Landscape Strategy
City Cemetery, Hart Island, New York

Ann Sharrock
Landscape Architect

Melinda Hunt
The Hart Island Project

Ian Fisher
Senior Lecturer, Landscape Architecture
Manchester School of Architecture

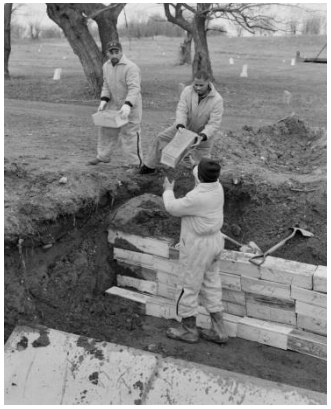
- Hart Island occupies 101 acres in the Long Island Sound on the eastern edge of the Bronx.
- The island was first used as a training camp for two African American regiments that served in the Civil War. It later became a prisoner of war camp for over 3000 Confederate soldiers.
- In 1868, Hart Island was purchased by New York City for the purpose of opening an adolescent workhouse. The following year, City Cemetery opened. Potter's Field on Wards Island became parkland.
- Mass burials on Hart Island began in 1875 after the first morgue opened at Bellevue Hospital. Over one million people have since been buried in long trenches.
- In the late 19th and early 20th Centuries, New York City built workhouses and hospitals on Hart Island. Many of these buildings, while derelict, are still standing with burials abutting their foundations.

Aerial view of Hart Island in the middle distance and City Island in the foreground

Burial site north east side of island

- The burial process on Hart Island remains largely unchanged since 1875. The cemetery remains under the jurisdiction of the Department of Correction employing low classification inmates from Riker's Island to bury the dead.
- The Hart Island Project is a public charity founded in 2011 to advocate and assist people who wish to locate relatives who have been buried on Hart Island. The charity maintains an on-line database of burials after 1980, with grave locations and histories and so preserves the identities of those buried for present and future generations.
- Elaine Joseph's daughter, Tomika, died shortly after birth in 1978. Elaine, and eight other mothers, petitioned the DOC to able to visit infant graves. These visits in 2013 led to a NYCLU federal class action lawsuit demanding that New York City open Hart Island to family visitation. Visiting Hart Island remains extremely restricted.
- In 2015, New York City agreed to permit family groups of four to visit gravesites of their relatives accompanied by prison guards. The settlement does not permit journalists or friends of the deceased to visit without accompanying a family member. Many of the buried do not have families in New York City or the United States. They still have friends.

The Traveling Cloud Museum
https://www.hartisland.net/burial_records/map



Mass grave for babies
Fred Conrad, The New York Times

Elaine Joseph - March 2014

The table adjacent is taken from the database of burials for 2013. Plots 357 and 363 are incomplete plots as the analysis runs from January 2013 to December 2014 and burials took place in the section of the plot before and after those dates.

- Total burials for 2013 were 839 adults and 301 babies, a total of 1140.
- On average 138 burials (excluding babies) were made in each plot.
- On average a section of the plot for adult burials was left open, that is with coffins visible, for 20 days.
- Plot 67 for babies and infants opened November 30, 2013 and remained open to July 19 2015 according to the attorney who accompanied the family to that location.

Year	**2013**				
	Plot number	**Section of plot**	**Coffins**	**Total coffins per plot**	**Length of time section left open**
					Days
Adults	357	SII	26		
	357	SIII	55	Incomplete plot	22
	358	SI	45		14
	358	SII	47		19
	358	SIII	51	143	15
	359	SI	47		14
	359	SII	47		8
	359	SIII	52	146	20
	360	SI	46		22
	360	SII	47		13
	360	SIII	51	144	48
	361	SI	46		2
	361	SII	46		23
	361	SIII	51	143	21
	362	SI	47		20
	362	SII	47		14
	362	SIII	18	112	28
	363	SI	46		35
	363	SII	24	Incomplete plot	
Total burials			**839**		
Average number of days section of plot open (excluding 357 and 363)					**20**
(assuming section is covered once bodies are buried in adjacent section)					

BURIAL PROCESS STATISTICS FOR 2013

- Each burial site contains several large trenches or plots.

- Large trenches are dug, and sectioned into three. Each section is filled sequentially and once the section is full it is covered. As shown on the previous slide the graves for adults may remain open for approximately 20 days.

- The size of the plot or trench will vary but on the current burial site they are approximately 42m x 4.5m (Source: Google Earth 2015)

Adult mass grave 1990 – photograph: Claire Yaffa

Adult mass grave: pine coffins 3 high 2 across – photograph: Joel Sternfeld, The Hart Island Project

BURIAL PROCESS - ADULTS

- Starting in 1913, infants and children under five have been buried in separate graves from adults. A mother who was able to pay $3 to bury her child was offered an individual gravesite that she could visit. This practice ended when the City was unable to collect burial fees. Women were subsequently denied access to mass gravesites for infants until 2013.

- The baby burial trenches or plots, while the same size as the adult trenches, hold many more coffins and are filled more densely and left open for substantially longer, as in the case of Plot 67, which remained open for over one and a half years.

Babies coffins in mass grave – 4-5 coffins deep

Prisoners taking baby's coffin from morgue truck

BURIAL PROCESS – BABIES AND INFANTS

- Those visitors commemorating babies and infants that have died recently will certainly be standing at an open mass grave. The image shows an example of an infant mass grave left open long enough for plant growth inside the trench.

- Relatives commemorating recently departed now visit or pass by open mass graves.

- Testimonials from the prisoners and retired correction officers indicate that open graves are vulnerable to vandalism, flooding, soil erosion, and decomposition.

Open infant mass grave with self-seeding

Visitation to open graves

Gravesites vulnerable to vandalism

IMPACT OF BURIAL PROCESS: PEOPLE

- The burial process destroys the natural landscape on Hart Island.
- In the process of digging large burial trenches, huge tracts of land are cleared, trees felled, and buildings compromised.
- Existing graves are often tracked over by heavy equipment to access new burial plots causing subsidence and pooling of water.
- Older gravesites collapse under the weight of heavy equipment and soil compression.
- Disinterment and reuse of mass graves inhibits reforestation and land conservation
- Shorelines are susceptible to erosion and rising sea levels. Many burials lie close to the shoreline with the potential for pollution. There is already evidence that body parts have been washed up on neighbouring shorelines.

Visit to barren locations

Burial sites dug close to prison buildings

IMPACT OF BURIAL PROCESS: LANDSCAPE

Plot 294
Filled and closed in 2002

Plot 354
Filled and closed in 2012

Plot 369
Filled and closed February 2015


Site prior to excavation

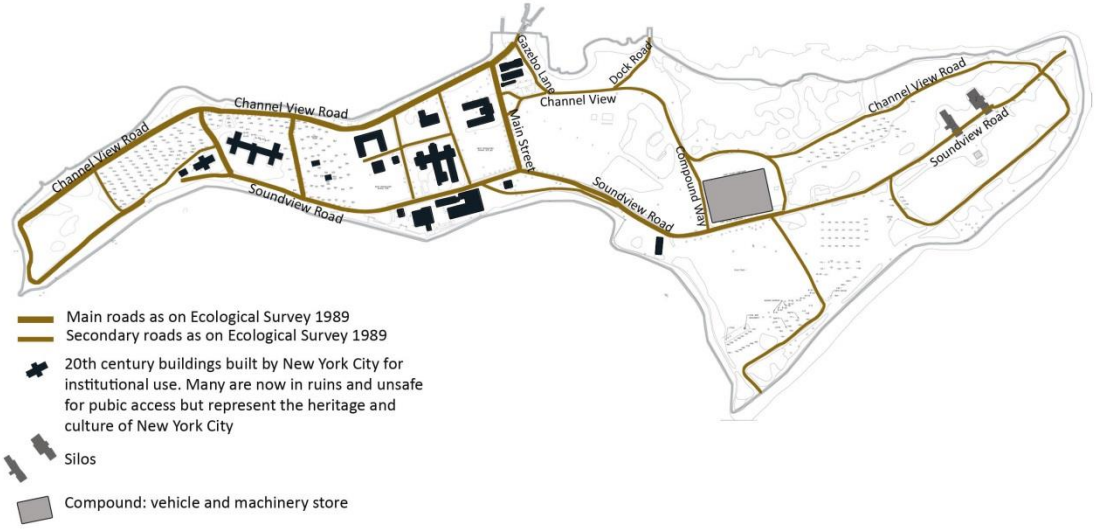

Site after excavation

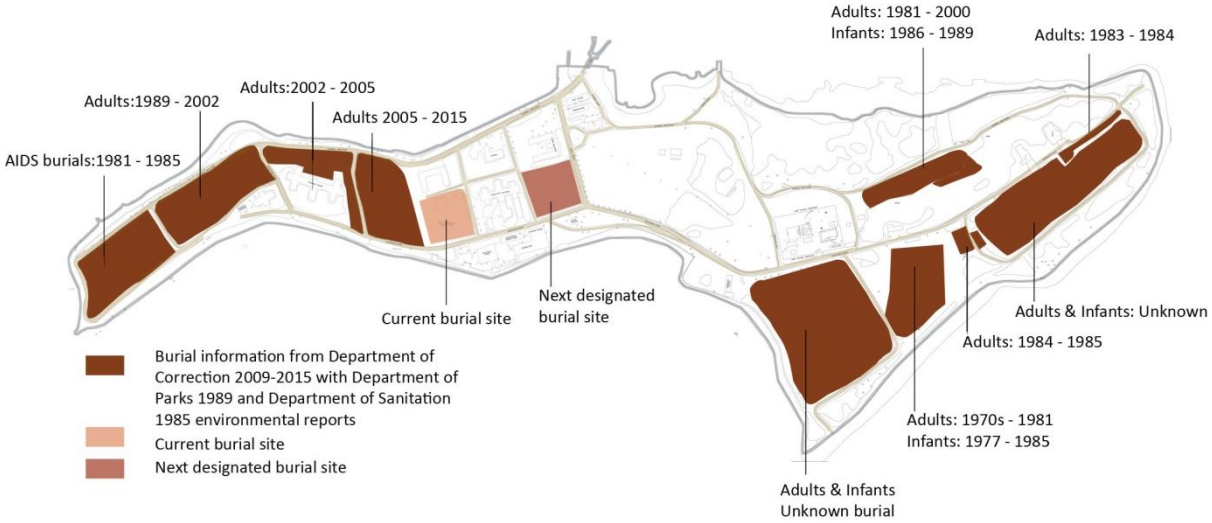

Site after excavation


Ground conditions on existing burial site

- After burial, land is not replanted or managed. Land with burials some 13 years ago has not recovered and remains without vegetation sufficient to preserve soil.

IMPACT OF BURIAL PROCESS: LANDSCAPE





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Former prison taken from sailing boat


Phoenix House, prison and later drug rehabilitation unit


Hart Island Chapel

EXISTING: ROADS, BUILDINGS AND GRAVE SITES

Parks Department Ecological Survey taken in 1989

Units (habitats defined by ecological survey)

20 Closed forest: a small strip of willow sp., black cherry and American elm

1b, 4, 7b, 8. 13, 17 Scattered woodlands of Eastern cotton wood, black willow, London plane, Norway maple, black cherry, ailanthus, with varied herbaceous undergrowth Topography undulates due to landfill from surrounding burial areas

16 Saltmarsh, salt water cordgrass submerged, salt meadow cordgrass, sea lavender with some saltwort, sea blite, sunflower, Jimson weed, seaside goldenrod, phragmites, beach clotbur

9 Vineland, much growing up amongst black cherry. mugwort, Norway maple, Eastern cottonwood, smooth sumac

10, 11 Herbaceous: Mugwort

18 Rip rap shoreline, little vegetation, some phragmites, smooth sumac, black cherry, flotsam, some spots with natural beach-like shoreline

19 Meadow of mugwort and herbaceous plants with black cherry scattered. Mullein, common plantain, aster, thistle, Eastern cottonwood, black willow, phragmites, crab apple, Queen Anne's lace

Garbage dumps within units 16, 17

Units (habitats indicated by studying Google Earth)

15 Herbaceous

12, 3c, 5 Scattered woodlands

6 Scattered woodlands with buildings

The ecological assessment consisted of a survey and mapping of the existing vegetation and a survey of the wildlife inhabiting the island. Floral and faunal species lists have been compiled of 65 plant species and 28 species of wildlife.

Land birds and vegetation were poorly represented given the time of year (March).

Hart Island has several potential wildlife habitats: abandoned buildngs, high bluffs, successional forests and shoreline, which could be used by a variety of birds (waterfowl, raptors etc.).

Herbaceous habitat

Herbaceous habitat with scattered trees

Rip rap shoreline

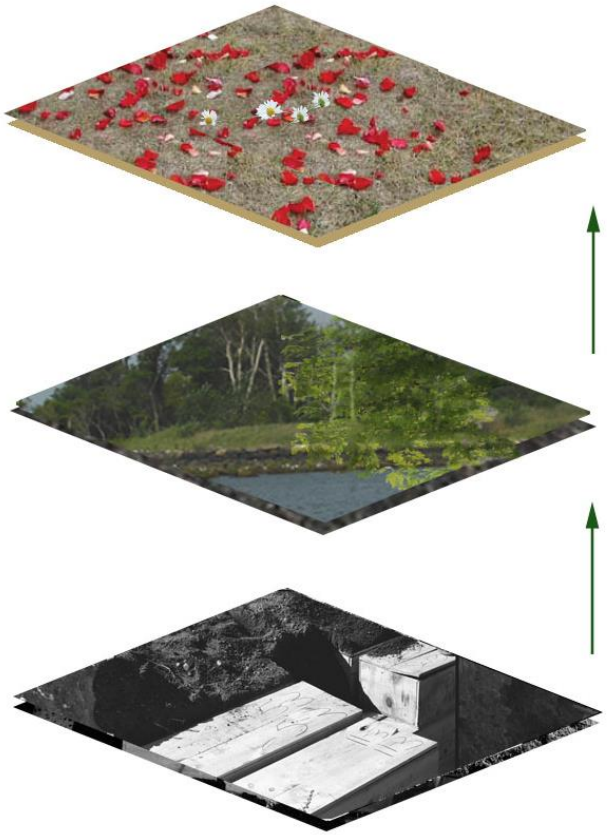
Closed forest

EXISTING: VEGETATION AND ECOLOGY

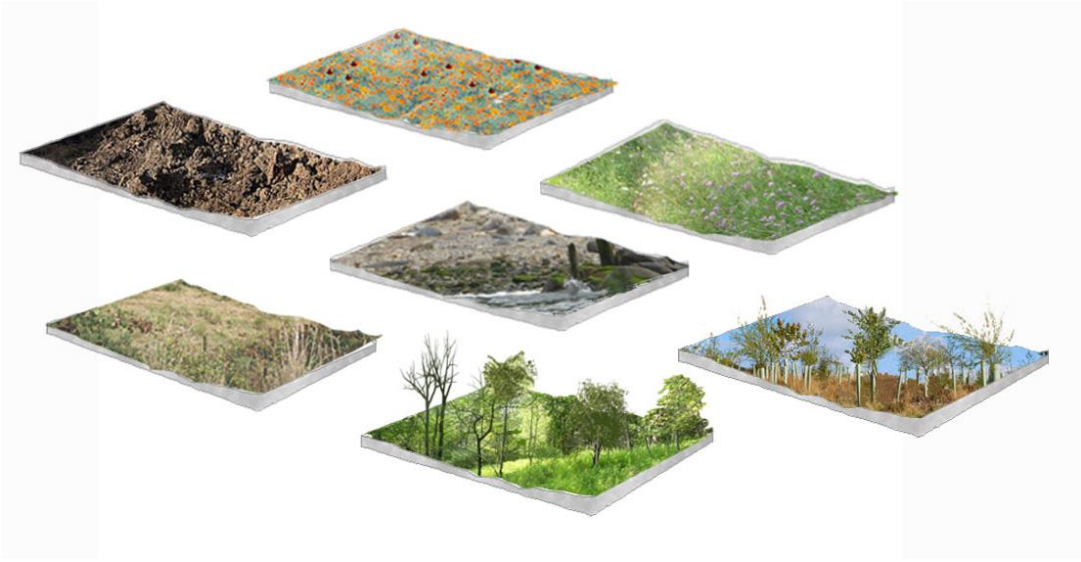
The landscape of Hart Island represents surfaces defined through a dynamic relationship of:

- Identity - tangible and intangible factors that link the past to the present (eg: commemoration)
- Natural factors of geology, weather, succession, decomposition
- Human intervention (eg: excavation, burial)

These processes operate at multiple scales of space and time.



- The landscape of Hart Island is a mosaic of states accommodating a number of processes working sequentially and in harmony with each other.
- The surface is manipulated over time and through burial processes to give significance to the surface for commemoration as well as enhance the biodiversity and ecological value of the island.
- The surface treatments are dependant upon:
  - the stage in the burial process including site selection, excavation, burial, planting, decomposition.
  - Existing state of the surface
    - Mature woodland, scrub etc.
  - the location
    - existing burial sites, proximity to buildings, proximity to the shore



FUTURE BURIAL SITES

Example of burial and land treatments

(not intended to be exhaustive, but illustrative)

Designated burial site, divided into 5 blocks

Burial plots are excavated in Block 1.

The plots are filled with coffins and covered every day or two days to avoid open graves.

Once the whole block is full, in this example, in a year it is planted with trees on a 25 year cycle until reassessed in 25 years time.

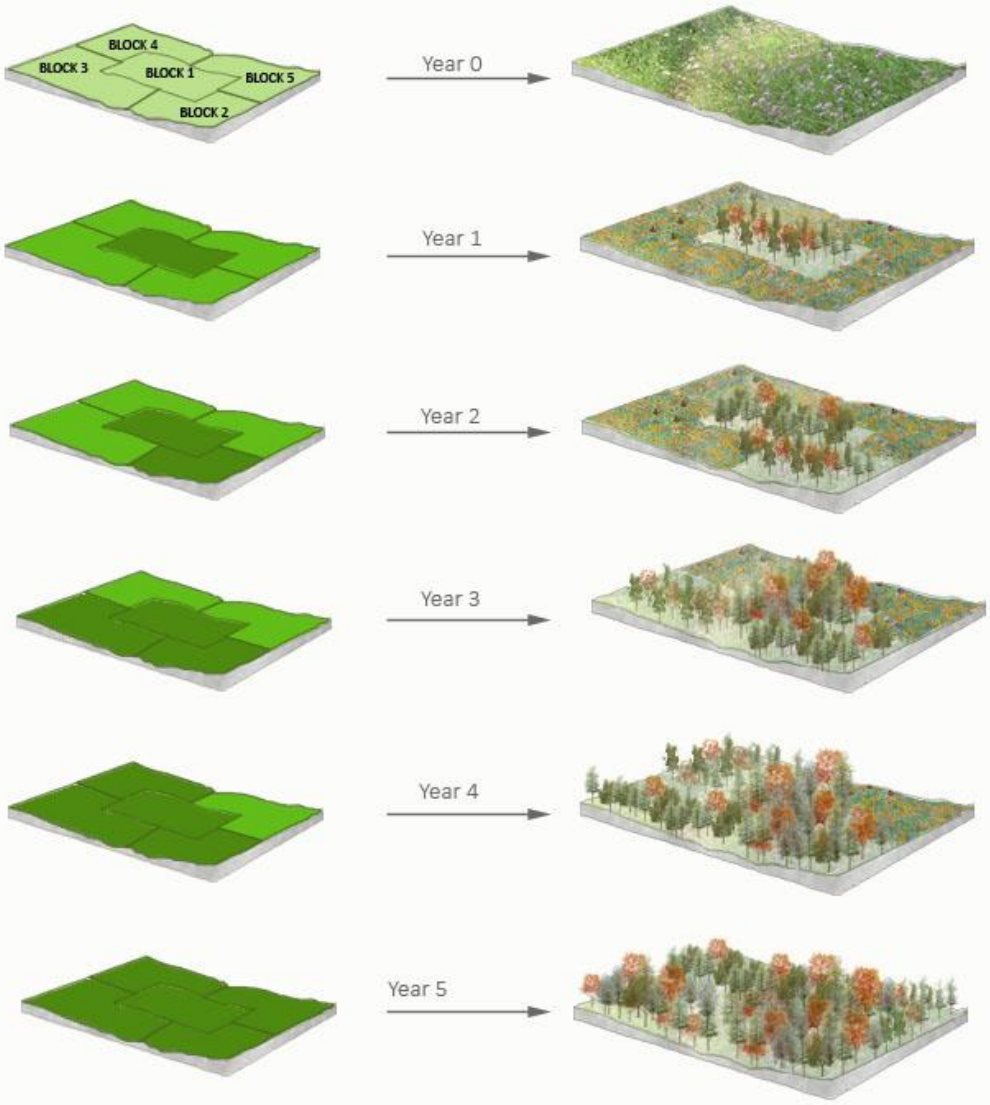
The excavation, burial and planting continues sequentially on the site.

Planting, consistent with a landscape plan is carried out when the block has been filled with coffins.

Planting may take place annually or biannually, in Spring or the Fall.

Planting on each block changes as the burials continue, from short-term planting, to medium-term planting, finally to long-term planting.

Once full, the site will become a managed woodland for at least 25 years until decomposition is complete and the site is reassessed.



LANDSCAPE APPROACH: PROCESS AND TIME

FUTURE BURIAL SITES

Example of burial and land treatments

(not intended to be exhaustive, but illustrative)

Existing woodland

Fell woodland, plant short term vegetation and rotate blocks on site as for new burial sites

Thin/coppice woodland, create rides and glades so increasing woodland edge and diversity of flora and fauna.

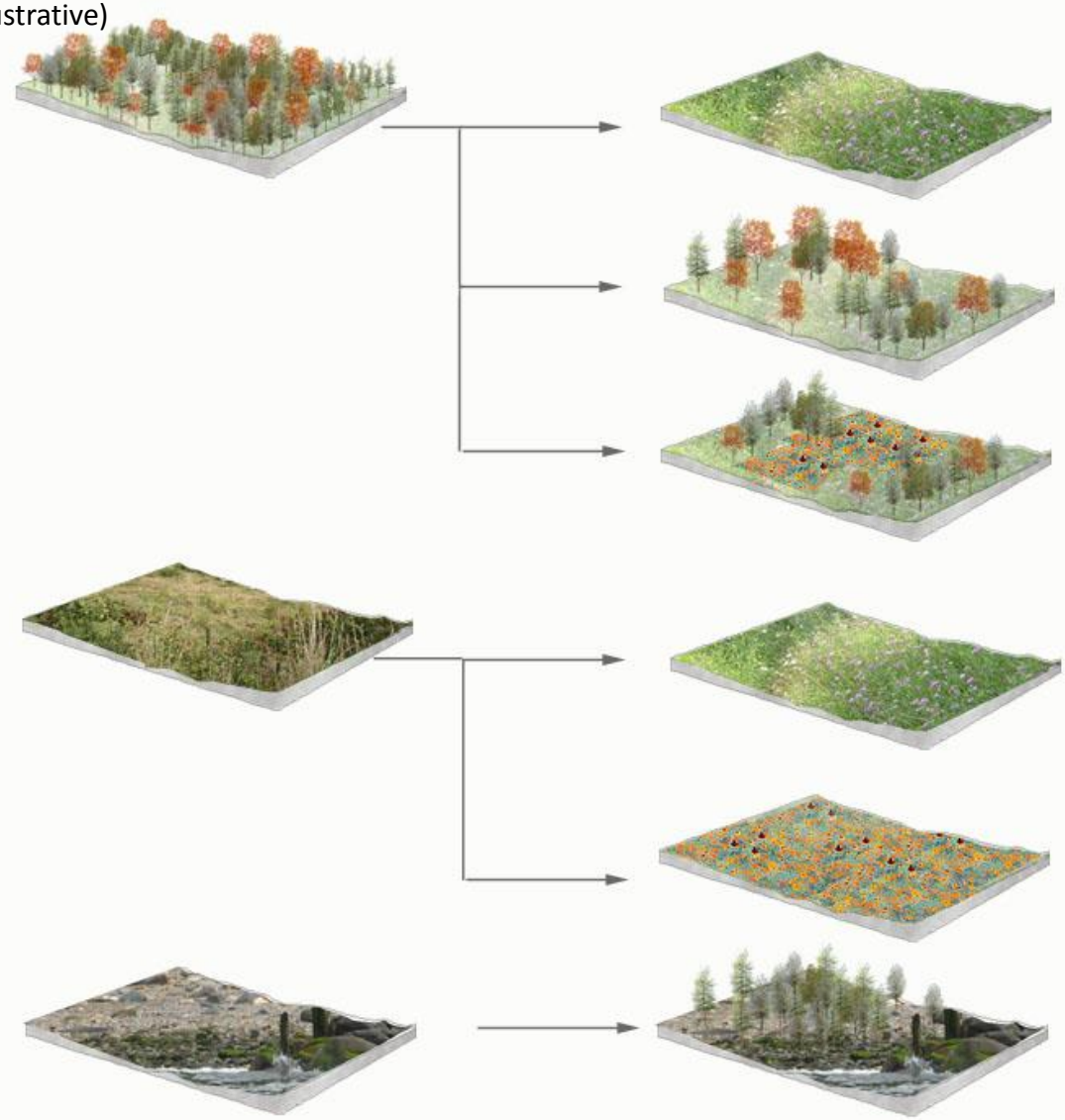
Partially thin/coppice woodland so increasing woodland edge and diversity of flora and fauna. Rotate blocks on site as for new burial sites

Herbaceous

Part clear ruderal and scrub, plant short or medium term vegetation until ready for burial. Rotate block on site as for new burial sites.

Rip Rap Shoreline

Stabilise shoreline utilising bioengineering techniques.



- Engagement:
  - Set up a Joint Liaison group with stakeholders including DOC, City and Borough Departments, Hart Island Project
  - Agree roles and responsibilities
- Surveys and research:
  - Ecological and soil survey
  - Survey of shoreline and recommendations regarding bioengineering solutions and adaptability to climate change
  - Drainage: recommendations for sustainable water management
  - Buildings: Potential for restoration and future use
- Landscape and Burial Plan
  - Define the location of future burial sites
  - Scale of operations:
    - Define a hierarchy of roads and access points to minimise tracking. Define paths for circulation of the visitors
    - Consider the size and depth of burial plots to avoid long standing open graves.
  - Consider soil stockpile locations
  - Maintain the process of natural burial combined with a landscape strategy that maximises ecological diversity
  - Develop proposals that will enable visitors to commemorate their relatives in a dignified and respectful environment.
  - Consider proposals for the future use of derelict buildings and place within landscape strategy.

- A Landscape Plan, Landscape Management Plan and Burial Plan with proposals underpinned by a detailed and comprehensive understanding of the processes on Hart Island along with its natural and cultural features.
- Community, national and international endorsement.
  - A burial site once provided a community's connection to itself, its history and its environment, and land and burial management of Hart Island offers an opportunity to bring it physically and emotionally back to New York citizens.
- Reclamation and enhancement of a sustainable, rich, bio-diverse habitat.
- Viable economic model in keeping with requirements of the Department of Health and the Office of the Chief Medical Examiner.
- Prototype for municipal natural burial sites in the US.