THE RECONSTRUCTION OF THE COMPOSTING FACILITY AND CONSTRUCTION OF A WETLAND FOR THE LOWER EAST SIDE ECOLOGY CENTER IN EAST RIVER PARK

Located in East River Park
Borough of Manhattan

Schematic Design Review
April 18, 2017
W Architecture & Landscape Architecture
Parks Capital Design
Project ID: M144
GOALS

• Formalize current composting operations to adhere to requirements of the Department of Environmental Protection (DEP) for sewer discharge
• Construct a stormwater treatment garden that is capable of collecting and treating on-site stormwater
• Construct a separate treatment system capable of treating liquid waste (leachate) from composting operations
• Provide a space for better site integration, educational opportunity, and controlled pedestrian access
• Enhance the site with plantings, stormwater management, and spatial organization for efficient composting operations and management and a reduction in unwanted odors

TOTAL BUDGET: $2,100,000

$1,000,000 Governor’s Office of Storm Recovery
$1,000,000 CM Mendez (FY 15)
$100,000 BP Brewer (FY 15)

CONSTRUCTION BUDGET: $1,615,000 (approximately)

COMMUNITY OUTREACH: Multiple City and State Agencies attended Kick-Off Meeting

PROJECT SIZE: 1.1 acres (approximately)
LOWER EAST SIDE ECOLOGY CENTER | NEIGHBORHOOD FACILITIES

- TENNIS COURTS IN EAST RIVER PARK
- LOWER EAST SIDE ECOLOGY CENTER FIRE BOAT HOUSE
- EAST RIVER PARK AMPHITHEATER
- VARIOUS COURTS AND SPORTS FIELDS
- LOWER EAST SIDE ECOLOGY CENTER COMPOST FACILITY

- GRAND ST SUBWAY (2 BLOCKS FURTHER)
- ABRONS ART CENTER
- EAST BROADWAY SUBWAY (1 BLOCK FURTHER)
- LILLIAN WARD PLAYGROUND
- FDR DRIVE
- PIER 42
- WILLIAMSBURG BRIDGE

Grades: 10 minute walk, 5 minute walk.
LAND USE CATEGORIES
- PARKS AND PUBLIC LANDS
- 1 AND 2 FAMILY RESIDENTIAL
- MULTI-FAMILY RESIDENTIAL
- MIXED USE
- OPEN SPACE
- COMMERCIAL
- INSTITUTIONAL
- INDUSTRIAL
- PARKING
- TRANSPORTATION / UTILITIES
- VACANT LOTS
- BASKETBALL / HANDBALL / TENNIS COURTS
- BASEBALL / SOCCER / FOOTBALL FIELDS
ZONE A - 1% annual-chance flood event. No Base Flood Elevation (BFE) exists.

ZONE AE - 1% annual-chance flood event.

ZONE AO - 1% annual-chance shallow flooding.

VE - Areas along coasts subject to inundation by the 1% annual-chance flood event with additional hazards associated with storm-induced velocity wave action, BFE exists.

ZONE X - Moderate risk areas within the 0.2% annual-chance floodplain.

LIMIT OF MODERATE WAVE ACTION

Segment 1 of the flood wall (East Side Coastal Resiliency or ESCR) will be either a hard flood wall or an earthen berm that reaches a minimum of elevation 16.5’ above mean high water. Location of ESCR wall is not final.
Since 1987, the Ecology Center has worked toward a more sustainable New York City by providing community-based recycling and composting programs, as well as youth development through environmental education programs. Their offices are currently located in the historic fireboat house.

The Lower East Side Ecology Center takes in organic food waste from various green markets in New York City and processes it into compost for planting material in East River Park.
20' BOX TRUCK DELIVER OF ORGANIC FOOD WASTE: M/T/W/F

IN-VESEL BINS RECEIVES DELIVERY OF ORGANIC FOOD (UP TO 18 BARRELS) AND IS MIXED WITH SAWDUST (2 WEEKS)

Quantities: About 8 tons of food scraps and 4 cubic yards (CY) of sawdust are received on a weekly basis (4 delivery days)

BROKEN DOWN COMPOST IS TRANSFERRED BY FORKLIFT TO ACTIVE COMPOSTING PILES

Quantities: 14 CY of material is put into active compost piles each week, creating 56 CY of material per pile over 4 weeks. Material actively composts for 3 months.

ACTIVE COMPOST IS TRANSFERRED BY FORKLIFT TO CURING COMPOST PILES FOR FINISHING (3 MONTHS TOTAL)

Quantities: 38 CY of material is moved to the curing compost piles every 3 months. Material cures for 1 month.

SCREENING / SOIL PREP IS FINAL STAGE OF FINISHED COMPOST

Quantities: 19 CY of finished / screened compost is produced every 4 months.

LIQUID LEACHATE FROM THE IN-VESEL COMPOSTING BINS WILL BE DISCHARGED TO A LEACHATE TREATMENT CONTAINER IN ORDER TO RAISE pH AND REDUCE TOTAL SUSPENDED SOLIDS (TSS).*

Quantities: Peak flow of leachate is 20 gallons per day (GPD).

*Any industrial waste facility applying for a discharge permit is subject to review by DEP on a case-by-case basis if peak flow is less than 10,000 GPD.

A PORTION OF THE SITE WILL BE RESERVED TO COLLECT SITE RUNOFF AND COLLECT AND TREAT STORMWATER THROUGH PLANTINGS AND GREEN INFRASTRUCTURE (RAIN GARDEN CAPACITY TO EXCEED REQUIRED VOLUME OF RUNOFF FROM DRAINAGE AREA)

STORMWATER TREATMENT

NYC Parks

APPENDIX | ORDER OF OPERATIONS
Left: The East Side Coastal Resilience (ESCR) Project’s first phase will provide the area with coastal resilience infrastructure and park reconstruction between Montgomery Street and East 23rd Street. At the location of the composting facility, the ESCR project will be a flood wall between the FDR Drive and the site.*

Right: Pier 42 is a capital project that will provide a passive park to the area immediately west of the Lower East Side Ecology Center composting facilities.*

*The schedule for all of the coastal construction projects will be managed by the Governor’s Office of Storm Recovery/
LOWER EAST SIDE ECOLOGY CENTER | EXISTING CONDITIONS

LEGEND

- PROJECT AREA
- CHAIN LINK FENCE (8' HIGH)
- TREE
- STORAGE CONTAINER
- IN-VESSSEL CONTAINERS
- EXISTING LIGHT
- PEDESTRIAN PATH
- GRASS / PLANTED AREAS
- COMPOSTING PILES
- PERIODICALLY STANDING WATER
- WATER SOURCE
- PRIMARY ACCESS
- BENCHES
- EXISTING BENCH

NYC Parks
1 - EXISTING COMPOSTING FACILITY
View from public walkway east of facility

2 - FOOD WASTE DELIVERED TO THE SITE IN BINS
Organic food waste is collected from green markets in Manhattan and delivered in garbage bins

3 - FOOD WASTE COLLECTION BINS
White and blue bins are filled with organic food waste and sawdust for initial breakdown

4 - COMPOST IN WINROWS
After a few weeks in the compost bins, the compost is placed in existing compost piles called windrows

5 - FINISHED COMPOST PILES
Finished compost is stored on site and either used for planting or fertilizing purposes in East River Park or sold separately
1 - STANDING WATER
The site has remnant paving with improperly functioning drainage system resulting in two areas of standing water

2 - DISCHARGE OF LEACHATE
Liquid discharge from the food waste (leachate) is currently discharged into a city sewer

3 - DELIVERY TRUCK OPERATIONS
Delivery trucks access the site multiple times a week requiring ample space and hard surfaces for maneuvers

4 - OPERABLE SURFACE AREA
Due to standing water, much of the site is inaccessible for composting operations, something the LESEC would like to expand

5 - AESTHETIC QUALITIES
Some community members are concerned with the visual and odorous qualities of the site
LOWER EAST SIDE ECOLOGY CENTER | PRECEDENT CANOPY

- East River Amphitheater
- Existing Mature Trees
- Woodchip Storage
- Active Compost
- Curing Compost
- Lightweight Canopy
- Concrete Bays
- Education Pavilion & Controlled Public Access
- Garden Deck
- Bioretention Garden
- Existing Chain Link Fence
- East River
- Bioretention Garden
- Existing Chain Link Fence

**Locations:**
- PETERBOROUGH, ONTARIO | POSTS SET ON CONCRETE BLOCKS
- BEACON, NY | CORRUGATED ROOF SET ON STEEL COLUMNS
LOWER EAST SIDE ECOLOGY CENTER | COMPOST STRUCTURE ELEVATION & DETAILS

01 CONNECTION DETAIL
SCALE 1/12" = 1'-0"

02 CONNECTION DETAIL
SCALE 1/12" = 1'-0"

LESEC STRUCTURE SECTION
SCALE 1/8" = 1'-0"
MILLIKEN PARK WETLANDS, DETROIT, MI | WETLAND DEMONSTRATION GARDEN, 1 ACRE

BROOKLYN BRIDGE PARK, BROOKLYN, NY | STORMWATER COLLECTION, 9 ACRES

BROOKLYN BOTANICAL GARDEN, BROOKLYN, NY | RIPARIAN AREA / WETLAND, 1.5 ACRES

BIOSWALE, CORNELL, NY | BIOSWALE GARDEN WITH 1 ACRE COLLECTION AREA

BROOKLYN BRIDGE PARK, BROOKLYN, NY | STORMWATER COLLECTION, 9 ACRES

NYC Parks

LOWER EAST SIDE ECOLOGY CENTER | BIOSWALE AND RETENTION POND PRECEDENTS
STONE FILTER BETWEEN RAIN GARDEN AND COMPOST FACILITY

BIKE RACK

6-8' HEIGHT CHAIN LINK FENCE

RECYCLED PLASTIC LUMBER DECK

DRINKING FOUNTAIN

LOWER EAST SIDE ECOLOGY CENTER | SITE MATERIALS
LOWER EAST SIDE ECOLOGY CENTER | SCHEMATIC DESIGN GENERAL DIMENSIONS

**LEGEND**
- PROJECT AREA
- PROPOSED TREE
- BIO RETENTION
- IN-VESSEL
- CONCRETE BAYS
- CANOPY OVER CONCRETE BAYS
- LEACHATE TREATMENT
LOWER EAST SIDE ECOLOGY CENTER | PLANT MATERIALS | BIO RETENTION PLANTS

- **IRIS VERSICOLOR / Large Blue Flag**
- **LOBELIA CARDINALIS / Cardinal Flower**
- **ACORUS AMERICANUS / Sweet Flag**
- **ASCLEPIAS INCARNATA / Swamp Milkweed**
- **PANICUM VIRGATUM / Switchgrass**
- **EUTROCHIUM DUBIUM / Joe Pye Weed**