

Raising the Bar for Integrated Cultural and High-Performance Campus Landscapes

University Of Wisconsin - Madison Campus Master Plan

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MASTER PLANNING FOCUS

1. BUILDINGS & FACILITIES

2. UTILITIES

3. TRANSPORTATION

4. LANDSCAPE

5. GREEN INFRASTRUCTURE



THE BIG QUESTION

How do you create an integrated landscape framework that preserves the University's **historic core**, elevates the quality and **identity** of the overall campus, better **connects** the entire community to Lake Mendota, and establishes rigorous, measurable, data driven standards for improved **environmental stewardship**?



TODAY'S CAMPUS

INSTITUTION

University of Wisconsin-Madison

INSTITUTION TYPE

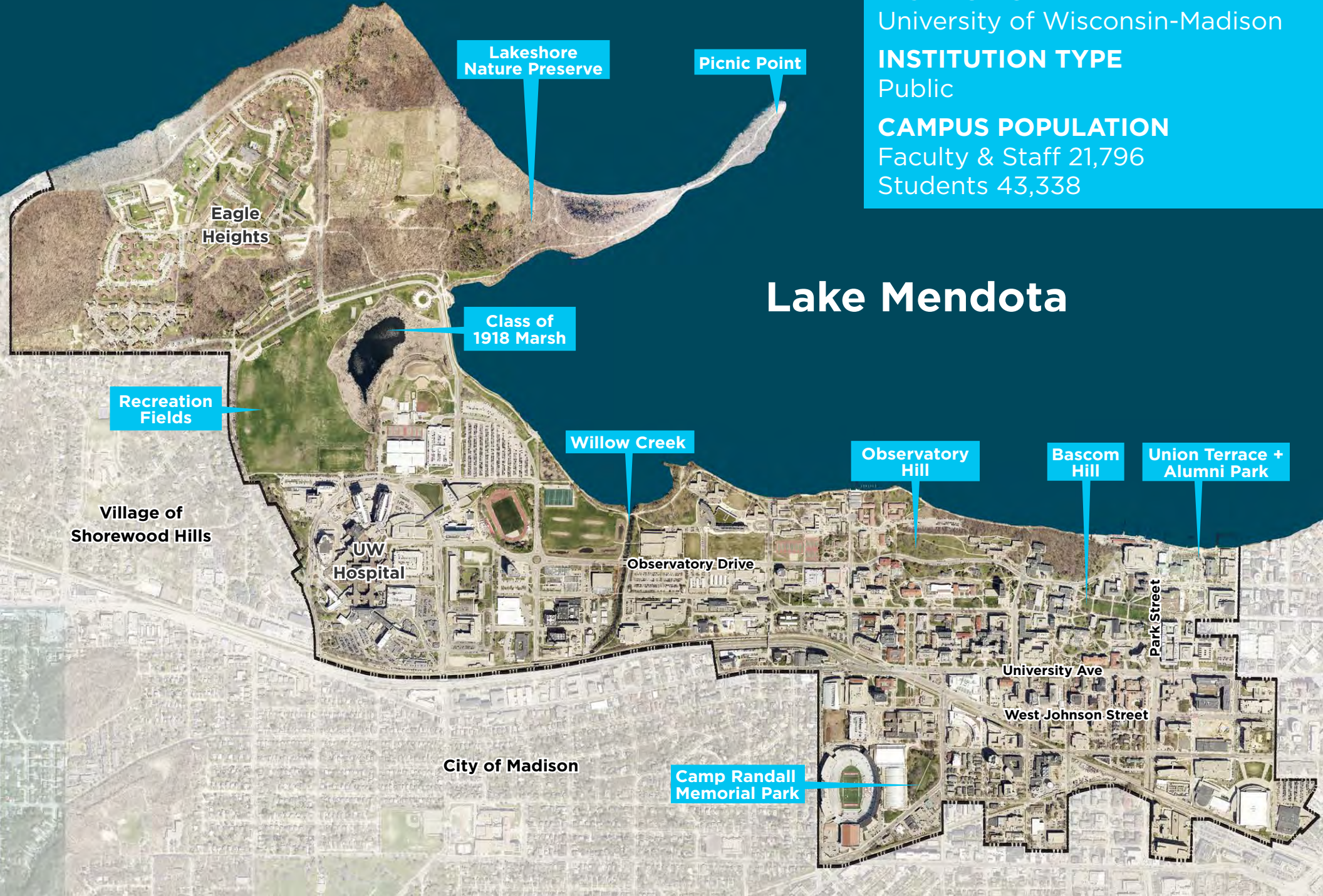
Public

CAMPUS POPULATION

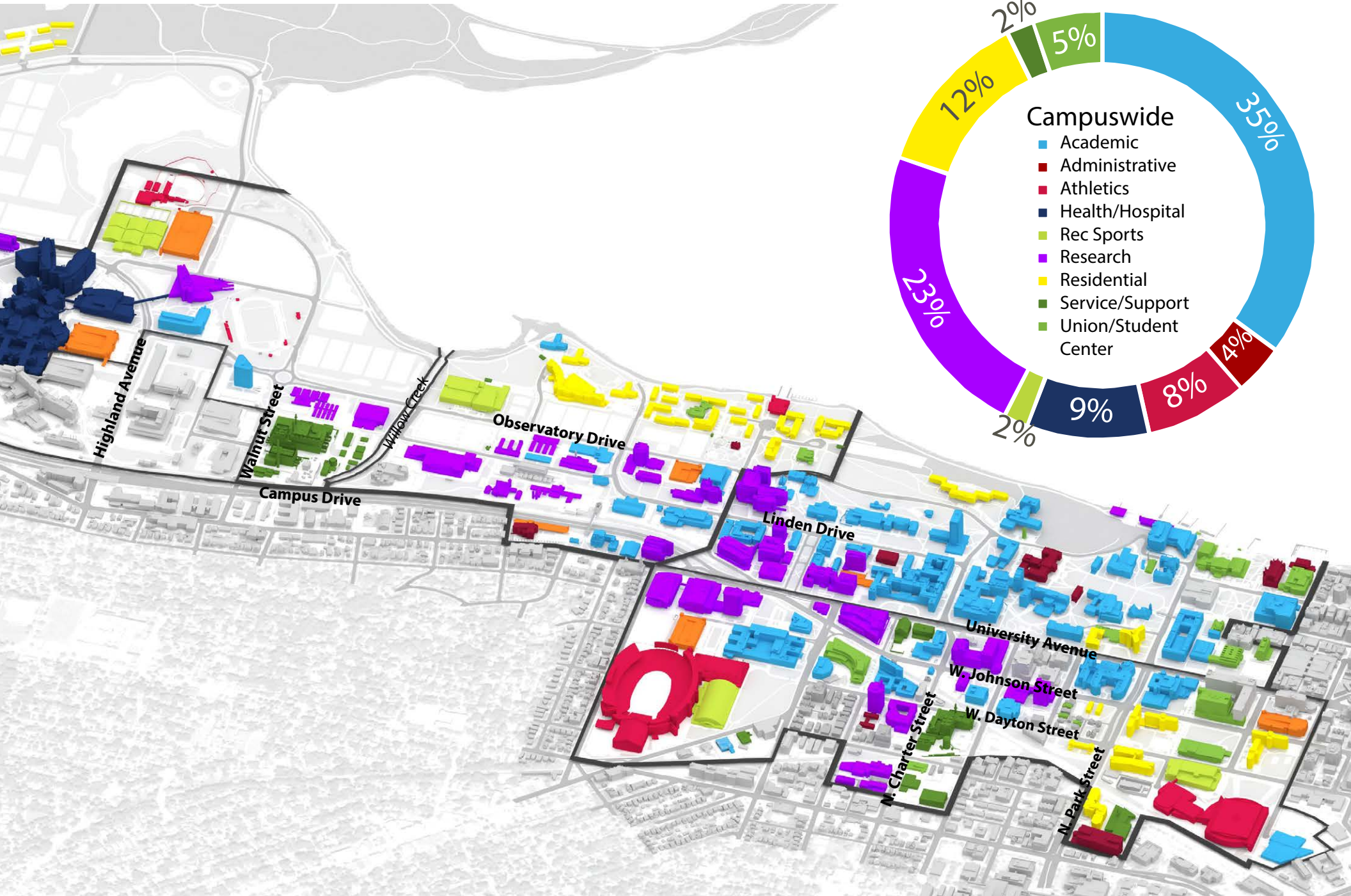
Faculty & Staff 21,796

Students 43,338

Lake Mendota



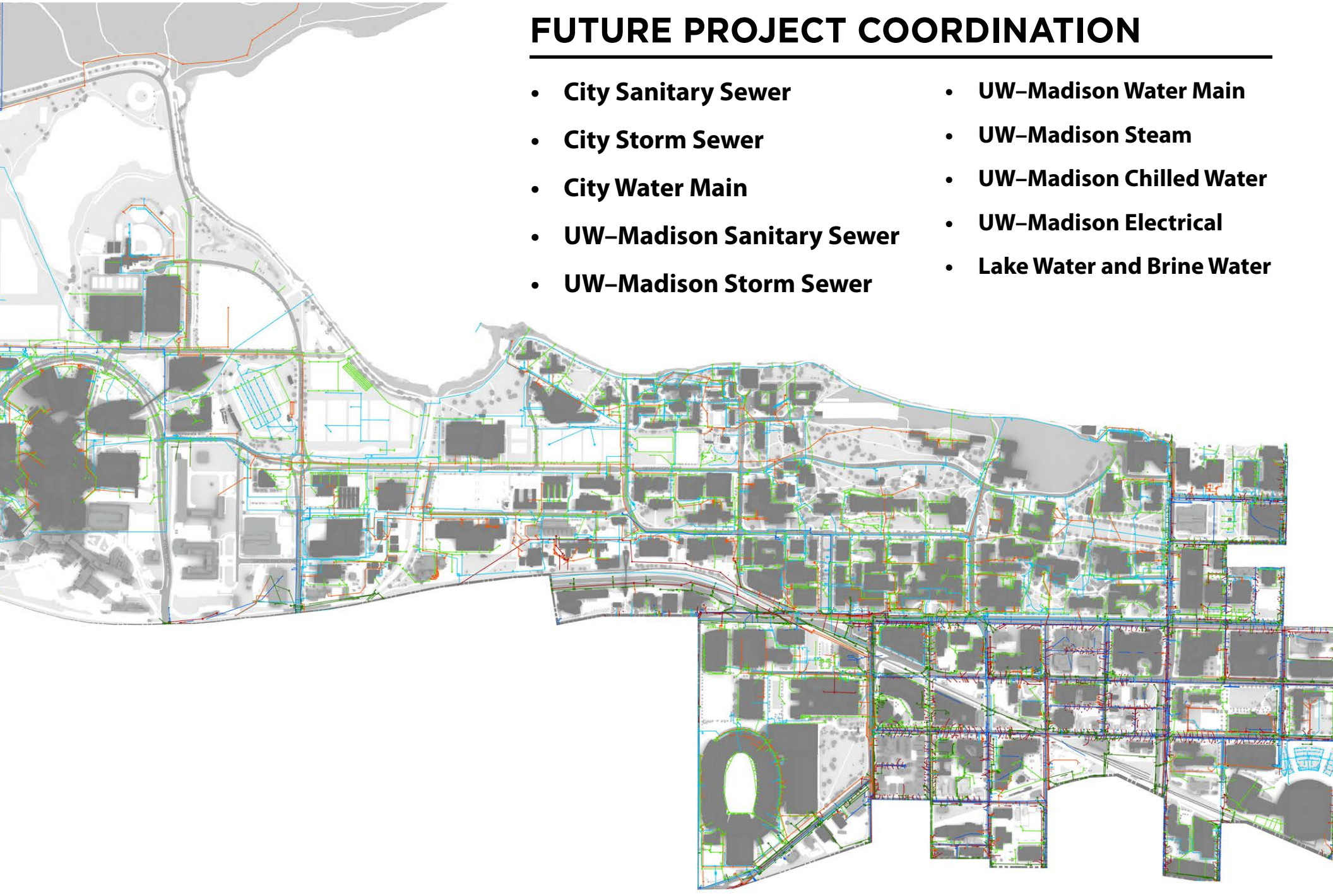
CAMPUS FACILITY USE



CAMPUS UTILITIES

FUTURE PROJECT COORDINATION

- City Sanitary Sewer
- City Storm Sewer
- City Water Main
- UW–Madison Sanitary Sewer
- UW–Madison Storm Sewer
- UW–Madison Water Main
- UW–Madison Steam
- UW–Madison Chilled Water
- UW–Madison Electrical
- Lake Water and Brine Water

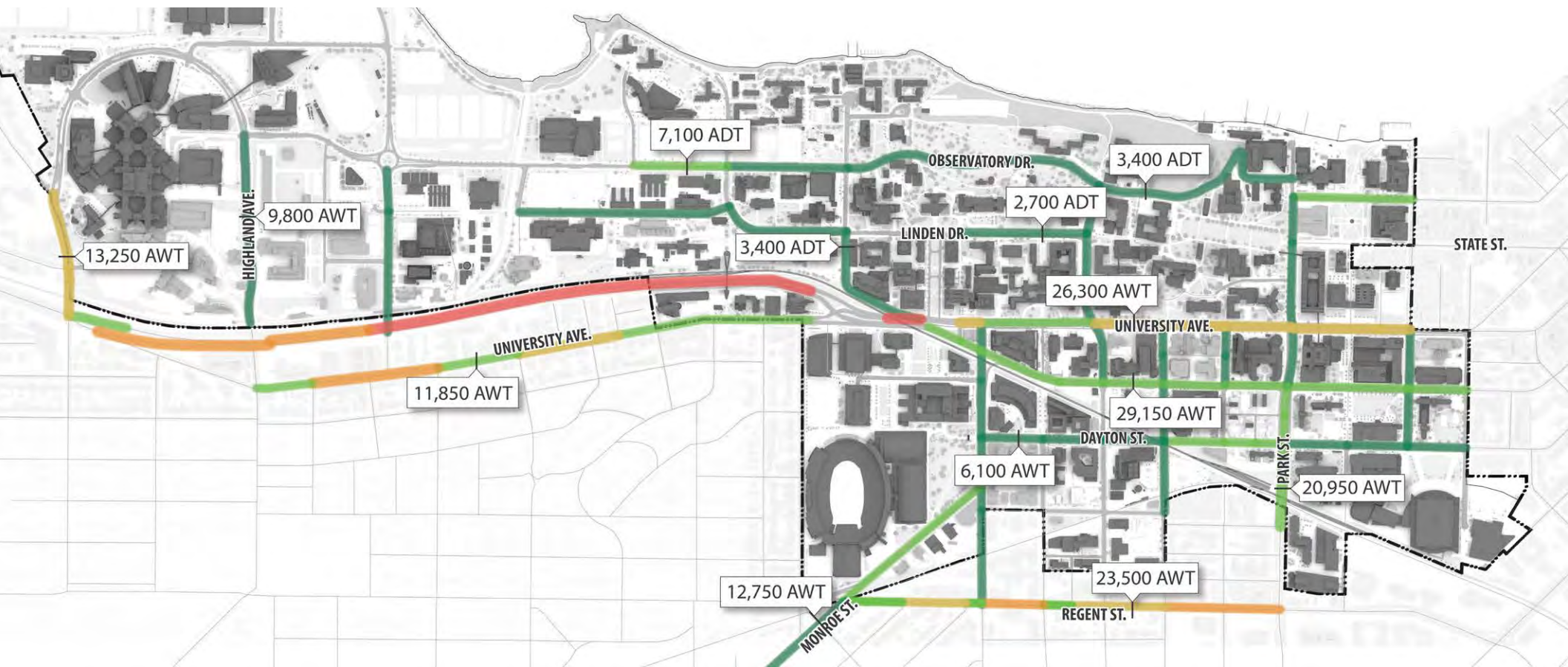


VEHICULAR CONGESTION



LEGEND (volume/capacity)

- Uncongested (0.00-0.50)
- Relatively Uncongested (0.50-0.80)
- Approaching Capacity/Slightly Congested (0.80-0.90)
- Near or at Capacity/Congested (0.90-1.00)
- Over Capacity (>1.00)



CONGESTION & BUS TIMING

10:46 am

11/12/2013

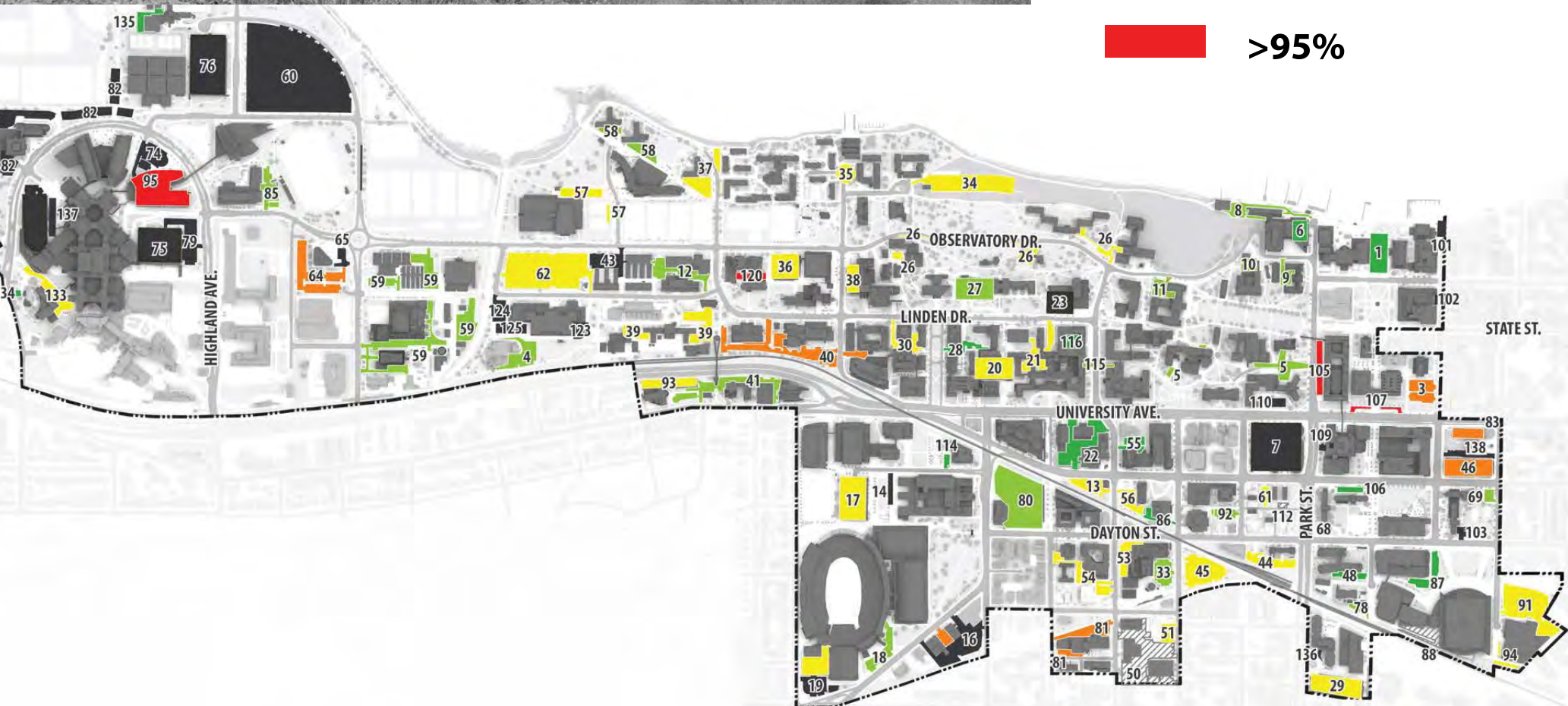
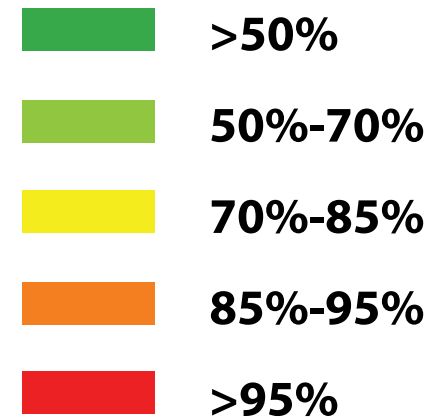


**Linden Street and Charter
Street Intersection**

PARKING OCCUPANCY



LEGEND (Occupancy)



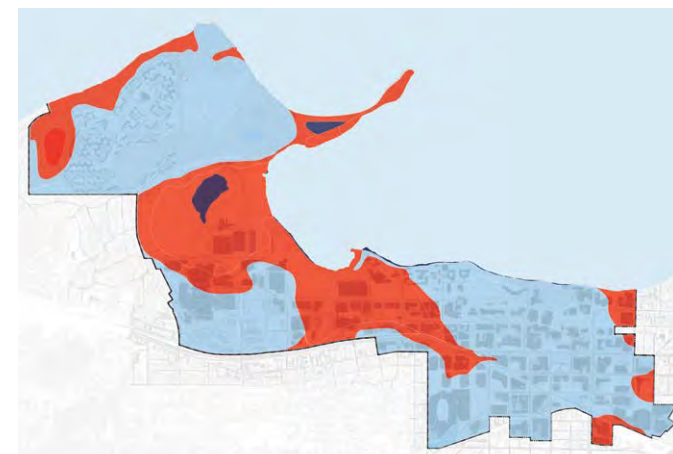
NATURAL SYSTEMS



TOPOGRAPHY AND SLOPES



CULTURAL LANDSCAPES



SURFACE INFILTRATION RATES



SOIL SUITABILITY



CAMPUS LANDSCAPE CHARACTER



TREE CANOPY COVER

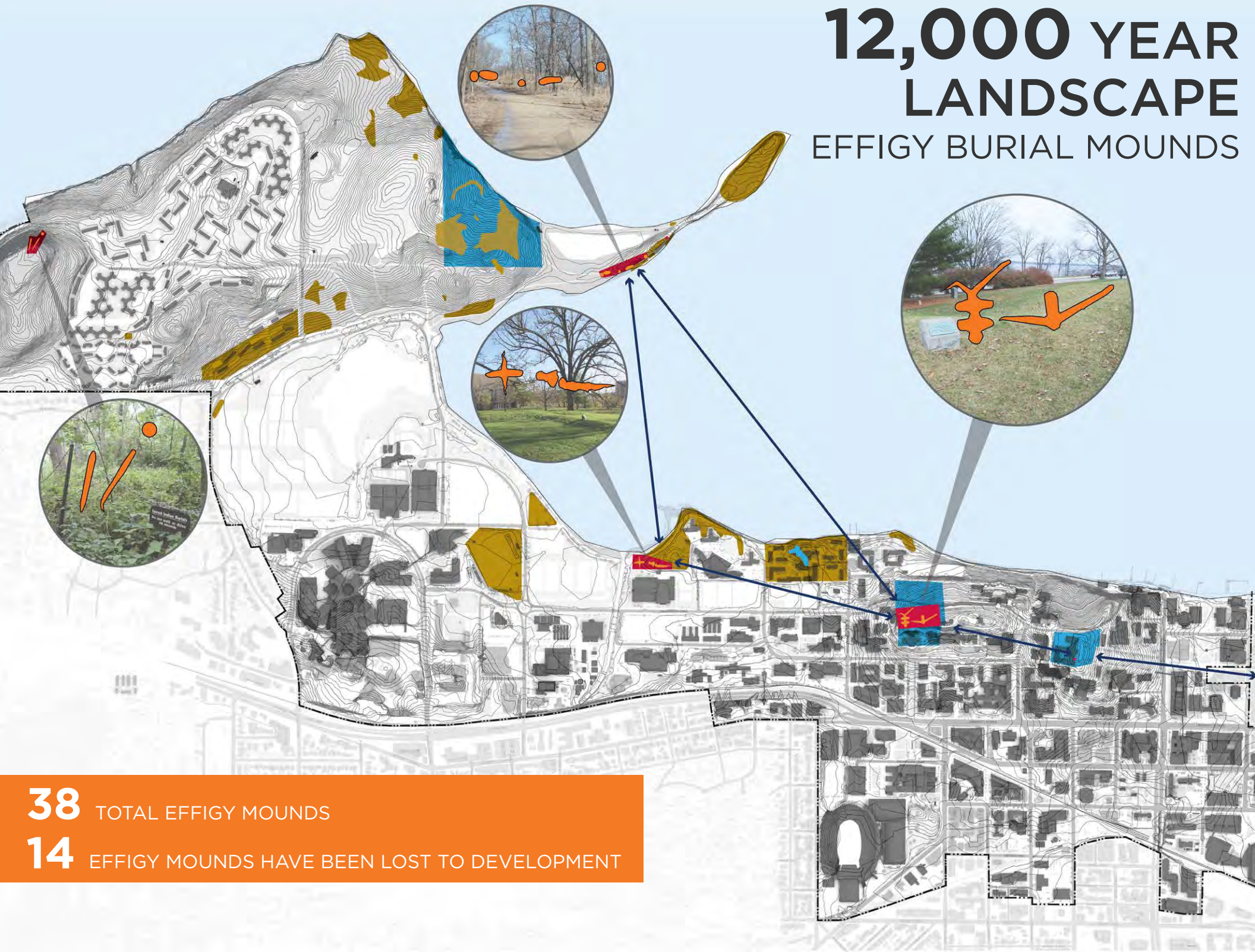


100 YEAR LANDSCAPE

ICONIC CAMPUS
WATERFRONT

12,000 YEAR LANDSCAPE

EFFIGY BURIAL MOUNDS



38 TOTAL EFFIGY MOUNDS

14 EFFIGY MOUNDS HAVE BEEN LOST TO DEVELOPMENT

50,000 YEAR LANDSCAPE

GLACIAL WATERSHED



To Rock River

City of Stoughton

Lake Kegonsa

Lake Waubesa

City of Monona

City of Fitchburg

Lake Monona

Downtown

Lake Wingra

City of Madison

UW-Madison
(936 Acres)

Village of Shorewood
Hills

Lake Mendota



A Welcoming Environment



Re-engage the Lakefront



Promote Wellness and Quality of Life



Working Landscapes



Rooted in History

MASTER PLAN PRINCIPLES



Foster Naturalized Landscapes



Walkable Streetscapes

PRIMARY GREEN INFRASTRUCTURE GOALS

PROMOTE HEALTHY YAHARA LAKES



INTEGRATE RESEARCH & LEARNING



CONNECT TO THE WATERSHED COMMUNITY

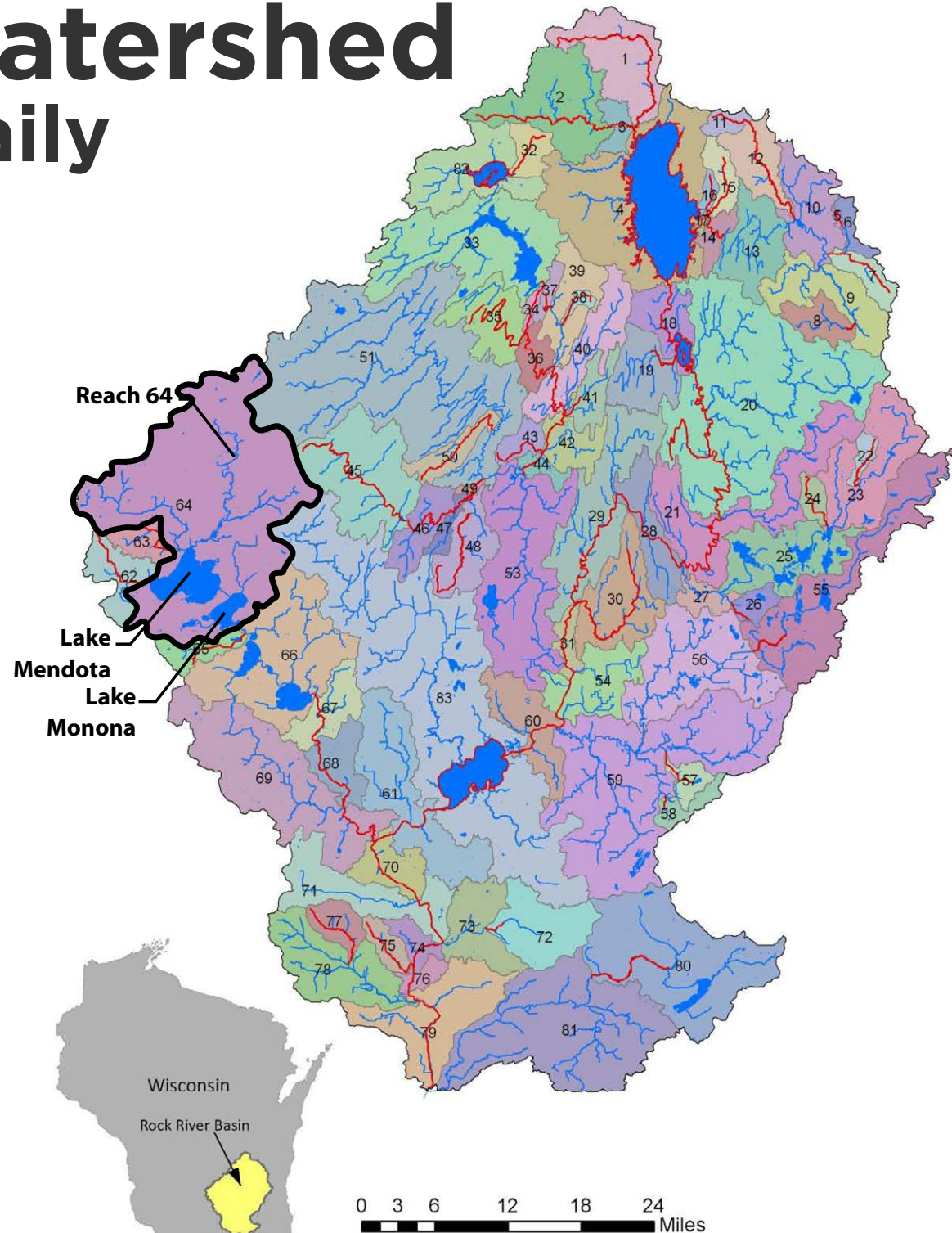


Rock River Watershed

Total Maximum Daily Load (TMDL)

TOTAL SUSPENDED
SOLIDS (TSS)
Reduction of **73%**

Total Phosphorus
Reduction of
61%





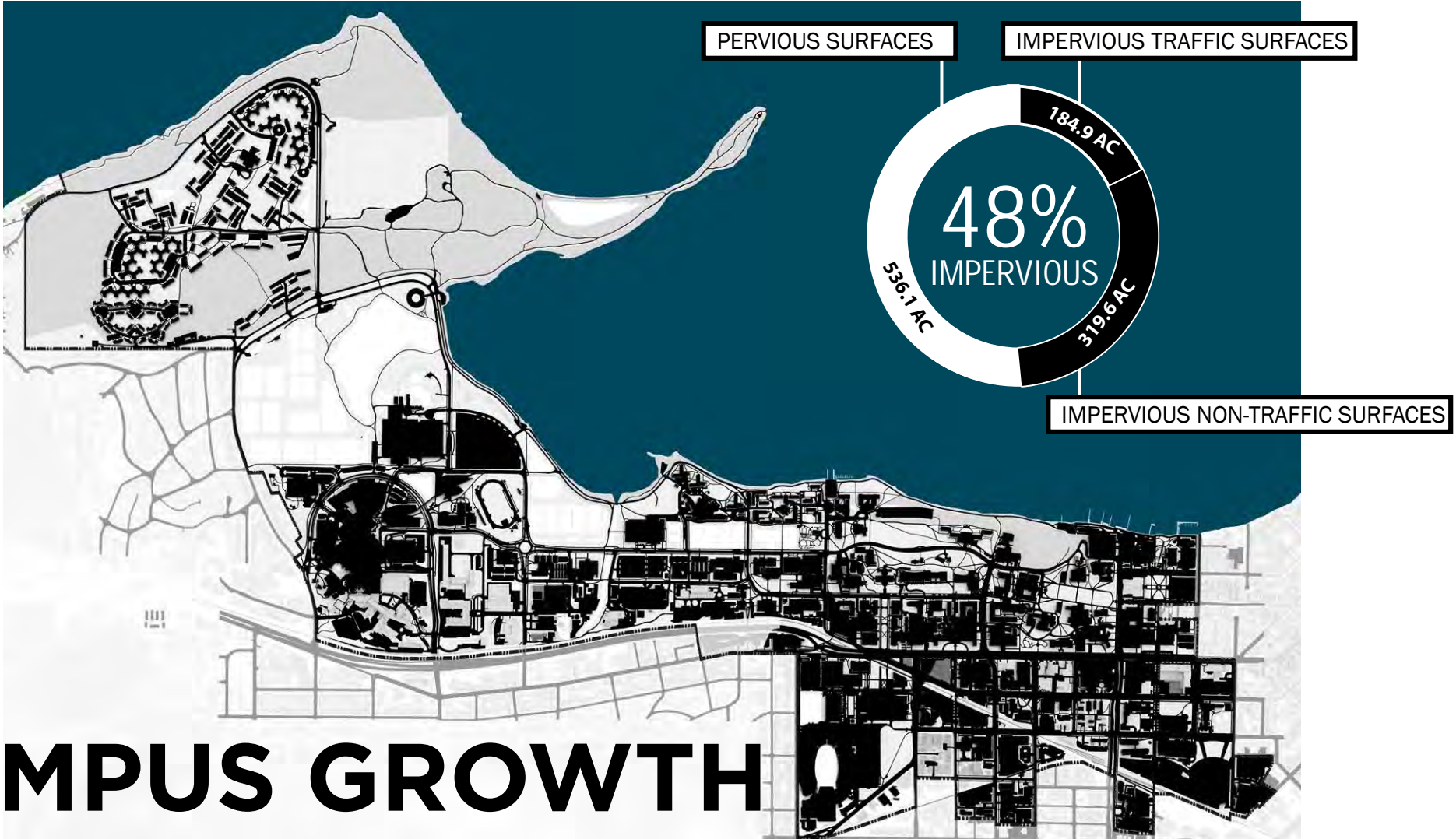
1900 - CAMPUS BUILDINGS



1967 - CAMPUS BUILDINGS



2015 - CAMPUS BUILDINGS



CAMPUS GROWTH

CAMPUS WATERSHEDS

668 Ac LAKE MENDOTA

134 Ac WILLOW CREEK
(SUBWATERSHED)

238 Ac LAKE MONONA

2,000 ACRES

of Upstream City Stormwater
Flows Thru UW's **Willow Creek**



Willow Creek
Watershed

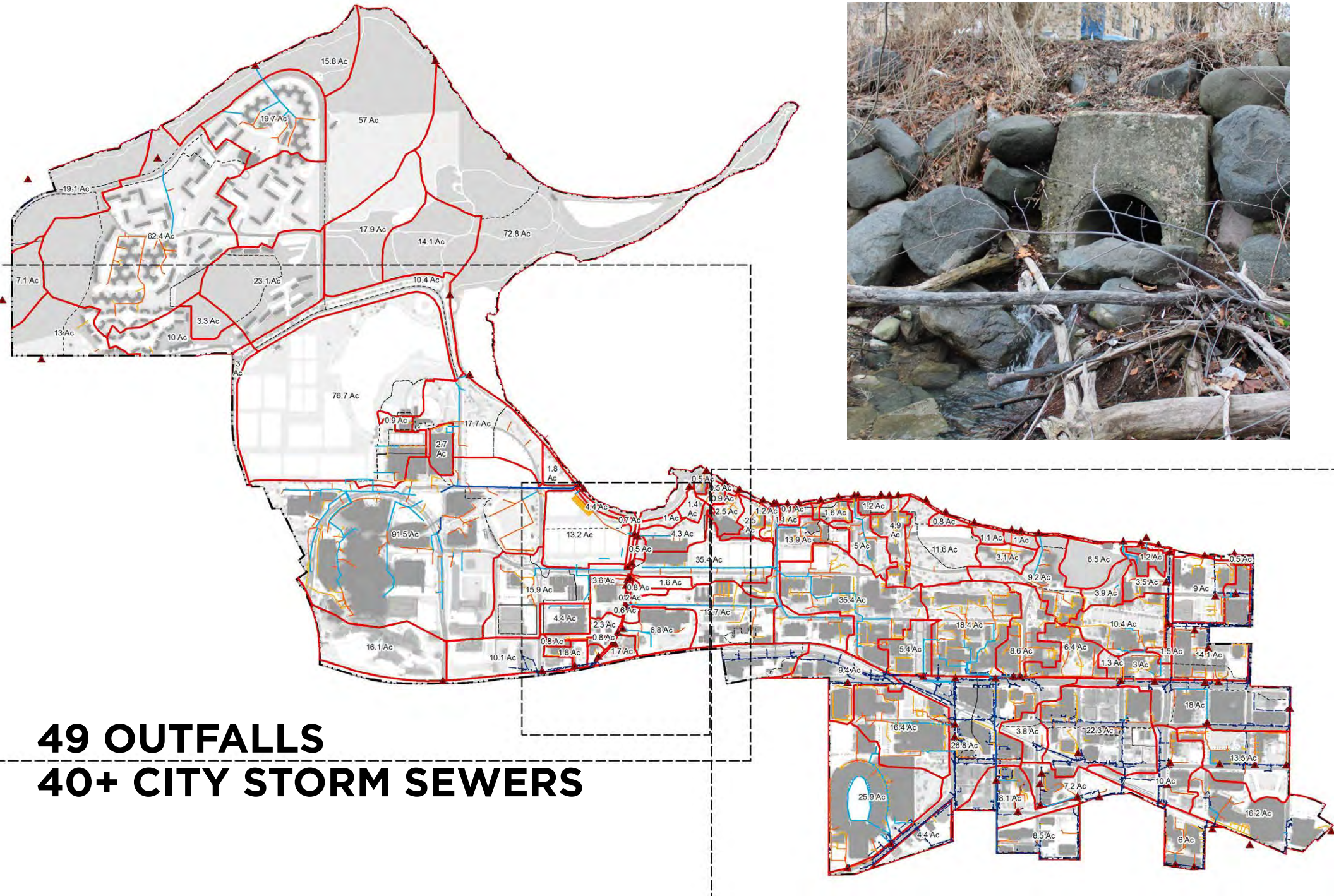


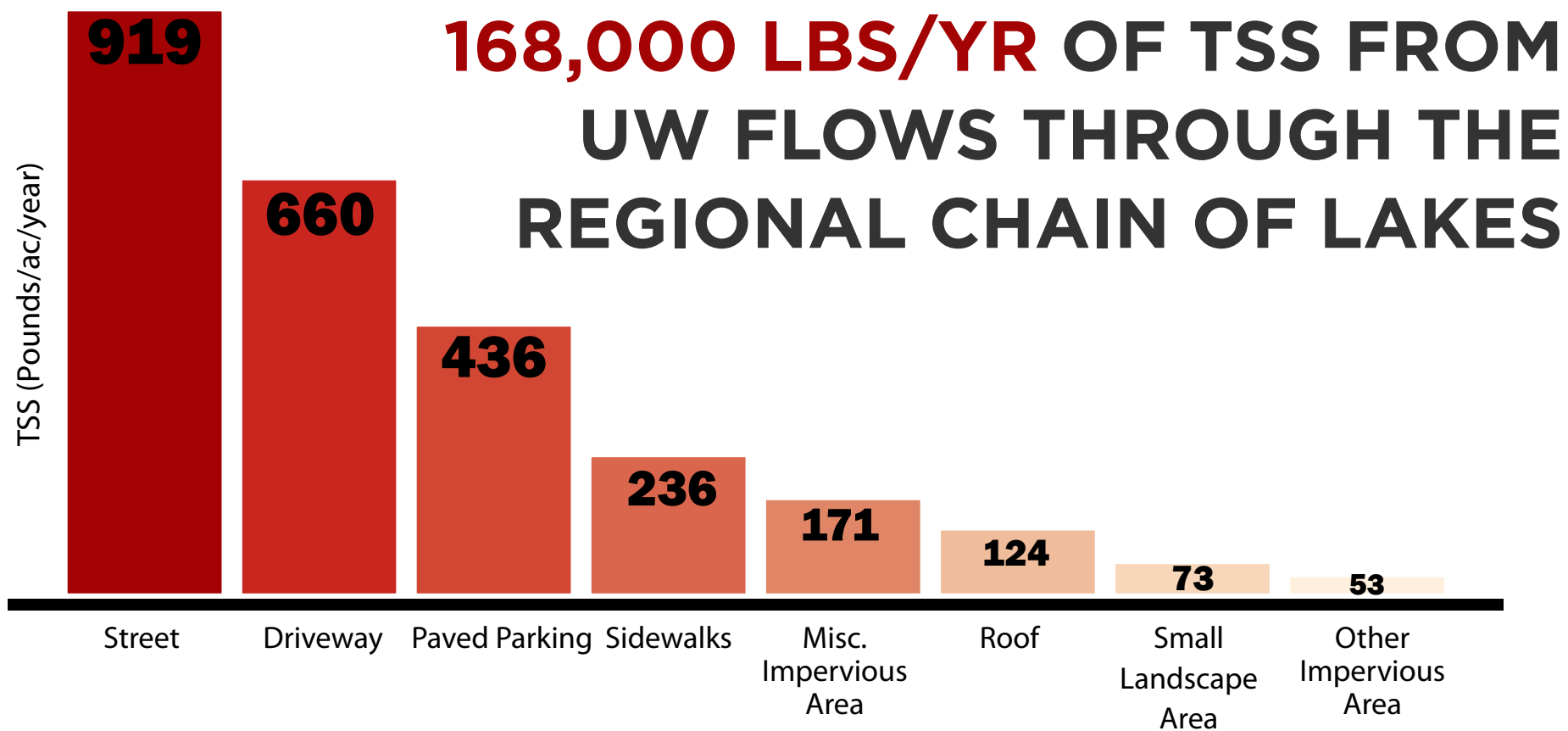
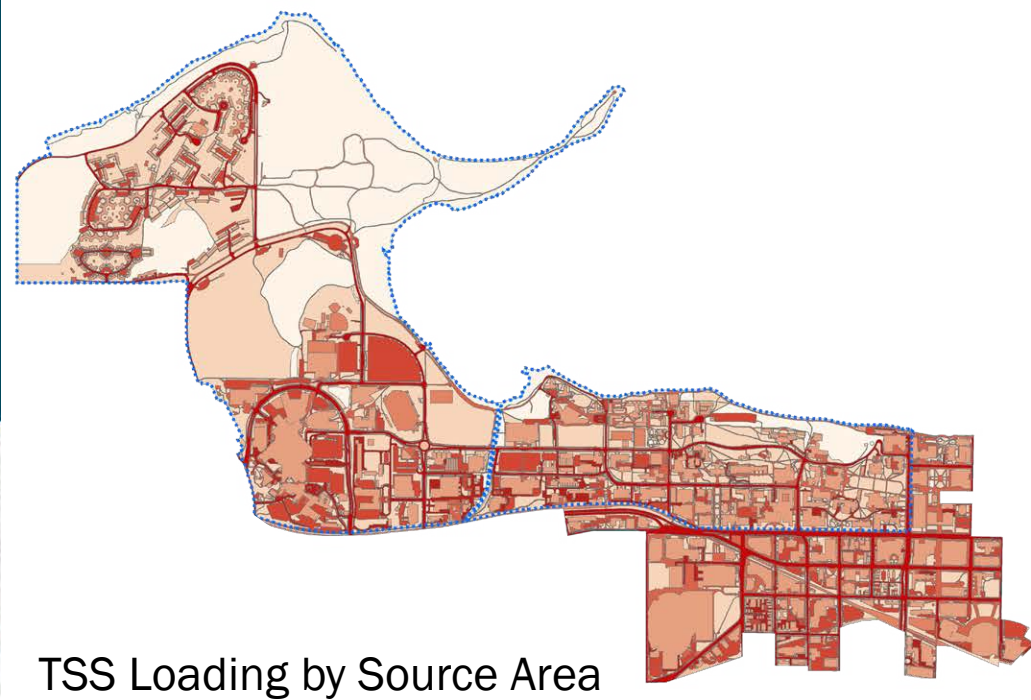
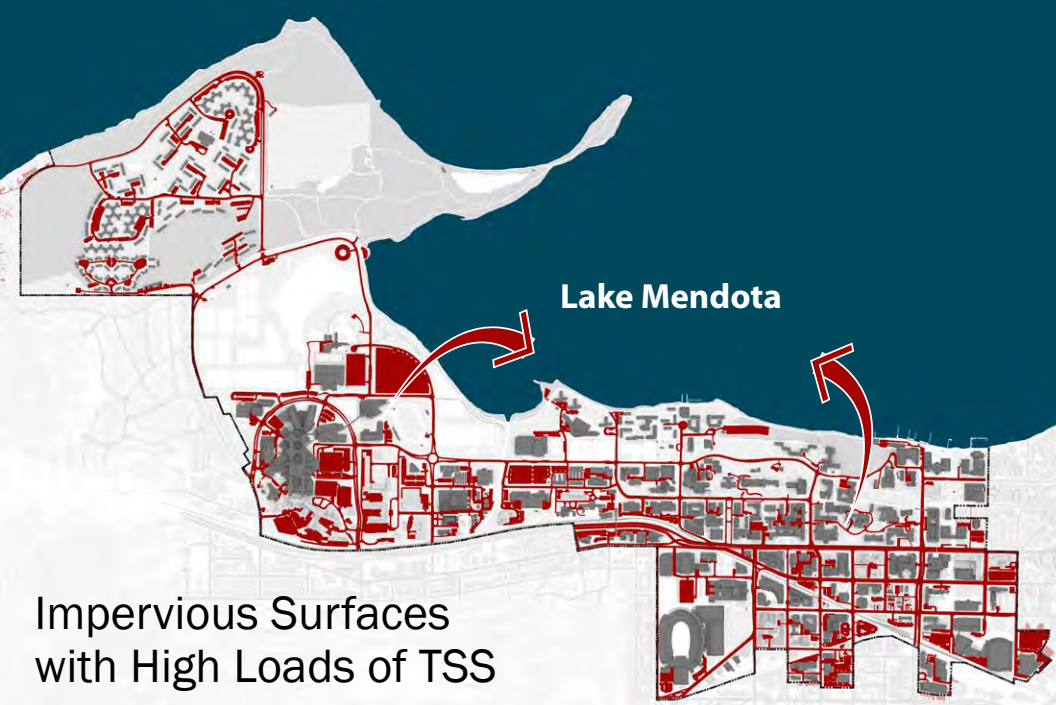
1908
CULTURAL
LANDMARK



2017
DRAINAGE
DITCH

CATCHMENT AREAS





EXISTING CAMPUS BMPS



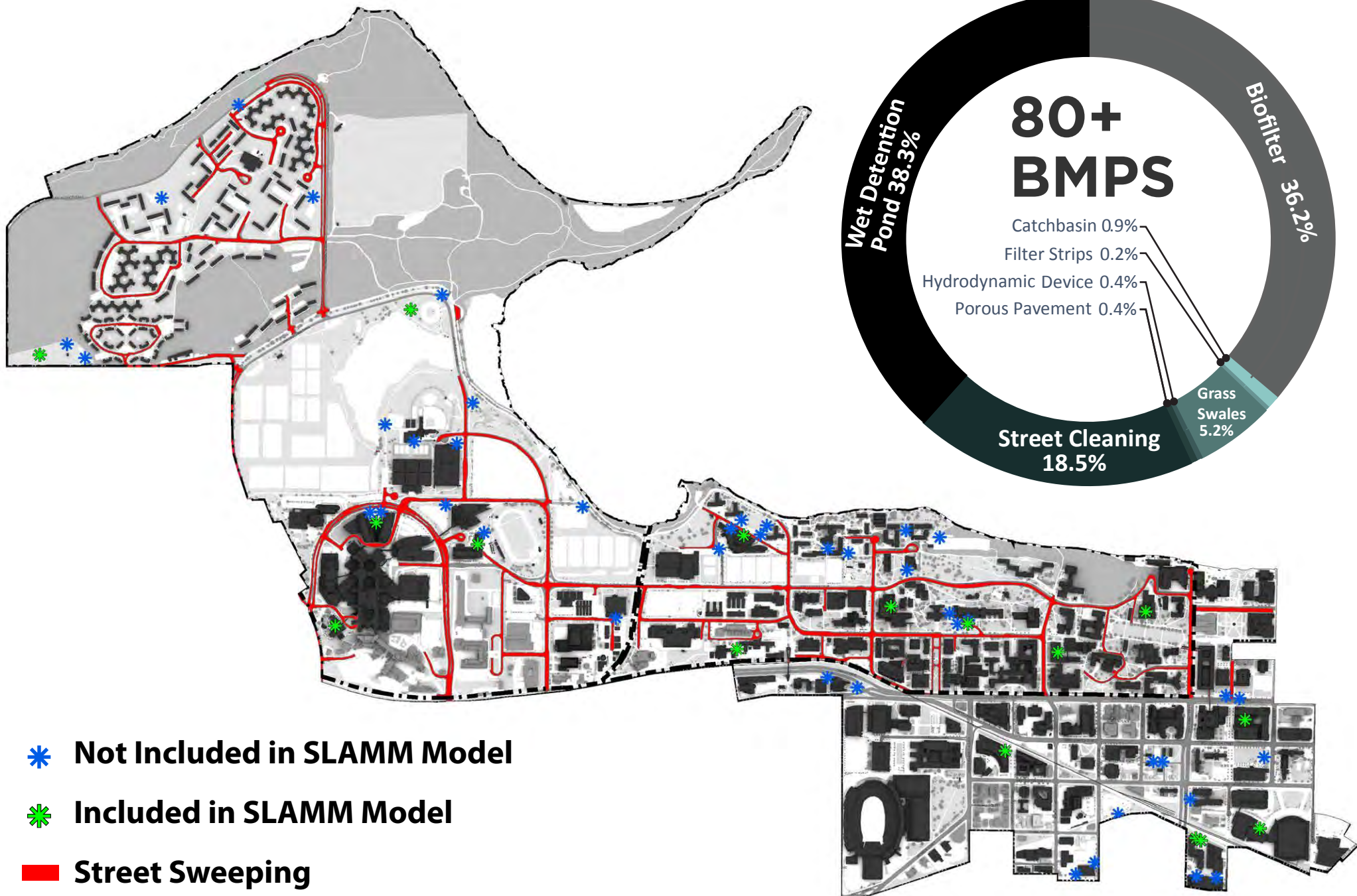
EXISTING CAMPUS BMPS



EXISTING CAMPUS BMPS



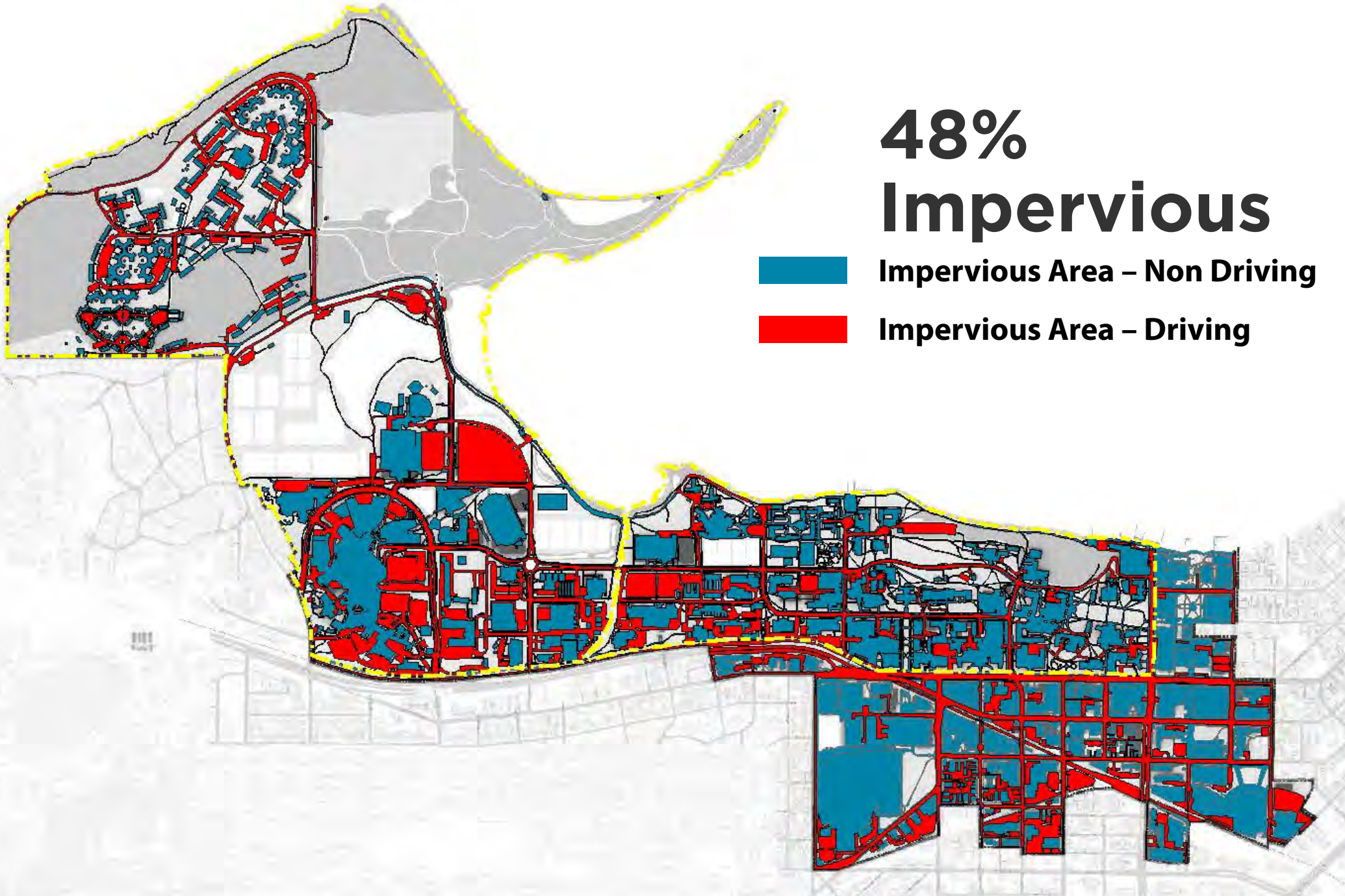
CAMPUS BMP MODELING



IMPERVIOUS - EXISTING

48%
Impervious

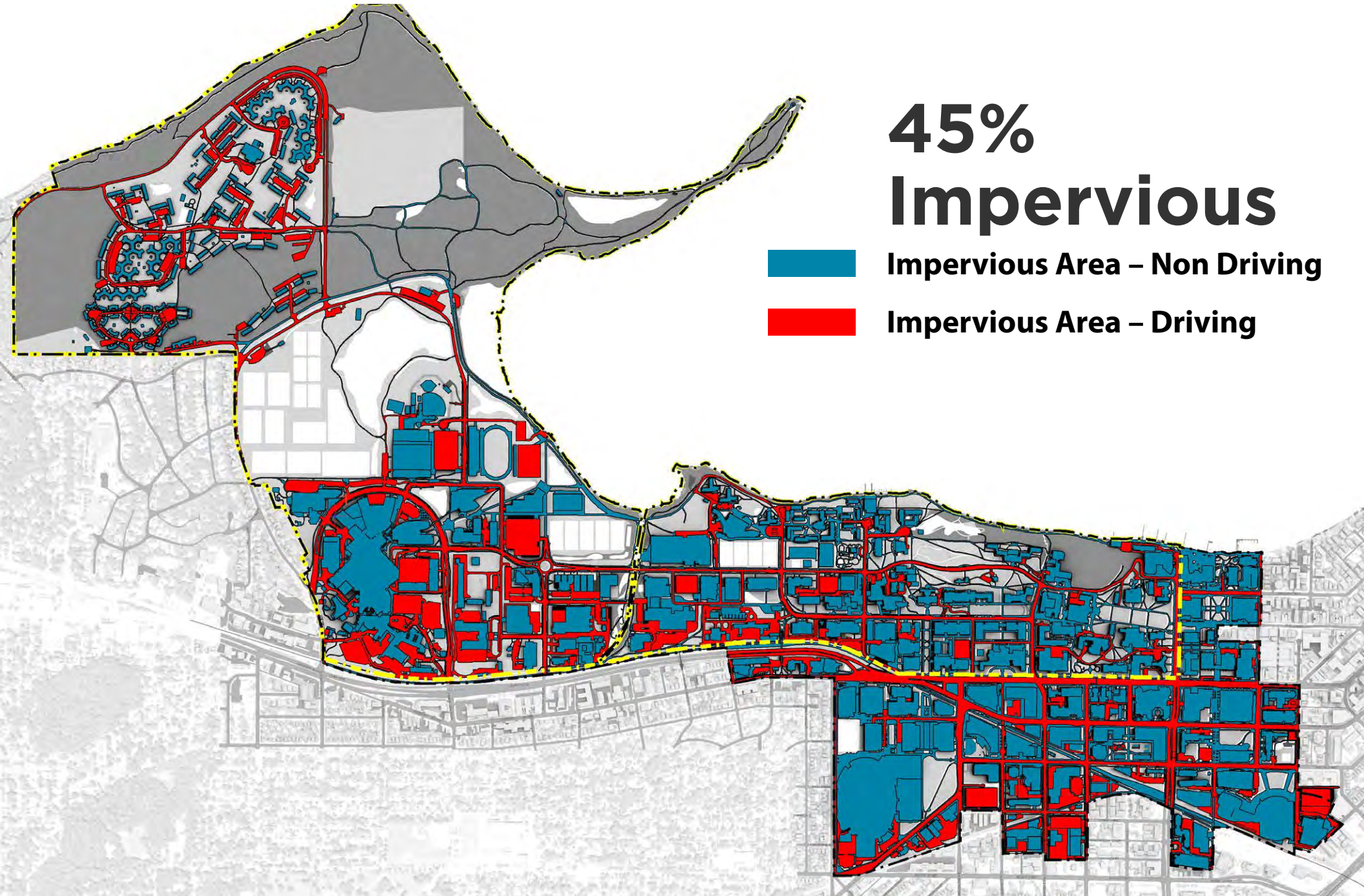
-  Impervious Area – Non Driving
-  Impervious Area – Driving



IMPERVIOUS - PROPOSED

45%
Impervious

-  Impervious Area – Non Driving
-  Impervious Area – Driving



IMPERVIOUS - CHANGE

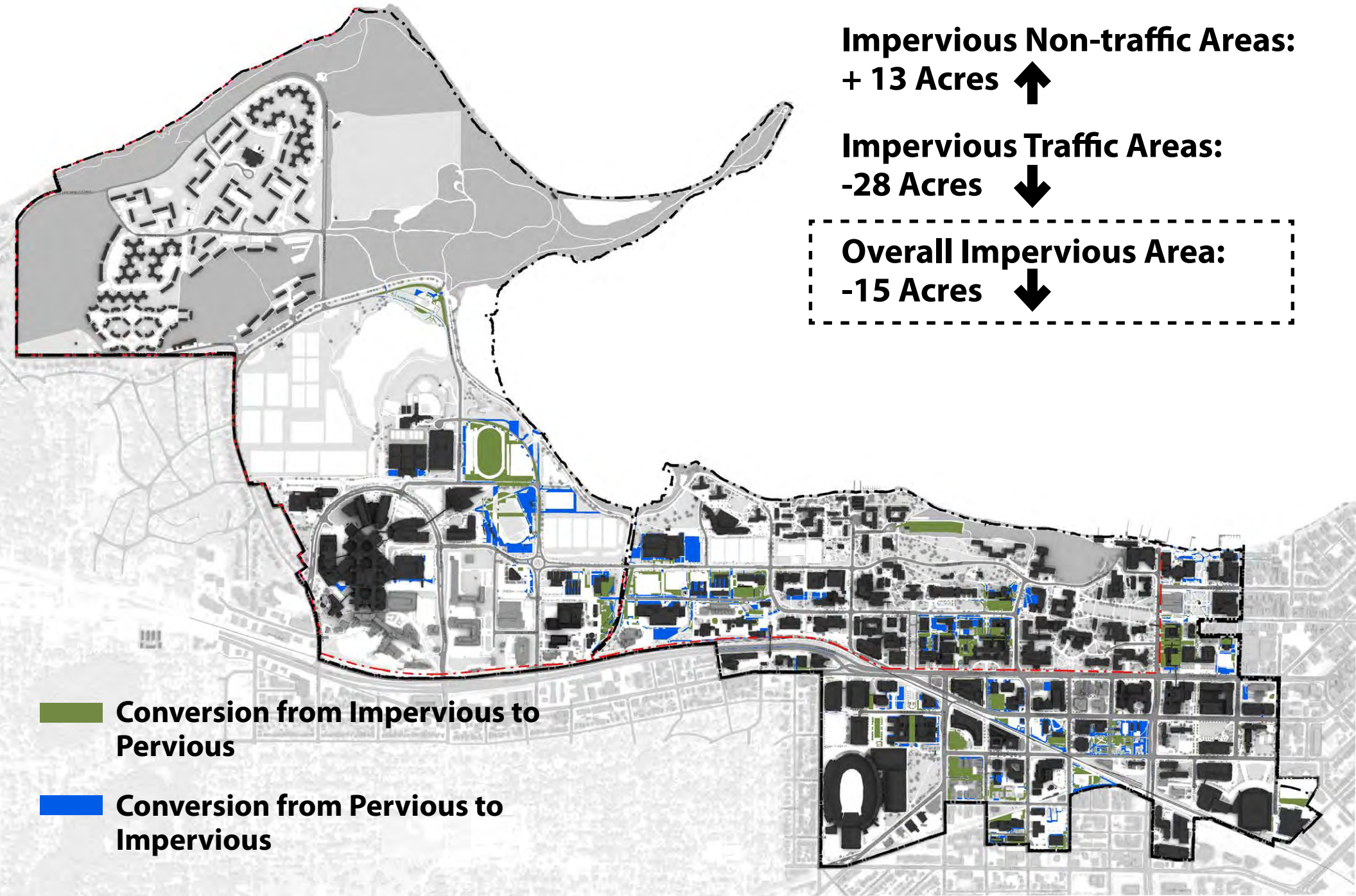
Impervious Non-traffic Areas:
+ 13 Acres ↑

Impervious Traffic Areas:
-28 Acres ↓

Overall Impervious Area:
-15 Acres ↓

 **Conversion from Impervious to Pervious**

 **Conversion from Pervious to Impervious**



MASTER PLAN & FOCUS AREAS

LAKE MENDOTA



Eagle Heights

Village of Shorewood Hills

City of Madison

Willow Creek Green District

Lakeside Edge

Historic Core

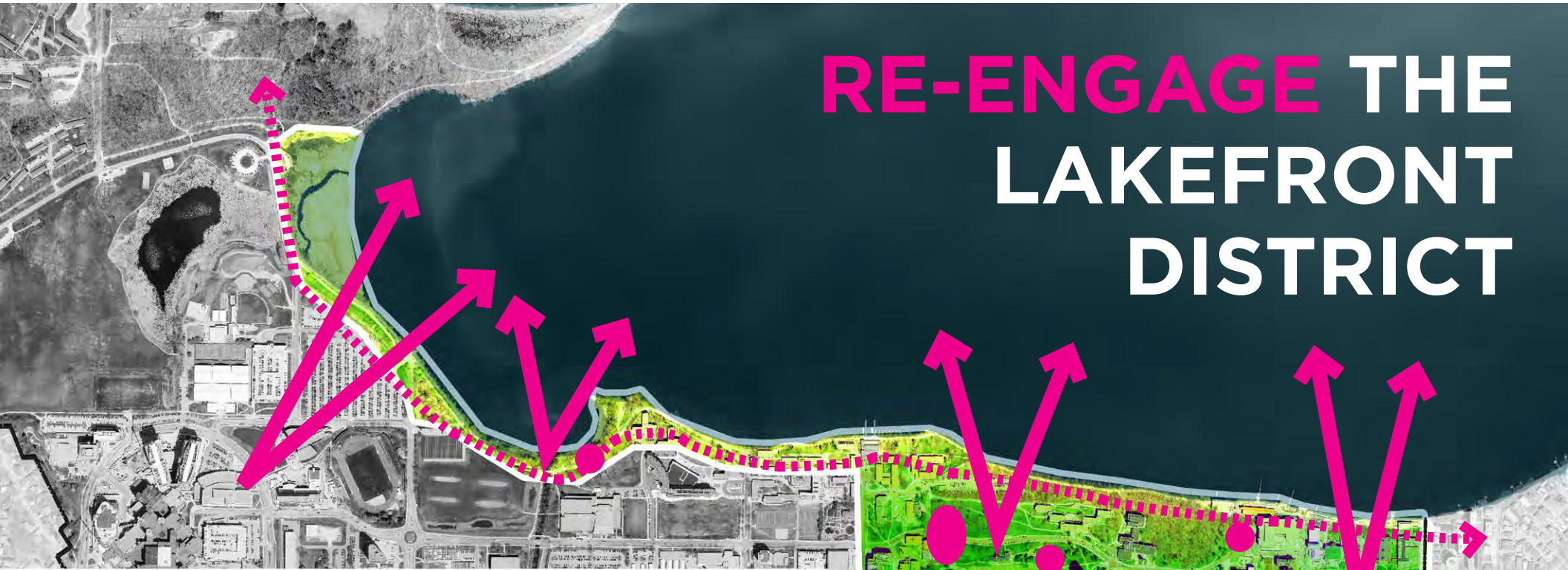
Urban Grid

Park Street

University Ave

West Johnson Street

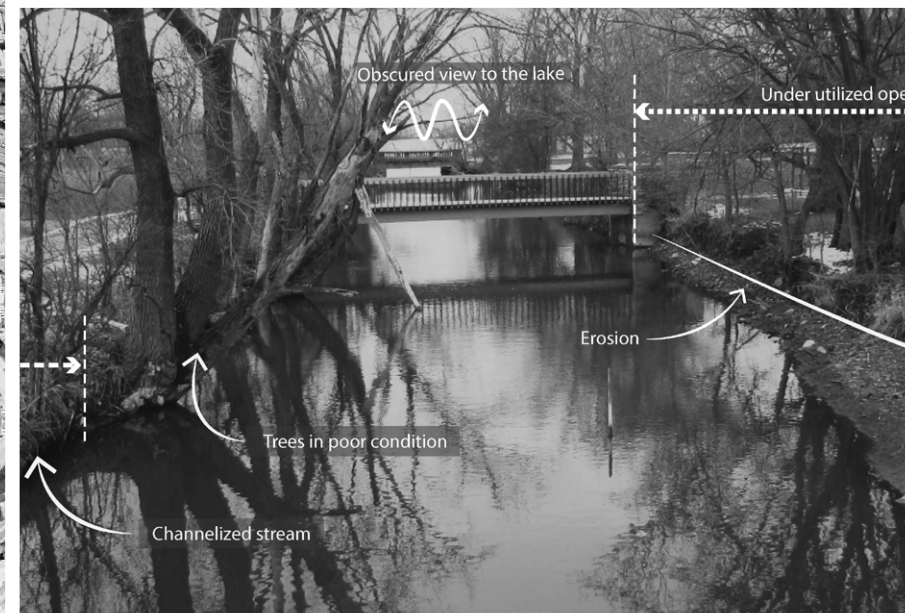
RE-ENGAGE THE LAKEFRONT DISTRICT



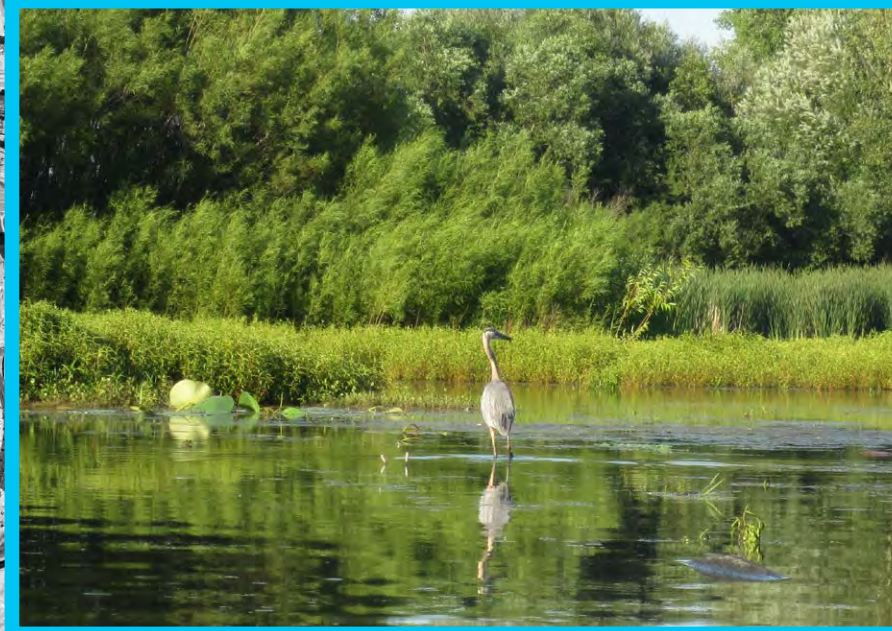
RE-ENGAGE THE LAKEFRONT DISTRICT



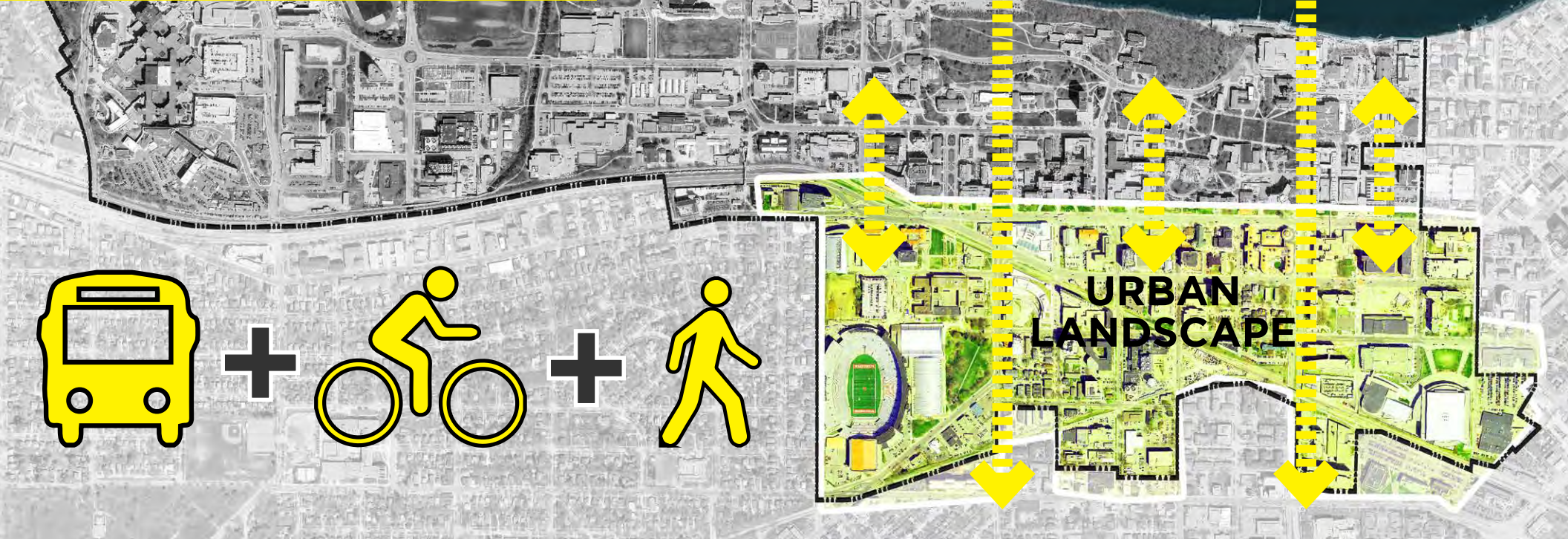
REVITALIZE WEST CAMPUS AS A GREEN DISTRICT



REVITALIZE WEST CAMPUS AS A GREEN DISTRICT



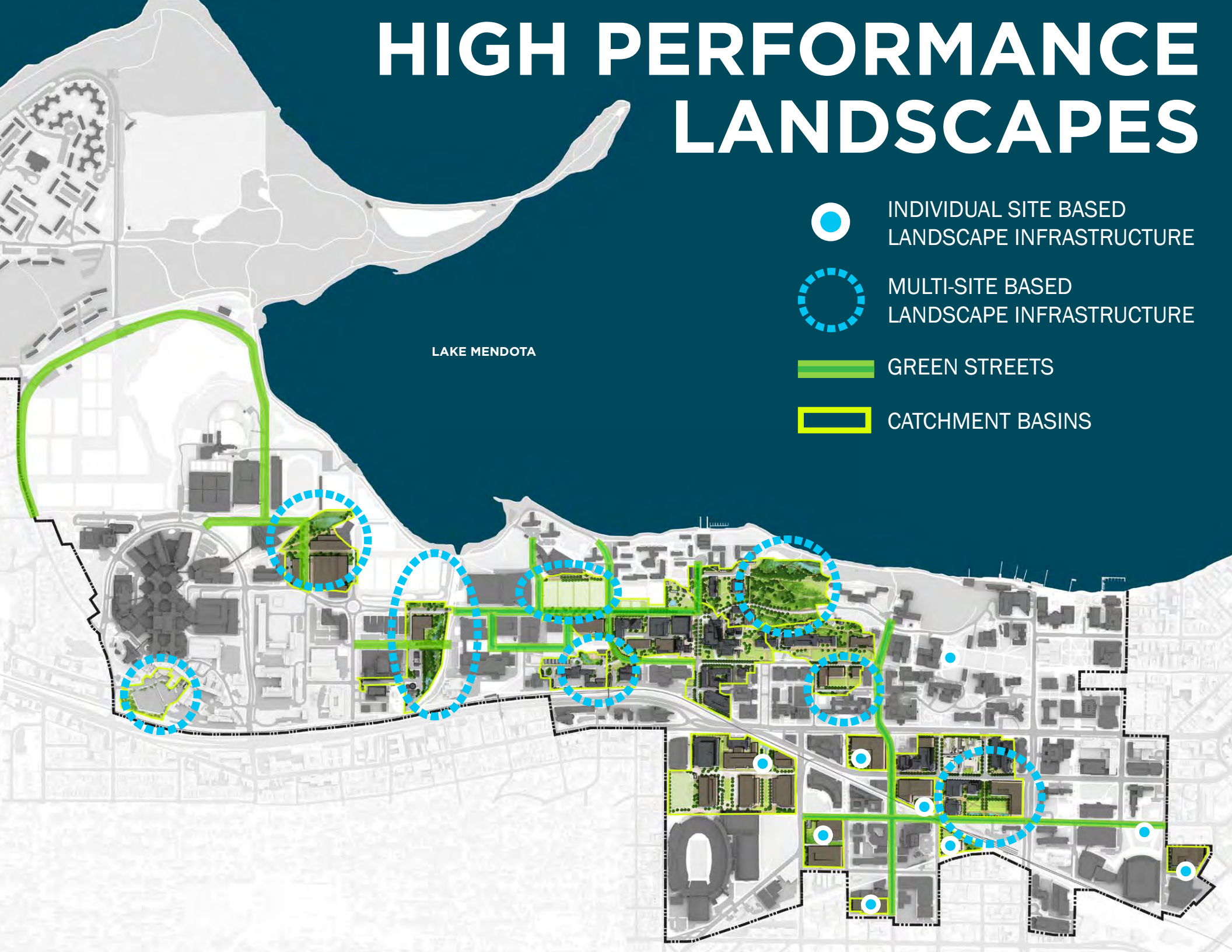
STRENGTHEN SOUTH CAMPUS CONNECTIONS



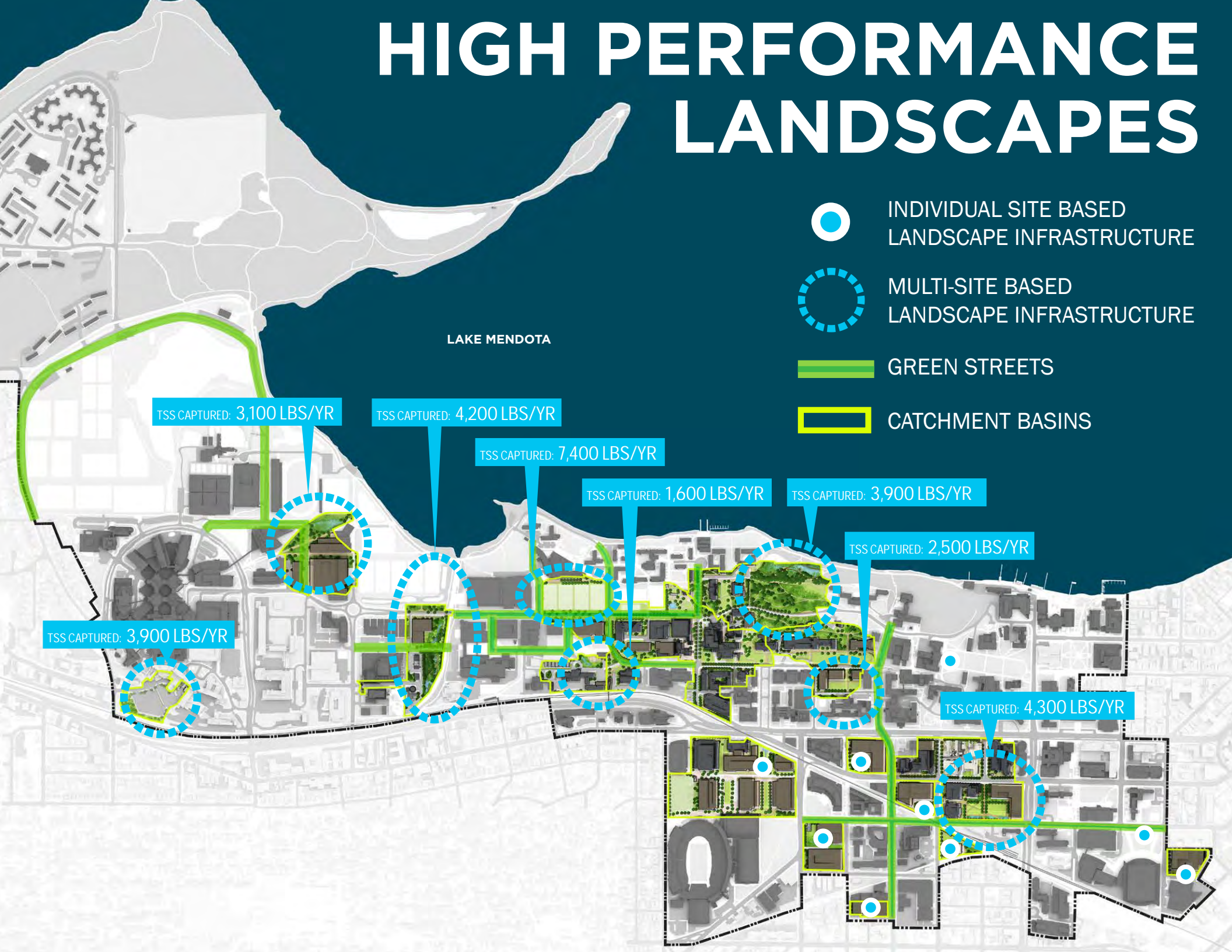
CAMPUS FACILITY CAPACITY



HIGH PERFORMANCE LANDSCAPES



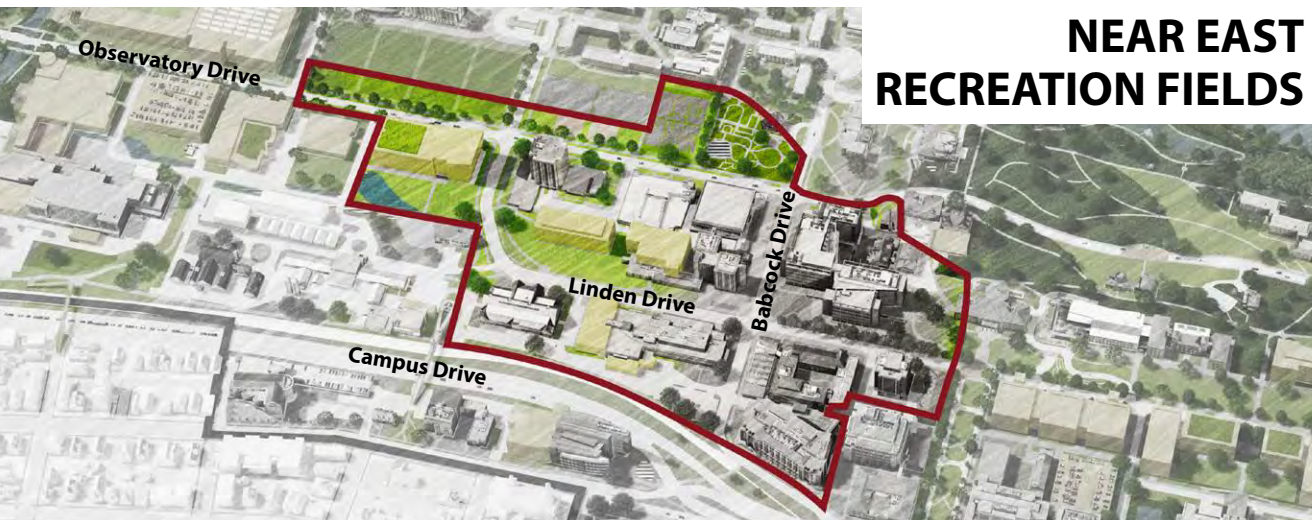
HIGH PERFORMANCE LANDSCAPES





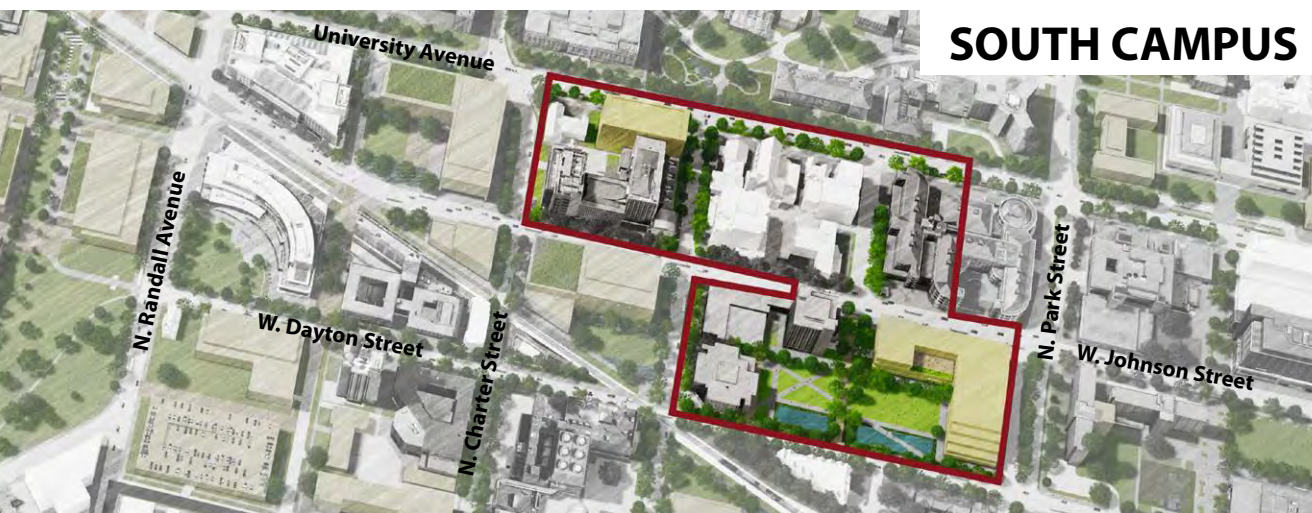
MARSH LANE WETLAND

Catchment Area: 9.9 acres
Surface Area: 9,100 sf
Max Depth: 28 inches
Primary Control: 6 inches
TSS Captured: 3,100 lbs/year
Trapping Efficiency: 74%



NEAR EAST RECREATION FIELDS

Catchment Area: 32 acres
Surface Area: 13,100 sf
Max Depth: 4.8 feet
Primary Control: 12 inches
TSS Captured: 7,400 lbs/year
Trapping Efficiency: 58%

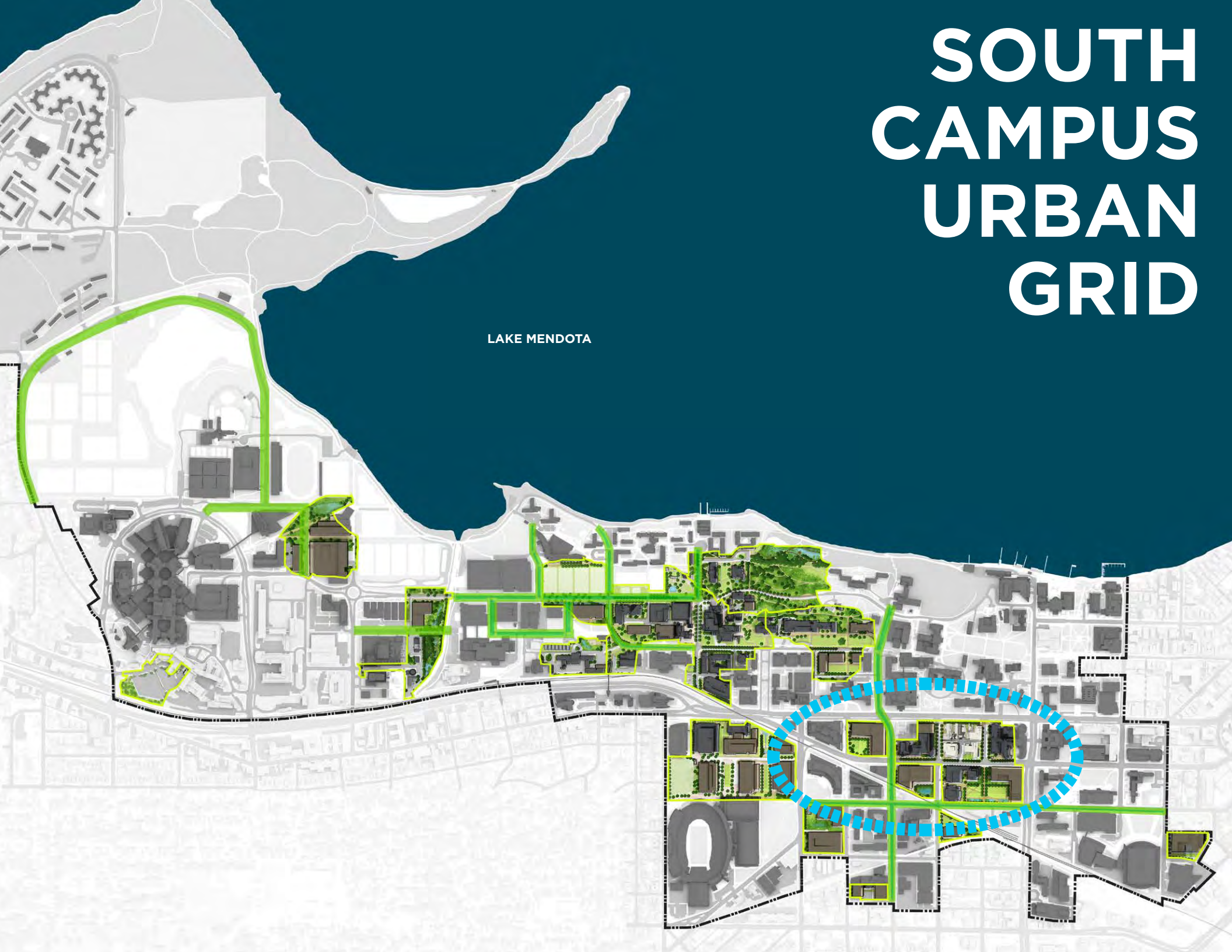


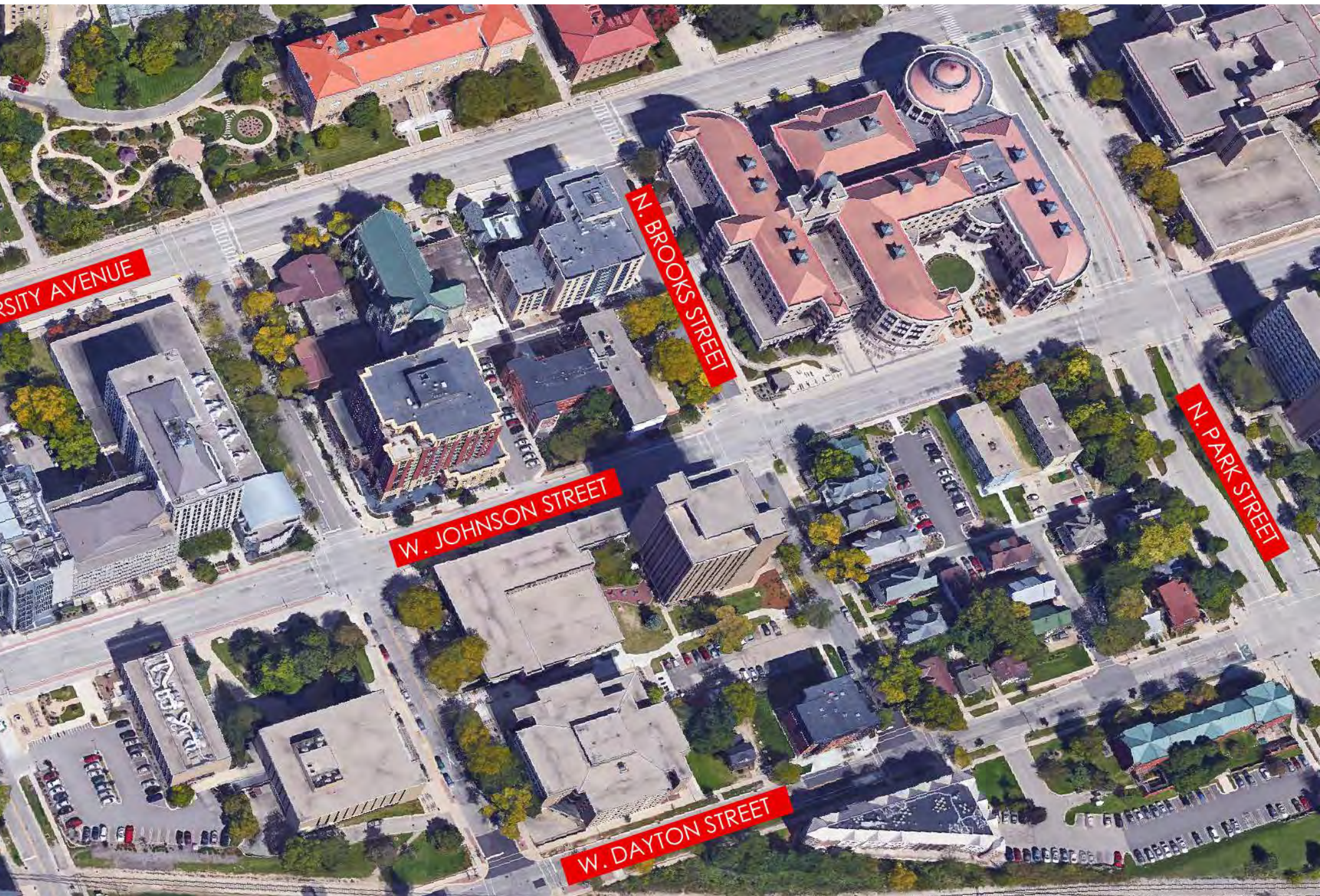
SOUTH CAMPUS

Catchment Area: 16 acres
Surface Area: 14,000 sf
Max Depth: 6 ft
TSS Captured: 4,300 lbs/year
Trapping Efficiency: 71%

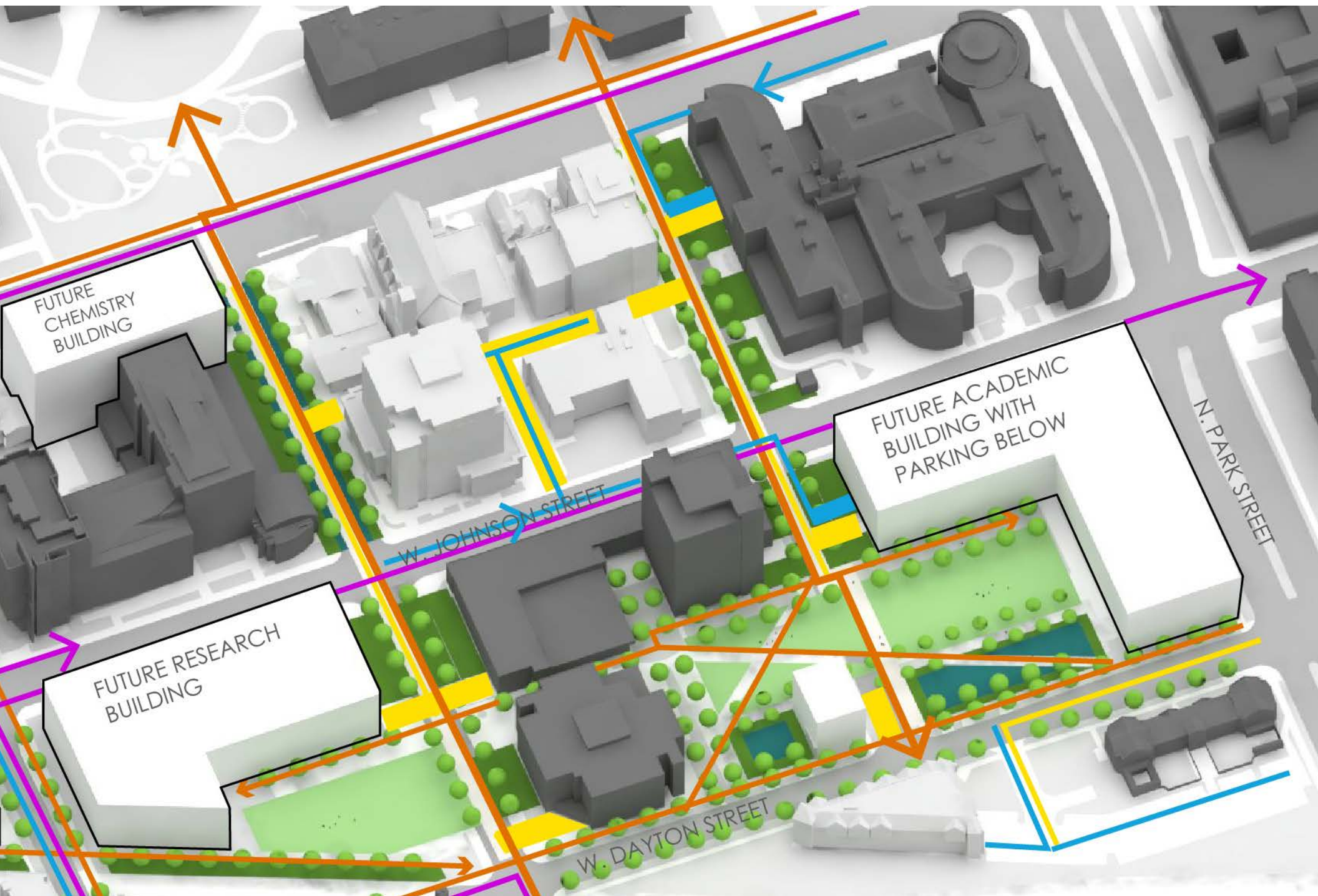
SOUTH CAMPUS URBAN GRID

LAKE MENDOTA













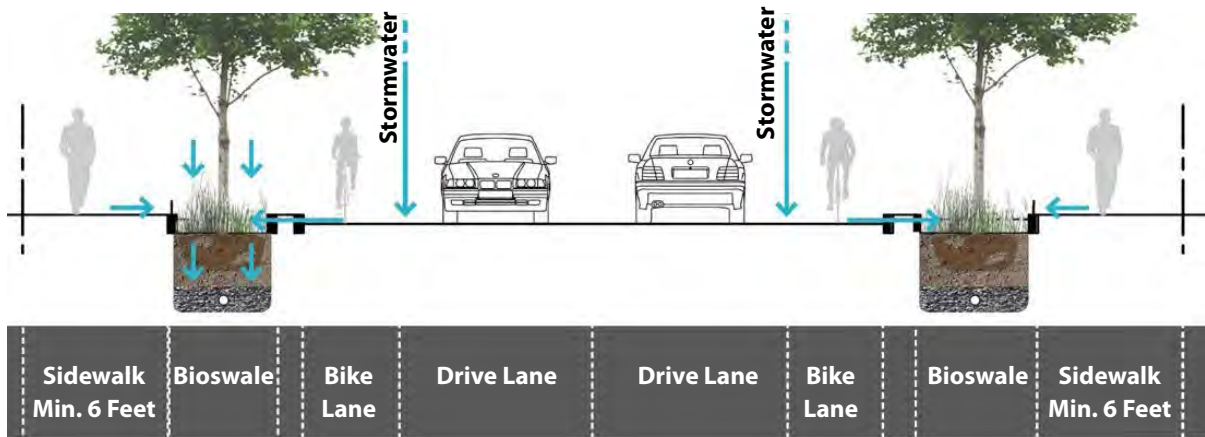
URBAN BLOCKS REORGANIZED
SO OPEN SPACE HAS SOUTHERN
EXPOSURE AND WINTER WINDS
ARE MINIMIZED

16 ACRE CATCHMENT BASIN

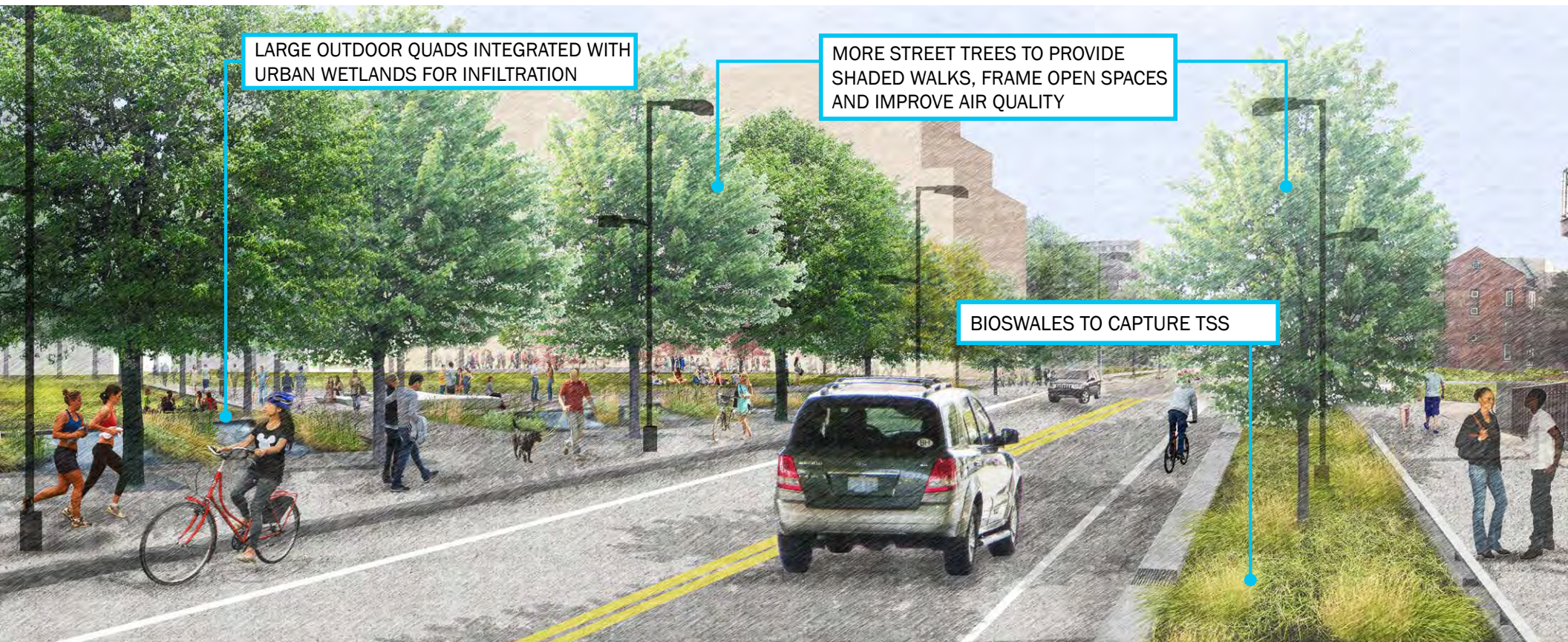
URBAN WETLANDS PLACED AT LOWEST
ELEVATION IN CATCHMENT BASINS

INCREASED TREE CANOPY AND
STORMWATER FILTRATION ON
GREEN STREET CORRIDORS

CATCHMENT AREA: 16 ACRES
TSS CAPTURED: 4,300 LBS/YEAR
TRAPPING EFFICIENCY: 71%



UPDATING THE GRID



LARGE OUTDOOR QUADS INTEGRATED WITH
URBAN WETLANDS FOR INFILTRATION

MORE STREET TREES TO PROVIDE
SHADED WALKS, FRAME OPEN SPACES
AND IMPROVE AIR QUALITY

BIOSWALES TO CAPTURE TSS

10:46 am

11/12/2013



OBSERVATORY HILL

LAKE MENDOTA



LANDSCAPE RESTORATION



PROTECTED EFFIGY MOUNDS
AND RESTORED OAK SAVANNA

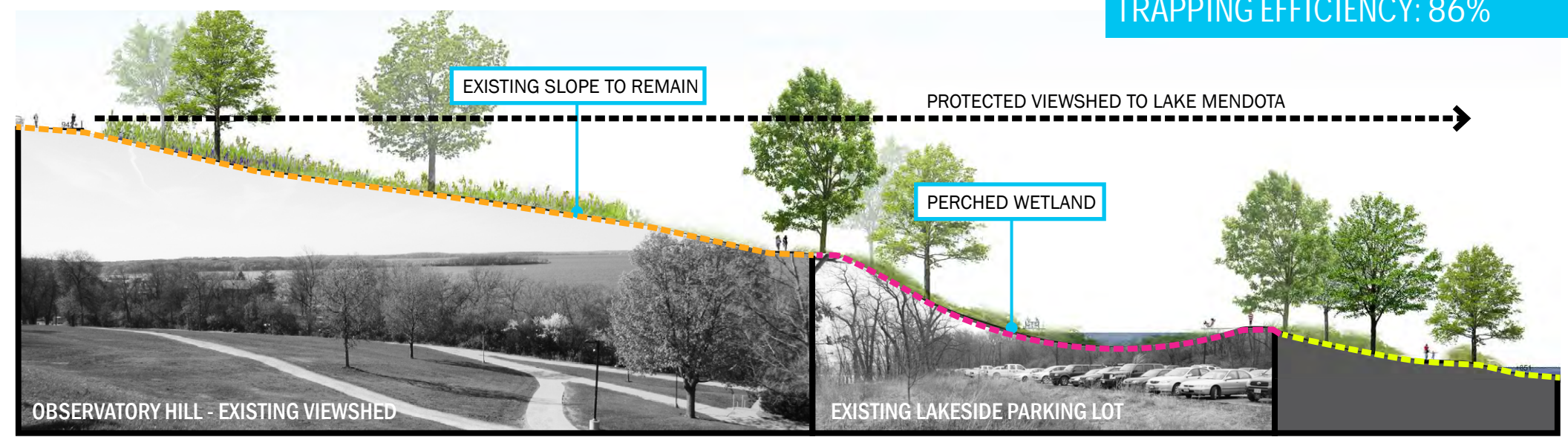
OBSERVATORY HILL

PARKING LOT CONVERTED
TO PERCHED WETLAND

LAKESHORE NATURE PRESERVE

SECTION

CATCHMENT AREA: 16 ACRES
TSS CAPTURED: 3,900 LBS/YEAR
TRAPPING EFFICIENCY: 86%



EXISTING SLOPE TO REMAIN

PROTECTED VIEWSHED TO LAKE MENDOTA

PERCHED WETLAND

OBSERVATORY HILL - EXISTING VIEWSHED

EXISTING LAKESIDE PARKING LOT

EXISTING SLOPED LAWN PARTIALLY CONVERTED BACK TO PRAIRIE TO REDUCE RUNOFF
AND RECONNECT LANDSCAPE TO HISTORIC EFFIGY MOUNDS

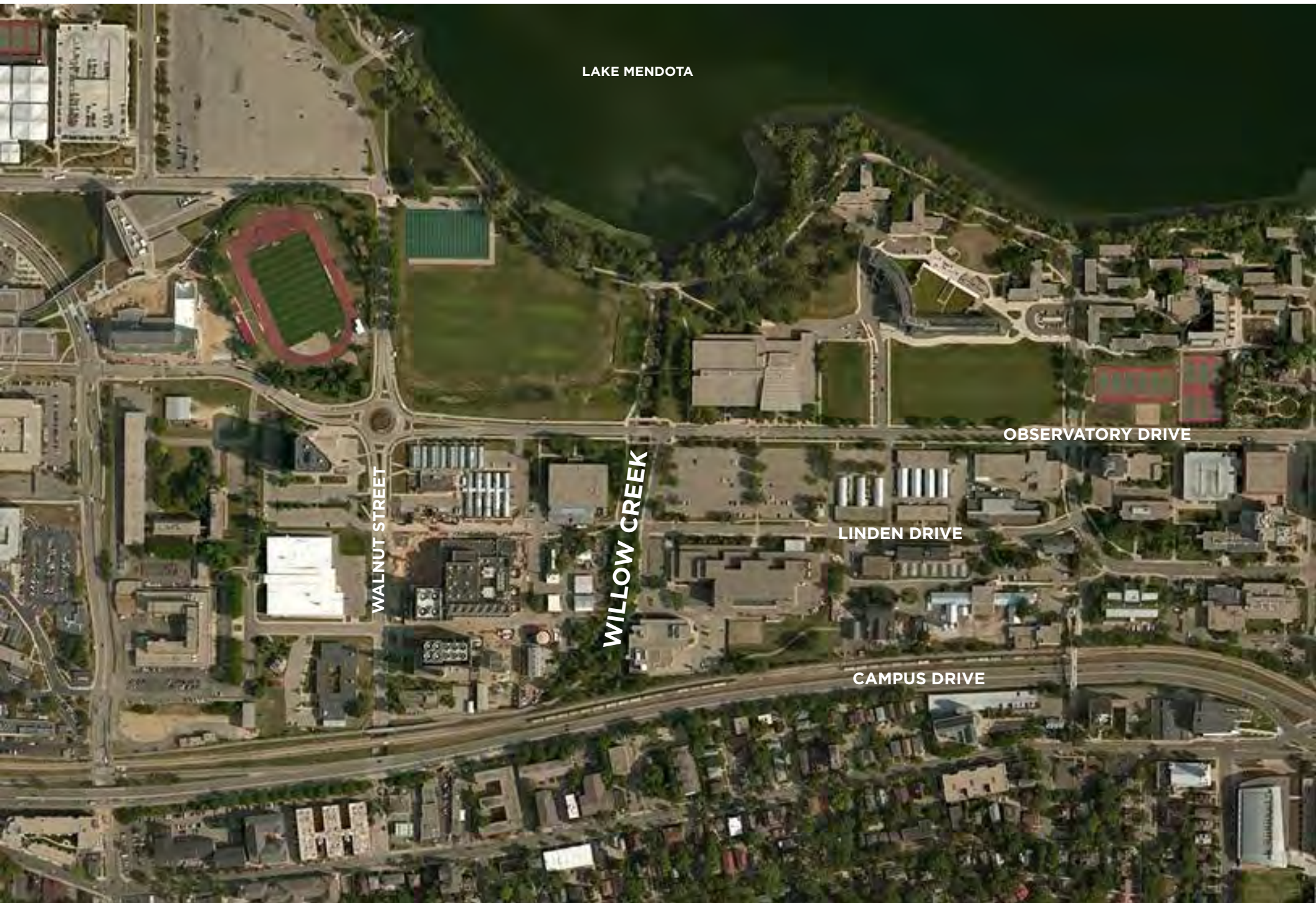
EXISTING PARKING LOT CONVERTED TO PERCHED
WETLAND SYSTEM AND LEARNING LANDSCAPE

PROTECTED HABITAT WITH
REGIONAL MULTI-USE TRAIL

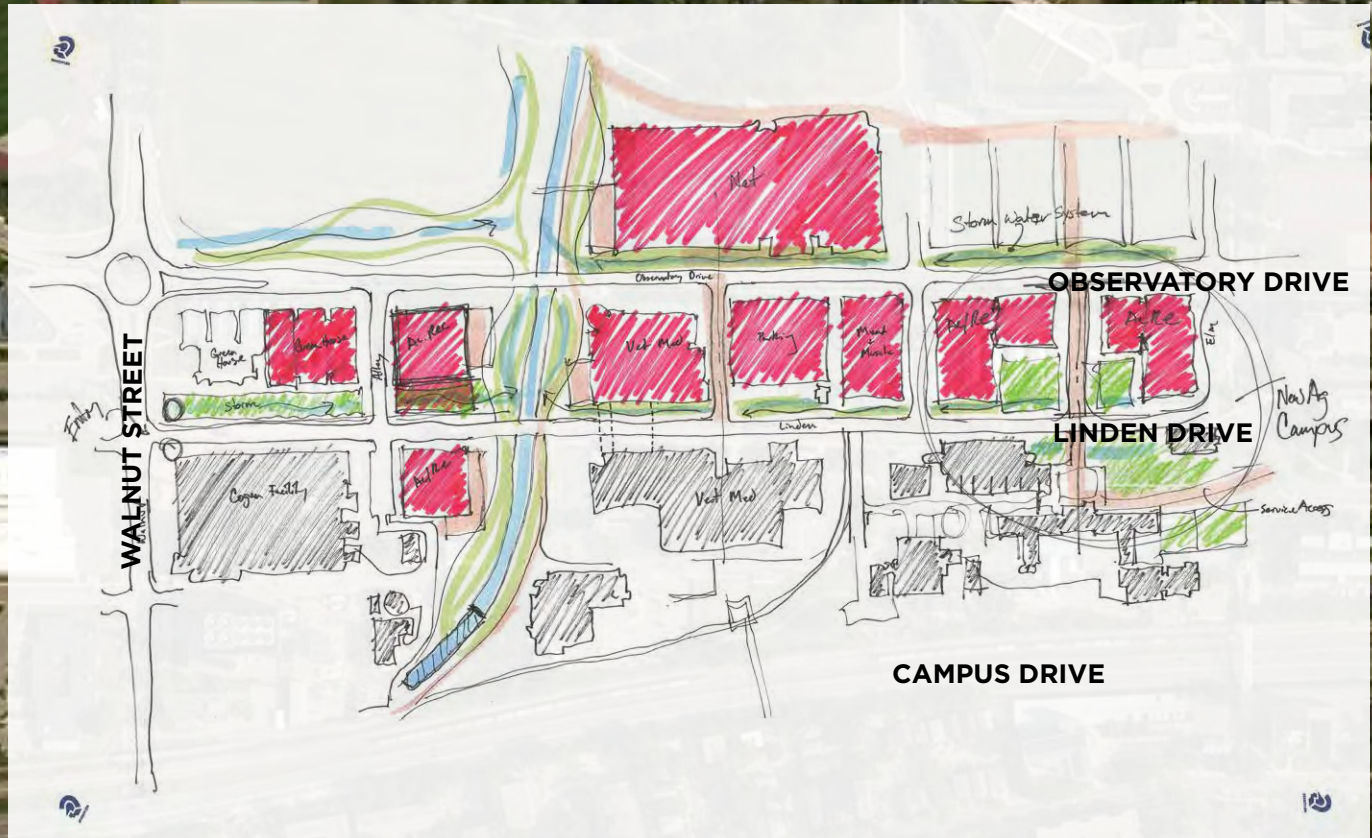
WILLOW CREEK GREEN DISTRICT

LAKE MENDOTA

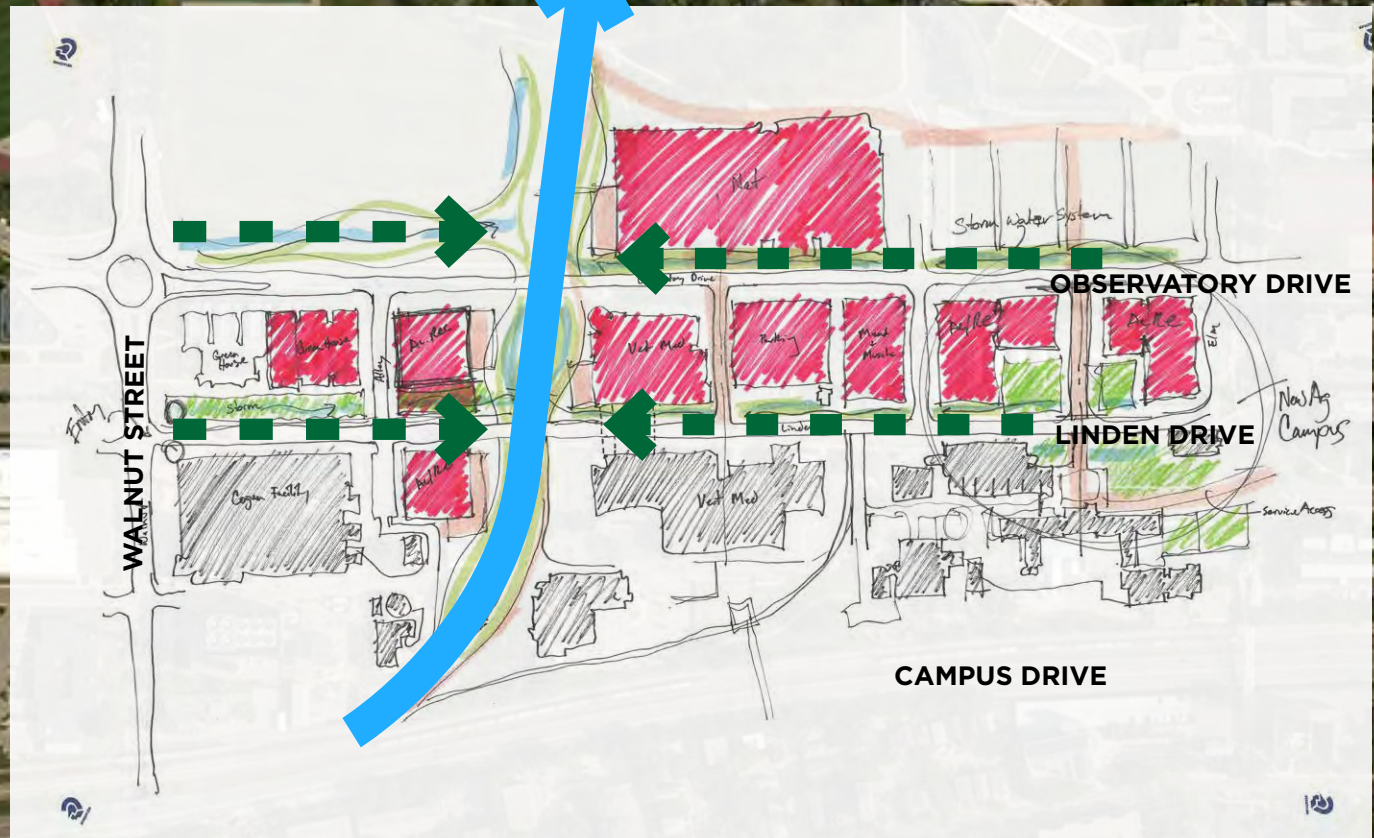




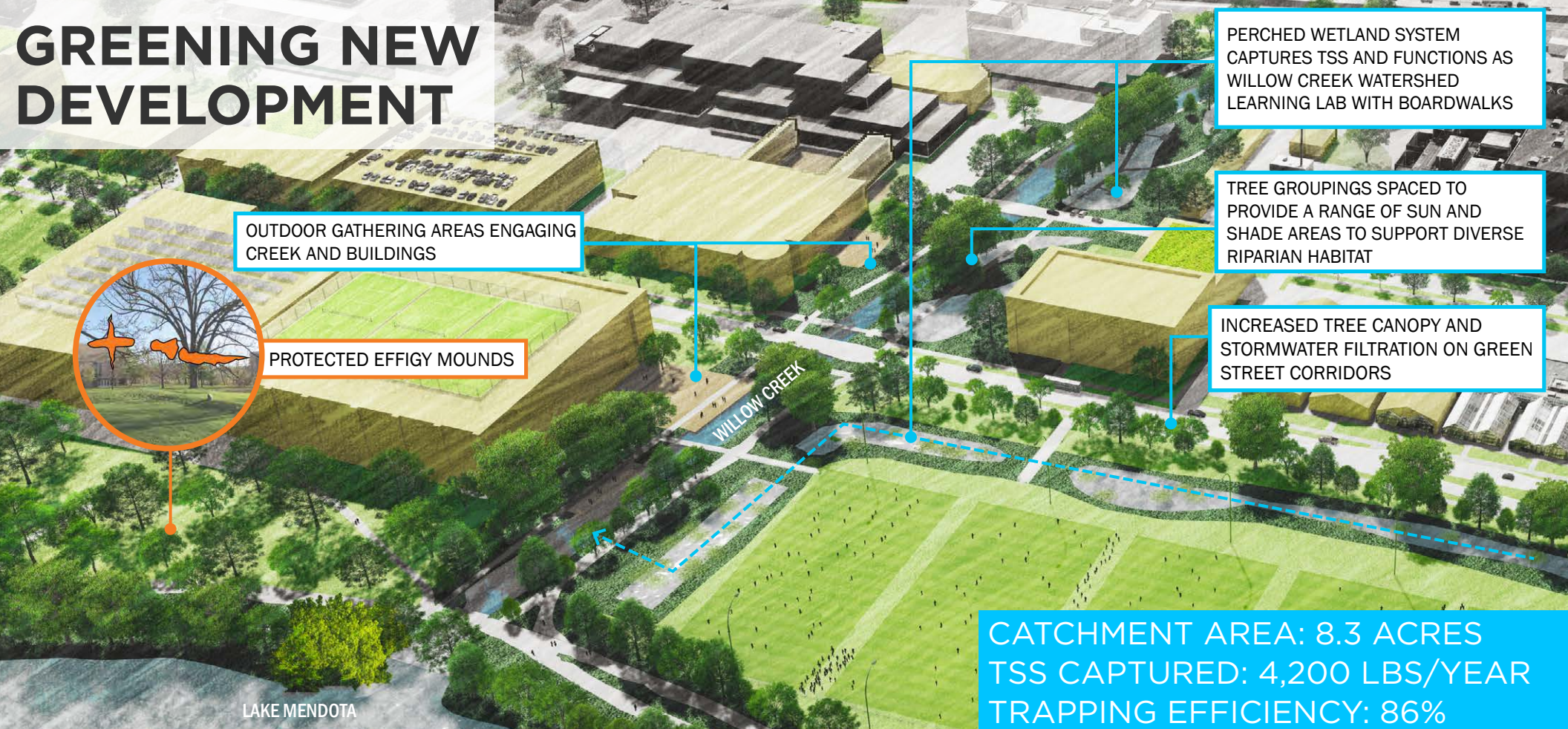
LAKE MENDOTA



LAKE MENDOTA



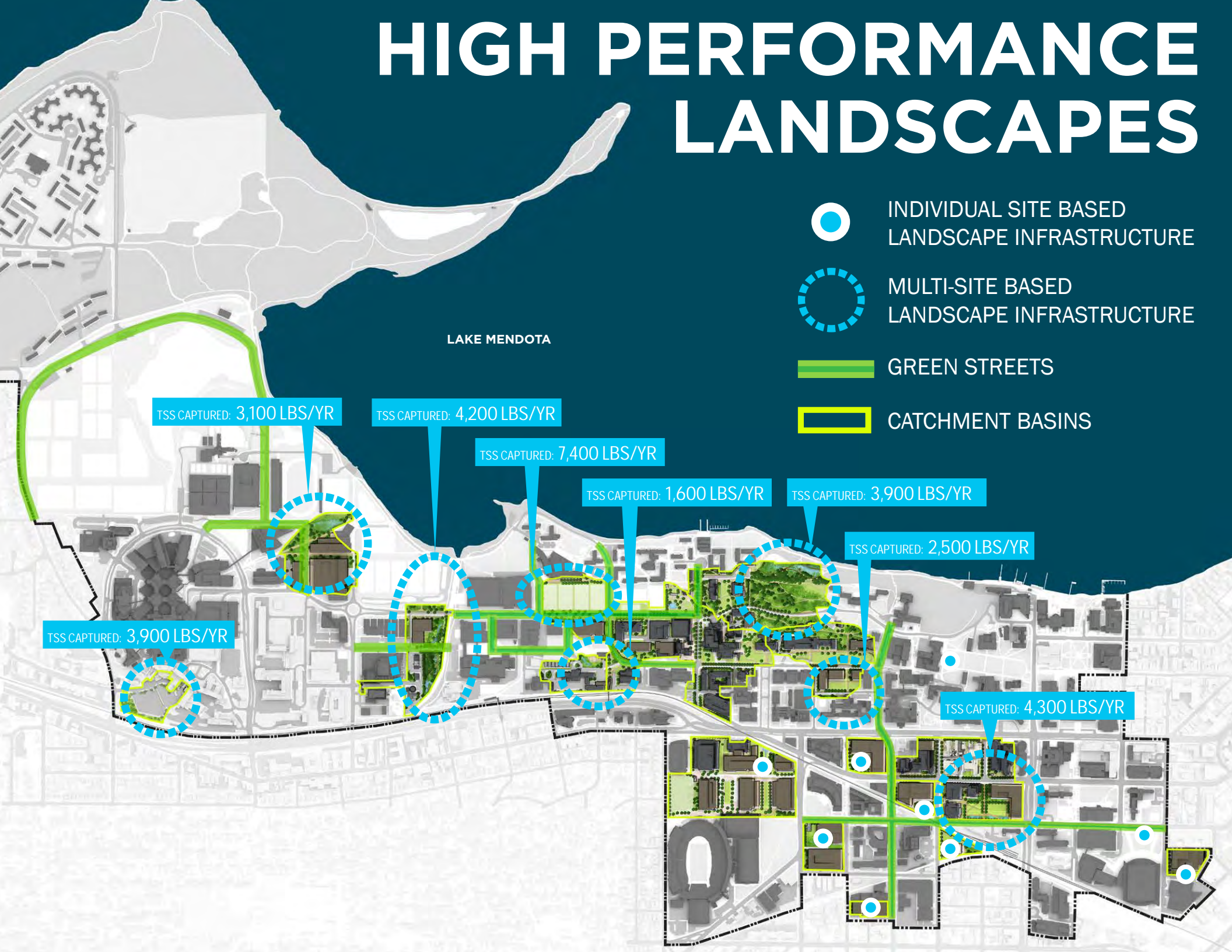
GREENING NEW DEVELOPMENT



ENHANCING IDENTITY

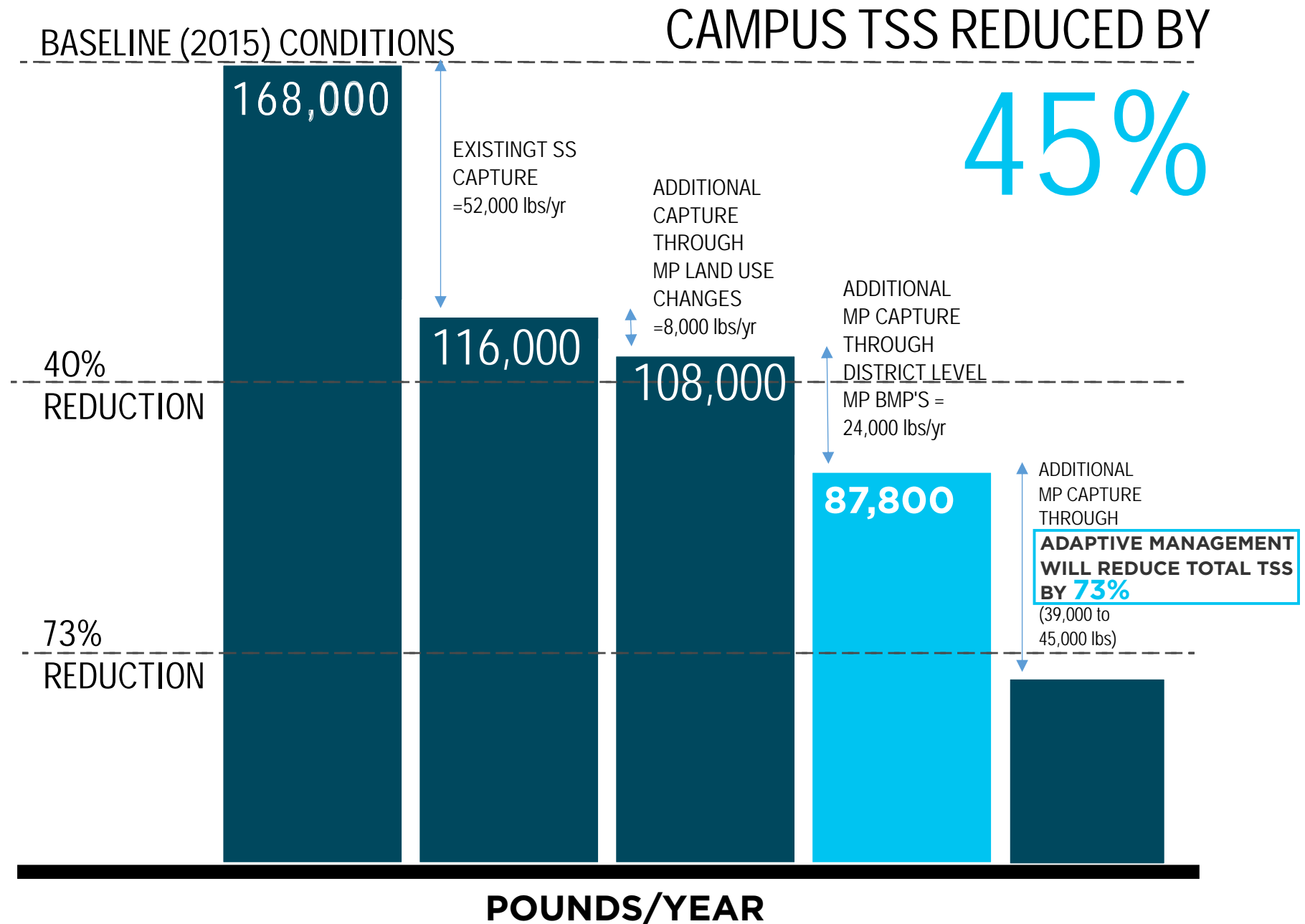


HIGH PERFORMANCE LANDSCAPES

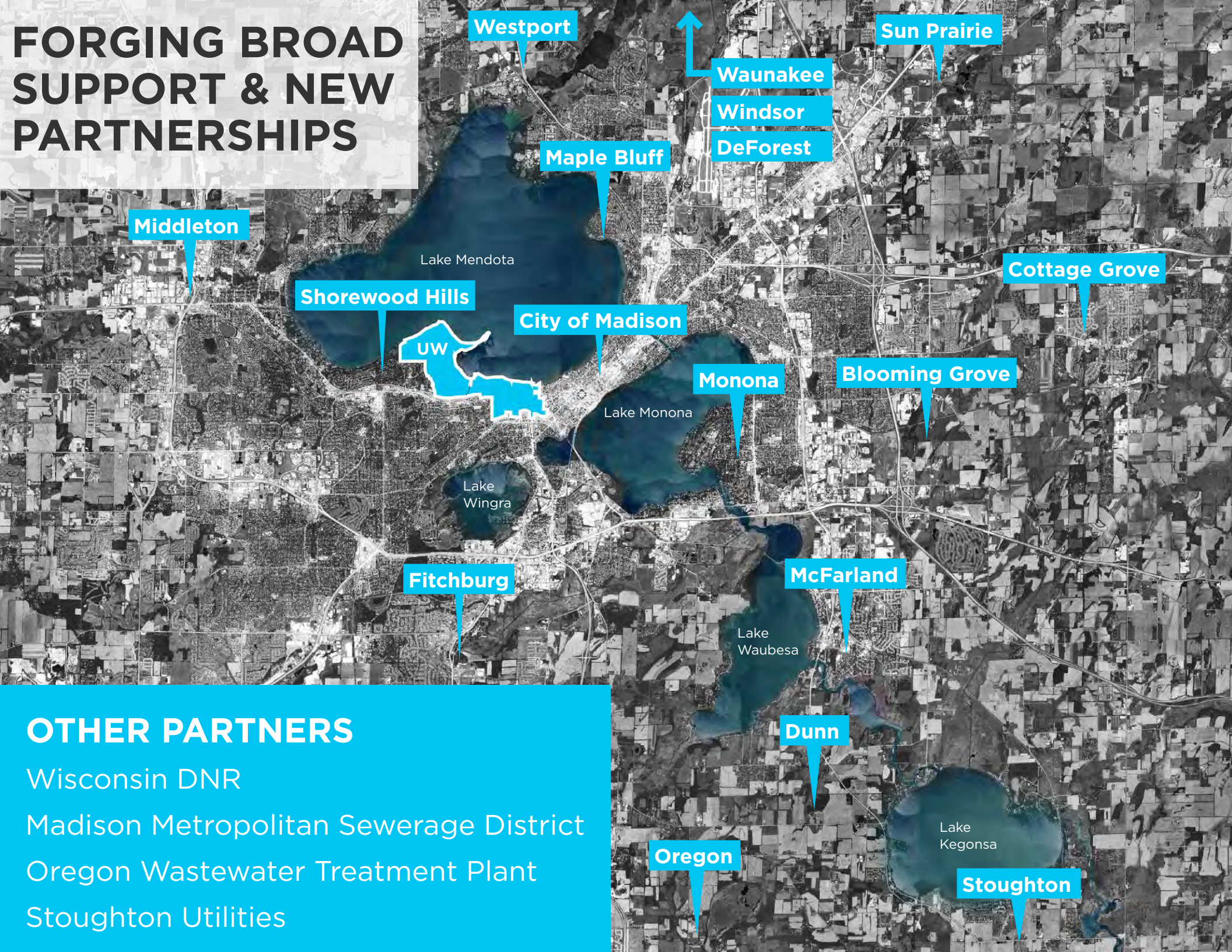


RESULTS

HIGH PERFORMANCE LANDSCAPES



FORGING BROAD SUPPORT & NEW PARTNERSHIPS



OTHER PARTNERS

Wisconsin DNR
Madison Metropolitan Sewerage District
Oregon Wastewater Treatment Plant
Stoughton Utilities



OUTREACH

250 TOTAL NUMBER OF MEETINGS

102 CAMPUS MEETINGS

20 NEIGHBORHOOD ASSOCIATION MEETINGS

23 CITY OF MADISON MEETINGS

65 PLANNING TEAM MEETINGS

10,000 WEBSITE USERS AND OVER 28,000 VIEWS

PLANNING TEAM

UNIVERSITY OF WISCONSIN- MADISON

SMITHGROUPJJR

HOERR SCHAUDT

AFFILIATED ENGINEERS, INC.

KIMLEY-HORN

