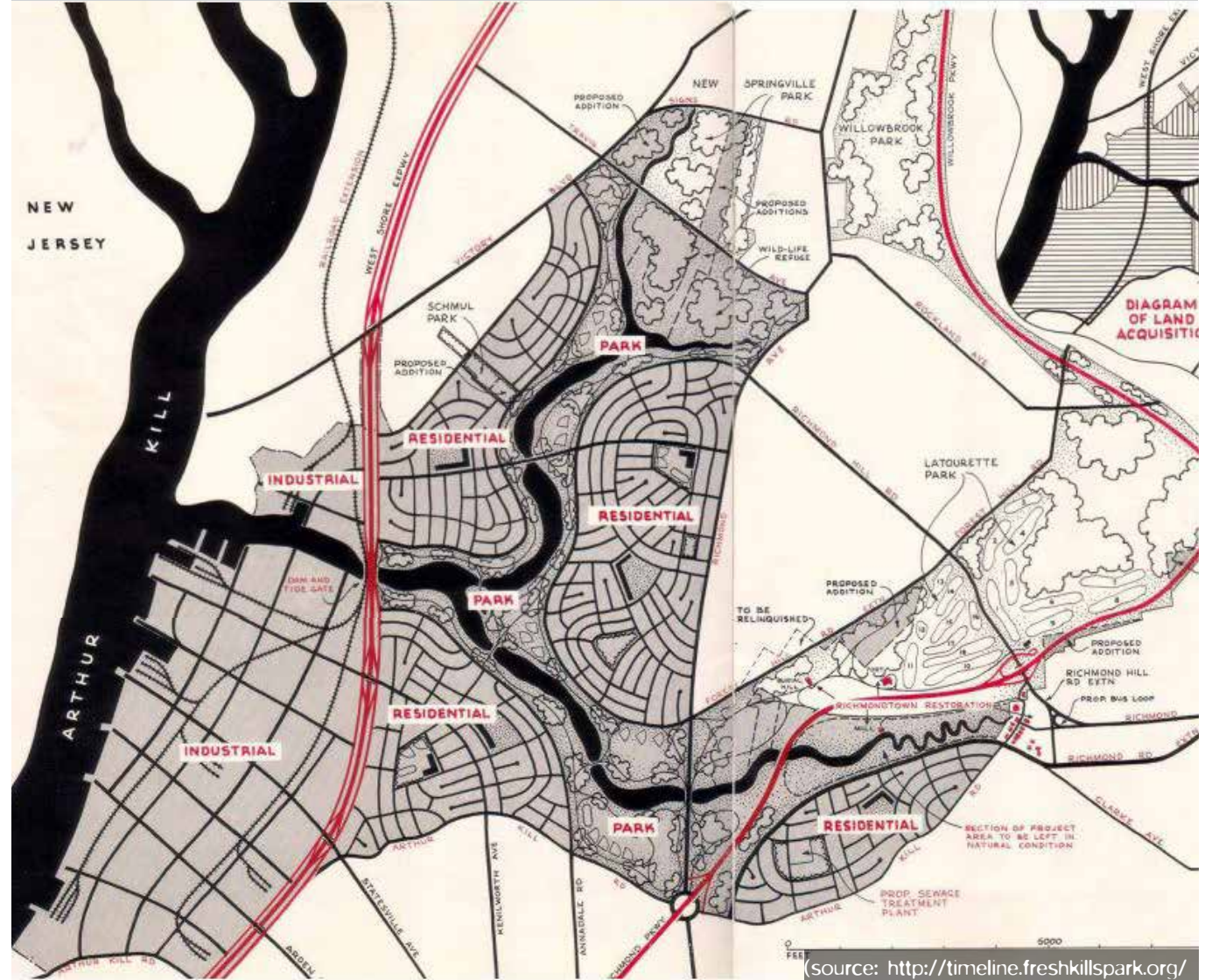
1948

1951

A tidal marshland



West Shore Expressway



1986

29,000 tons/ day



(source: <http://timeline.freshkillspark.org/>)

1996

Staten Island BP, Guy Molinari

The New York Times

Staten Island Leadership Sues to Close Fresh Kills

By Vivian S. Toy

March 26, 1996



(source: <https://www.nytimes.com/1996/03/26/nyregion/staten-island-leadership-sues-to-close-fresh-kills.html>)

March 2001

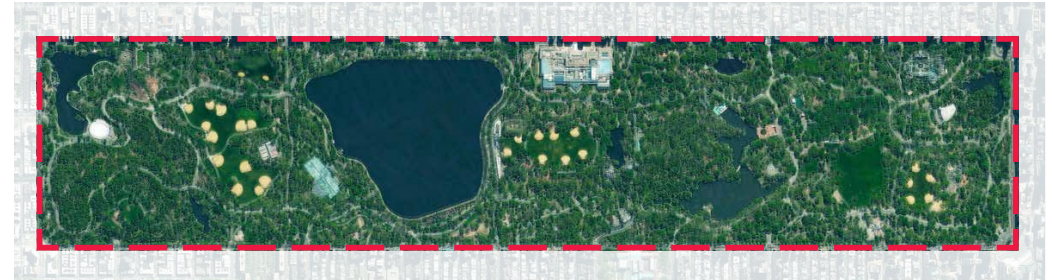
The last barge to Freshkills



(source: <http://timeline.freshkillspark.org/>)

2003

2,200 acres of polluted, available land



3x Central Park

A new metropolitan park

Mayor Bloomberg

+

The Municipal Art Society of New York
MASNYC

+

NYC
PLANNING

James Corner Field Operations

Freshkills Park, NYC

Moundscape

Field-

Open-

Place-

Event-

Lifescape

2005

+3 years

+6 years

+10 years

+20 years

+30 years



engineer
ground

manufacture
soil + habitat

initiate
access/ activity

build spaces

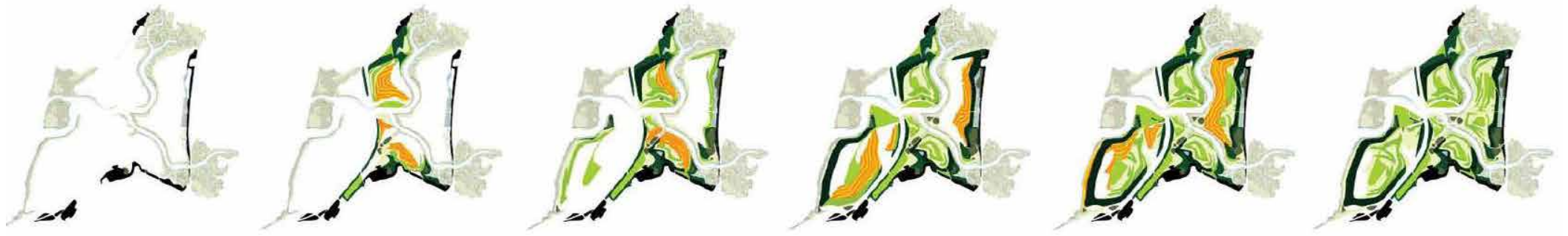
diversify
ecology + uses

grow new life



Designing a process

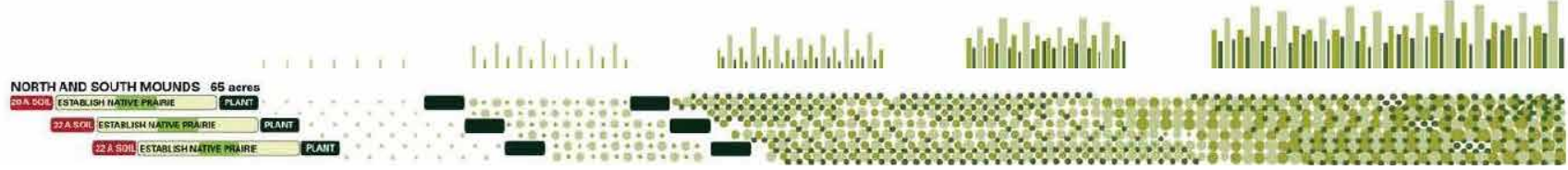
Ecology as a starting point



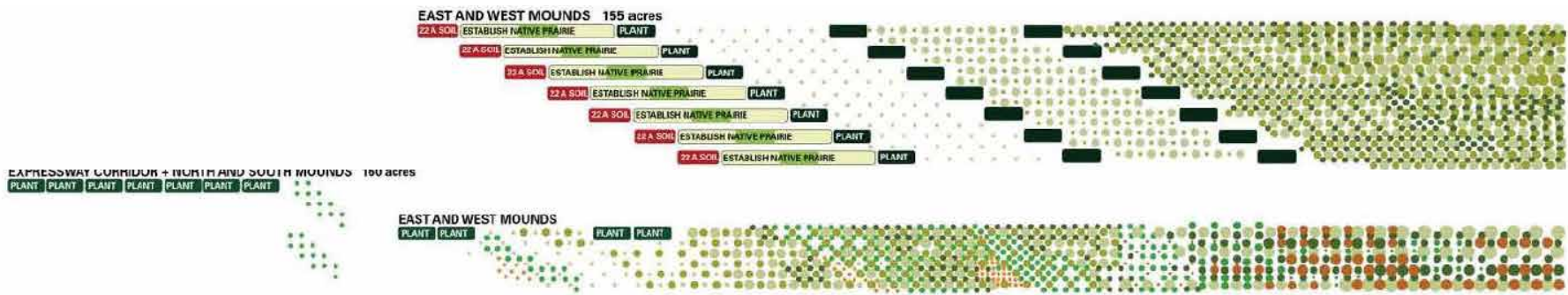
Grassland



Woodland



Lowland and forest



3 pillars

New program

New circulation

New habitat

surface water

soil cover

impermeable liner

gas extraction network

liquid collection and containment

150 million tons of waste

wetland prior to 1948

multiplicity of activities

attract people

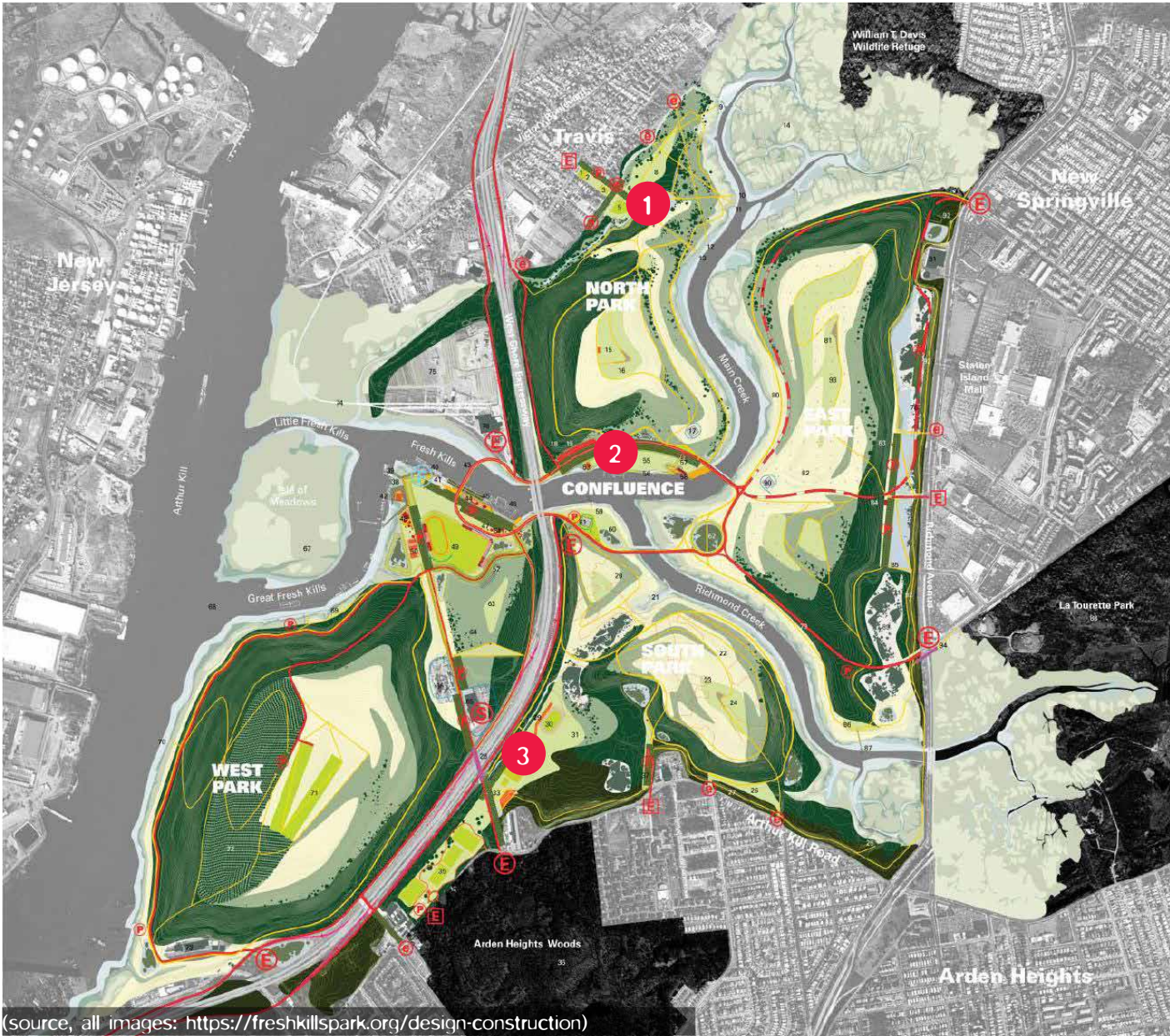
restore life



(source: <http://freshkillspark.org/wp-content/uploads/2013/07/Fresh-Kills-Park-Draft-Master-Plan.pdf>)

Scale change

Completed projects



(source, all images: <https://freshkillspark.org/design-construction>)



1 Schmul Park






2 North Park Pilot Wetland Restoration



3 Owl Hollow Fields

An alliance beyond scales, time, and disciplines

FreshkillsPark  
and Freshkills Park Alliance



2015 Annual Report

The generous support and partnership of stakeholders, advocates, and visitors are bringing Freshkills Park to life.


Thanks to the generosity of grantors, donors, and sponsors, thousands of people got to know Freshkills Park through big open site events, art installations and workshops, scientific research projects, races and bike events, environmental education programs, and a wide range of tours.

The process of building out the park continues. The New Springville Greenway opened this year, adding the popular 3.7 mile long facility to the already completed projects of Spiral Park, Owl Hollow fields and North Park wetland restoration. The Freshkills Park Alliance partnership with NYC Parks and Sanitation, as well as

increasing numbers of community partners, means that progress is solid and steady.

The Freshkills Park Alliance's mission is to support the creation of the park through a broad range of recreational, cultural, scientific and educational programs. The Alliance is committed to maintaining and expanding the ways for the public to experience and support this exciting time of transformation, as the work of park building moves forward. This has been an important year, as we have strengthened our organization, our partnerships and our programs.

2015 Annual Report 1



education

In good company

Thank you to our partners

Government Partners and Contributing Agencies

The New York State Department of State, Office of Coastal, Local Government & Community Sustainability has provided funding to support the Freshkills Park project under Title 11 of the Environmental Protection Fund.

NYC Department of Sanitation
NYC Department of City Planning
NYC Department of Transportation
NYC Department of Environmental Protection
NYC Department of Health
NYC Department of Design and Construction
NYC Department of Cultural Affairs
Mayor's Office of Sustainability
NYS Department of Environmental Conservation
NYS Department of State, Division of Coastal Resources
NYS Department of Transportation
NYS Department of Health

Related City Initiatives

OneNYC
MillionTreesNYC
Waterfront Vision 2020

NYC Parks Partners

Arts & Antiquities
Conference House Park
The Greenbelt
Greenbelt Native Plant Center
Marketing and Special Events
Natural Resources Group
Parklands and Planning
Urban Park Rangers

Project Consultants

James Corner Field Operations
AKRF
ARUP
BioHabitats, Inc.
BKSK Architects
Daniel Frankfurt (HDR, Inc.)

Geosyntec
Philip Habib and Associates
Project Projects
Sage & Coombe Architects
Langan
Rogers Surveying
Faithful + Gould
HAKS

Cultural Partners

AIANY/ Center for Architecture
Archtober
Brooklyn Brainers
Center for Book Arts
Center for Urban Pedagogy (CUP)
Chasing Sanitation
Classic Harbor Line
Creative Time
CSI WSIA
DSNY Oral History Archive
Jacques Marchais Museum of Tibetan Art
Land Art Generator Initiative
Municipal Arts Society
NYC Audubon Society
NYC DOT Urban Art Program
New York Public Library
Open House New York (OHNY)
Protectors of Pine Oaks Woods
Staten Island Arts
Staten Island MakerSpace
Staten Island Museum
Staten Island OutLOUD!
Urban Omnibus
Waterfront Alliance

Academic Partners

Barnard + Columbia Architecture
City College of New York
City University of New York
College of Staten Island
Cornell University: AAP
Gaynor McCown High School
Macauley Honors College
New York Harbor School
NYU Wagner
Parsons School of Constructed Environments
SVA Interactive Design

Science + Research Partners

Bloomfield College
CUNY CSI
Hunter College
New Jersey City University
NY/NJ Baykeeper
Rutgers University
US Forest Service Yale University

Recreation Partners

Kayak Staten Island
New York Road Runners
Transportation Alternatives
Staten Island Athletic Club
Staten Island Bicycling Association

Community Partners

City Parks Foundation
Hilton Garden Inn
NY Cares
Showplace Entertainment Center
Staten Island Mall

Donors and Sponsors

Airbnb
Bloomberg Philanthropies
ConEdison
Fund for the City of New York
Furthermore Program/ JM Kaplan Fund
Mertz Gilmore Foundation
Mohawk
NEA Art Works
The New York Community Trust
NYS Department of State LWRP
Pratt Recycling
Public Lands Every Day/ NEEF/ Toyota
Richmond County Savings Foundation
The Shelley & Donald Rubin Foundation: Art and Social Justice
Staten Island Foundation
Talas
Tauck Ritzu Innovative Philanthropy
Waste Management

stakeholders

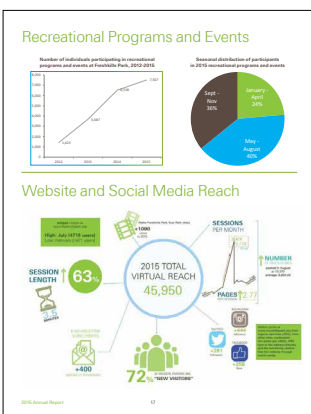
Mayor de Blasio, Council Speaker Mark-Viverito, Parks Commissioner Silver Announce \$150 Million in Funding for Five Anchor Parks

August 18, 2016

One large park in each borough to receive major capital upgrades like new soccer fields, comfort stations, running tracks, hiking trails

750,000 New Yorkers live within walking distance of these five major parks

NEW YORK—Today at St. Mary's Park in the Bronx, Mayor Bill de Blasio, Council Speaker Melissa Mark Viverito, and NYC Parks Commissioner Mitchell J. Silver announced that the City will fund \$150 million in major improvements at five large parks under the new Anchor Parks initiative. More than 750,000 New Yorkers live within walking distance of the five Anchor Parks, and the new investment will fuel the kind of major amenities needed more in these bigger parks, like new soccer fields, comfort stations, running tracks and hiking trails.



funding

politics and policy

(source, all images: https://freshkillspark.org/wp-content/uploads/2016/12/FreshkillsParkAlliance_AnnualReport_2015.pdf)



Vall d'en Joan

Vall d'en Joan
Garraf Natural Park,
Barcelona



(source: http://www.ondiseno.com/proyecto_en.php?id=2459)

1974

A landfill in a Natural Park



1993

Metropolitan Environmental Authority

Urban Waste Management Programme (PRGRM)



Social and environmental cost



Impact on land and territory



Cost of an unsustainable model



DECISION FOR COMPLETE CLOSURE

europapress / sociedad

El vertedero del Garraf (Barcelona) cierra sus instalaciones tras más de 30 años de actividad

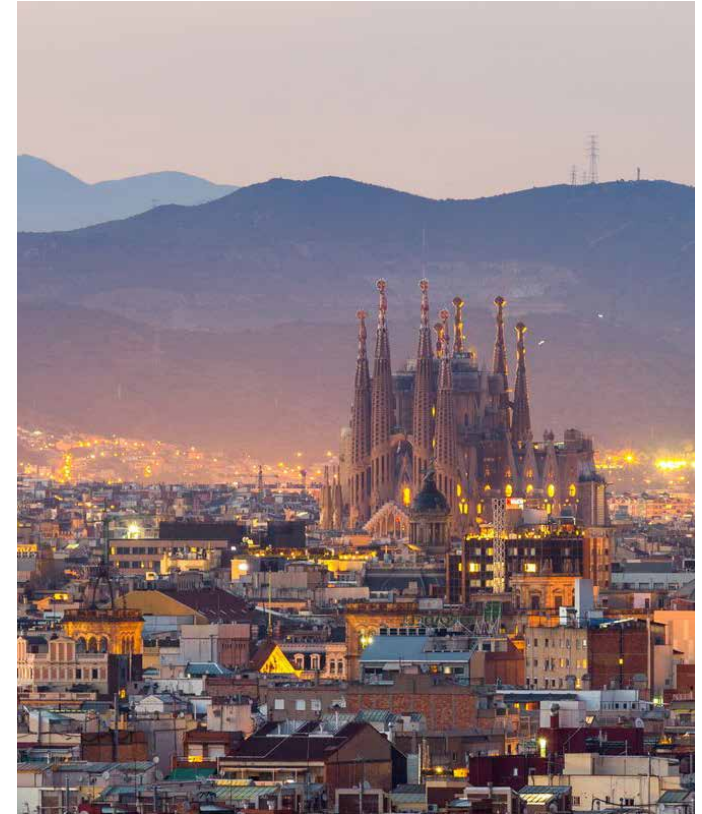
capping the landfill



a unique landscape



a global metropolis



cap

restore

make public

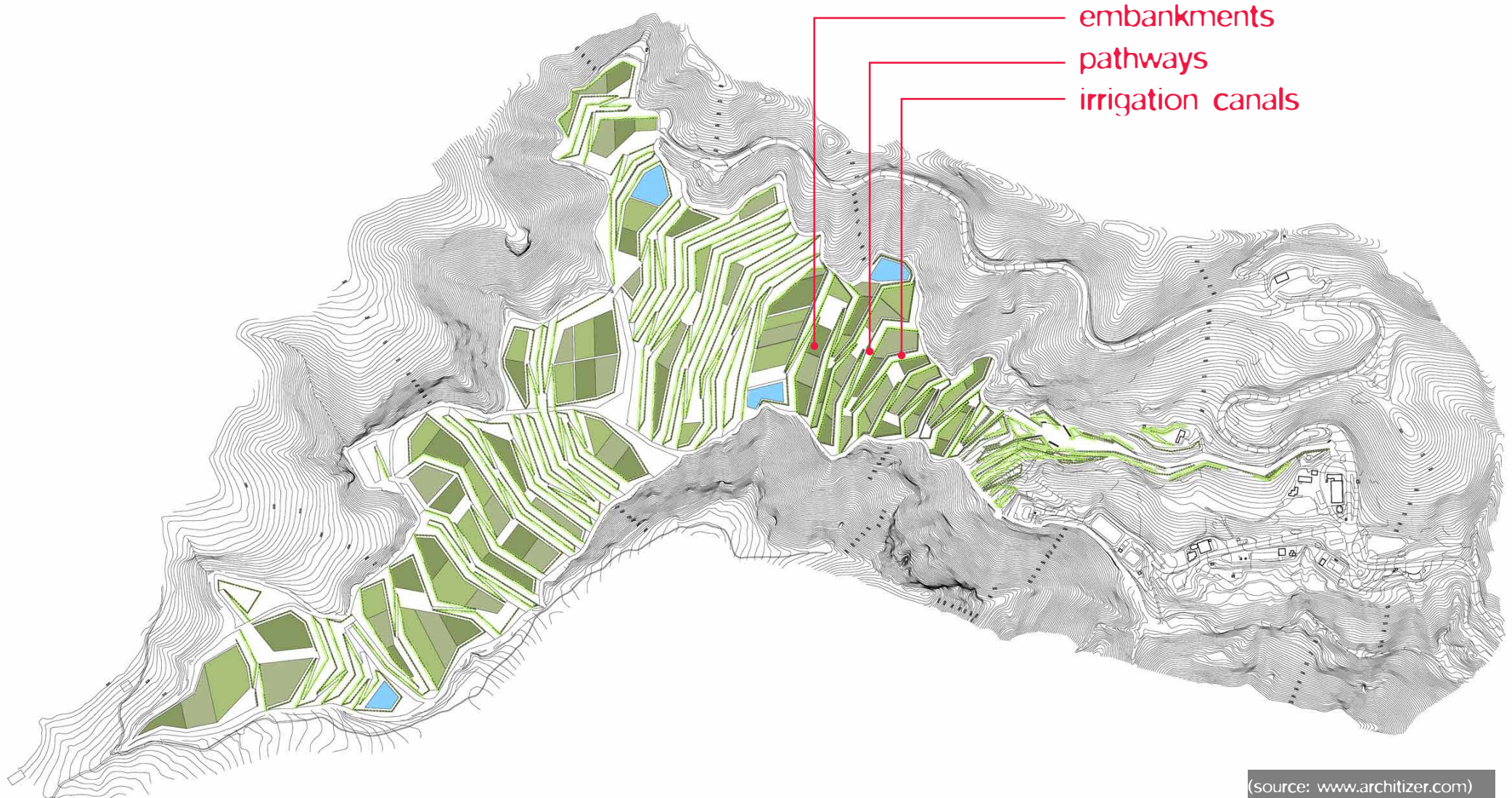
a new asset for the entire region

Step 1: the terraces



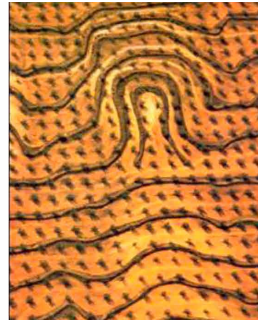
(source: www.architizer.com)

Step 1: the terraces



(source: www.architizer.com)

Step 2: habitat creation



Farming system

Slopes system

Trees system

Underbrush system

(source: <https://www.arquitectes.cat/iframes/paisatge/fitxa/8339>)

Step 3: make it public!



(source: <https://www.arquitectes.cat/iframes/paisatge/fitxa/8339>)

Step 3: make it public!



(source: <https://www.arquitectes.cat/iframes/paisatge/fitxa/8339>)

Is it "urban"?

European **Urban** Public Space Award (2004)

"What could be more urban than that?"
Enric Battle



(source: <https://www.arquitectes.cat/iframes/paisatge/fitxa/8339>)



(source: <https://www.latzundpartner.de/en/projekte/postindustrielle-landschaften/hiriya-tel-aviv-il/>)

Post-waste landscapes: design principles for a paradigm shift



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1960

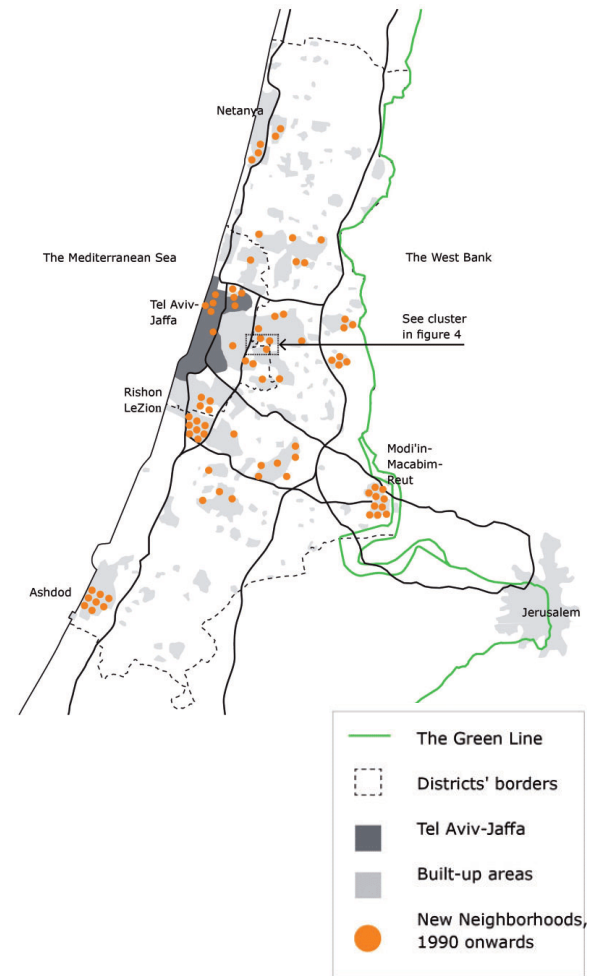
1990

A growing mound



(source: <https://www.latzundpartner.de/en/projekte/postindustrielle-landschaften/hiriya-tel-aviv-il/>)

A growing population



(source: https://www.researchgate.net/figure/New-neighborhoods-in-Tel-Aviv-Metropolitan-Area-1990-onwards-more-than-70-in-total_fig3_322908245)

1990

1998

Open Green Spaces as public amenities



+



+

Israel National
Land Planning
Program



Tipping point

Partial collapse in the Ayalon River



1998

The new green lungs of Tel Aviv

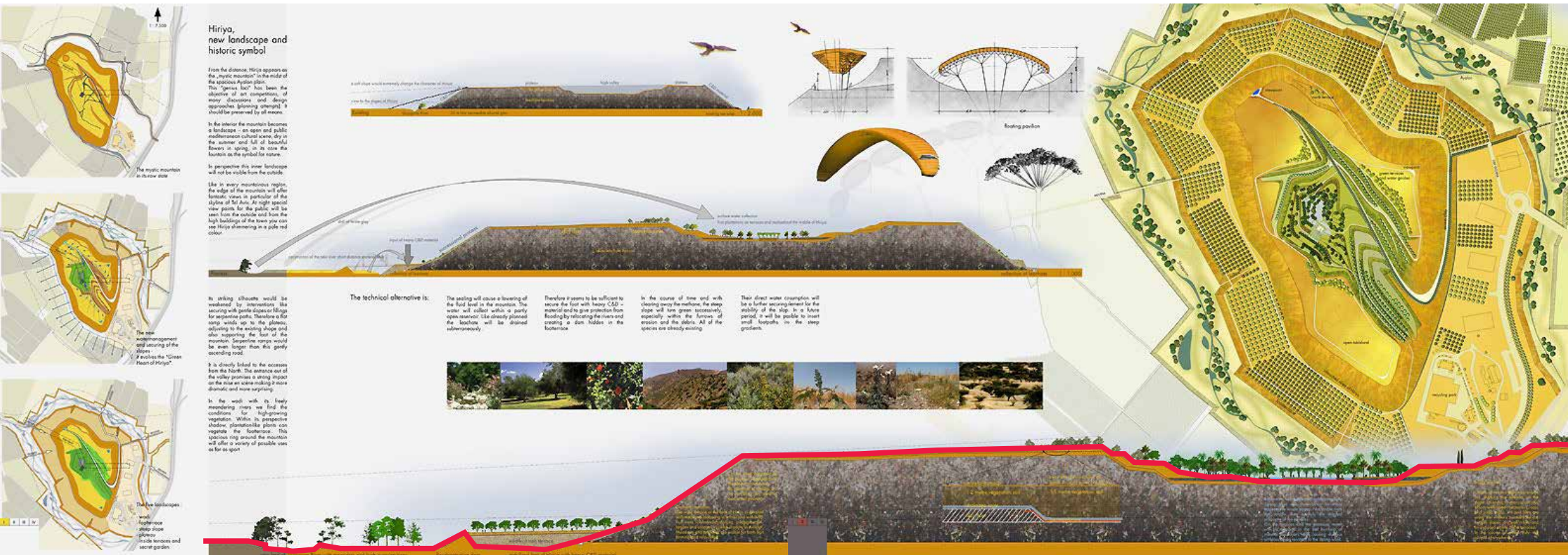
Retaining the mound



(source: <https://www.haaretz.com/.premium-a-tale-of-two-dumps-1.5324308>)

Step 1: the mound

Celebrating the site's history



<https://www.competitionline.com/de/beitraege/11320>

Step 2

Establishing the vegetation



<https://www.competitionline.com/de/beitraege/11320>
<https://www.latzundpartner.de/en/projekte/postindustrielle-landschaften/hiriya-tel-aviv-il/>

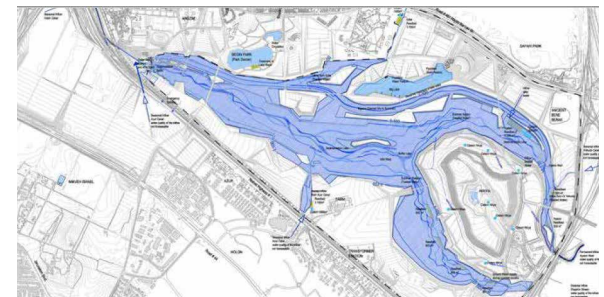
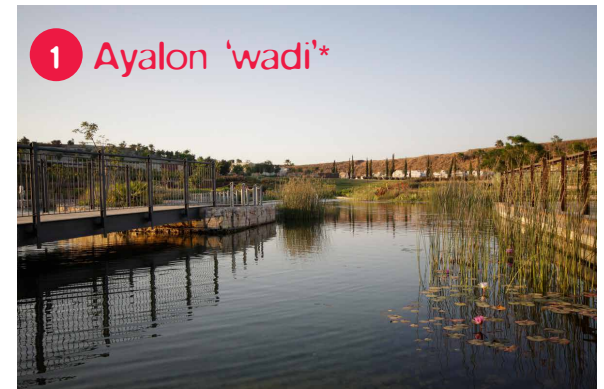
Step 3: attract the public

The 'wadis' *

*a valley, ravine, or channel that is dry except in the rainy season.



<https://www.latzundpartner.de/en/projekte/postindustrielle-landschaften/hiriya-tel-aviv-il/>



Step 2: attract the public

The terraced slopes



<https://www.latzundpartner.de/en/projekte/postindustrielle-landschaften/hiriya-tel-aviv-il/>

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Step 2: attract the public

The Belvedere



<https://www.latzundpartner.de/en/projekte/postindustrielle-landschaften/hiriya-tel-aviv-il/>

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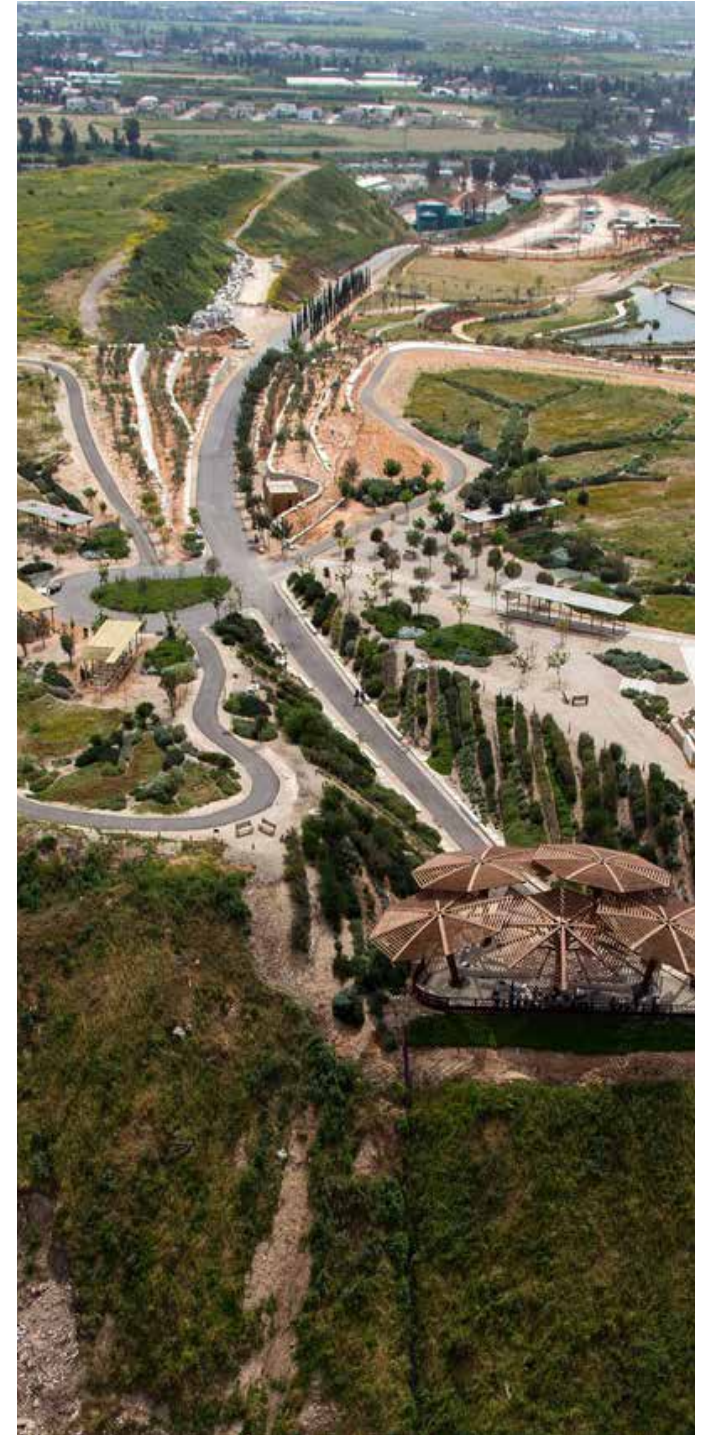
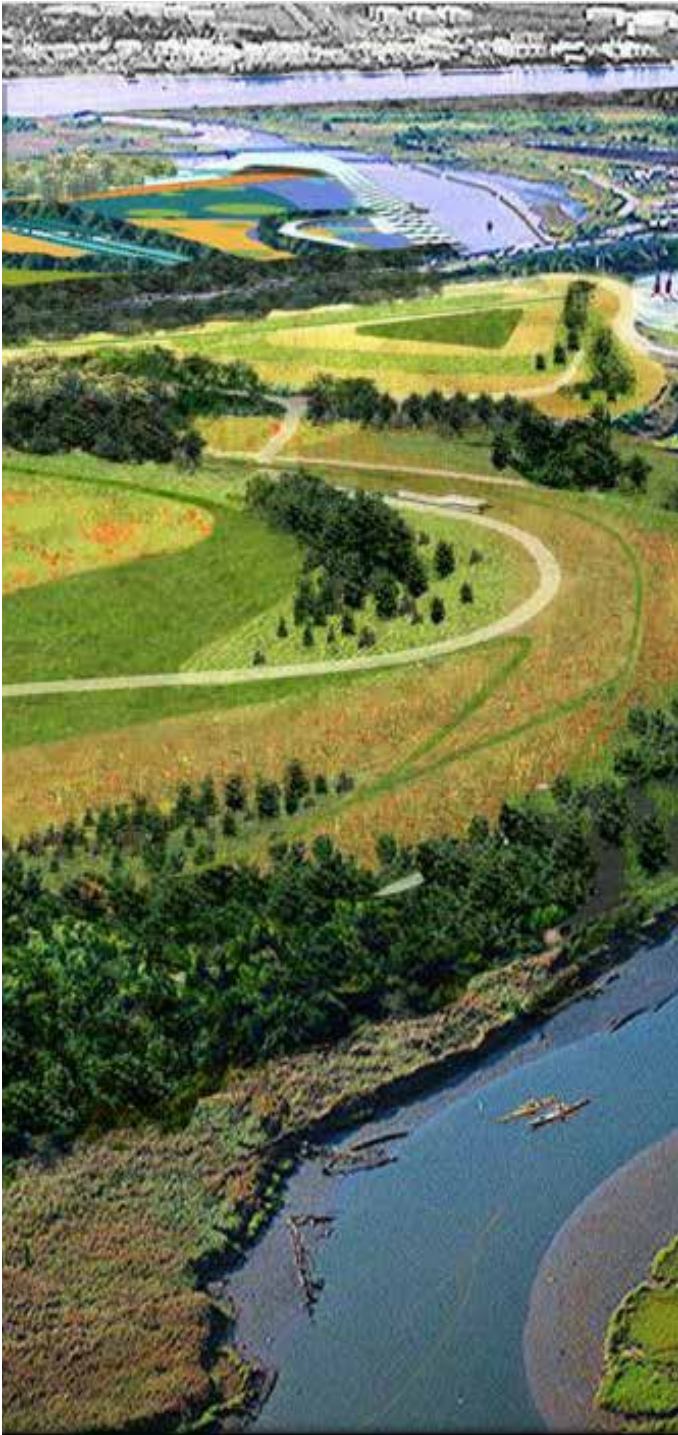
Step 2: attract the public

The Belvedere

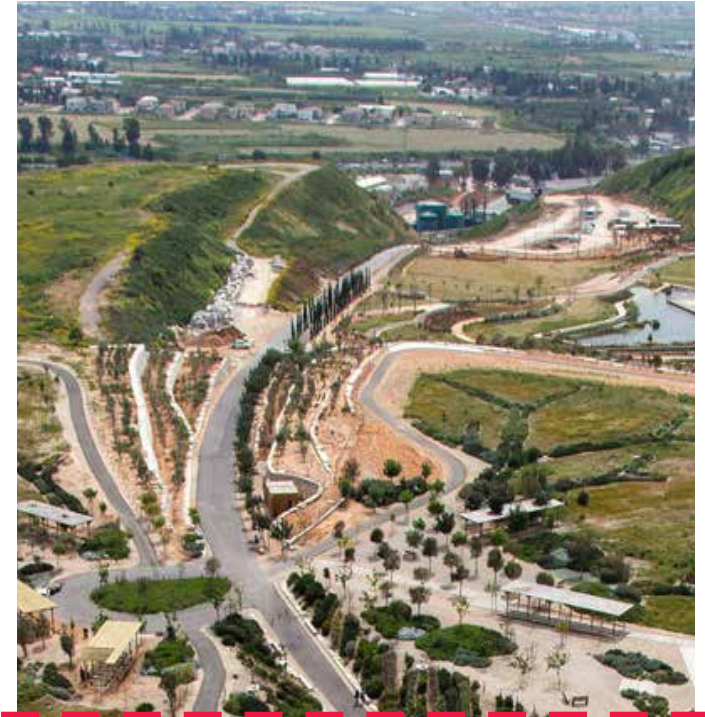


<https://www.latzundpartner.de/en/projekte/postindustrielle-landschaften/hiriya-tel-aviv-il/>





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+/-

1990s

Shift in environmental policies
Evidence-driven frameworks



+/-

Multiscalar
Time-based

Multidisciplinary
Place-specific

Evidence-based activism
Policy-making

