



# Climate Adaptation Milestones

- Wet flood proofing and restoration of Pier A (2014)
- Restoration of Ball Fields (2014)
- Completion of infrastructure risk assessment (2015)
- Raising of electrical vaults above flood zone (2017)
- Upgrading lighting to be water resistant (2017)
- Development of new 5 year capital plan (2018)
- State legislation authorizing a \$500 million increase to our bond cap (2018)
- Bond Issuance for Resiliency (2019)
- Design-Build authority granted (2020)
- Sustainability Plan and Green Guidelines (2020)
- Zero Waste Certification (2021)
- Completion of Ball Fields Resiliency (2022)
- Climate Action Plan (2022)









# **Lower Manhattan** by the Numbers

Lower Manhattan is both a destination and a gateway, serving as a transit hub, a thriving residential community, a central business district, and home to dozens of cultural and civic institutions. This graphic and accompanying data represents a snapshot of the importance of Lower Manhattan and the critical functions it serves - for the New York City region and beyond.

14 subway lines 17 ferry routes 510,000 commuters 290,000 workers 62,000 residents 55,000 students

New Jersey



## **Building Area**

- o 20,000 250,000 SF
- O 250,000 750,000 SF
- O 750,000 1,500,000 SF
- O 1,500,000 3,000,000 SF
- 3,000,000+ SF

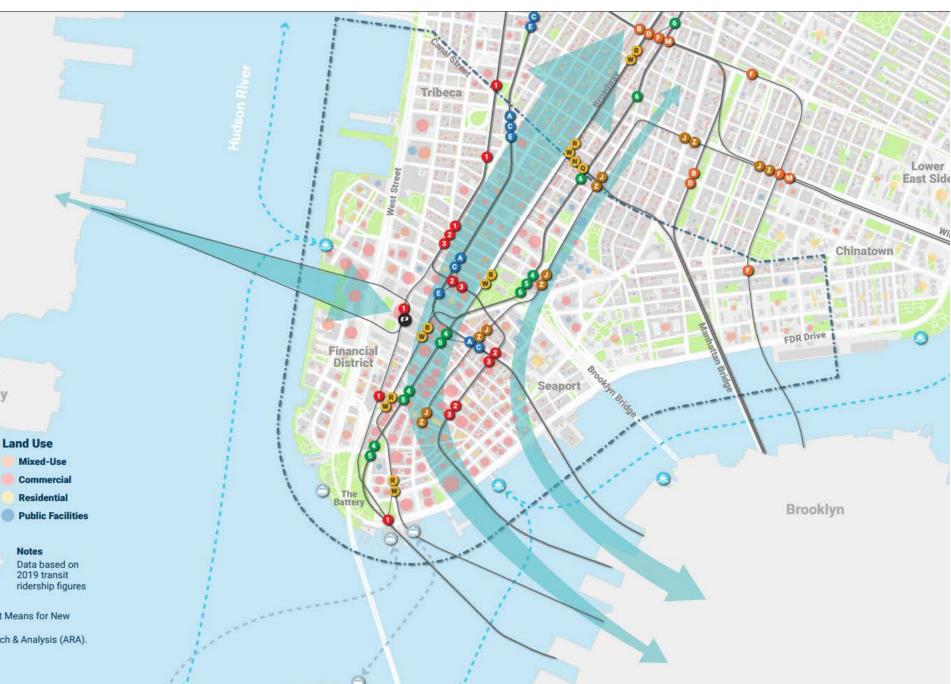
#### Sources

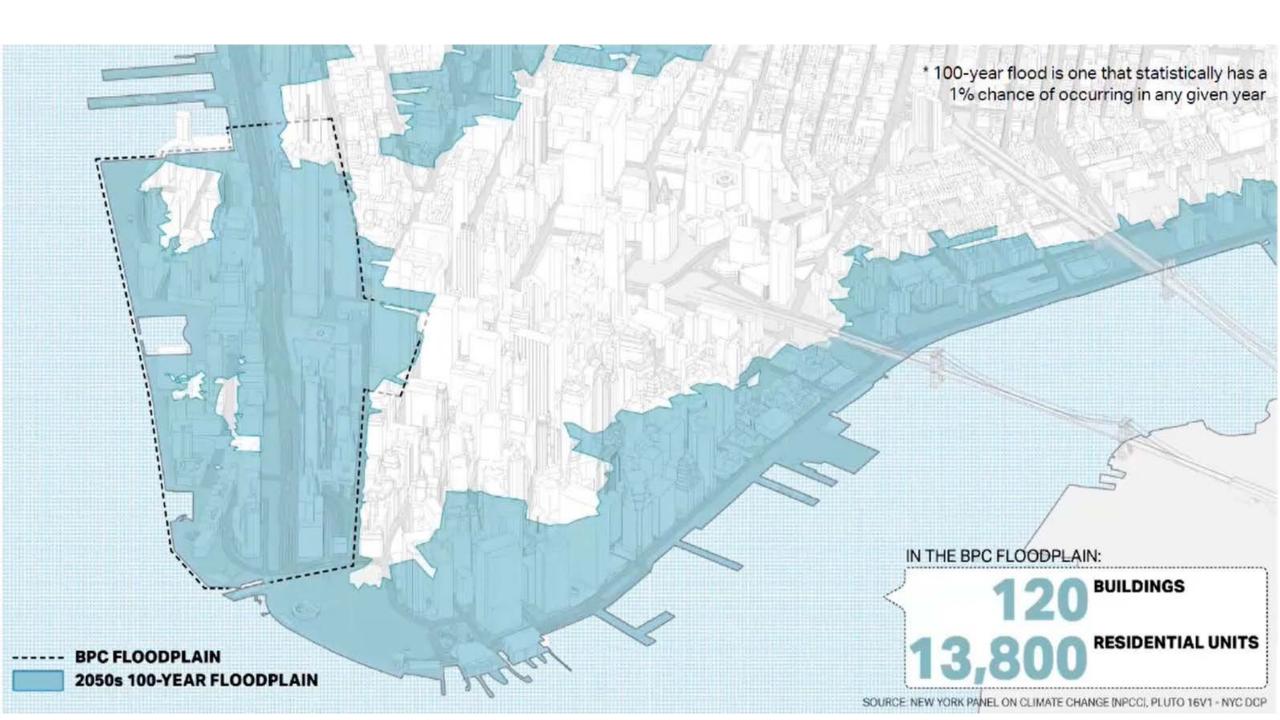
LEHD Origin-Destination Employment Statistics (LODES). NYC Permitted Event Information - Historical: NYC Open Data.

Primary Land Use Tax Lot Output (PLUTO). NYC DCP. Subway and Bus Ridership for 2019. MTA.

Surging Ahead: Lower Manhattan's Economic Revival and What It Means for New York, Alliance for Downtown New York, 2015.

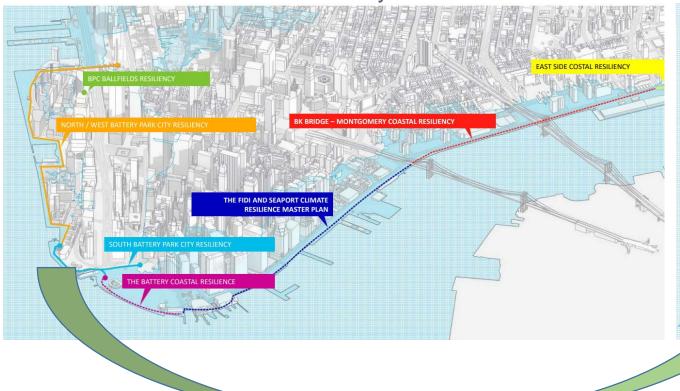
Unique Visitor to Lower Manhattan 2019/2020. Audience Research & Analysis (ARA).



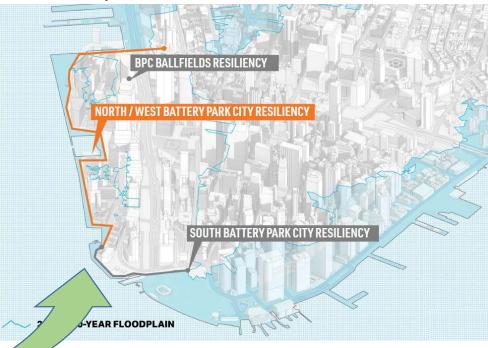


# Lower Manhattan Resiliency

Lower Manhattan Coastal Resiliency Initiatives



**BPC Components** 



# Collaboration Partners







Department of Environmental Conservation































## South Battery Park City Resiliency Project

- Pre-Construction Update CB1 (September 20, 2022)
- Town Hall with Council Member Marte, Senator Kavanaugh, and BP Levine (June 15, 2022)
- Pre-construction Community Walkthroughs (April 23 & 28, 2022)
- Project Update to Manhattan CB1 (March 21, 2022)
- Project Update to Manhattan CB1 (April 2021)
- Project Update to Manhattan CB1 (February 2021)
- Project Update to Manhattan CB1 (June 2020)
- January 15, 2020 Public Meeting
- October 3, 2019 Presentation to CB1 Environ. Protection Committee
- June 24, 2019 Public Meeting
- April 15, 2019 Public Meeting / Design Discussion
- March 12, 2019 Public Meeting
- November 1, 2018 Public Meeting
- Wagner Park Site Assessment & South BPC Resiliency Plan (July 13, 2017)
- Presentation to Manhattan CB1 (June 20, 2017)
- Wagner Park Public Presentation (March 22, 2017)
- Community Presentation (November 9, 2016)

## **BPC Ball Fields Resiliency**

- BPC Ball Fields Decorative Elements Review w/CB1 (May 18, 2020)
- September 26, 2019 Public Meeting
- July 25, 2019 Public Meeting
- March 21, 2019 Public Meeting
- November 19, 2019 Public Meeting

#### North / West Battery Park City Resiliency Project

- September 19, 2022 Public Meeting Alignment Options
- Public Open House (June 29, 2022)
- December 16, 2021 Public Meeting w/breakout rooms
- November 13, 2021 "Walkshop" (by popular demand!)
- October 28 & November 4, 2021 "Walkshops"
- August 4, 2021 public meeting

## North BPC Resiliency Project

- July 23, 2020 Public Meeting
- February 27, 2020 Public Meeting
- October 1, 2019 Public Meeting

### **Overall/General Resiliency**

- LMCR Quarterly Update (May 16, 2022)
- Assembly Member Niou 2022 Legislative & Budgetary: Environmental Protection / Resiliency Panel Presentation
- Lower Manhattan Coastal Resiliency (LMCR) Quarterly Update (January 24, 2022)
- Update to Manhattan CB1 Executive Committee (August 17, 2021)
- LMCR Quarterly Update (June 21, 2021)
- LMCR Update: Battery Coastal Resilience (March 24, 2021)
- Assembly Member Niou 2021 Legislative & Budgetary Town Hall: Resiliency Panel Presentation
- Assembly Member Niou 2020 Legislative & Budgetary Town Hall: Resiliency Panel Presentation
- Assembly Member Niou Town Hall Feb 2019: Resiliency & Environmental Protection Panel
- BPC Resiliency Assessment Overview (March 22, 2017)

# Timeline



November 2016 – July 2017 November 2018 – December 2019 <u>January 2020 – September 2021</u>

**September 2021 - Today** 

Perkins Eastman

**AECOM** 

**AECOM** 

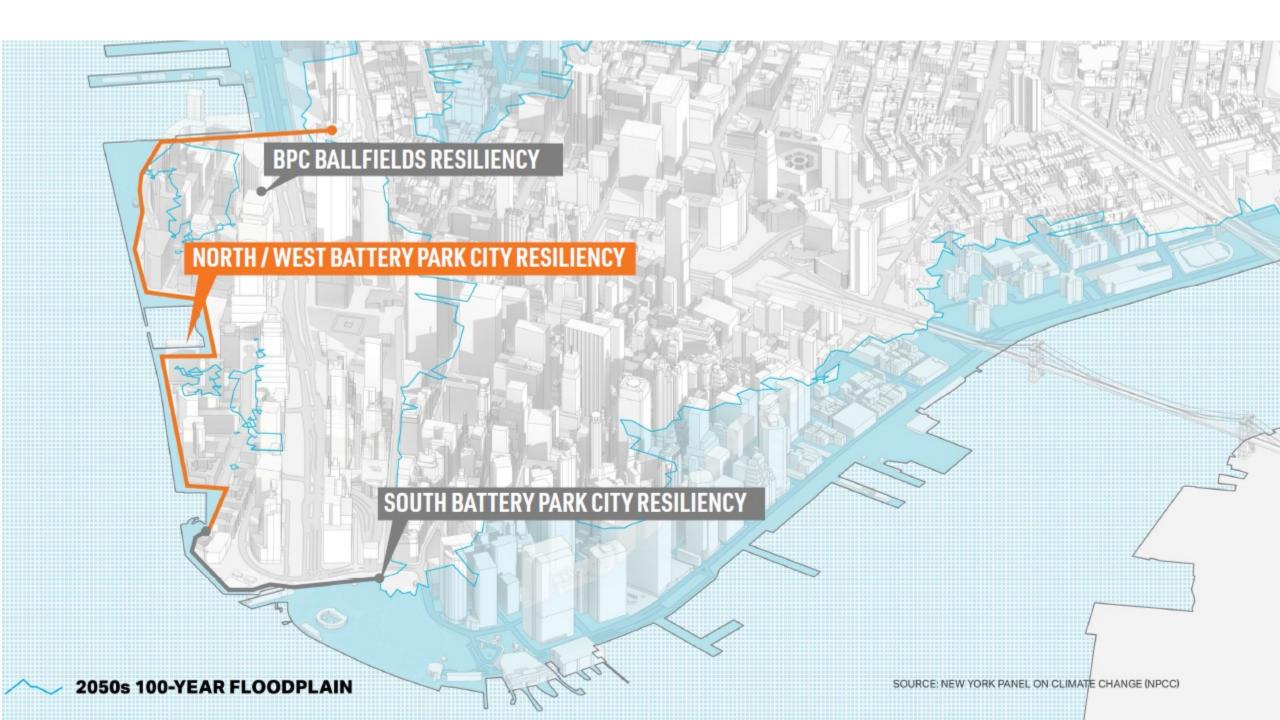
**AECOM** 

**Assessment & Massing** Concept

**Engineering & Updated Design** Concept

**Engineering & Revised Designs** 

**Environmental Review & Final Design** 



# Ball Fields Resiliency Project

- Independent flood barrier system along eastern, northern and southern borders of the Ball Fields and Community Center
- The Ball Fields are located at a geographical low point making them susceptible to flooding, as experienced during Superstorm Sandy

Estimated Cost \$7.8 million





# South Battery Park City Resiliency

The South Battery Park City
Resiliency (SBPCR)
Project contemplates creation
of an integrated coastal flood
risk management system from
the Museum of Jewish
Heritage, through Wagner Park,
across Pier A Plaza, and along
the northern border of the
Historic Battery.



Design Completion of Barrier System (December 2021) Design Completion of Interior Drainage (April 2022) Environmental Impact Study Completion (June 2022)

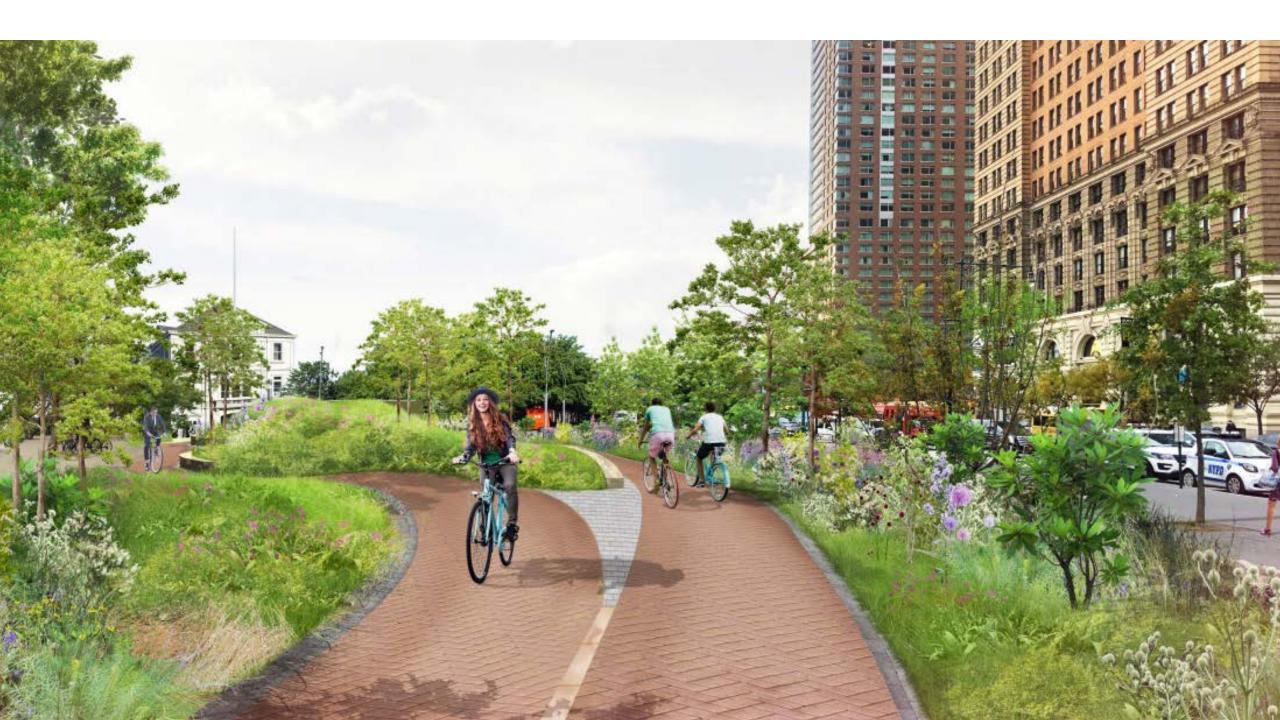
Construction Start (Fall 2022) Construction Substantial Completion (December 2024)

Construction Final Completion ( Mid-2025)

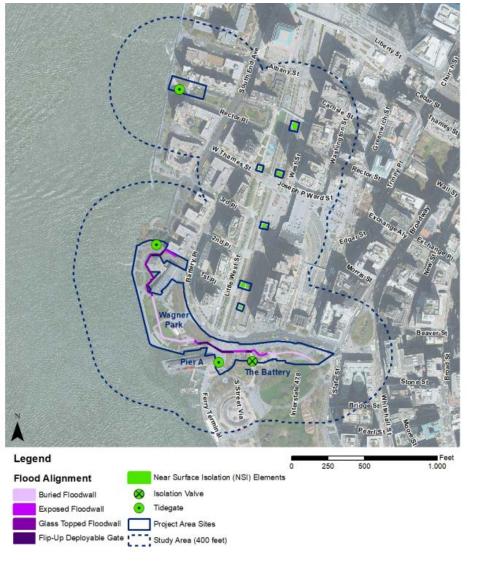








# Interior Drainage Improvements



In conjunction with DEP and per their recommendation:

- Installation of tide gates one at First Place, second at Rector St., and third at Pier A Plaza.
- Installation of an isolation valve at the vicinity of the Battery Bikeway
- Isolation of interceptor line branches rising to street level (near surface isolation) – consisting of installation of gate within existing regulator structures and pressure proofing four interceptor manholes

# North/West Battery Park City Resiliency



The NWBPCR project provides perimeter storm and flood protection system on northern boundary

Continuous flood barrier to cover North Esplanade, cross West Street, and areas east of West Street that will be a part of the complete flood barrier system for BPC.

It will build upon the existing system of garden/park walls along the Esplanade and employ targeted supplemental landscaping elements and deployable barrier components

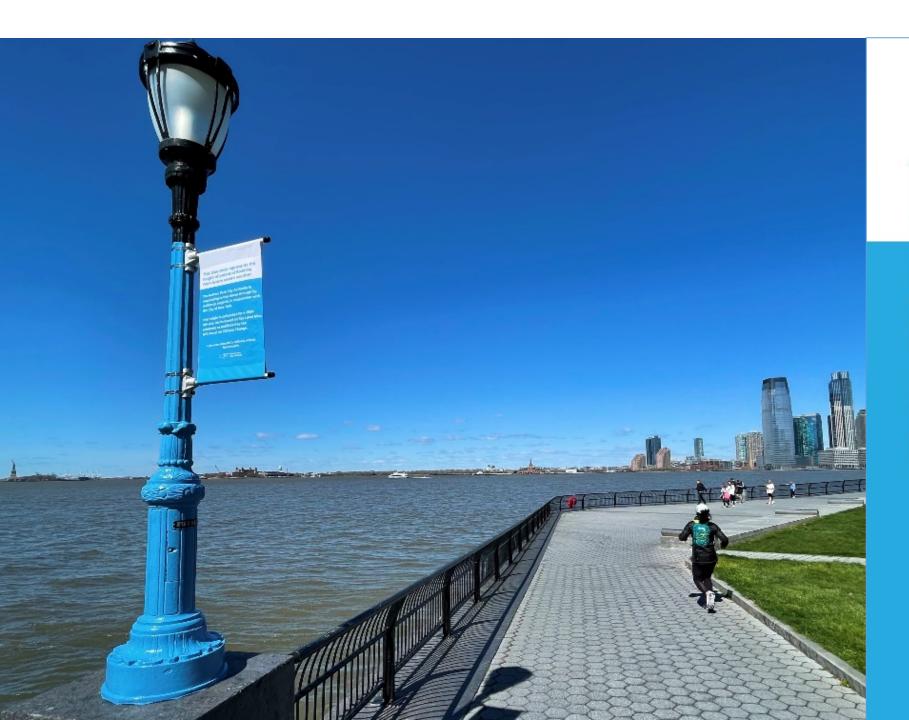
Progressive Design Build Contractor Short-list Development (December 2021)

RFP Issuance (Jan 2022) Project Definition Completion (February 2022) Contractor Selection (Summer 2022)

EIS Completion (Late 2023)

Construction Start (2024) Construction Completion (Early 2027)

Timeline - Preliminary Estimate\*\*



This blue color represents the height of potential flooding from future severe weather.

The Battery Park City Authority is responding to this threat through its resiliency projects, in conjunction with the City of New York.

This height is calculated for a 2050 100-year storm based on Sea Level Rise estimates as published by the NYC Panel on Climate Change.

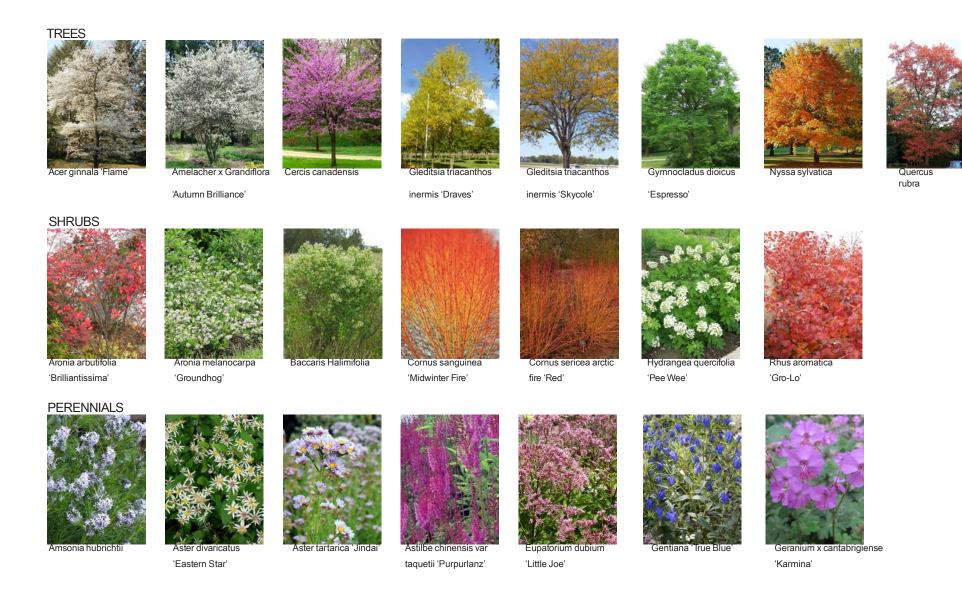
Learn more about BPC's resiliency projects: bpca.ny.gov





# **APPENDIX**

## PIER A PLAZA | PLANTING PALETTE

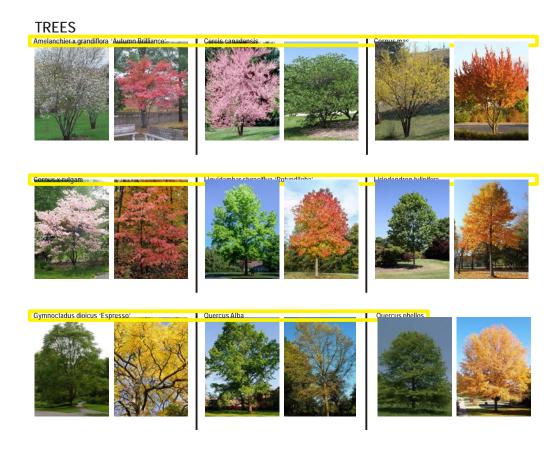




# PIER A PLAZA | PLANTING PALETTE







## PROPOSED TREE PALETTE

TREES			
D	Quantity	Botanical Name	Common Name
		1 <del></del>	
	3	CUSTONIA VIDA	WILLIAM OF THE COLUMN
QA	3	QUERCUS ALBA	WHITE OAK
QPH	3	QUERCUS PHELLOS	WILLOW OAK
&NRUBS	25	ARONIA MEI ANOCARPA 'MORTON'	IROQUOIS BI ACK CHOKEBERRY
ID	Quantity	Botanical Name	Common Name
IU		Botanical Name	Common Name
FG	50	FOTHERGILLA GARDENII 'MT. AIRY'	MT. AIRY FOTHERGILLA
HQ	24	HYDRANGEA QUERCIFOLIA 'SNOWQUEEN'	SNOW QUEEN OAKLEAF HYDRANGEA
RA Kam	58 14	RHUS AROMATICA 'GRO-LO'	GRO-LOW SUMAC GOMBRER OKERERY I AC
IVM	3	ILEX VERTICILATA 'SOUTHERN GENTLEMAN'	SOUTHERN GENTLEMAN MALE WINTERBERRY
IVF	16	ILEX VERTICILATA WINTER RED'	WINTER RED WINTERBERRY
SB	SANE	STEP ENPROM EXISTING PLANTING VIBURNUM DENTATUM RALPH SENIOR	COLOR CHOICE BOOMERANG PURPLE LILAC
VD	JAWIE	<del>JI LUILJ I KUN LAIJ ING FLANTIN</del>	10

ADDITIONAL SPECIES ADDED FOR SUN AND FLOOD CONDITIONS, DISEASE RESISTANCE AND AN ALL-NATIVE PALETTE

# THE BATTERY | BERM SHRUB PLANTING PALETTE

# **SHRUBS** Hydrangea quercifolia 'Pee Wee' Fothergilla gardenii llex verticillata 'Winter Red'



ADDED THROUGH AGENCY COORDINATION

## PROPOSED SHRUB PALETTE

REES			
ID	Quantity	Botanical Name	Common Name
			<u> </u>
6 <sub>1</sub> 0	6	GYMNOCHADUSADIOICUS 'ESPRESSO'	RENTARIAN BULLETIN DESERVOOD
QA	3	QUERCUS ALBA	WHITEOAK
QPH	3	QUERCUS PHELLOS	WILLOW OAK
A N 4	25	ARONIA MELANOCARPA 'MORTON'	IROQUOIS BLACK CHOKEBERRY
<u></u> Мкивs	70	ARONIA MELANOCARPA MORTON	DUDY CDICE CHAMEDOWEET
ID	Quantity	Botanical Name	Common Name
FG	50	FOTHERGILLA GARDENII MT. AIRY	MT. AIRY FOTHERGILLA
₩Q.	24	HXDB4NGENDAESCIEGEN-ISNOMONEEN.	SHOW OHEEN PAKLEAF HYDRANGEA
83M	53 79	SERIGIGABRAECERPICALABIN'	DOMERNE KORBANKYLAC
IVM	3	ILEX VERTICILATA 'SOUTHERN GENTLEMAN'	SOUTHERN GENTLEMAN MALE WINTERBERRY
	16	ILEX VERTICILATA 'WINTER RED'	WINTER RED WINTERBERRY
IVF			
IVF			
	Calhar	ODERIER EDOM EVICTIMO DI A	NITING
SB VD	SAME	SPECIES PROMEXISTING PLA	NTING COLOR CHOICE BOOMERANG PURPLE LILAC

ADDITIONAL SPECIES ADDED FOR SUN AND FLOOD CONDITIONS, DISEASE RESISTANCE AND AN ALL-NATIVE PALETTE

Acanthopanax sieboldiasnus

Viburnum dentatum

**AECOM** 

**PUBLIC DESIGN** 

Rosa virginiana

llex glabra

## THE BATTERY | BERM PERENNIAL AND GRASS PLANTING PALETTE

## PERENNIAL PALETTE

























Eupatorium dubium 'Little Joe'

#### PROPOSED HERBACEOUS PALETTE

HERBACEOUS					
ID	Quantity	Botanical Name	Common Name		
AŒU	362	ASTERDIVARTION LINUTARN STAR	WINDOW WAS DAUGHAR ASTER		
ACT	124	ASTILBE CHINENSIS VAR. TAQUETII 'PURPURLANZ'	PURPLE LANCE ASTILBE		
CPE	8	CAMPANIPENBOSCHARSKYANA	PERPASYEFANTACSEEGE		
CFL	0	CAREX FLACCA	BLUE GREEN SEDGE		
EDL	120	EUPATORIUM DUBIUM 'LITTLE JOE'	LITTLE JOE PYE WEED		
GCA	449	GERANIUM X CANTABRIGIENSE 'KARMINA'	HARDY GERANIUM		
HMA	98	HEUGHERASVILLIOSA, ANTUMN BRIDE	ALLTHANN BRIDE ALUMROOT		
MCE	120 428	MOLINIA CAERULEA SSP. CAERULEA 'EDITH DUDSZUS'	EDITH DUDSZUS PURPLE MOOR		
GRASS NSS	428	NEWEYARSIGERECASSIGEVENIR D'ANDRE'	SBEENERIK BANDRE CATMINT		
PedM	227	PIELIOXARMENTOSHPLORQLIATH'	GONGNED PER AZUMROOT		
PSP	173	PHLOX STOLONIFERA 'PINK RIDGE'	PINK RIDGE PHLOX		
PSP	173	PHLOX STOLONIFERA 'PINK RIDGE'	PINK RIDGE PHLOX		
GRASS MATRIX A		5069 SF			
ID	Quantity	Botanical Name	Common Name		
CEB	3227	CAREX EBURNEA	WHITE-TINGED SEDGE TEL MICOTO STATES		
GRASS MATRIX B		14737 SF			
ID ID	Quantity	Botanical Name	Common Name		
	Quantity	Dotalious Halio	- Common Hame		
PSP	7848	PACOX STOCONIFERA PINK RIDGE	PINKRIBGEPALOXIONO		
CPO GRASS MATRIX C	519	CAMPANULA POSCHARSKYANA MODELLA BRADBURIANA	SERBIAN BELLFLOWER		
			•		
ID	Quantity	Botanical Name	Common Name		
ASB	473	ALLIUM 'MILLENIUM'	MILLENIUM ALLIUM		
700	4/3	ACCIONI MICCENSON	WILCELYIOW ALLION		
TURE   SAIVIE SPECIES FROIVI EXISTING PLAINTING					
ID	Quantity	Botanical Name	Common Name		
	4463 SF		SOD LAWN		
	ADDITIONA	SPECIES ADDED FOR SUN AND ELOOD CONDITIONS	•		

ADDITIONAL SPECIES ADDED FOR SUN AND FLOOD CONDITIONS, DISEASE RESISTANCE AND AN ALL-NATIVE PALETTE

#### TYPICAL PIET OUDOLF GRASS MATRIX PLANTINGS

Aster divarticus













Potter's Field, London

Lurie Garden, Chicago





## THE BATTERY | BERM EPHEMERALS PLANTING PALETTE

#### SPRING - EARLY SUMMER EPHEMERALS









Allium atropurpureum

Allium 'Mount Everest'

Allium 'Purple Sensation'









Galanthis elwesii

Hyacinthoides hispanica 'Dainty Maid"

Narcissus 'Ice Follies'

Narcissus 'Rijnveld's Early Sensation'





Narcissus with grasses

Seslaria with Narcissus

Sesleria with Allium 'Summer Beauty'

**PUBLIC DESIGN** 

#### PROPOSED EPHEMERAL PALETTE

BULBS			
ID	Quantity	Botanical Name	Common Name
APS	1094	ALLIUM ' PURPLE SENSATION'	PURPLE SENSATION ALLIUM
AME	1094	ALLIUM 'MOUNT EVEREST'	MOUNT EVEREST ALLIUM
AA	1094	ALLIUM ATROPURPUREUM	ORNAMENTAL ONION
AS	2189	ALLIUM SPHAEROCEPHALON	DRUMSTICK ALLIUM
GE	2189	GALANTHIS ELWESII	GIANT SNOWDROP
HHE	2189	HYACINTHOIDES HISPANICA 'EXCELCIOR'	EXCELCIOR SPANISH BLUEBELLS
HHD	2189	HYACINTHOIDES HISPANICA 'DAINTY MAID' OR 'PINK'	DAINTY MAID OR PINK SPANISH BLUEBELLS
NR	1532	NARCISSUS 'RIJNVELD'S EARLY SENSATION'	RIJNVELD'S EARLY SENSATION DAFFODIL
NF	1532	NARCISSUS ' FEBRUARY GOLD'	FEBRUARY GOLD DAFFODIL
NI	1532	NARCISSUS 'ICE FOLLIES'	ICE FOLLIES DAFFODIL
NM	1532	NARCISSUS 'MOUNT HOOD'	MOUNT HOOD DAFFODIL
NT	1532	NARCISSUS 'THALIA'	THALIA DAFFODIL
NP	1532	NARCISSUS POETICUS VAR. RECURVUS 'PHESANT 'EYE'	PHEASANT EYE DAFFODIL

#### **BLOOM TIMES**

ALLIUM' PURPLE SENSATION' ALLIUM' MOUNT EVEREST' ALLIUM ATROPURPUREUM ALLIUM SPHAEROCEPHALON

GALANTHIS ELWESII

HYACINTHOIDES HISPANICA 'EXCELCIOR' HYACINTHOIDES HISPANICA 'DAINTY MAID' NARCISSUS 'RIJNVELD'S EARLY SENSATION'

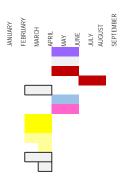
NARCISSUS 'FEBRUARY GOLD' NARCISSUS 'ICE FOLLIES' NARCISSUS 'MOUNT HOOD' NARCISSUS 'THALIA'

NARCISSUS POETICUS VAR. RECURVUS 'PHESANT 'EYE'

PURPLE SENSATION ALLIUM MOUNT EVEREST ALLIUM ORNAMENTAL ONION DRUMSTICK ALLIUM GIANT SNOWDROP

EXCELCIOR SPANISH BLUEBELLS DAINTY MAID SPANISH BLUEBELLS

RIJNVELD'S EARLY SENSATION DAFFODIL FEBRUARY GOLD DAFFODIL ICE FOLLIES DAFFODIL MOUNT HOOD DAFFODIL THALIA DAFFODIL PHASEANT EYE DAFFODIL



# **BATTERY PLACE | PLANTING PALETTE**





# Lawn Expansion





Previous New New

# Pavilion Comparison



**EXISTING PAVILION OUTLINED ON PROPOSED** 

---- Existing Footprint (8,090 SF)
---- New Footprint (7,990)

