



# INSTANT IMPACT

## LID PROJECTS

asakura  
robinson



# GREEN INFRASTRUCTURE

## MACRO LEVEL

Conservation & Restoration

**BAYS**

**RIVERS**

## MICRO LEVEL

“Low-Impact Development”

**TREATMENT  
TRAINS**



**BAYOUS**

**STORMWATER  
WETLANDS**

**GREEN  
ROOF**



**BIORETENTION  
SYSTEMS**

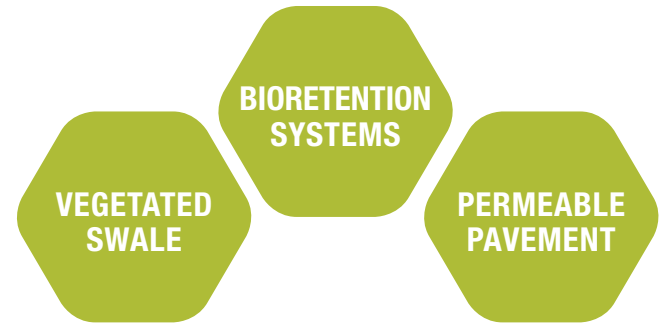


**STORMWATER  
HARVESTING**

**PERMEABLE  
PAVING**



# MICRO LEVEL LID BMPs ROADWAY



BAGBY STREET **bioretention**



WESTPARK TOLLWAY **bioretention**

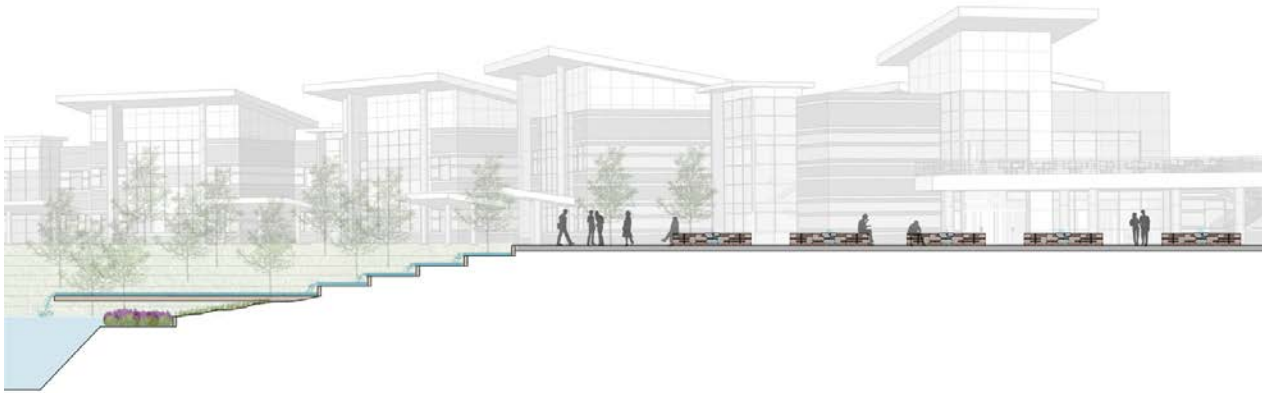
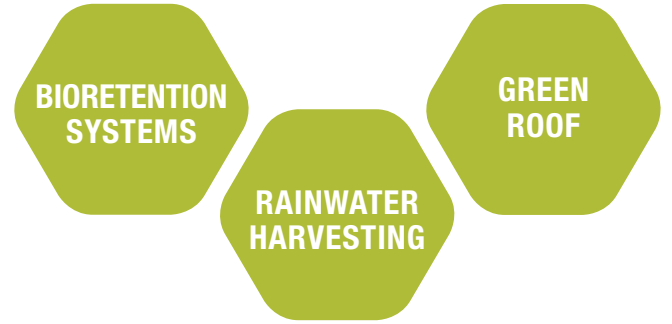


NORTH MAIN ST. **vegetated swale**



FT. SMITH WOONERF **permeable pavement**

# MICRO LEVEL LID BMPs SCHOOLS



LONE STAR COLLEGE ALDINE **Detention Pond**



CARNEGIE HIGH SCHOOL **green roof**



LONE STAR COLLEGE CONROE **bioretention**



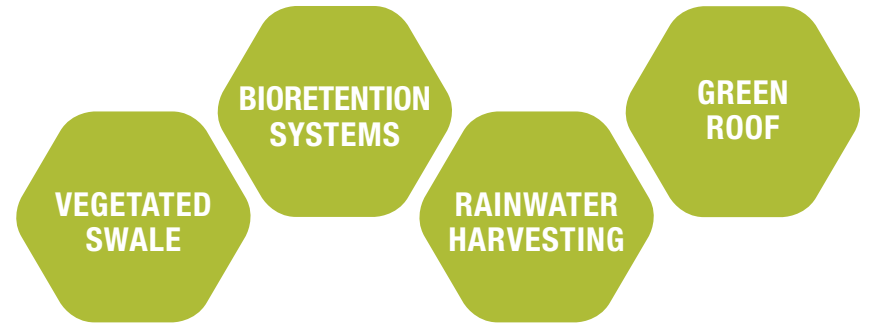
PECK ELEMENTARY **bioretention**



ROSS ELEMENTARY **rainwater harvesting**

# MICRO LEVEL LID BMPs

## CIVIC & MUNICIPAL



**BAKER RIPLEY** rainwater harvesting



**IAH CONTROL BLDG** bioretention



**DICKINSON LIBRARY** bioretention



**FEDERAL RESERVE BANK** green roof

MICRO LEVEL LID BMPs

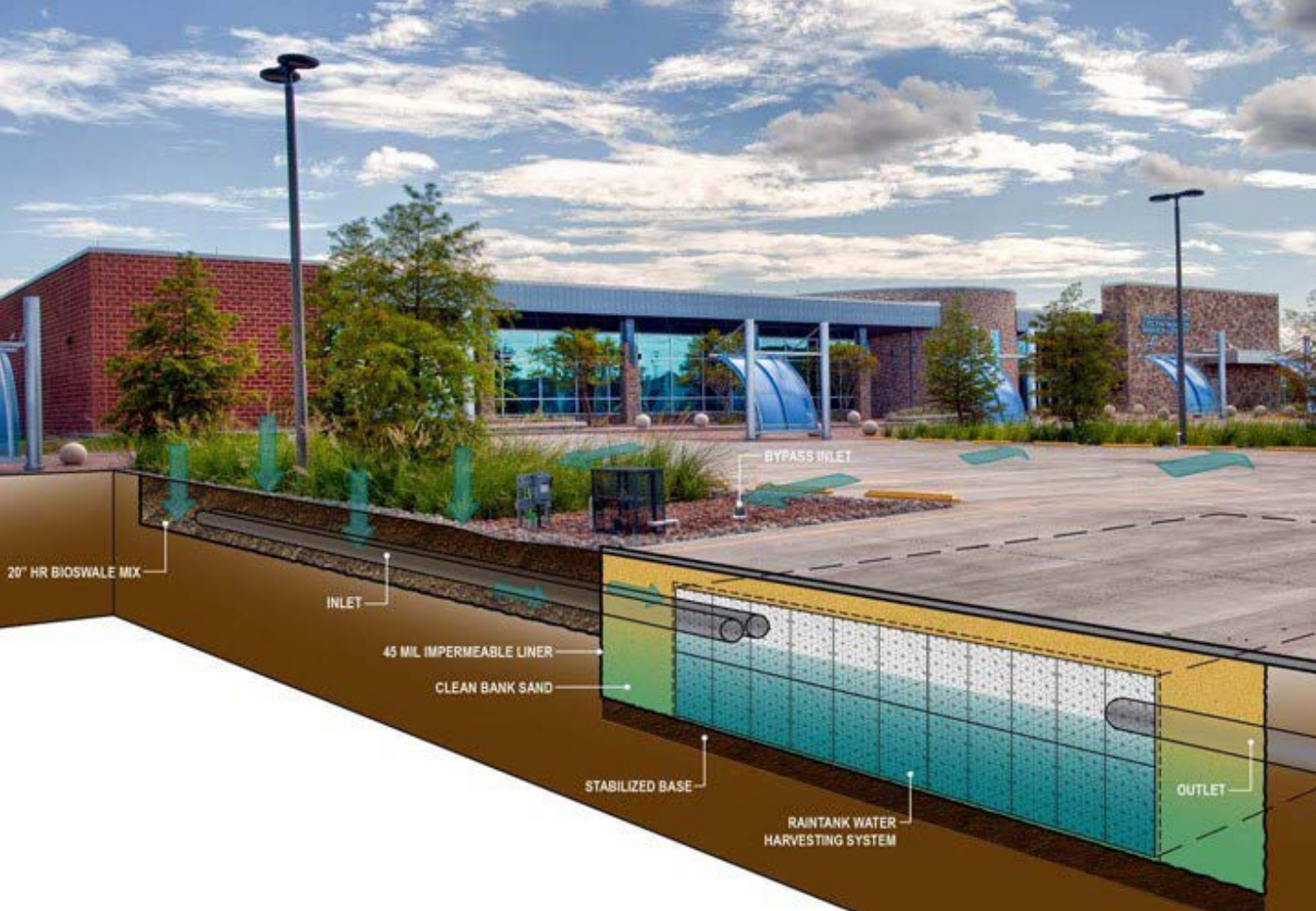
# CASE STUDY

MEADOR LIBRARY



# MEADOR LIBRARY

Architect: English & Associates  
Landscape Architect: Asakura Robinson



BIOSWALE

VEGETATED  
RAIN  
GARDENS

DETENTION  
BASINS



MICRO LEVEL LID BMPs

# CASE STUDY

**FIRE STATION 90**





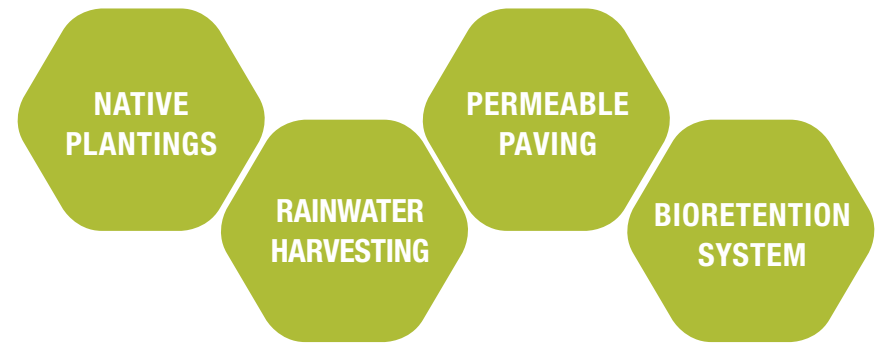


## FIRE STATION 90

Architect: English & Associates

Landscape Architect: Asakura Robinson

Engineer: Othon



# MICRO LEVEL LID BMPs RESIDENTIAL

BIORETENTION  
SYSTEMS

RAINWATER  
HARVESTING

GREEN  
ROOF

PERMEABLE  
PAVING



GREEN REVIVAL **native plantings**



SAKOWITZ SRO **rainwater harvesting**



INVERNESS RESIDENCE **permeable paving**



WR SAGE **green roof**

# MICRO LEVEL LID BMPs COMMERCIAL



**WILDWOOD CORPORATE CENTRE** bioretention

**CORE PARK WEST** bioretention



**SPRINGWOODS CROSSING** bioretention



**TENARIS** native plantings

# MICRO LEVEL LID BMPs

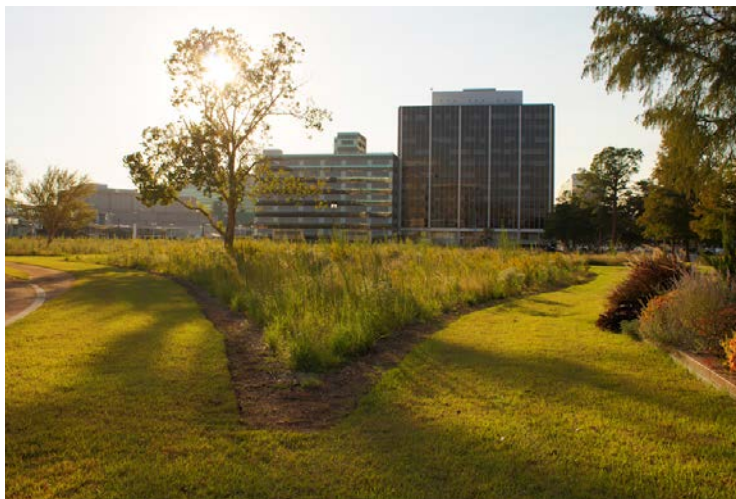
## PARKS + OPEN SPACE



**GENE GREEN PARK** bioretention



**MANDELL PARK** Bioswales



**MD ANDERSON PARK** native plantings



**HOU. ARBORETUM** Rainwater Harvesting

MICRO LEVEL LID BMPs

# CASE STUDY

MANDELL PARK



# MANDELL PARK

Landscape Architect: Asakura Robinson

NATIVE PLANTINGS

RAINWATER HARVESTING

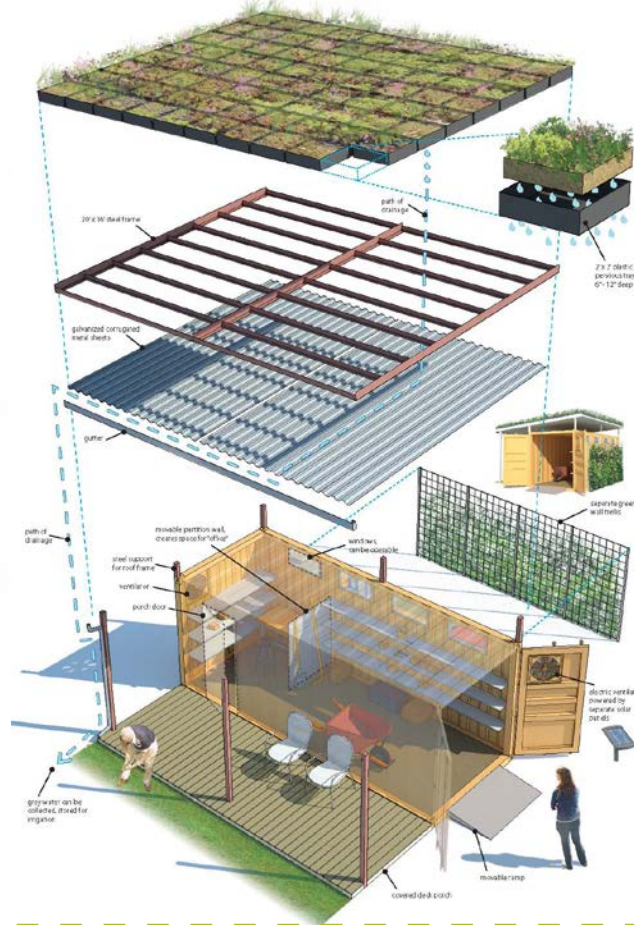
PERMEABLE PAVING

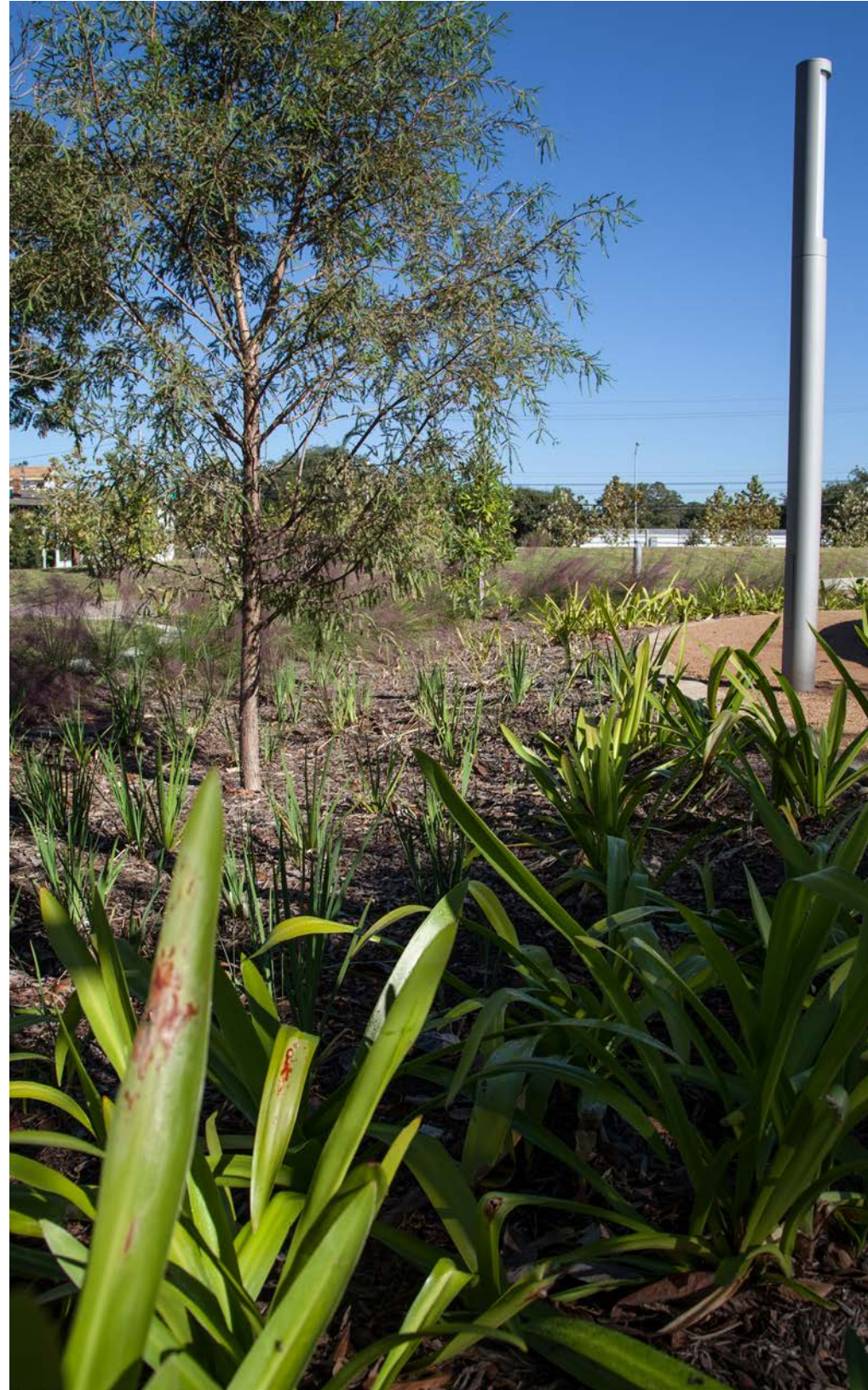
BIORETENTION SYSTEM

GREEN ROOF



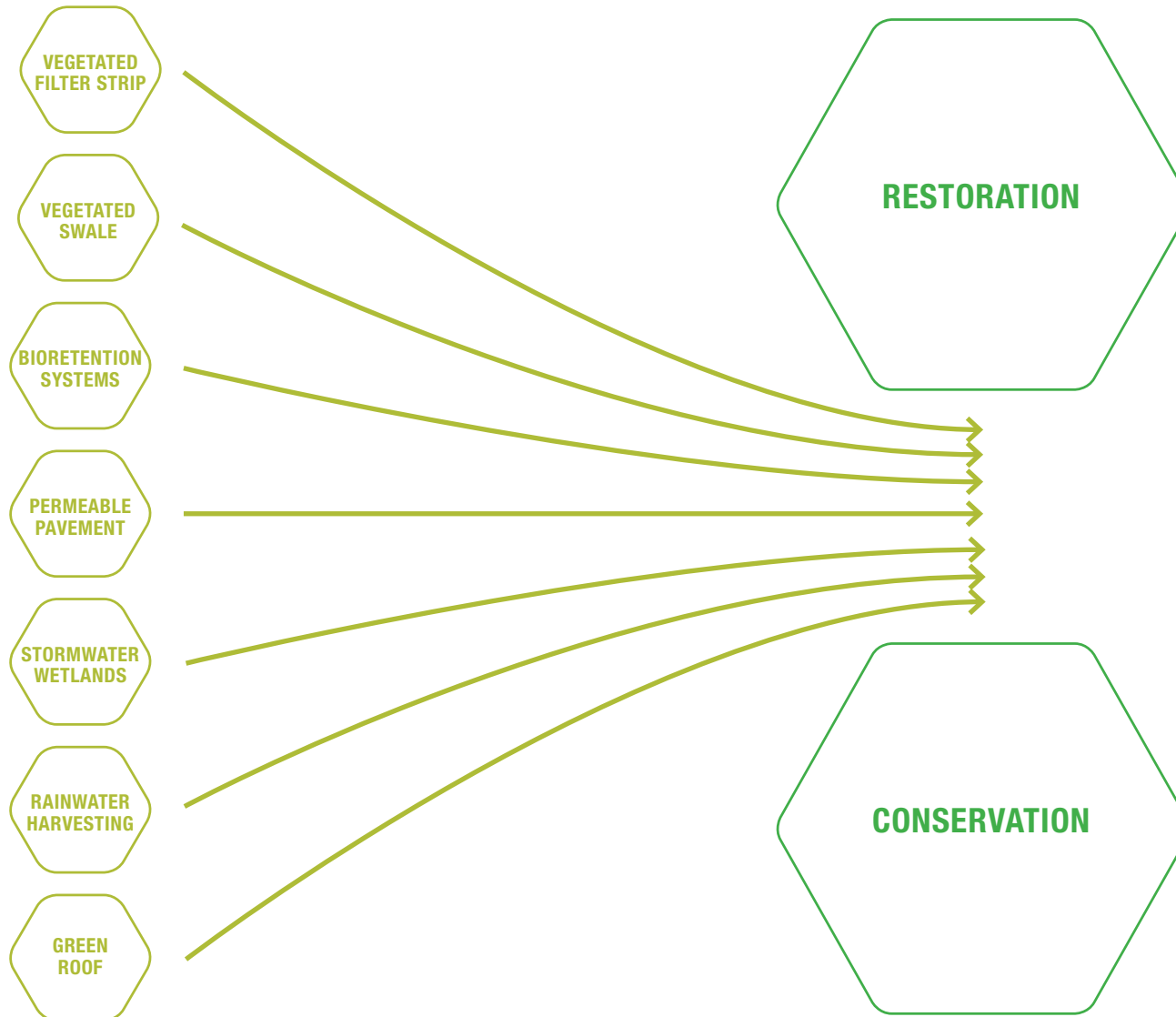
## Mandell Park Solar Storage Shed Exploded Axo





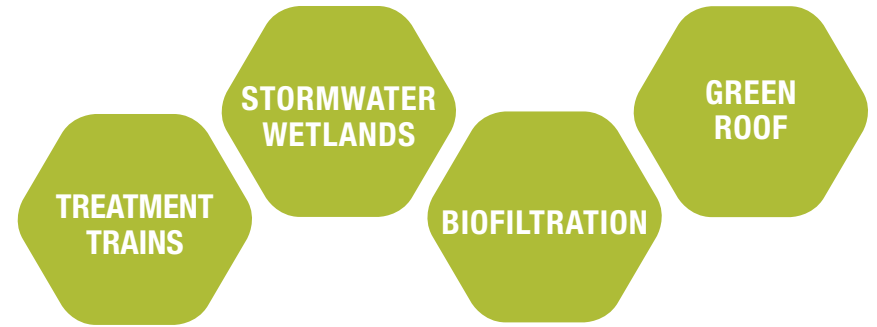
# MACRO LEVEL LID BMPs LARGE SITES

# + CONSERVATION & RESTORATION

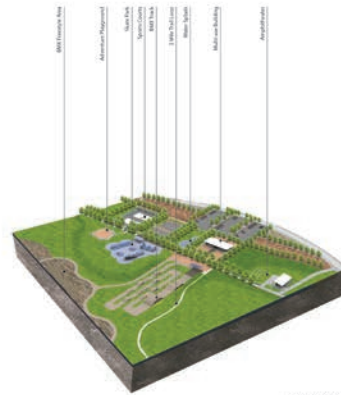




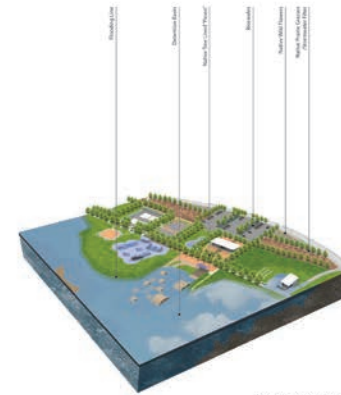
# MACRO LEVEL LID BMPs LARGE SITES



**GANNOWAY PARK** bioretention



DAILY PROGRAM



NORMAL FLOODING SEASON



HEAVY FLOODING SEASON

**GENE GREEN PARK** stormwater wetlands



**WILLOW WATERHOLE** conservation and restoration

MACRO LEVEL LID BMPs

Texas Children's Hospital

# CASE STUDY

## MD ANDERSON PARK



# MD ANDERSON PARK

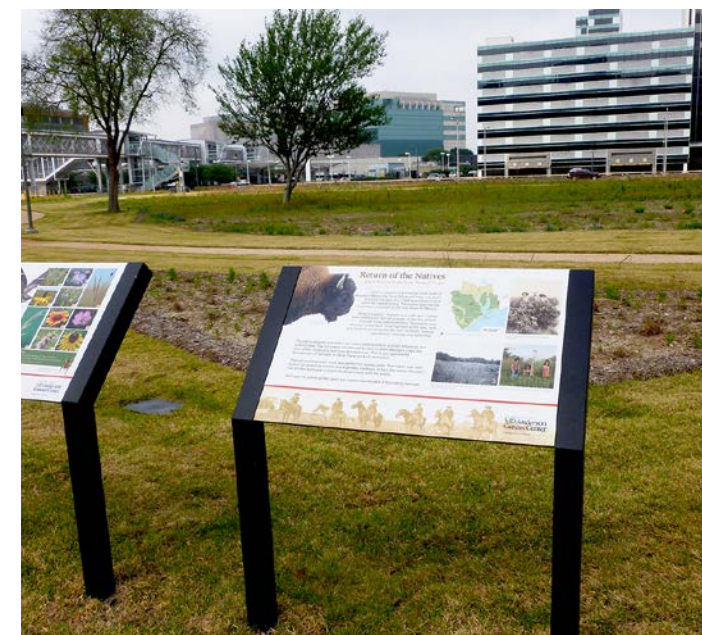
Landscape Architect: Asakura Robinson

Planting Consultants: Jaime Gonzalez and Scott Barnes

NATIVE  
PLANTINGS

PERMEABLE  
PAVING

BIORETENTION  
SYSTEM



MACRO LEVEL LID BMPs

# CASE STUDY

## GANNOWAY LAKE PARK



# GANNOWAY LAKE PARK

Landscape Architect: Asakura Robinson

Civil Engineer: Walter P. Moore

Environmental Consultant: Berg Oliver

NATIVE  
PLANTINGS

RAINWATER  
HARVESTING

PERMEABLE  
PAVING

BIORETENTION  
SYSTEM

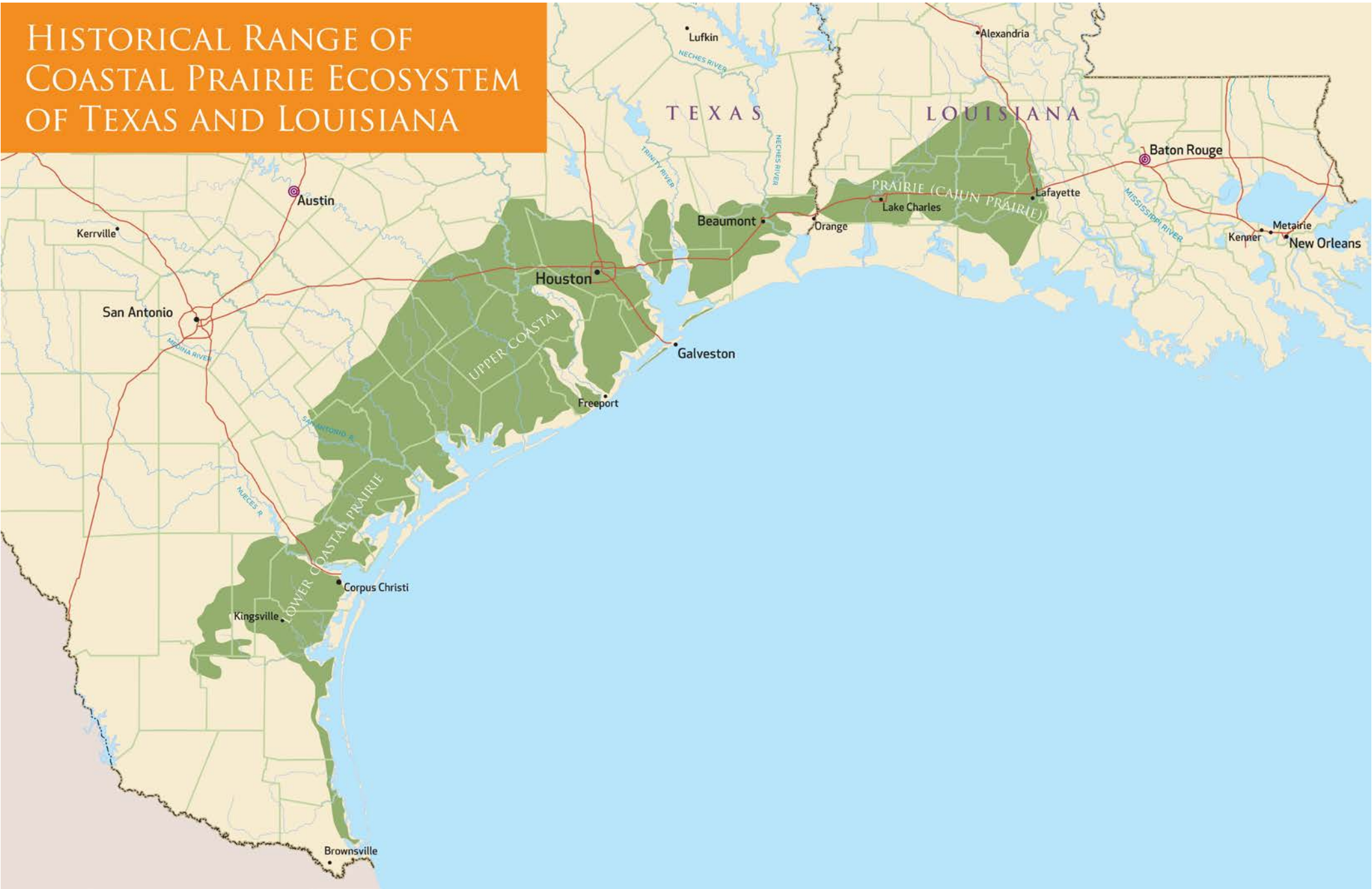
STORMWATER  
WETLANDS



- |   |                    |    |               |
|---|--------------------|----|---------------|
| 1 | Parking            | 8  | Open Water    |
| 2 | Stormwater outfall | 9  | Birdwatching  |
| 3 | Community Pavilion | 10 | Upland Trail  |
| 4 | Boat Dock          | 11 | Stream Weir   |
| 5 | Nature Playground  | 12 | Roadway Cr    |
| 6 | Burney Road Trail  | 13 | Overlook      |
| 7 | Street End Pier    | 14 | Wetland Trail |



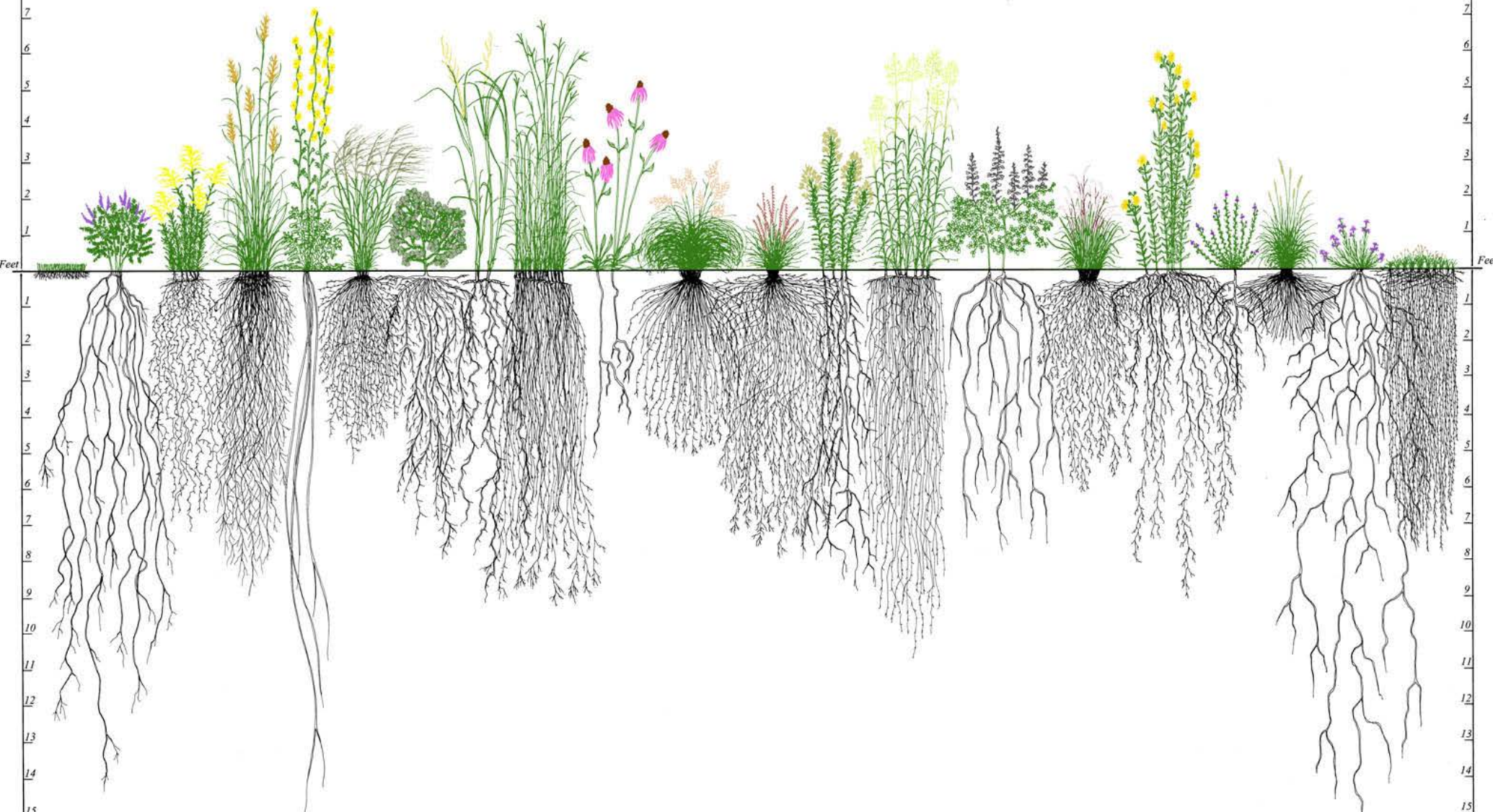
# HISTORICAL RANGE OF COASTAL PRAIRIE ECOSYSTEM OF TEXAS AND LOUISIANA



# Root Systems of Prairie Plants

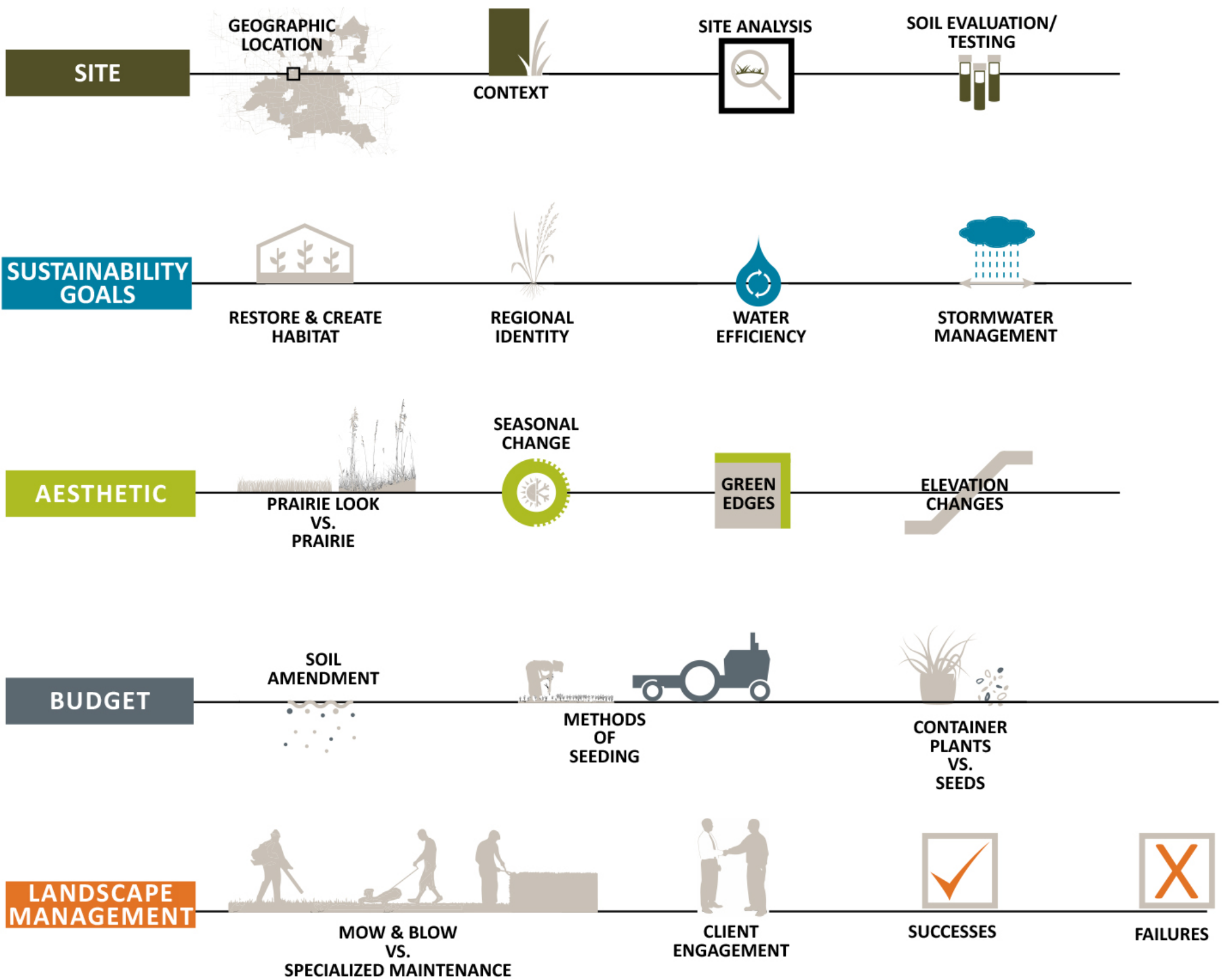
Conservation Research Institute

Heidi Natura 1995



- |  |   |  |  |  |  |  |  |  |   |  |  |   |  |   |  |  |   |   |   |  |
|--|---|--|--|--|--|--|--|--|---|--|--|---|--|---|--|--|---|---|---|--|
| <b>Kentucky Blue Grass</b><br><i>Poa pratensis</i> | <b>Lead Plant</b><br><i>Amorpha canescens</i> | <b>Missouri Goldenrod</b><br><i>Solidago missouriensis</i> | <b>Indian Grass</b><br><i>Sorghastrum nutans</i> | <b>Compass Plant</b><br><i>Silphium laciniatum</i> | <b>Porcupine Grass</b><br><i>Stipa spartea</i> | <b>Heath Aster</b><br><i>Aster ericoides</i> | <b>Prairie Cord Grass</b><br><i>Spartina pectinata</i> | <b>Big Blue Stem</b><br><i>Andropogon gerardii</i> | <b>Pale Purple Coneflower</b><br><i>Echinacea pallida</i> | <b>Prairie Dropseed</b><br><i>Sporobolus heterolepis</i> | <b>Side Oats Gramma</b><br><i>Bouteloua curtipendula</i> | <b>False Boneset</b><br><i>Kuhnia eupatorioides</i> | <b>Switch Grass</b><br><i>Panicum virgatum</i> | <b>White Wild Indigo</b><br><i>Baptisia leucantha</i> | <b>Little Blue Stem</b><br><i>Andropogon scoparius</i> | <b>Rosin Weed</b><br><i>Silphium integrifolium</i> | <b>Purple Prairie Clover</b><br><i>Petalostemum purpureum</i> | <b>June Grass</b><br><i>Koeleria cristata</i> | <b>Cylindric Blazing Star</b><br><i>Liatris cylindracea</i> | <b>Buffalo Grass</b><br><i>Buchloe dactyloides</i> |
|--|---|--|--|--|--|--|--|--|---|--|--|---|--|---|--|--|---|---|---|--|





MICRO LEVEL LID BMPs

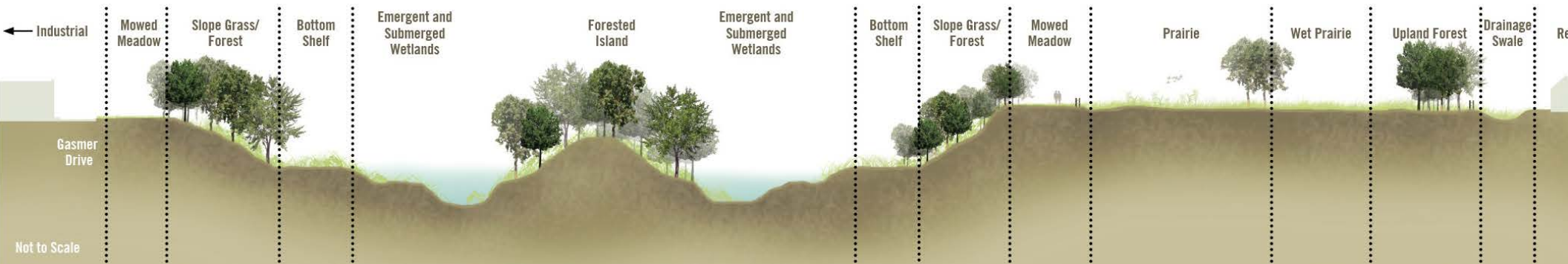
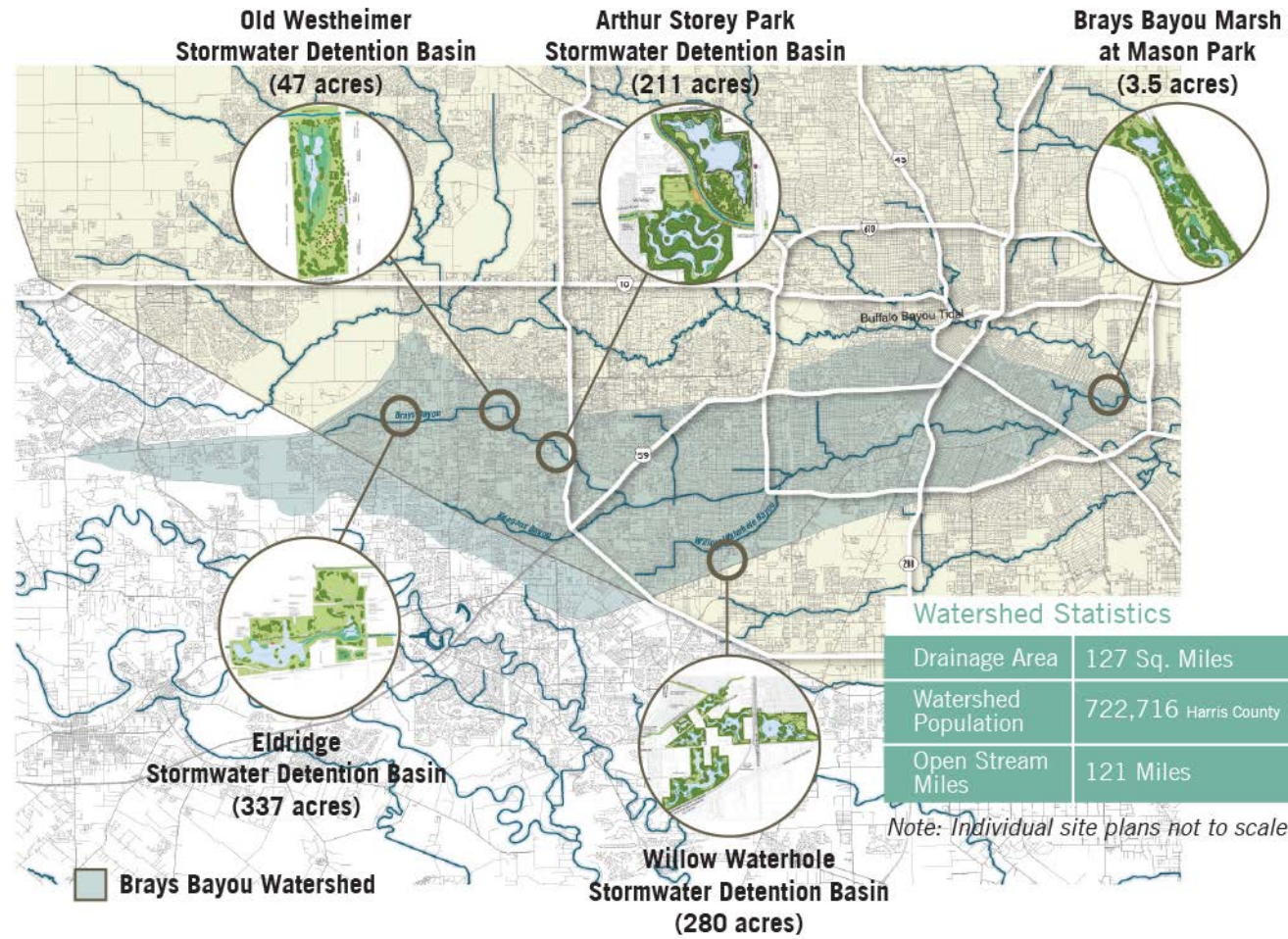
# CASE STUDY

## WILLOW WATERHOLE



# WILLOW WATERHOLE PUBLIC ACCESS PLAN

Planner: Asakura Robinson





MACRO LEVEL CONSERVATION & PRESERVATION

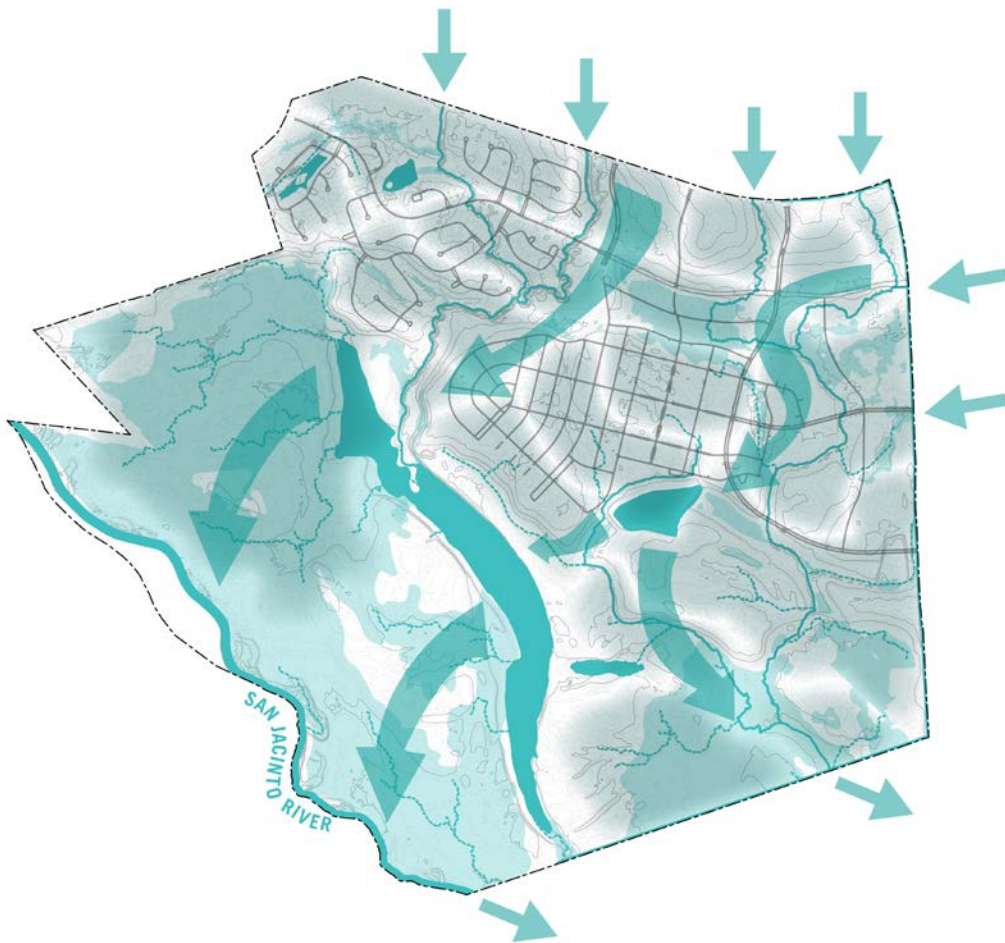
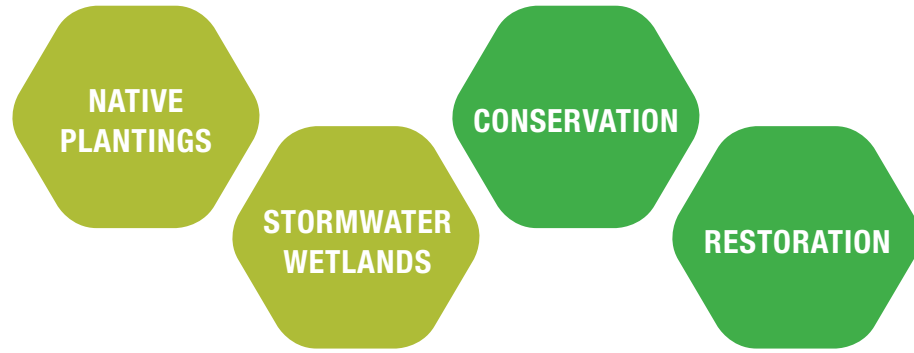
# CASE STUDY

## GRAND CENTRAL PARK



# GRAND CENTRAL PARK CONSERVATION VISION

Landscape Architect: Asakura Robinson



*FLOW*



*FILTER*



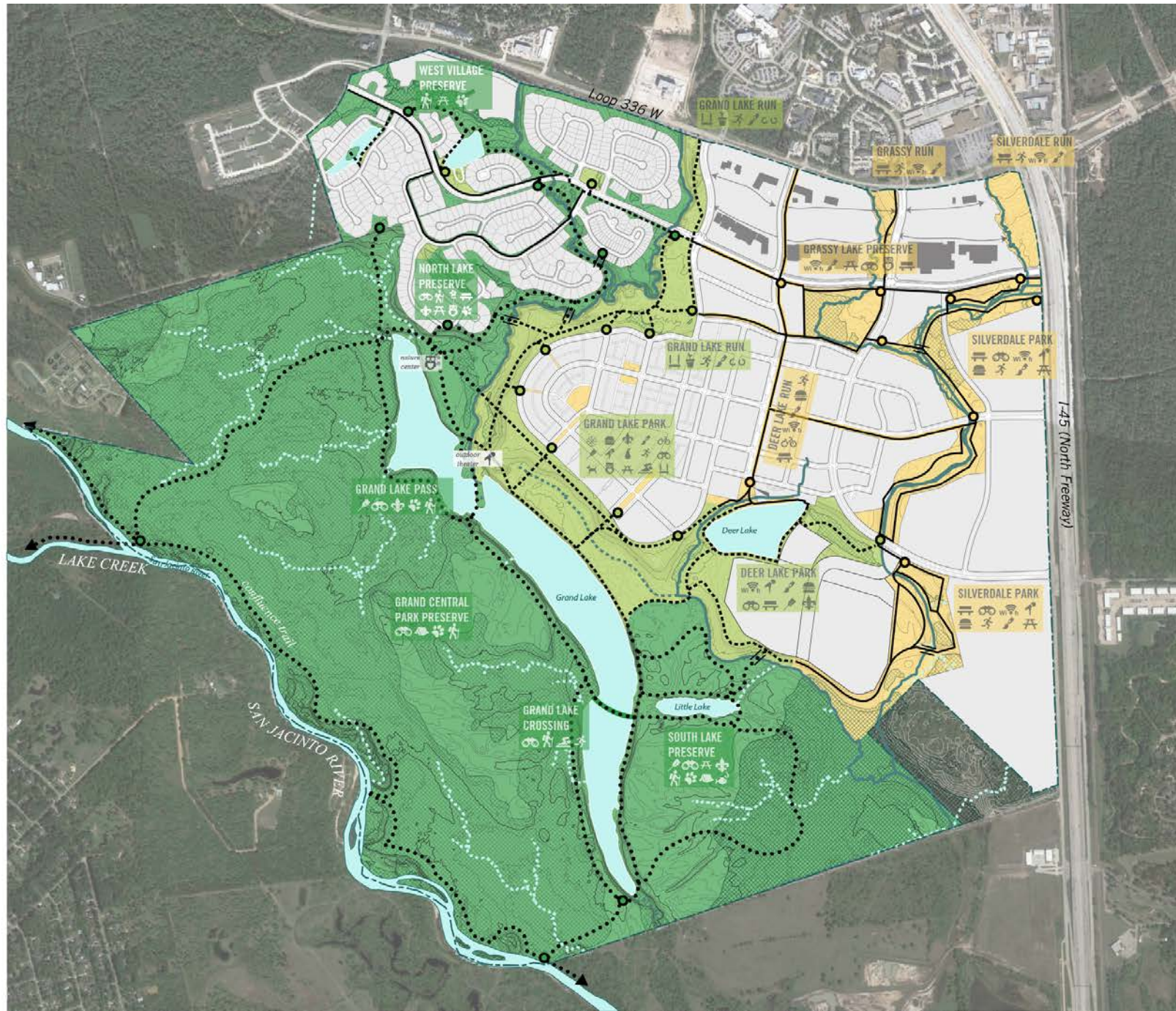
*COLLECT*

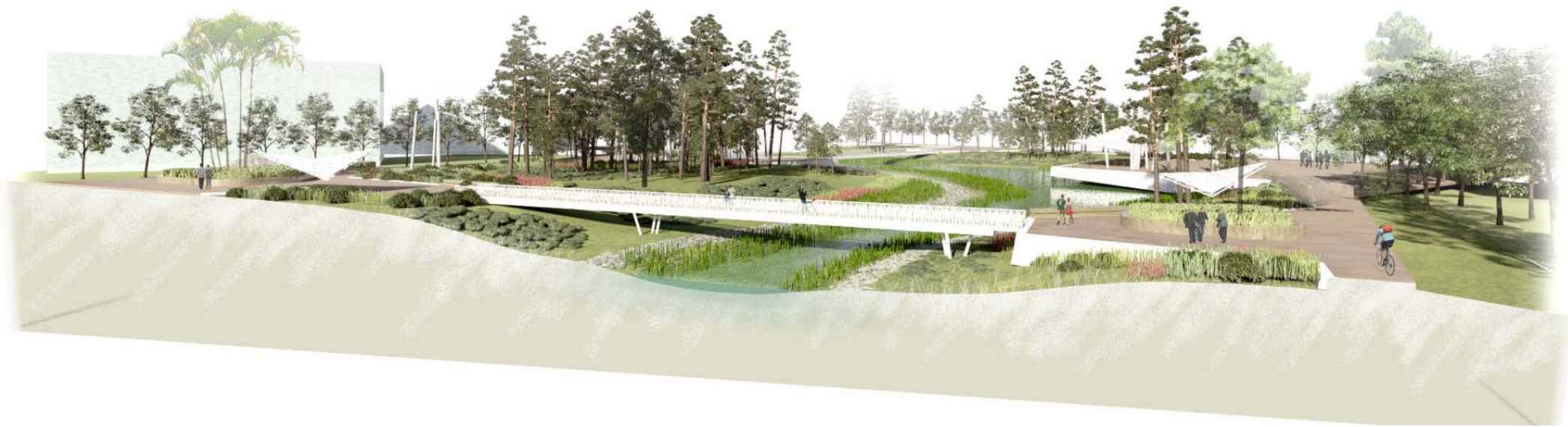
# GRAND CENTRAL PARK OPEN SPACE CONCEPT PLAN

- Features**
- Wetlands
  - Lakes, Ponds and Rivers
  - Creeks and Streams
  - Dry Creeks and Stormwater Flows
  - Urban Parks, Trails and Trailheads
  - Recreational Parks, Trails and Trailheads
  - Conservation Parks, Trails and Trailheads

- Program**
- |  |                     |  |                         |
|--|---------------------|--|-------------------------|
|  | Public Wi Fi        |  | Watersports             |
|  | Cultural Attraction |  | Performance Area        |
|  | Dog Park            |  | Running Trail           |
|  | Public Art          |  | Swimming Area           |
|  | Food and Drink      |  | Boyscout Heritage       |
|  | Sports Facilities   |  | Picnic Area             |
|  | Community Garden    |  | Fishing Area            |
|  | Playground          |  | Campground              |
|  | Cycle Track         |  | Hiking Trail            |
|  | Food Forest         |  | Arboretum               |
|  | Seating Area        |  | Environmental Education |
|  | Viewpoint           |  | Wildlife Observation    |

- Land Use**
- |  |              |  |             |  |                   |  |                |  |               |
|--|--------------|--|-------------|--|-------------------|--|----------------|--|---------------|
|  | Urban Office |  | Town Center |  | Urban Residential |  | Big Box Retail |  | Single Family |
|--|--------------|--|-------------|--|-------------------|--|----------------|--|---------------|





## CONSERVATION

Parks and open spaces which encompass the preserved or minimally altered existing natural environment of Grand Central Park



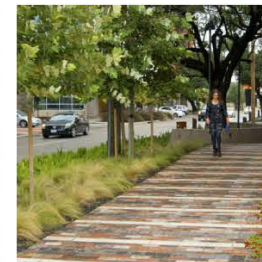
## RECREATION

Parks and open spaces which serve as the critical interface between the built and natural environments of Grand Central Park



## URBAN

Parks and open spaces which are woven into the built environment of Grand Central Park





# MACRO LEVEL CONSERVATION & PRESERVATION

# CASE STUDY

# ACADEMY PARK

 Academy Park Study Area

 Vacant Parcels

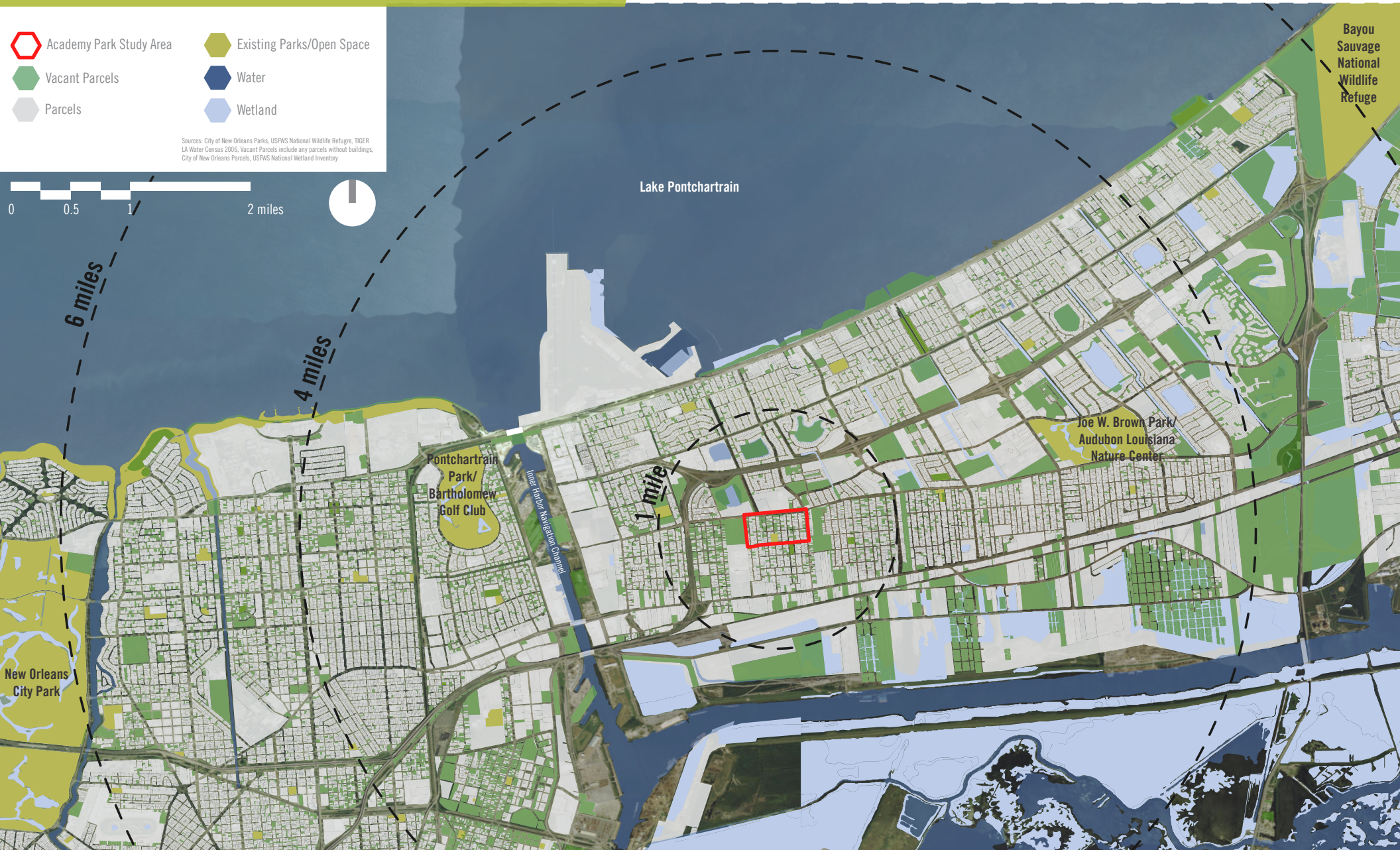
 Parcels

 Existing Parks/Open Space

 Water

 Wetland

Sources: City of New Orleans Parks, USFWS National Wildlife Refuge, TIGER LA Water Census 2006, Vacant Parcels include any parcels without buildings, City of New Orleans Parcels, USFWS National Wetland Inventory



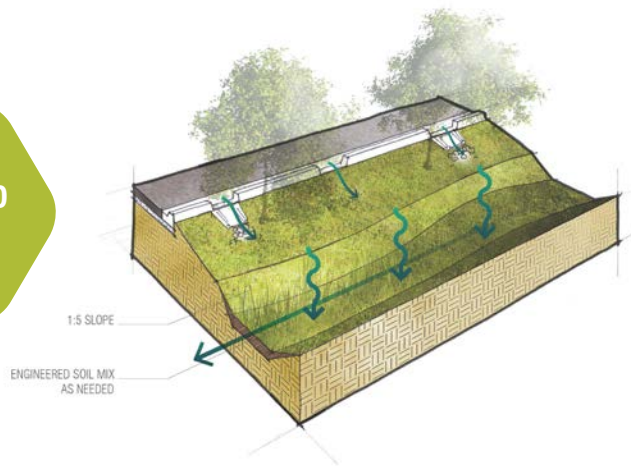
# ACADEMY PARK GREEN INFRASTRUCTURE PLAN

Planner: Asakura Robinson

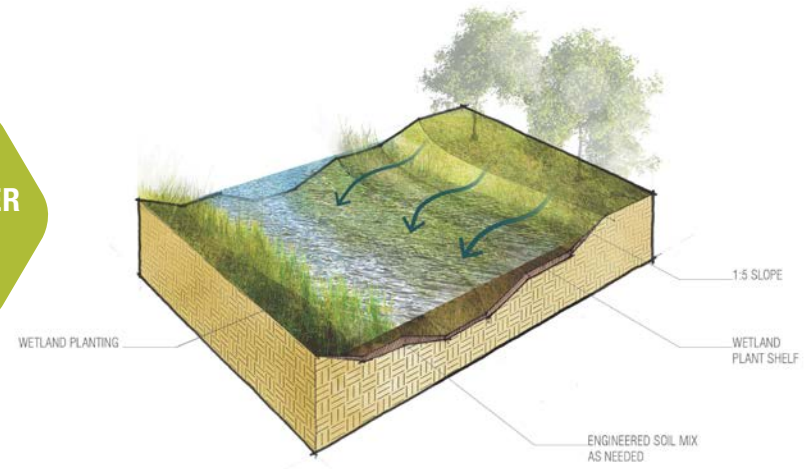
CONSERVATION

RESTORATION

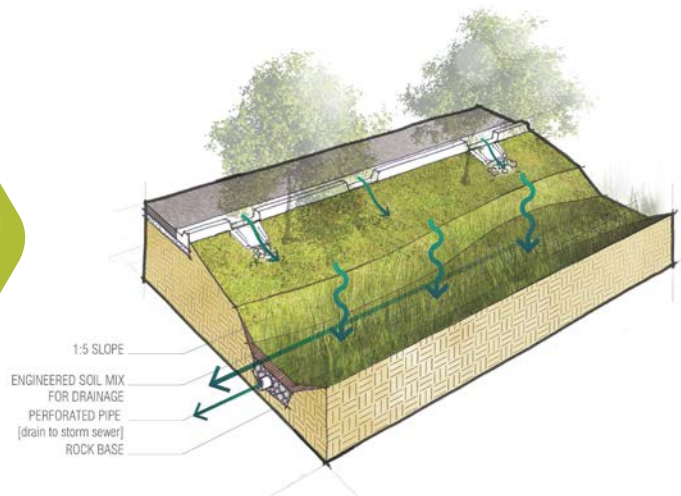
VEGETATED  
SWALE



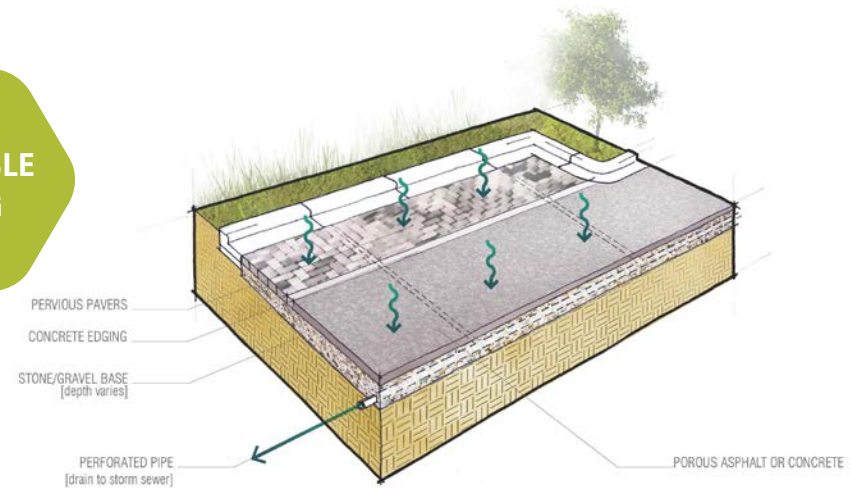
STORMWATER  
WETLANDS



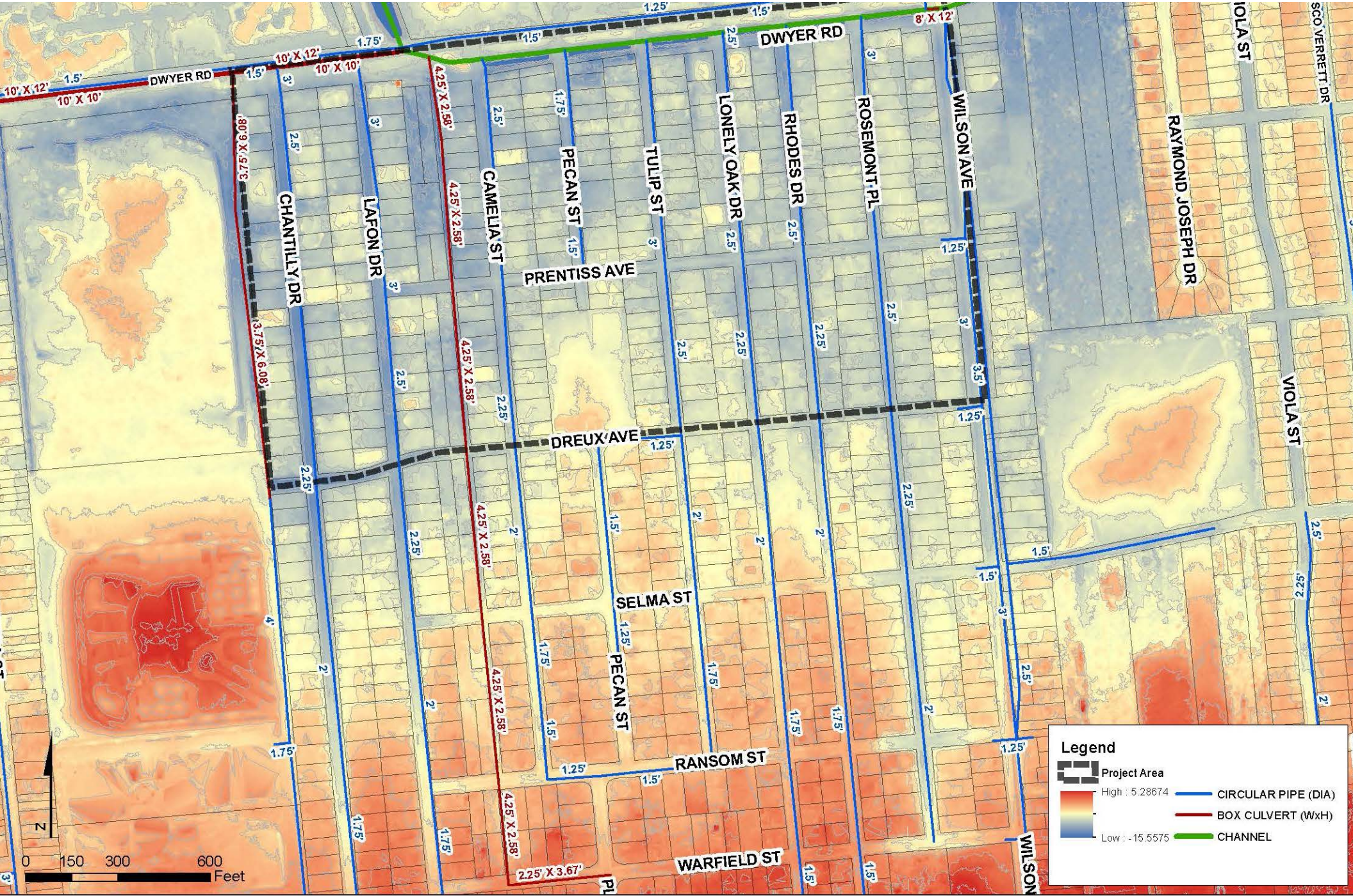
BIORETENTION  
SYSTEMS



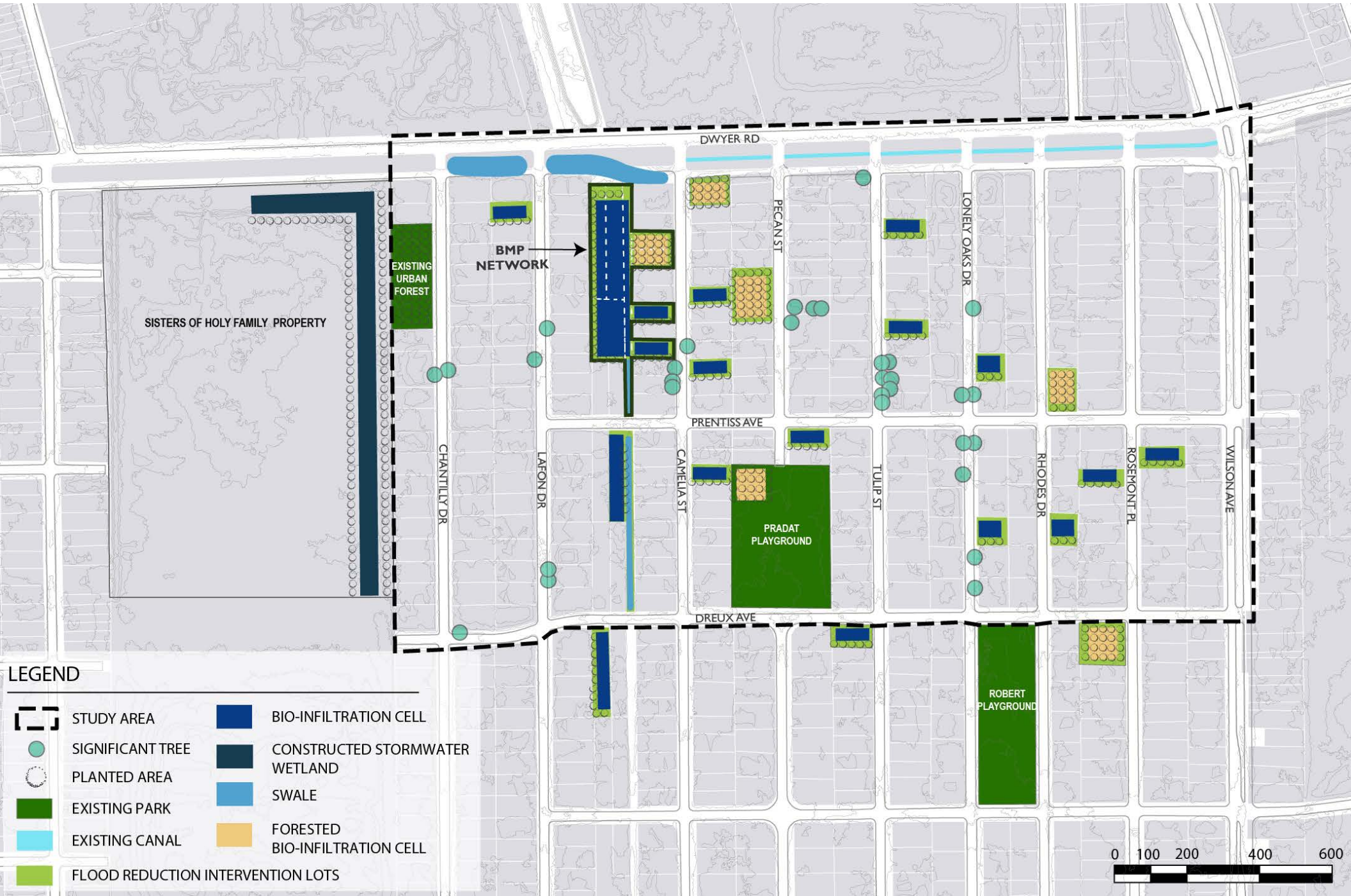
PERMEABLE  
PAVING



# EXISTING DRAINAGE PLAN



# CONCEPT PLAN



WALLER CREEK

MACRO LEVEL CONSERVATION & PRESERVATION

# CASE STUDY

## SOUTH CENTRAL WATERFRONT

LADY BIRD LAKE

BARTON SPRINGS ROAD

BLUNN

AUDITORIUM SHORES STATION

RIVERSIDE DRIVE

BARTON SPRINGS ROAD

BOULDIN CREEK



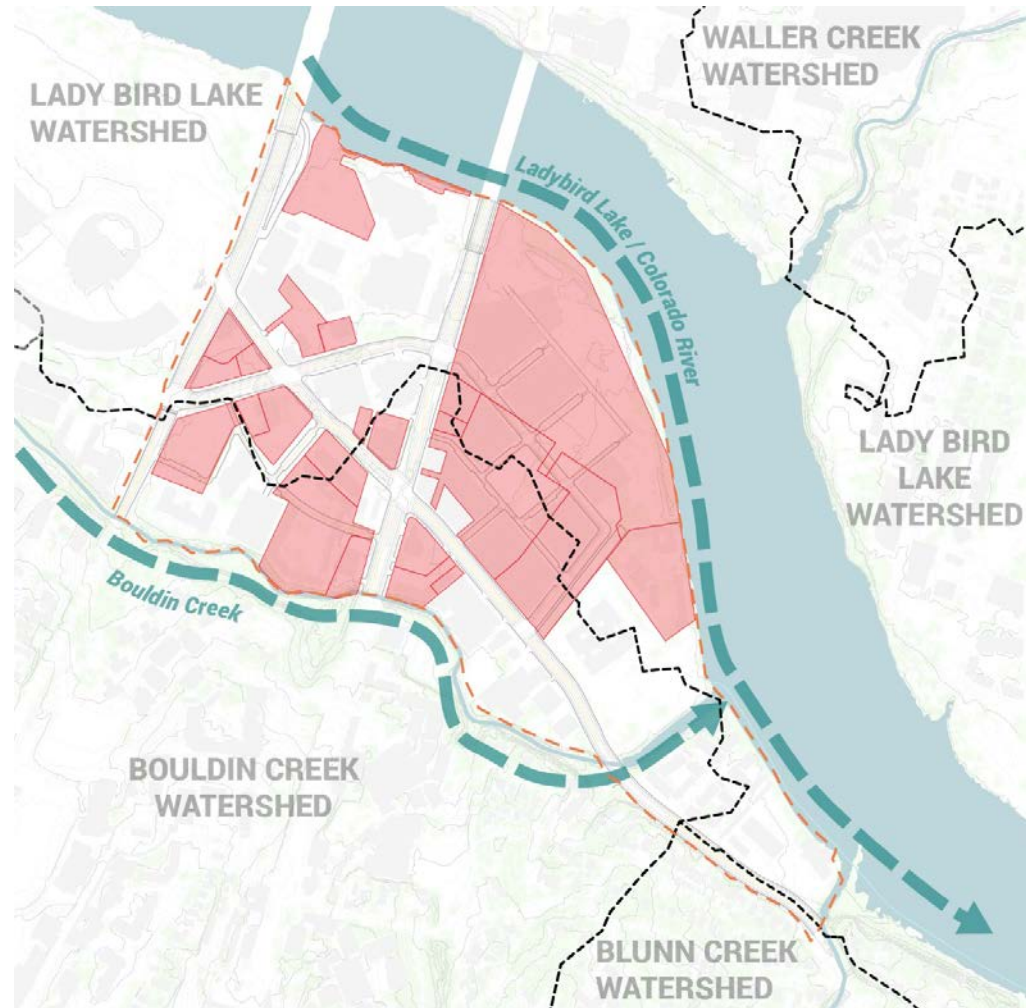
# SOUTH CENTRAL WATERFRONT

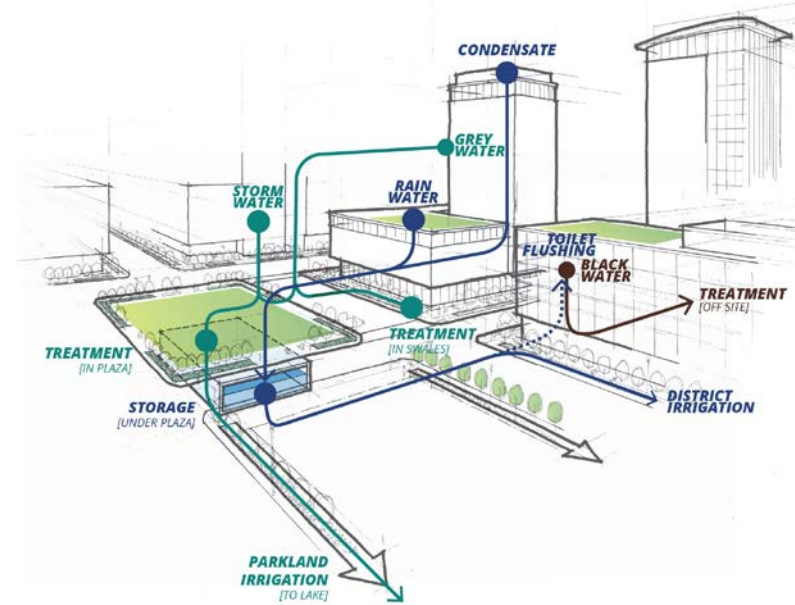
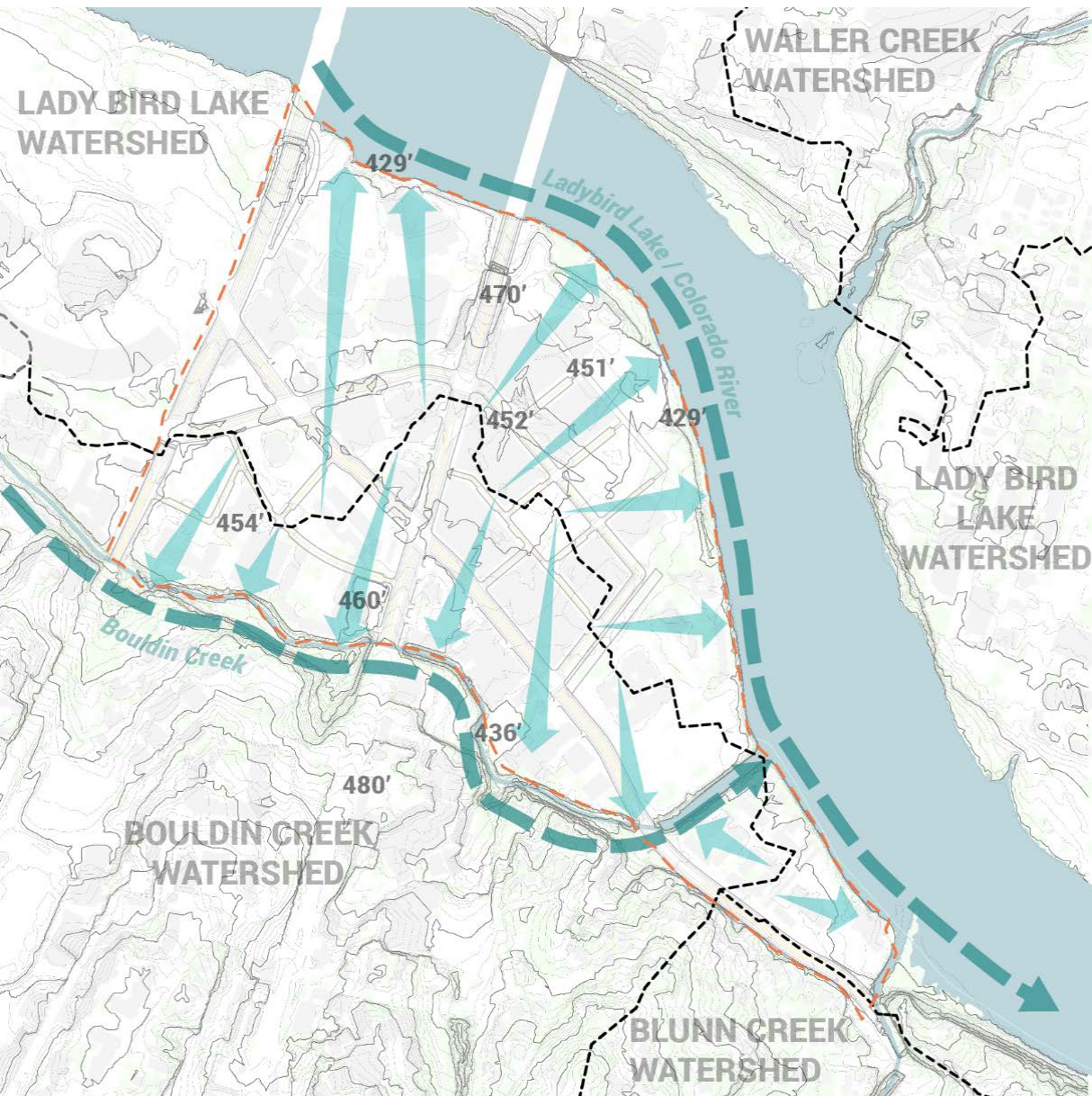
Planner: Asakura Robinson



## SITE DESIGN FEATURES

- Encourage low impact development as an integral part of new developments



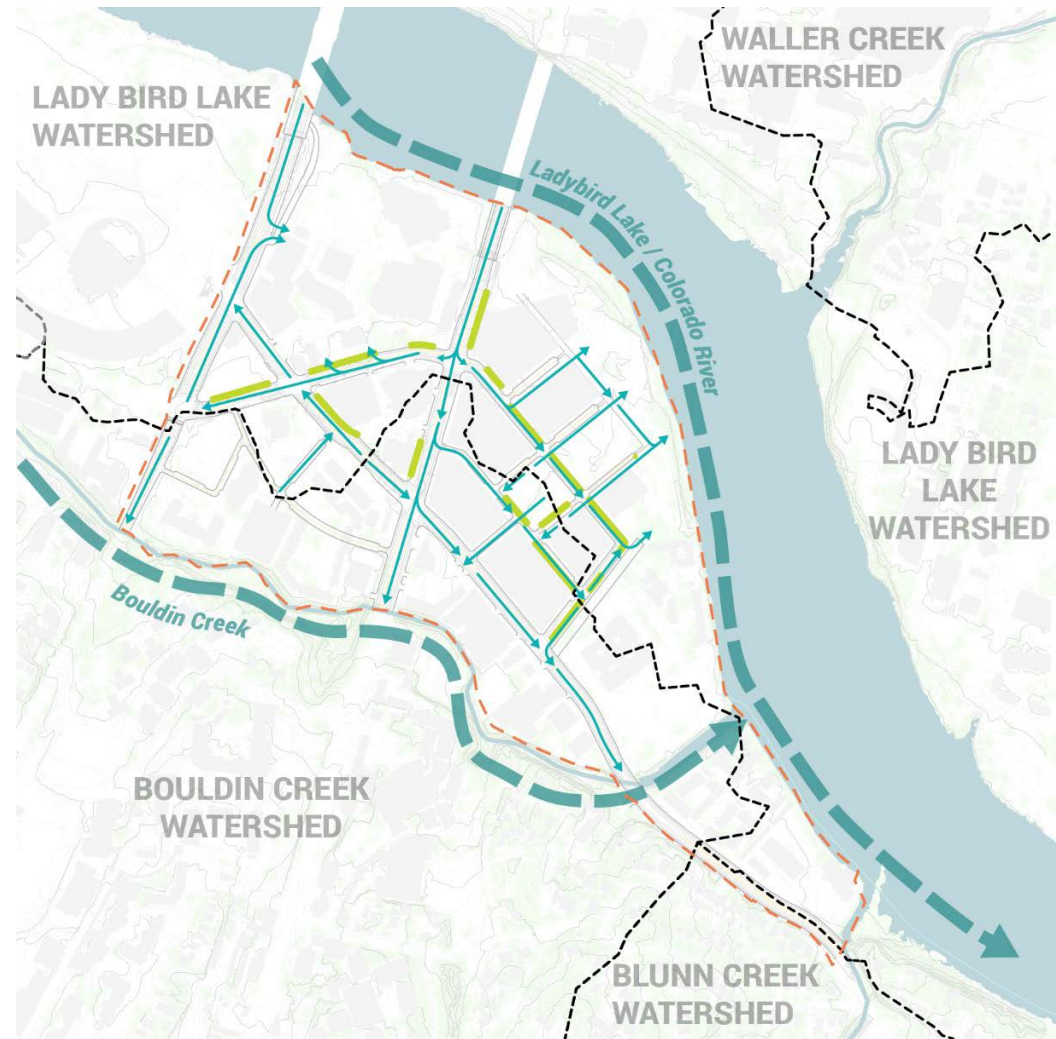
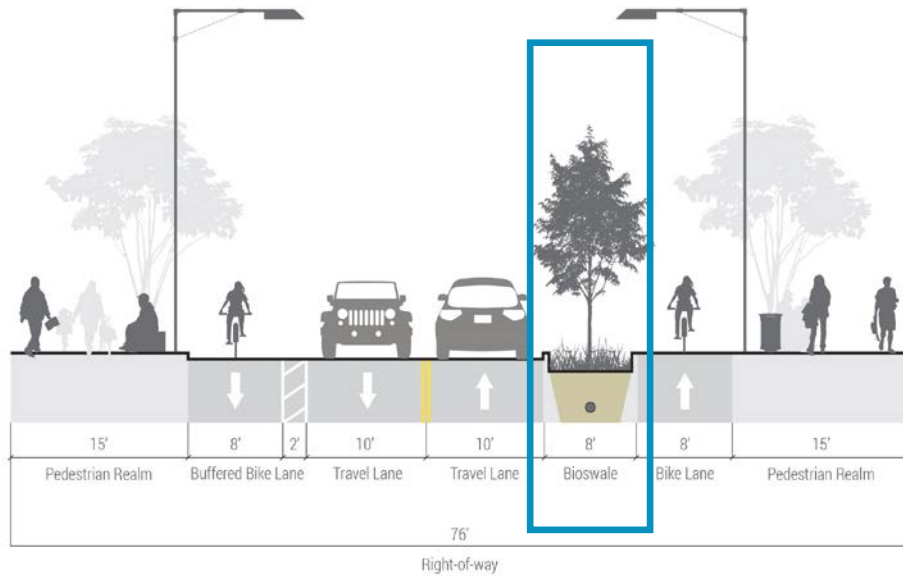


## SUSTAINABILITY CASE STUDY

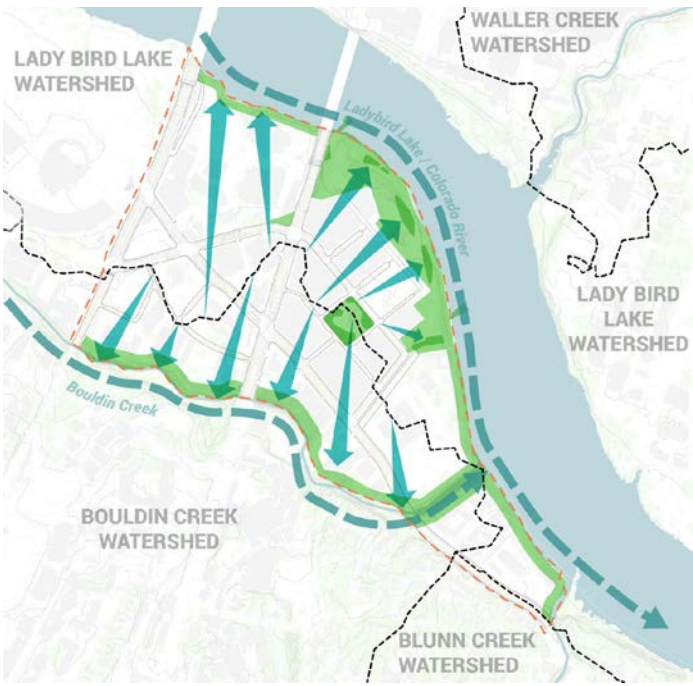
- Understanding how Water flows through the study area ensures that runoff is properly treated and mitigates flooding from heavy rainfall

## GREEN STREETS FEATURES

- Direct and manage stormwater in the public realm and streetscape through strategic grading and green infrastructure design







# LANDSCAPE MANAGEMENT

## MANAGEMENT COMPARISON

2 YEARS

5 YEARS

10 YEARS

THE NATIVE GRASSES REQUIRE MORE ATTENTION IN THE BEGINNING FOR SUCCESSFUL ESTABLISHMENT.

### NATIVE LANDSCAPE

10,000 S.F. NATIVE GRASSES  
LABOR:  
APPROX. \$25/ HOUR

### TURF GRASS

10,000 S.F. LAWN  
LABOR:  
APPROX. \$25/HOUR

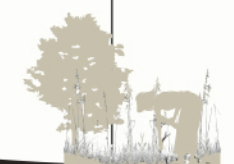
MAINTENANCE COST  
AFTER 10 YEARS:  
APPROX. \$15,000

TURFGRASS RECEIVES CONSTANT MANICURING,  
INPUTS OF FERTILIZERS, HERBICIDES, & WATER.

PERPETUAL  
MANAGEMENT

MAINTENANCE COST  
AFTER 10 YEARS:  
APPROX. \$4,000

DECREASED  
MANAGEMENT



# LANDSCAPE MANAGEMENT

## MANAGEMENT COMPARISON

2 YEARS

5 YEARS

10 YEARS

INCREASED VALUE

RETURN ON INVESTMENT AFTER 10 YEARS:

- HIGH PERFORMANCE LANDSCAPE
- CREATION OF HABITAT
- GENETIC BIODIVERSITY
- INCREASED AESTHETIC VALUE

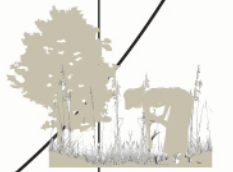
NATIVE  
LANDSCAPE

TURF  
GRASS

RETURN ON INVESTMENT AFTER 10 YEARS:

- LANDSCAPE REMAINS STATIC
- NO HABITAT CREATION
- NO CHANGE IN AESTHETIC VALUE

NO CHANGE IN VALUE



# THANK YOU

## MACRO LEVEL

Conservation & Restoration

**BAYS**

**RIVERS**

## MICRO LEVEL

“Low-Impact Development”

**TREATMENT  
TRAINS**



**STORMWATER  
WETLANDS**

**GREEN  
ROOF**

**BAYOUS**



**BIORETENTION  
SYSTEMS**



**STORMWATER  
HARVESTING**

**PERMEABLE  
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asakura  
robinson