Drainage Pump Station (DPS) 01 Watershed Drainage Upgrades & Green Infrastructure Project

GANBASE

City of New Orleans
October 9, 2025

Erika Boerr – Senior Project Manager – Stormwater and Green Infrastructure

New Orleans in Context

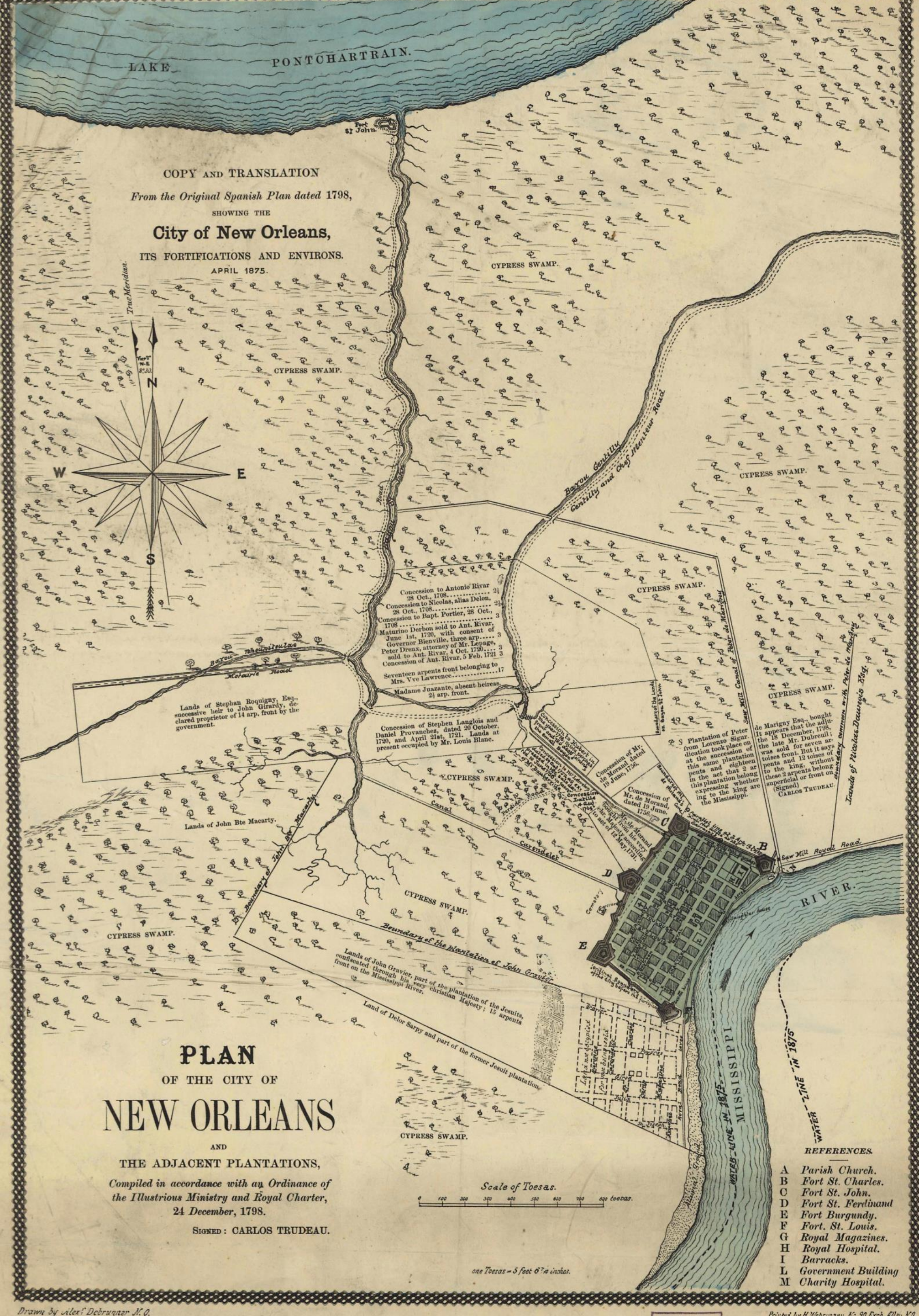
New Orleans in Context

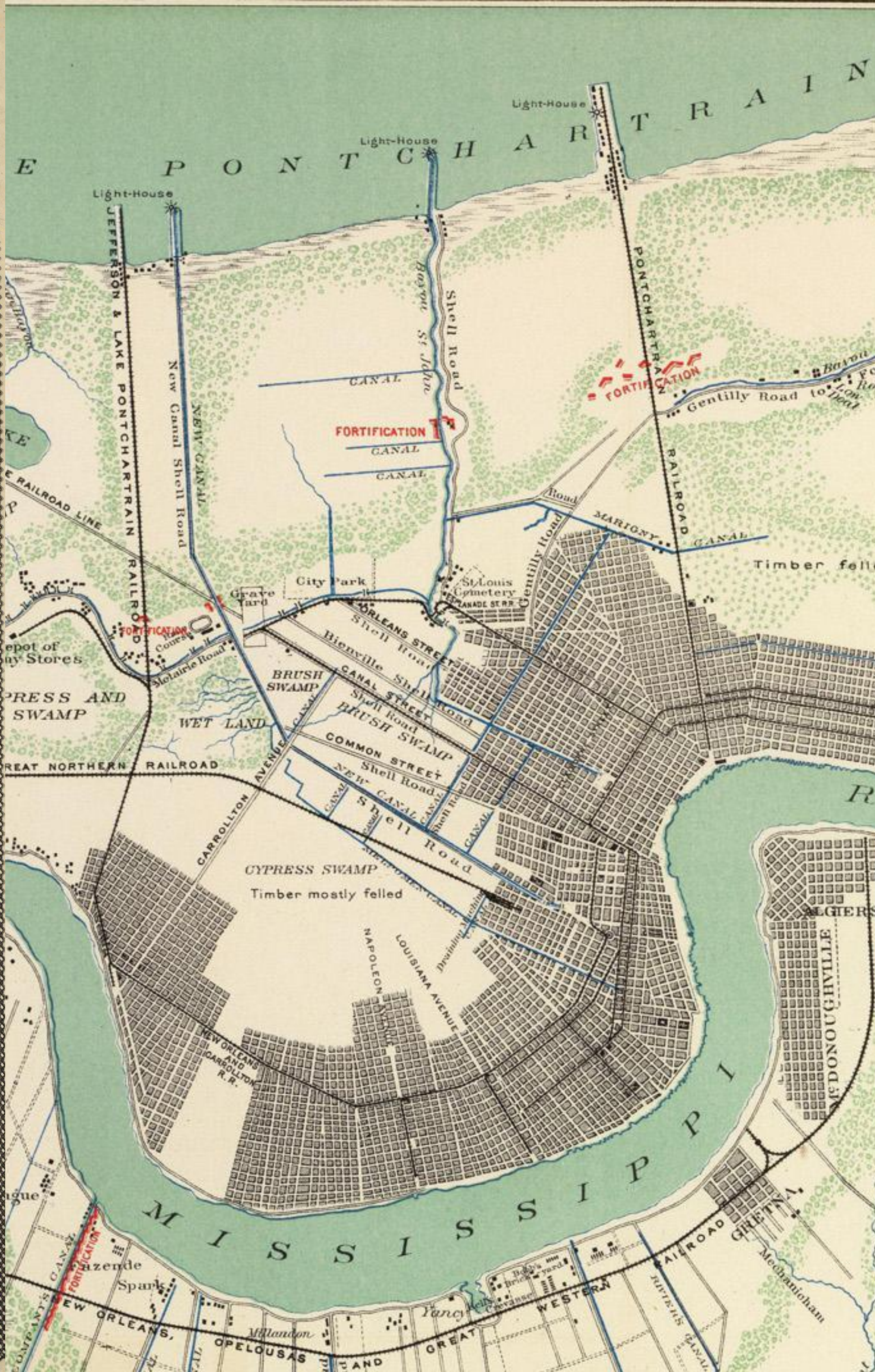
Nature and the City

Land area: 169 mi^2 (438 km^2)

Over 1/3 of that land is wetlands.

New Orleans in Context
Elevation


LAKE PONTCHARTRAIN.
COPY AND TRANSLATION
From the Original Spanish Plan dated 1798,
SHOWING THE
City of New Orleans,
ITS FORTIFICATIONS AND ENVIRONS.
APRIL 1875.
CYPRESS SWAMP.
N
S
E
W
CYPRESS SWAMP.
CYPRESS SWAMP.
CYPRESS SWAMP.
CYPRESS SWAMP.
Lands of John Bte Macarty.
Land of Delor Sarpy and part of the former Jesuit plantation.
RIVER.
MISSISSIPPI
WATER - LINE
PLAN
OF THE CITY OF
NEW ORLEANS
AND
THE ADJACENT PLANTATIONS,
Compiled in accordance with an Ordinance of
the Illustrious Ministry and Royal Charter,
24 December, 1798.
SIGNED: CARLOS TRUDEAU.
Scale of Toesas.
one Toesas = 6 feet 6¾ inches.
REFERENCES.
A Parish Church.
B Fort St. Charles.
C Fort St. John.
D Fort St. Ferdinand
E Fort Burgundy.
F Fort. St. Louis.
G Royal Magazines.
H Royal Hospital.
I Barracks.
L Government Building
M Charity Hospital.

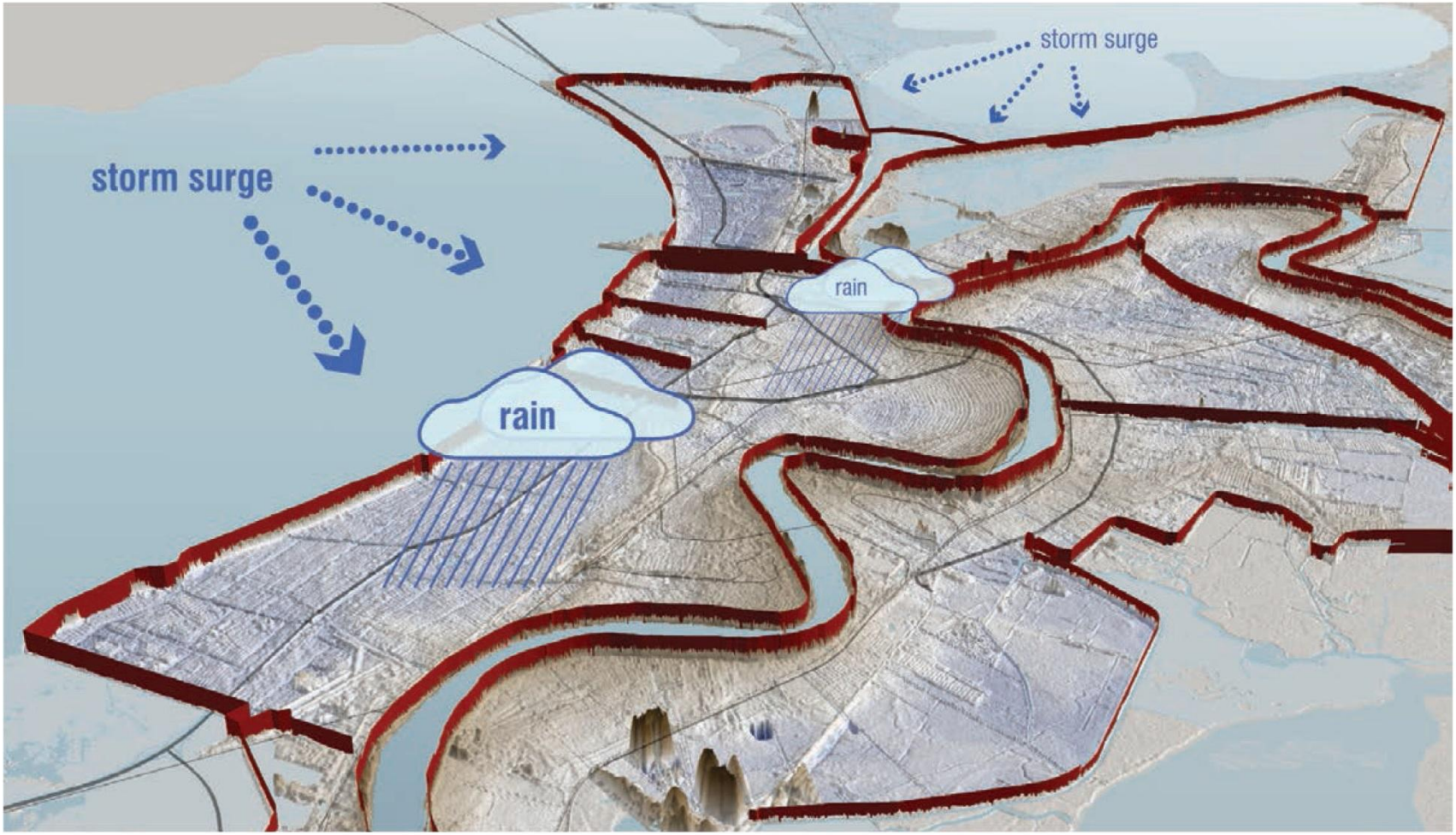

PONTCHARTRAIN
Light-House
Light-House
Light-House
JEFFERSON & LAKE PONTCHARTRAIN RAILROAD
PONTCHARTRAIN RAILROAD
New Canal Shell Road
NEW CANAL
Bayou St John
Shell Road
CANAL
CANAL
CANAL
FORTIFICATION
FORTIFICATION
FORTIFICATION
FORTIFICATION
Gentilly Road
MARIGNY
Timber felled
City Park
St Louis Cemetery
Grave Yard
ORLEANS STREET
Shell Road
Bienville Shell Road
CANAL STREET
Shell Road
BRUSH SWAMP
BRUSH SWAMP
WET LAND
COMMON STREET
Shell Road
NEW CANAL
Shell Road
Metairie Road
PRESS AND SWAMP
GREAT NORTHERN RAILROAD
CARROLLTON AVENUE
CYPRESS SWAMP
Timber mostly felled
NAPOLEON
LOUISIANA AVENUE
NEW ORLEANS AND CARROLLTON R.R.
MISSISSIPPI
ALGIERS
McDONOUGHVILLE
GRETNA
Mechanicham
NEW ORLEANS, OPELOUSAS AND GREAT WESTERN RAILROAD

New Orleans is a coastal city.

New Orleans' location, where the Mississippi River Delta becomes the Gulf of Mexico, is strategic for commerce, but also defines our most existential threat.

WATER

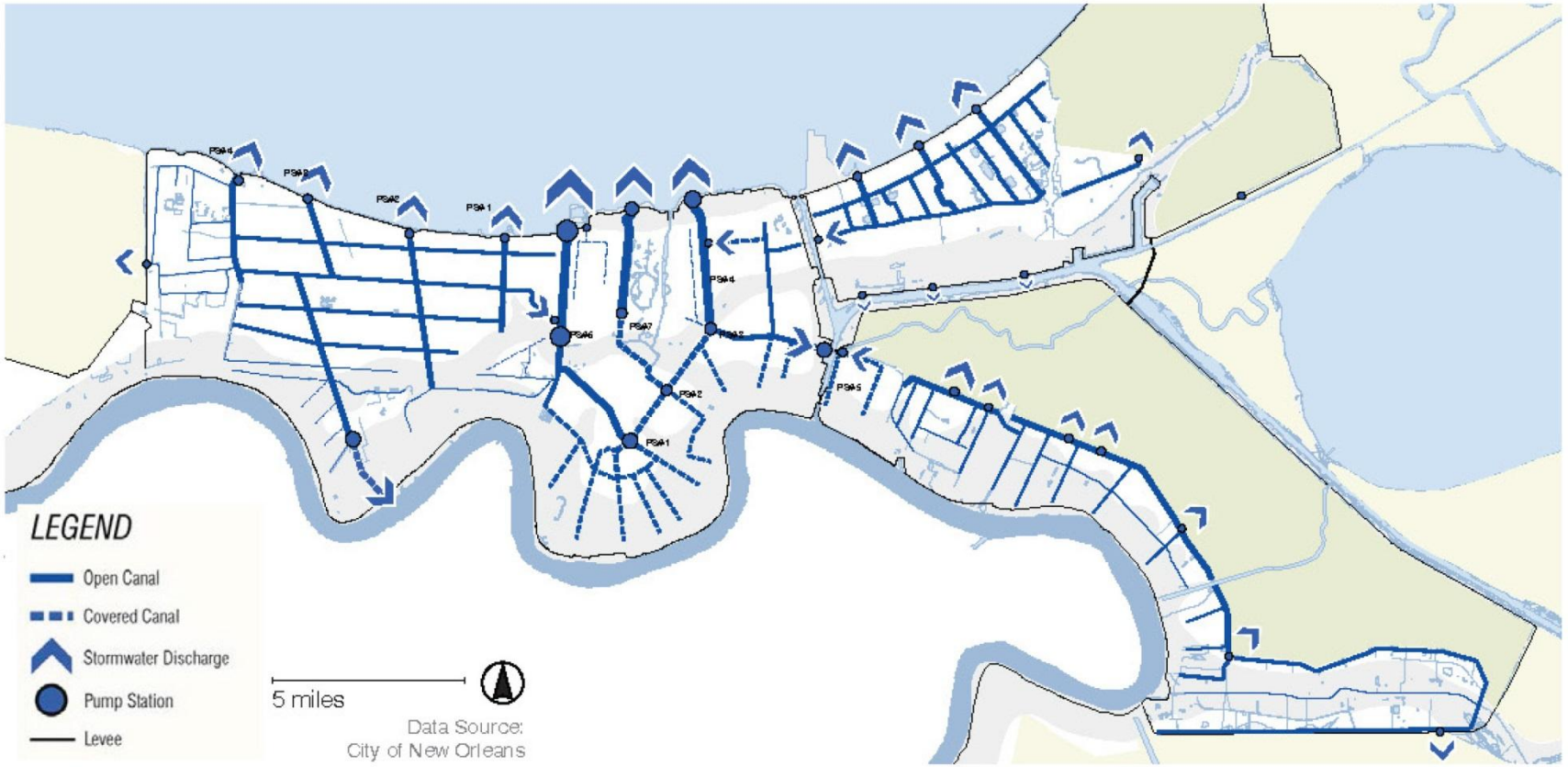
Drainage System
Surrounded by levees

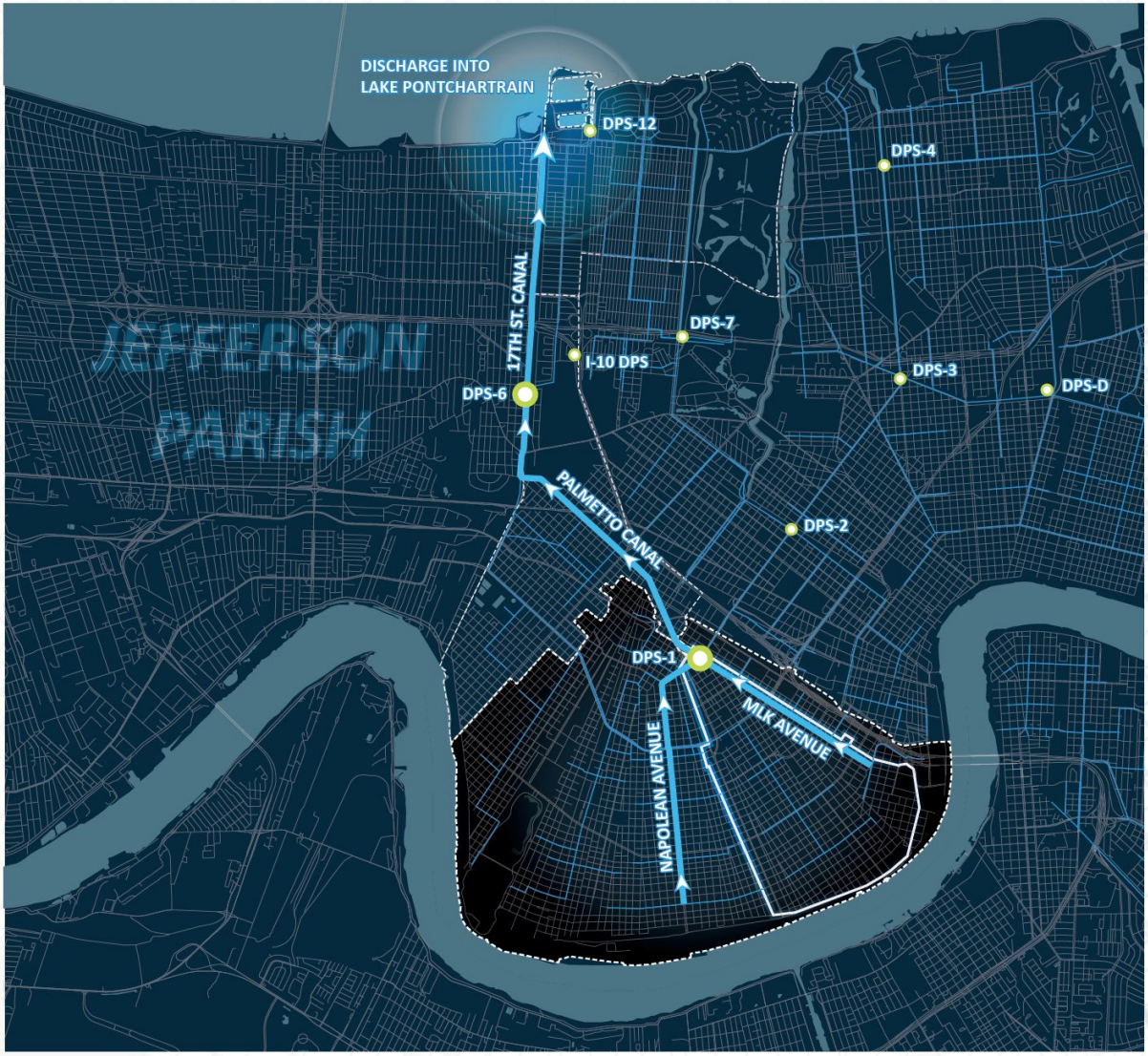


Floodwalls and levees protect New Orleans from storm surge; pumps evacuate stormwater that falls within these boundaries

Source:
Waggonner & Ball Consulting Team

Drainage System





Pipe upgrades increase the amount of stormwater that can get to the pump station and outfall canals

The upgrades make the drainage system more efficient within the Drainage Pump Station 01 (DPS 01)

A combination of grey and green infrastructure will create wide-spread flood risk reduction in the entire DPS 01 watershed

DPS 01 WATERSHED: *HYDROLOGY MAP*

Drainage Pump Station (DPS) 01 Watershed Project (aka: Broadmoor HMGP)

Design Team:

- Design Team:

* CDM Smith – Engineer of record
* Dana Brown & Associates – Landscape Architect
* Digital Engineering

CDM Smith
listen. think. deliver.

DANA BROWN & Associates

digital engineering

DPS 01 Watershed Project (aka: Broadmoor HMGP)

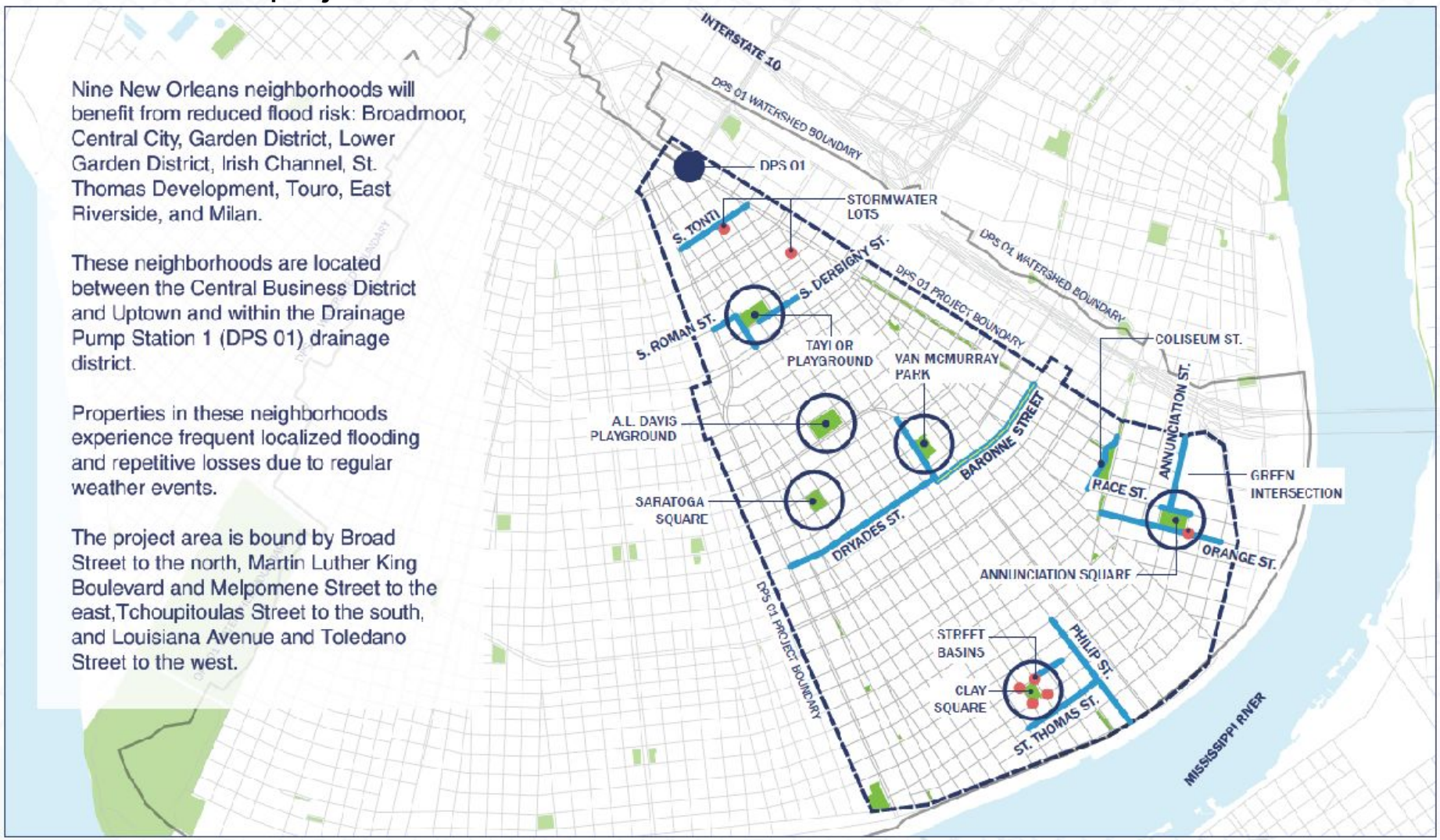
Introduction to project

Nine New Orleans neighborhoods will benefit from reduced flood risk: Broadmoor, Central City, Garden District, Lower Garden District, Irish Channel, St. Thomas Development, Touro, East Riverside, and Milan.

These neighborhoods are located between the Central Business District and Uptown and within the Drainage Pump Station 1 (DPS 01) drainage district.

Properties in these neighborhoods experience frequent localized flooding and repetitive losses due to regular weather events.

The project area is bound by Broad Street to the north, Martin Luther King Boulevard and Melpomene Street to the east, Tchoupitoulas Street to the south, and Louisiana Avenue and Toledano Street to the west.



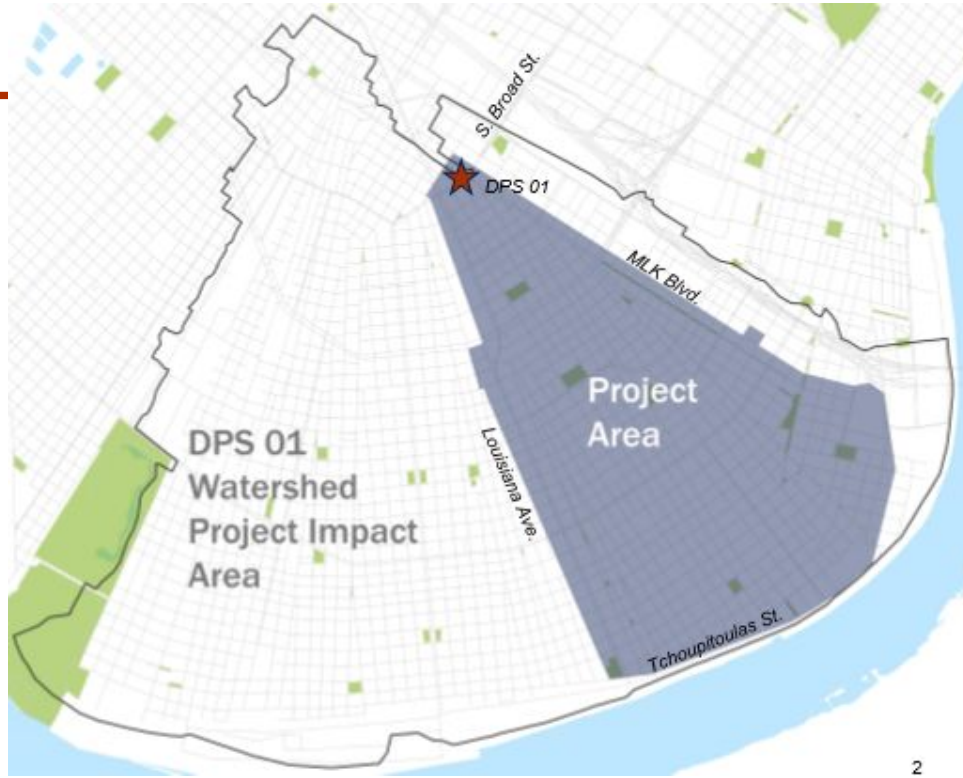
DPS 01 WATERSHED: *PROJECT STUDY AREA*

CDM Smith

DPS 01 Watershed Project (aka: Broadmoor HMGP)

Project Overview

- Green infrastructure will temporarily capture stormwater runoff at higher ground near the River
- Pipe upgrades will increase the amount of stormwater that can get to the pump station & outfall canals
- Phase I:
  - 4 Stormwater Parks
  - 2 Stormwater Lots
  - 3 Green Intersections
  - Associated Pipe Upgrades
- Phase II:
  - 2 Stormwater Parks
  - 2 Green Intersections
  - 4 Complete Streets Improvements with Associated Pipe Upgrades



DPS 01 Watershed Project (aka: Broadmoor HMGP)

EXISTING PROBLEMS

- ***Localized flooding***
- ***Repetitive losses***
- ***Damage to homes, businesses, and vehicles***
- ***Burden on the City's drainage system***

DPS 01 Watershed Project Phase I (aka: Broadmoor HMGP)

PROPOSED SOLUTIONS: *STORMWATER PARKS*

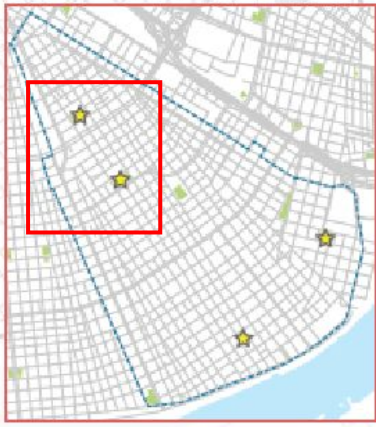
- ***The four parks will incorporate stormwater management***
- ***Existing park recreation will not be changed***
- ***Stormwater from neighborhoods will be stored under parks in tanks***
- ***Some existing pipes will be upgraded***
- ***Where pipe upgrades occur, street segments will be repaved from curb to curb***

AL DAVIS PLAYGROUND

ANNUNCIATION SQUARE

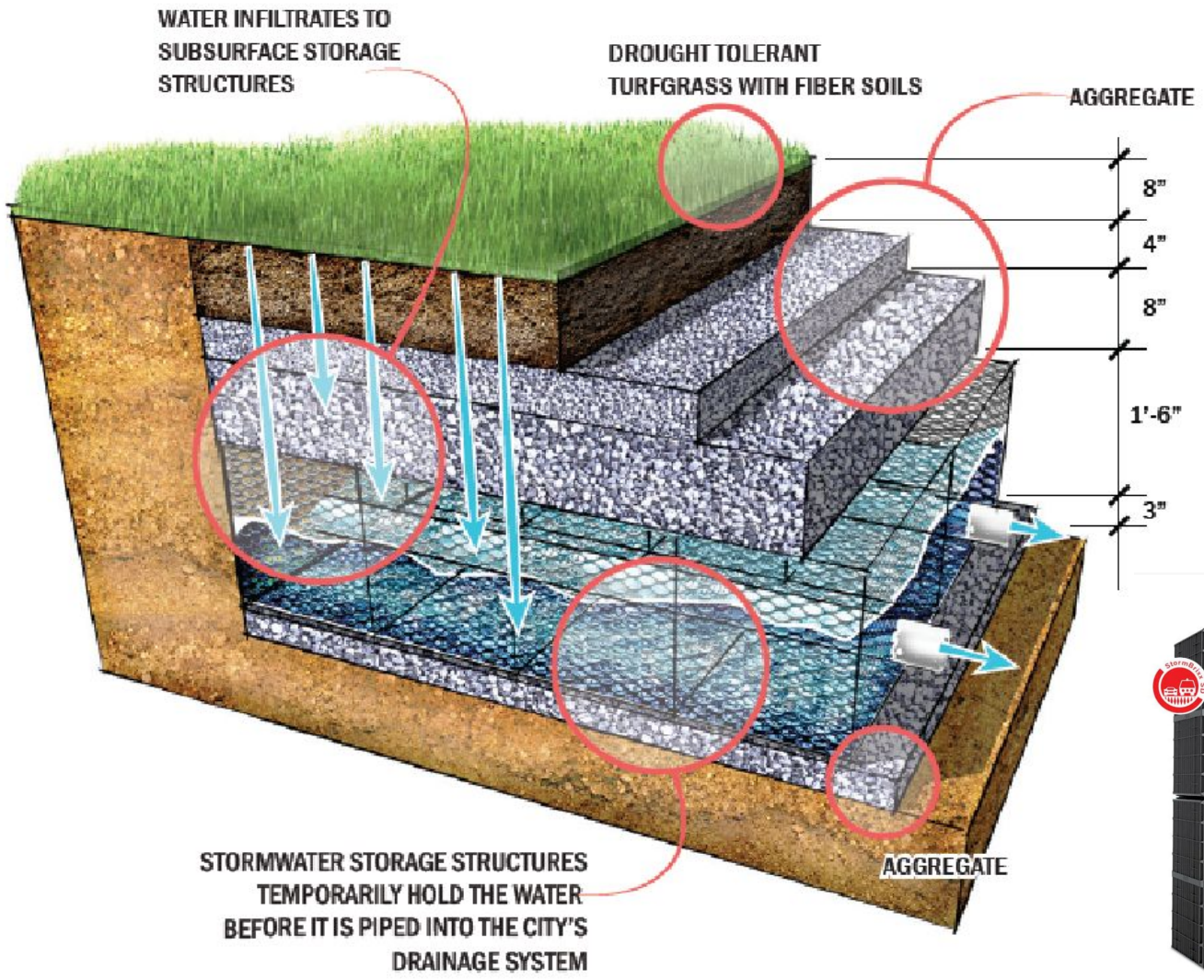
TAYLOR PLAYGROUND

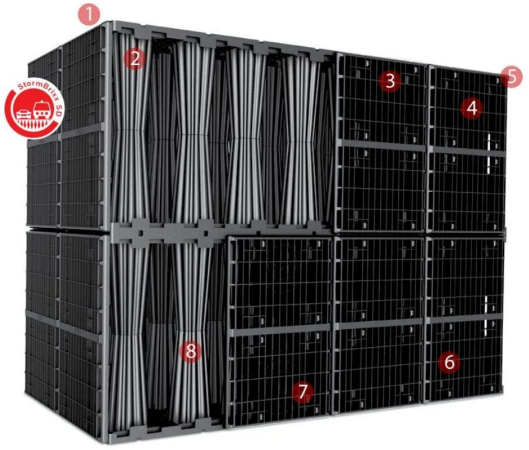
BURKE PLAYGROUND (CLAY SQUARE)



DPS 01 Watershed Project (aka: Broadmoor HMGP)

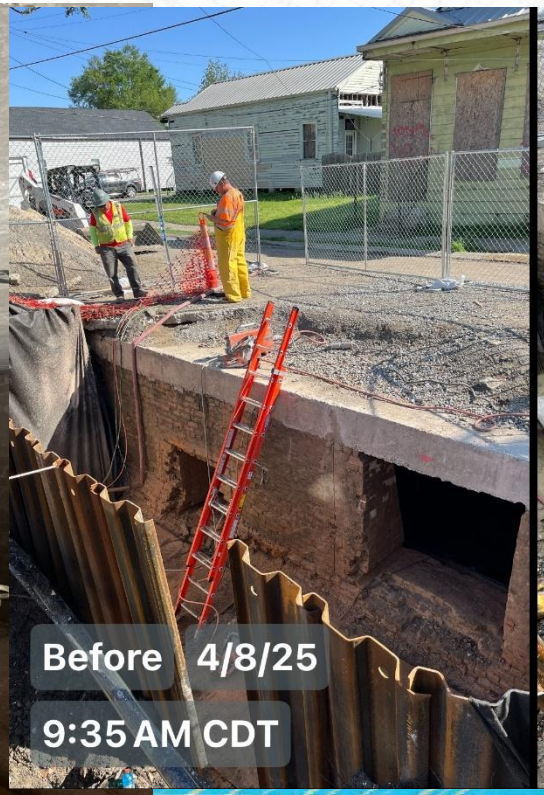
PROPOSED SOLUTIONS: *STORMWATER PARKS*

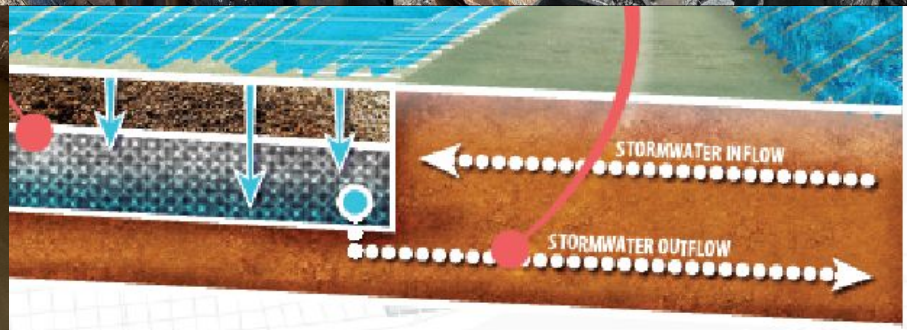




DPS 01 Watershed Project (aka: Broadmoor HMGP)

PROPOSED SOLUTIONS: *STORMWATER PARKS*



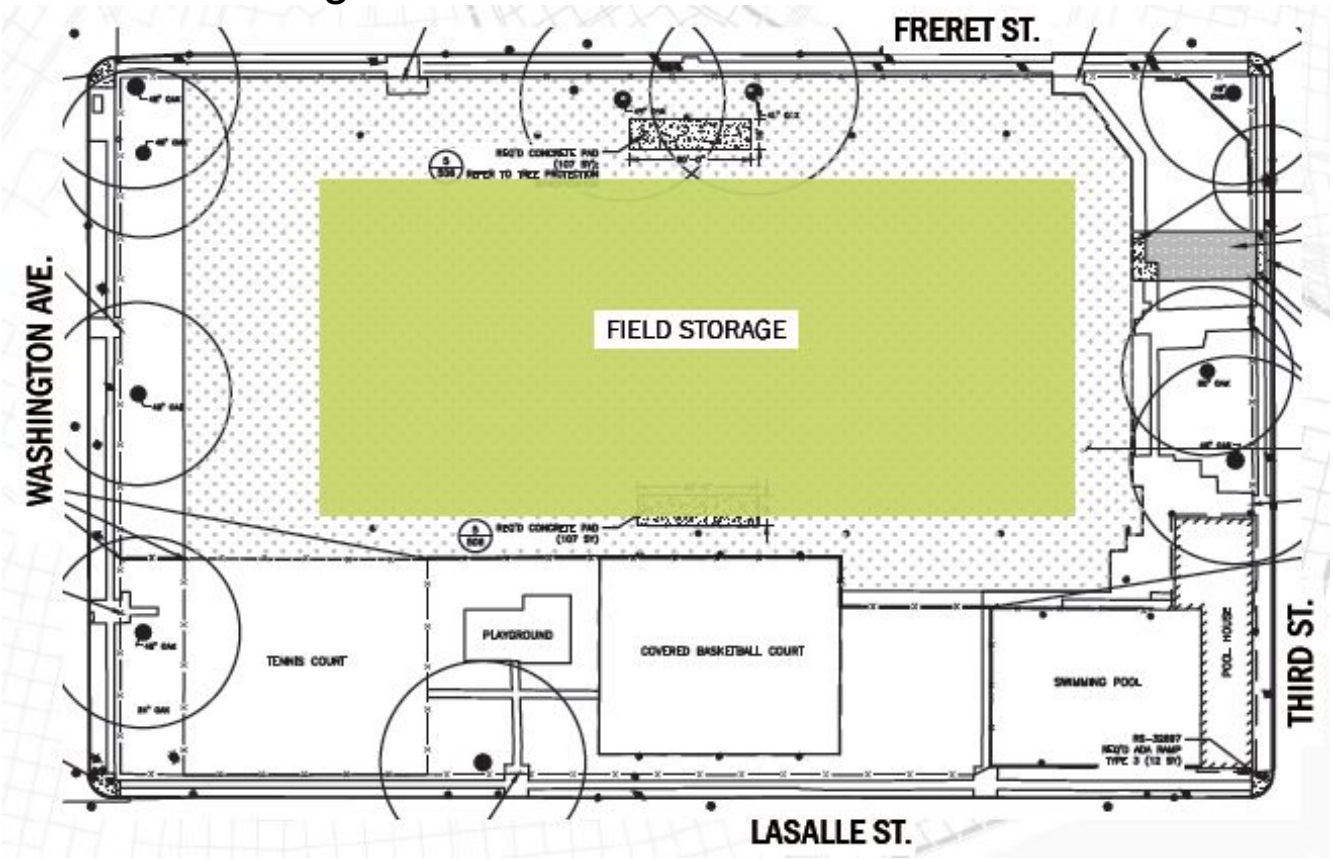


DPS 01 Watershed Project Phase I (aka: Broadmoor HMGP)

PROPOSED SOLUTIONS: STORMWATER PARKS

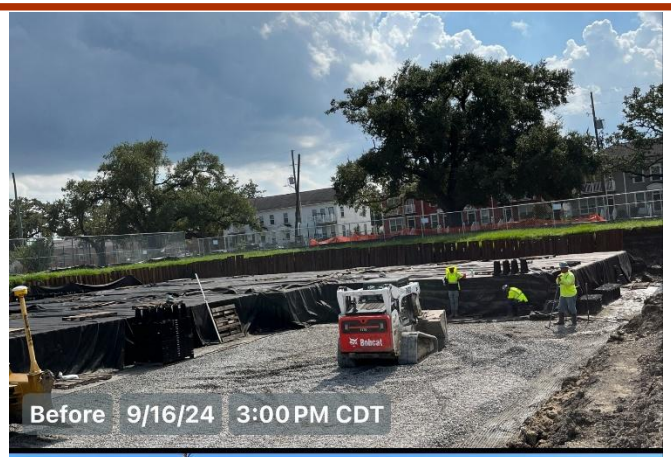
A.L. Davis Playground:

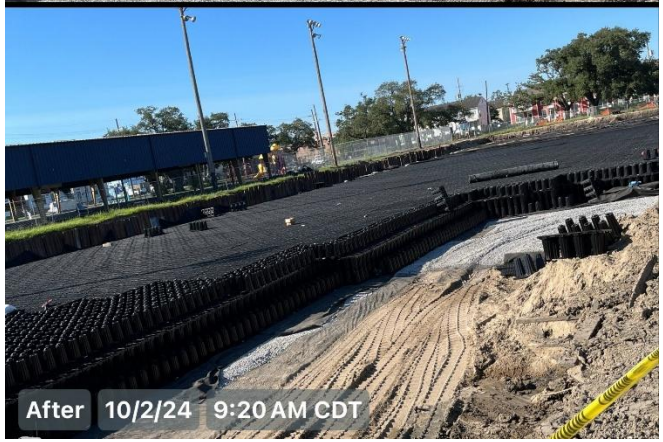
- 229,000 CF of storage
- Reduction of 10” of water over 3 city blocks!
  - Subsurface field storage

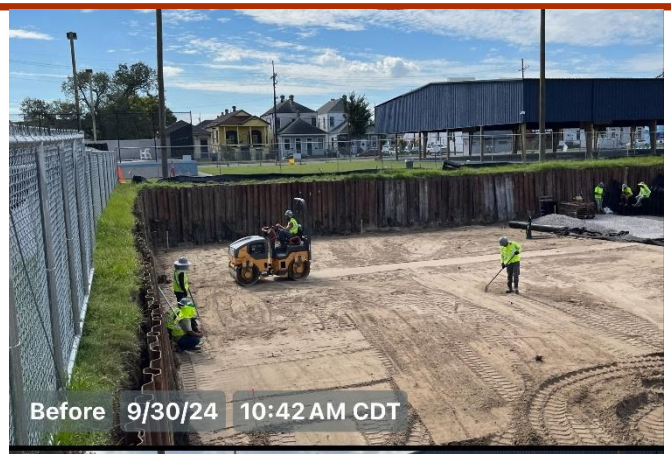


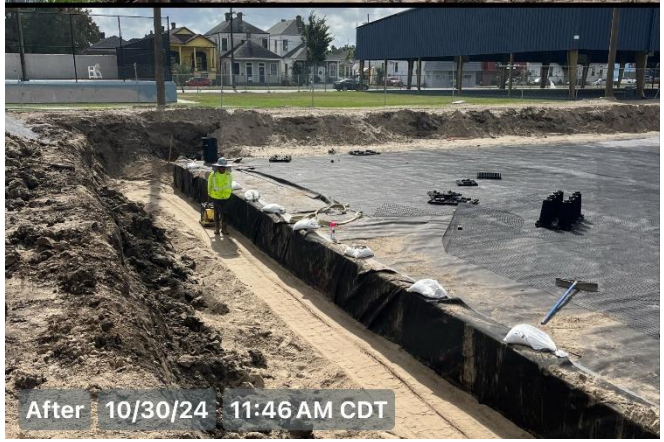
DPS 01 Watershed Project Phase I (aka: Broadmoor HMGP)

PROPOSED SOLUTIONS: STORMWATER PARKS - **A.L. Davis Park**



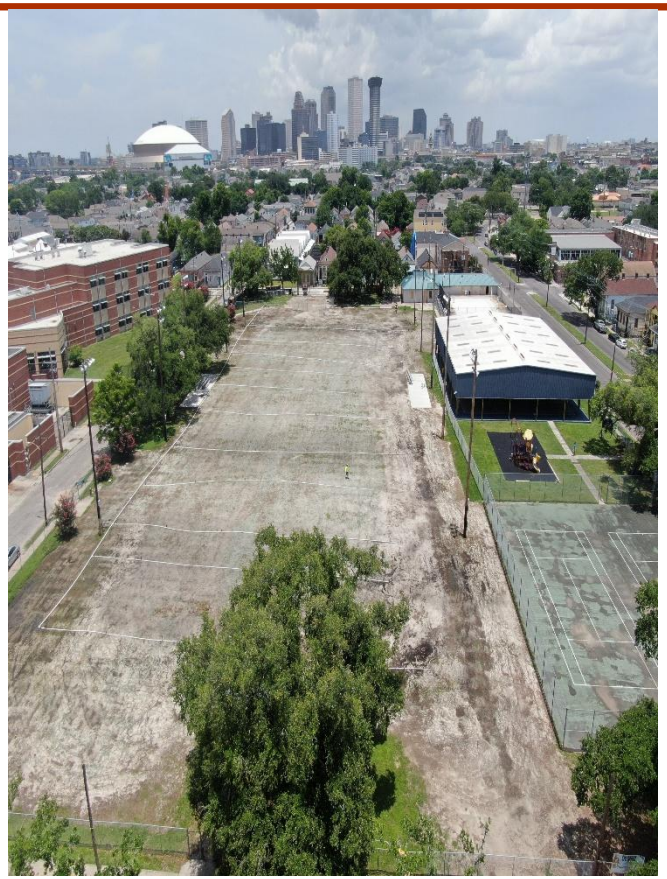






DPS 01 Watershed Project Phase I (aka: Broadmoor HMGP)

PROPOSED SOLUTIONS: STORMWATER PARKS - **A.L. Davis Park**

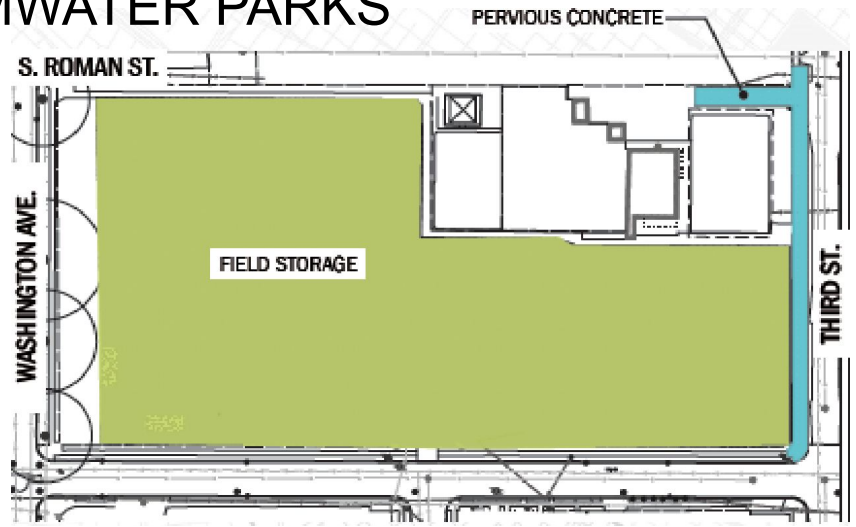


DPS 01 Watershed Project Phase I (aka: Broadmoor HMGP)

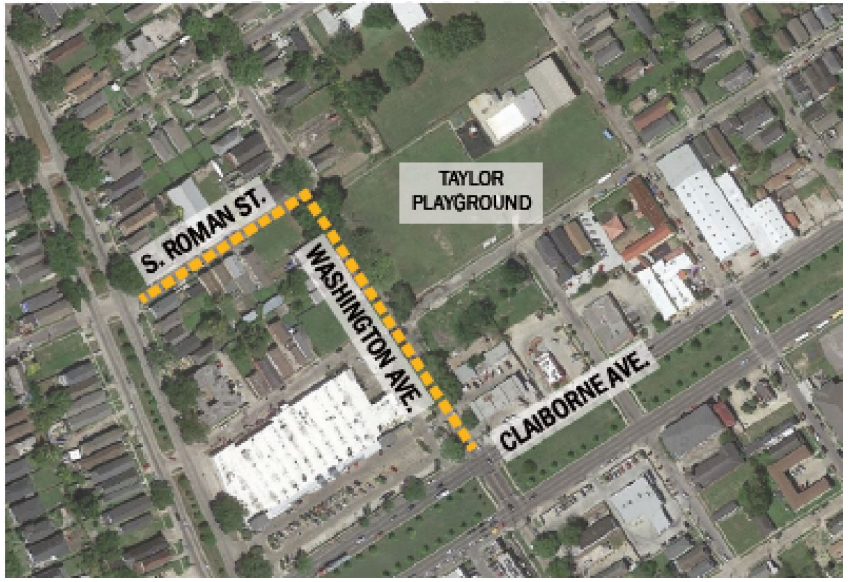
PROPOSED SOLUTIONS: STORMWATER PARKS

Taylor Playground:

- 240,000 CF of storage
- Reduction of 11” of water over 3 city blocks!
  - Subsurface field storage
  - Pervious concrete sidewalks



- **Pipe upgrades:**
  - S. Roman Street
  - Washington Avenue



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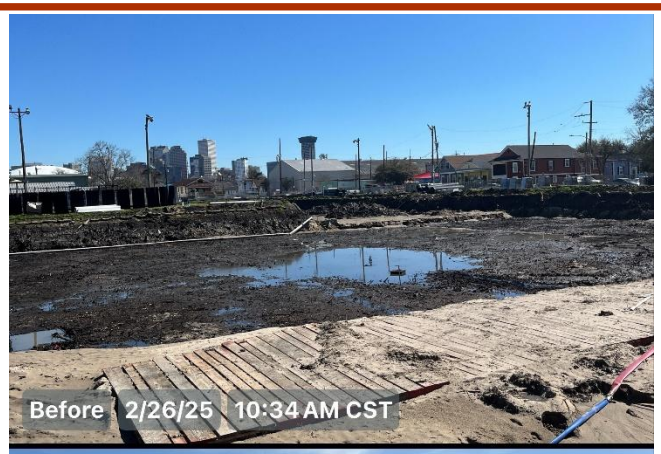
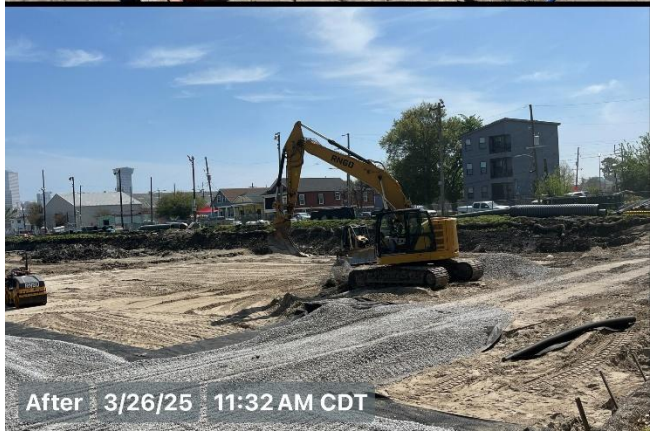
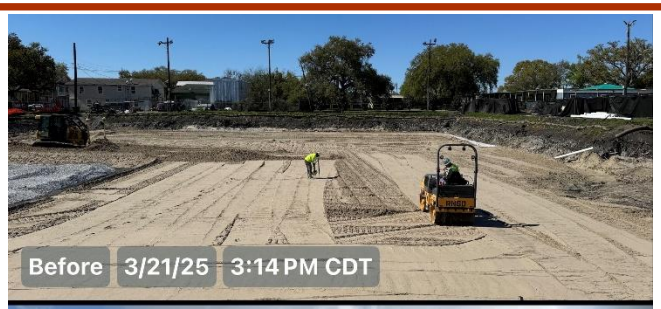
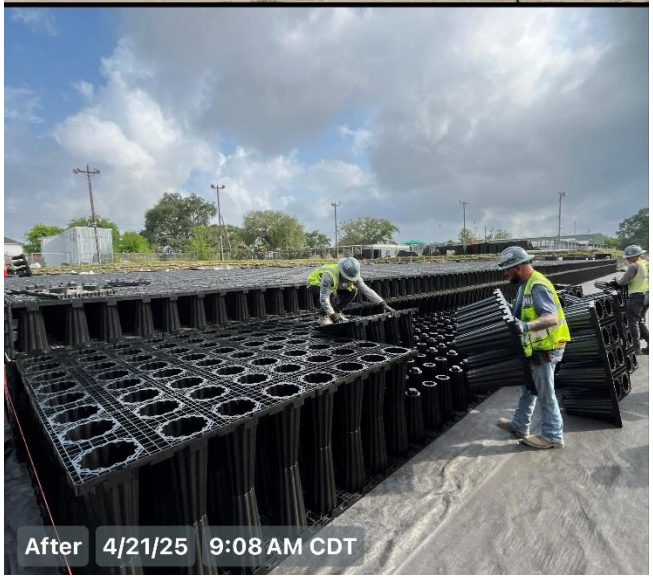
PROPOSED SOLUTIONS: STORMWATER PARKS

Taylor Playground









DPS 01 Watershed Project Phase I (aka: Broadmoor HMGP)

PROPOSED SOLUTIONS: STORMWATER PARKS

Taylor Playground

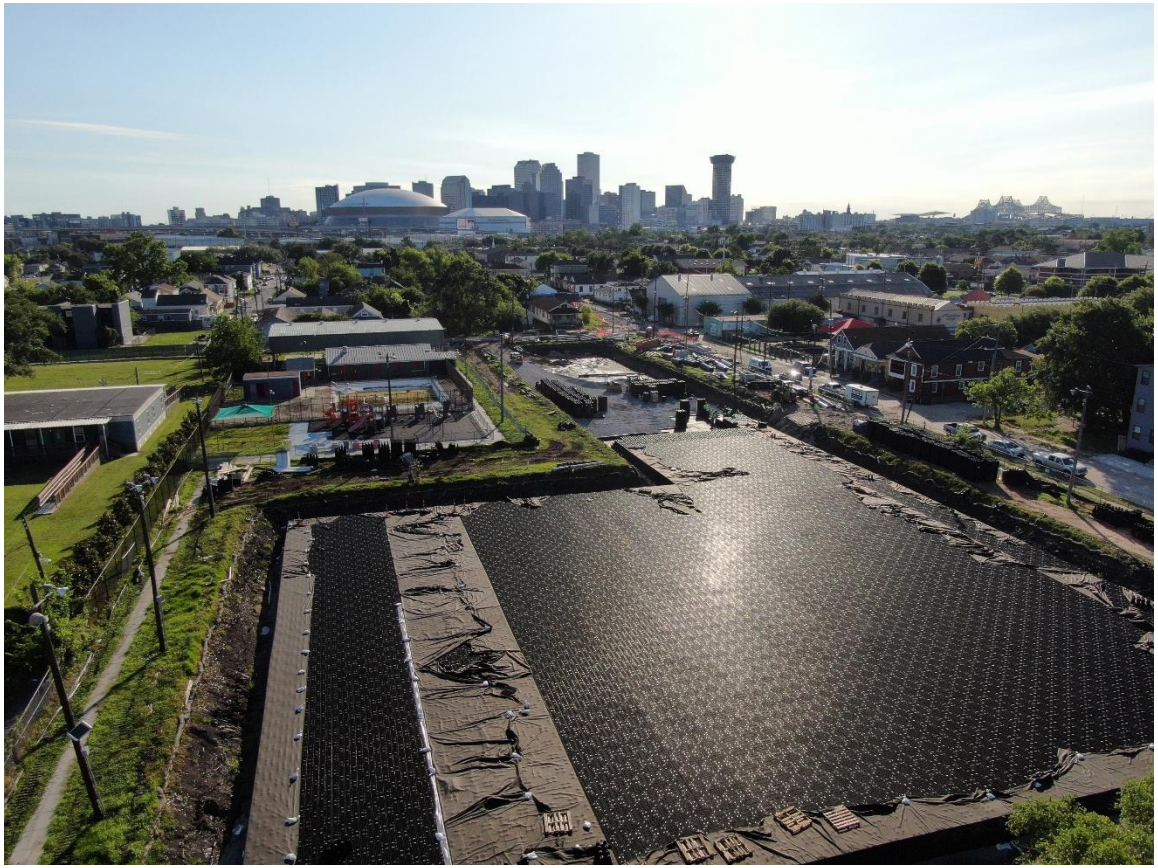
50 YEARS
DESIGN LIFE

Recommended Installation Depths

DPS 01 Watershed Project Phase I (aka: Broadmoor HMGP)

PROPOSED SOLUTIONS: STORMWATER PARKS

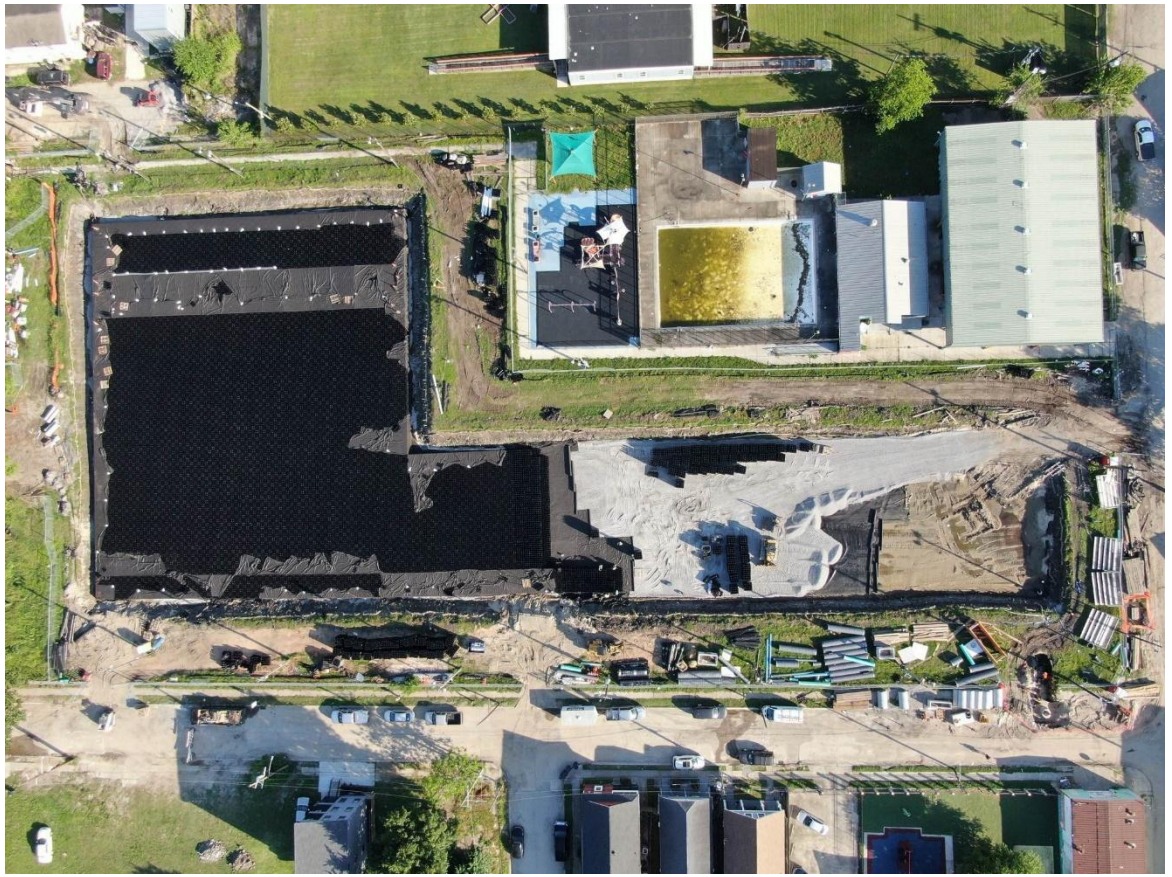
Taylor Playground



DPS 01 Watershed Project Phase I (aka: Broadmoor HMGP)

PROPOSED SOLUTIONS: STORMWATER PARKS

Taylor Playground



DPS 01 Watershed Project Phase I (aka: Broadmoor HMGP)

PROPOSED SOLUTIONS: STORMWATER PARKS

Taylor Playground

DPS 01 Watershed Project Phase I (aka: Broadmoor HMGP)

PROPOSED SOLUTIONS: STORMWATER LOTS

- Two vacant lots will be designed as Stormwater Lots
- Lots take water off the streets & temporarily store on site
- Water drains within 48 hours, therefore preventing the breeding of mosquitos
- Provide usable green space when not holding water

3200 JACKSON AVENUE

3623 3RD STREET

DPS 01 Watershed Project Phase I (aka: Broadmoor HMGP)

PROPOSED SOLUTIONS: *STORMWATER LOTS*

BENEFIT RECAP:

- ***Reduces street flooding***
- ***Improves water and air quality***
- ***Enhances the visual character of the neighborhood***
- ***Increases property values***

DPS 01 Watershed Project Phase I (aka: Broadmoor HMGP)

Stormwater Lot 1

DPS 01 Watershed Project Phase II (aka: Broadmoor HMGP)

PROPOSED SOLUTIONS: GREEN INTERSECTIONS

- *2 intersections will be redesigned with Street Basins, Pervious Crosswalks, and Pervious Gutters*
- *Intersection improvements will temporarily store runoff*
- *Located where it is currently illegal to park*
- *Planted vegetation will not restrict the line-of-sight for drivers*

STREET BASIN EXAMPLES FROM OTHER CITIES

DPS 01 Watershed Project Phase II (aka: Broadmoor HMGP)

PROPOSED SOLUTIONS: GREEN INTERSECTIONS/STREET BASINS

- Basins will hold 16,300 CF of storage, which equates to:
  - 3” over a football field
  - **121,932 gallons**
  - 2,438 filled bathtubs
- Improvements calm traffic by narrowing the streets and the crossing distance for pedestrians.
- Contrasting pervious pavers alert drivers creating a safer crossing.

St. Roch Drainage Project

PROPOSED SOLUTIONS: GREEN INTERSECTIONS/STREET BASINS

St. Roch Drainage Project

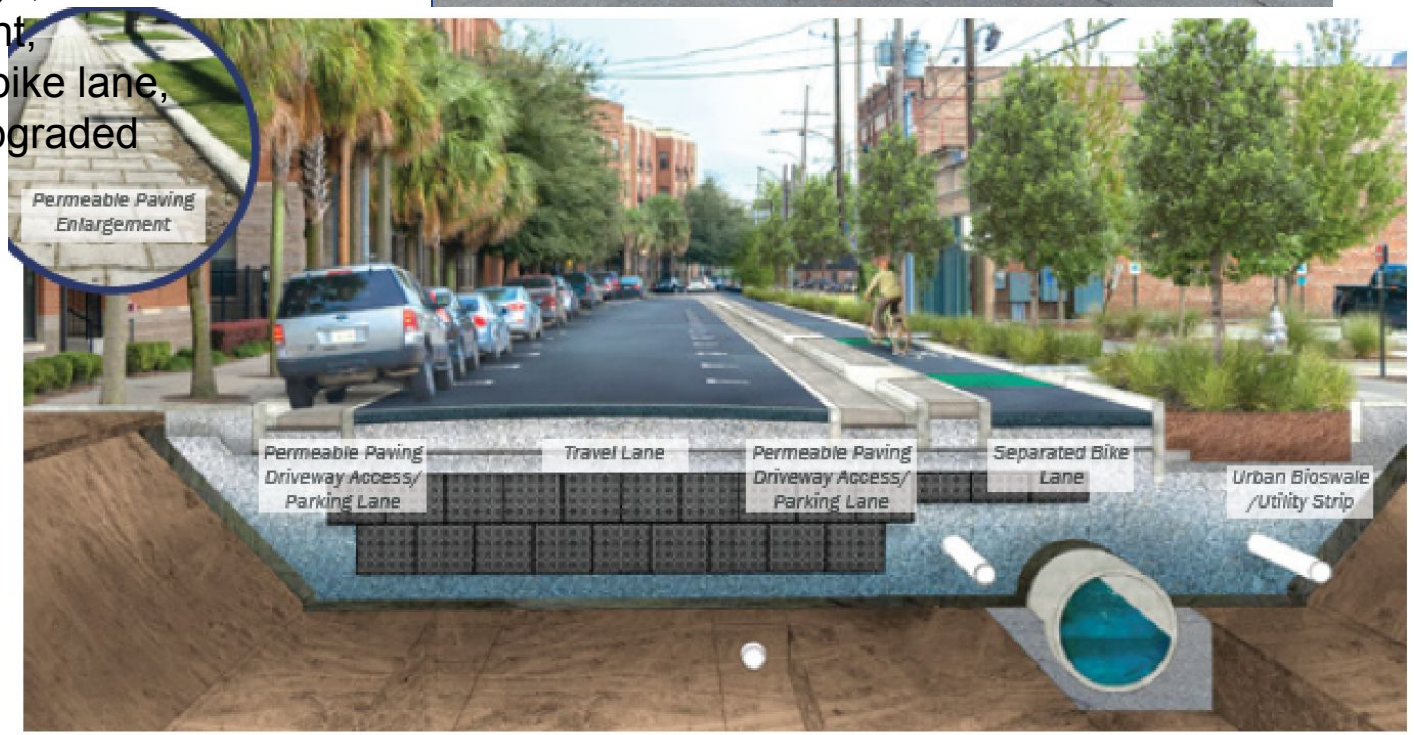
PROPOSED SOLUTIONS: GREEN INTERSECTIONS/STREET BASINS

DPS 01 Watershed Project Phase II (aka: Broadmoor HMGP)

PROPOSED SOLUTIONS: COMPLETE STREETS

Baronne Street:

- 179,470 CF of storage, which equates to:
  - 3’-2” over a football field
  - **1,342,436 gallons**
  - 26,849 filled bathtubs
- Streets upgraded with stormwater storage, pervious pavement, pervious asphalt bike lane, bioswales, and upgraded drainage pipes



Proposed improvements to Baronne Street from MLK Jr. Boulevard to Philip Street

DPS 01 Watershed Project Phase II (aka: Broadmoor HMGP)

PROPOSED SOLUTIONS: BARONNE STREET 0.5" STORM SIMULATION

DPS 01 Watershed Project Phase II (aka: Broadmoor HMGP)

PROPOSED SOLUTIONS: BARONNE STREET 1" STORM SIMULATION

DPS 01 Watershed Project Phase II (aka: Broadmoor HMGP)

PROPOSED SOLUTIONS: BARONNE STREET 1.5" STORM SIMULATION

DPS 01 Watershed Project Phase II (aka: Broadmoor HMGP)

PROPOSED SOLUTIONS: BARONNE STREET 2" STORM SIMULATION

DPS 01 Watershed Project Phase II (aka: Broadmoor HMGP)

PROPOSED SOLUTIONS: BARONNE STREET 2.5" STORM SIMULATION

DPS 01 Watershed Project Phase II (aka: Broadmoor HMGP)

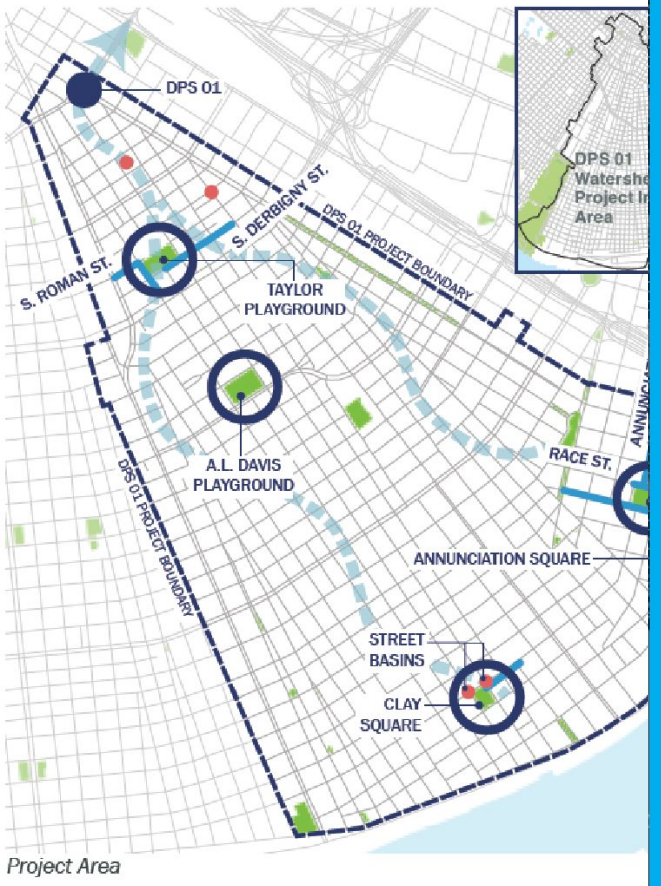
PROPOSED SOLUTIONS: BARONNE STREET 3" STORM SIMULATION

DPS 01 Watershed Project Phase II (aka: Broadmoor HMGP)

PROPOSED SOLUTIONS: BARONNE STREET 3.5" STORM SIMULATION

DPS 01 Watershed Project (aka: Broadmoor HMGP)

Phase I



Project Area

Phase II

The projects proposed within the Drainage Pump Station 01 Watershed will significantly reduce potential flooding within the project boundary and beyond.

The projects include a variety of green infrastructure typologies that will store stormwater closer to where it falls, reducing the load on the drainage system and allowing it to function in a storm that would currently overwhelm it.

The projects will reduce flow to the Louisiana, 3rd Street, and MLK canals, allowing other stormwater outside the project area to enter these canals and DPS01 to pump that water out sooner, and therefore creating a reduction of

29 MILLION GALLONS

in total flooding that is 2.5 times the storage provided by the projects.

The project removes

520,000 GALLONS

from ever getting to the pump station.

- **Stores 12.9M gallons of stor**
- **Phase I Construction started in June 2024**

ll Bid advertisement is projected to start on 4 QTR 2025

Thank You

Any Questions?

City of New Orleans

Erika Boerr, MBA, PMP - Senior Project Manager

Stormwater and Green Infrastructure

eboerr@nola.gov