UPTOWN NORMAL CIRCLE

Sustainable Stormwater in Public Space

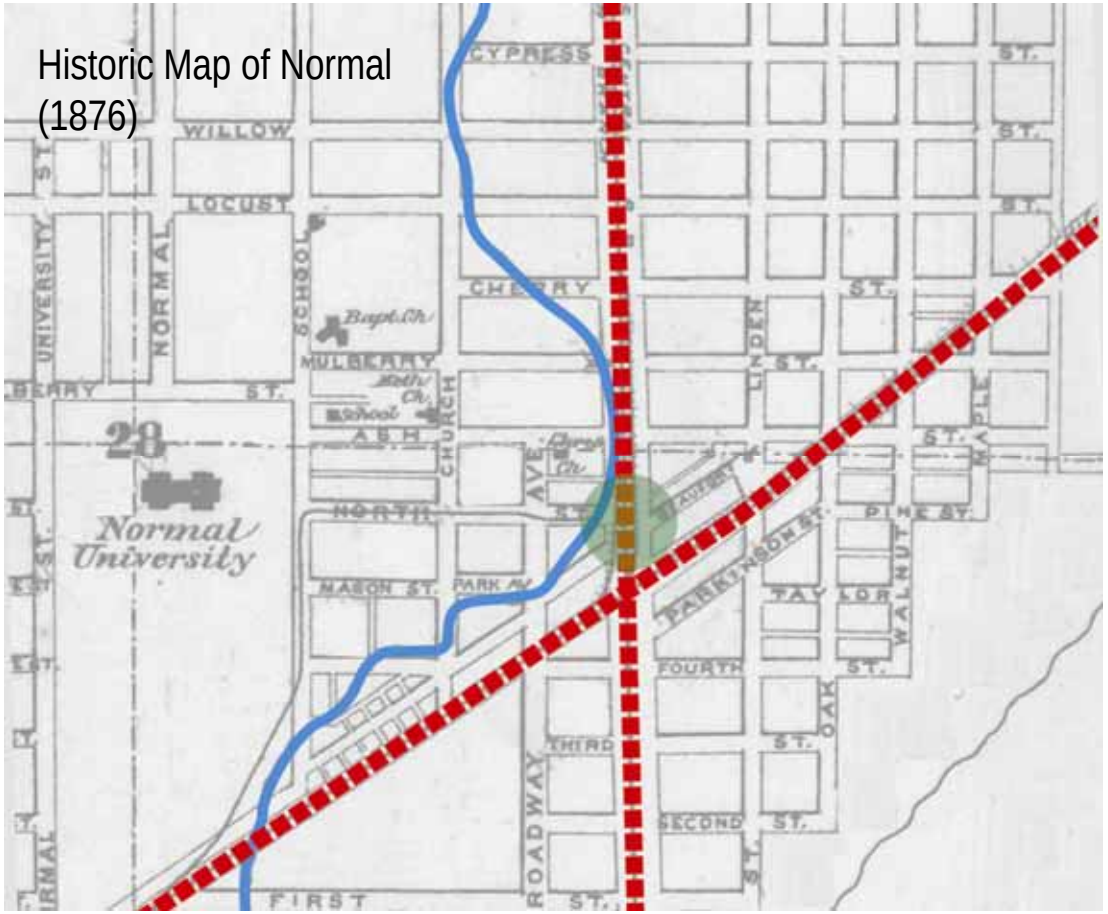
Hey and Associates, Inc.
Water Resources, Wetlands and Ecology

UPTOWN NORMAL
Changing the definition!

HOERR SCHAUDT
landscape architects

DESIGN INTENT

Peter Schaudt, Hoerr Schaudt Landscape Architects

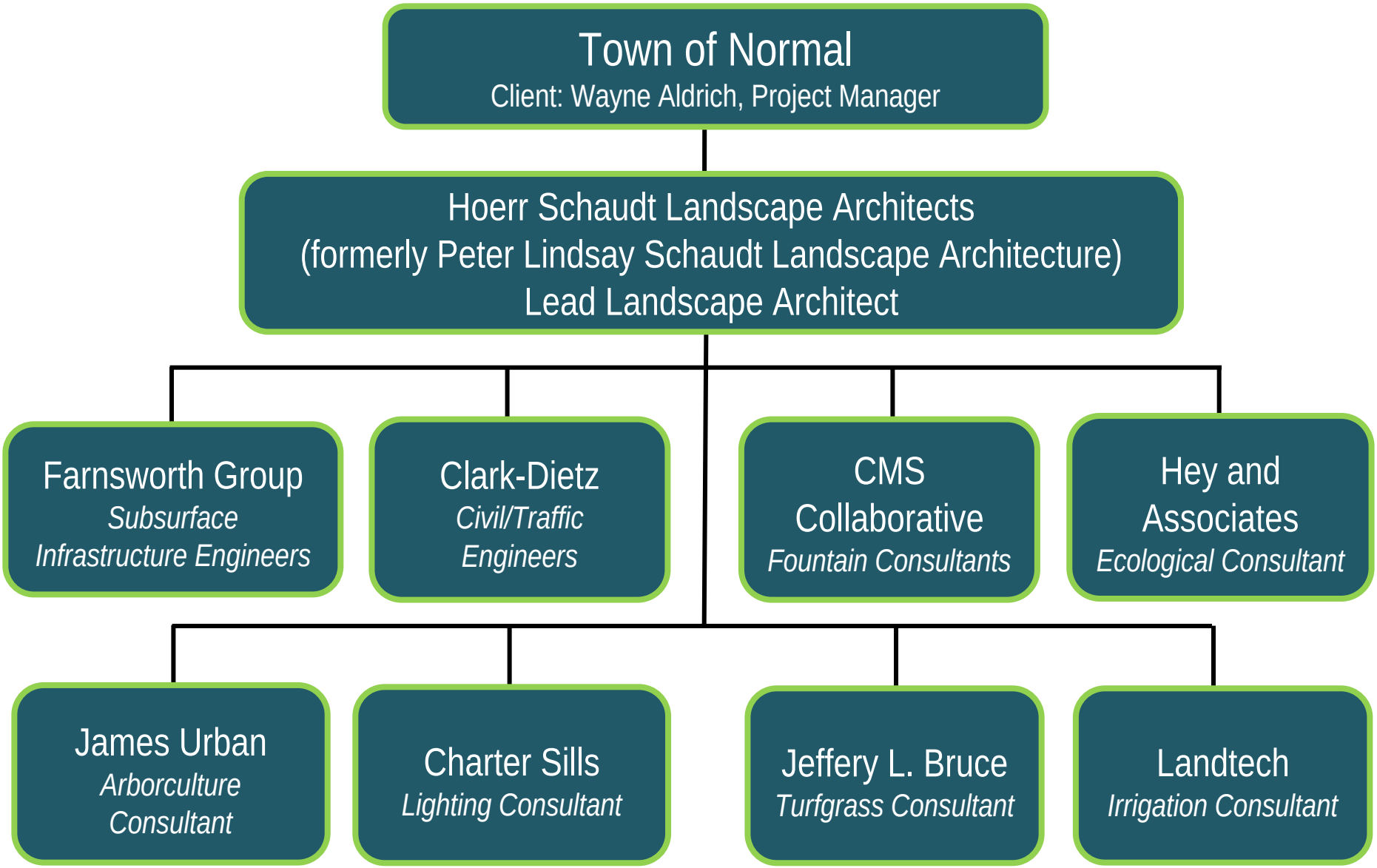


Legend:

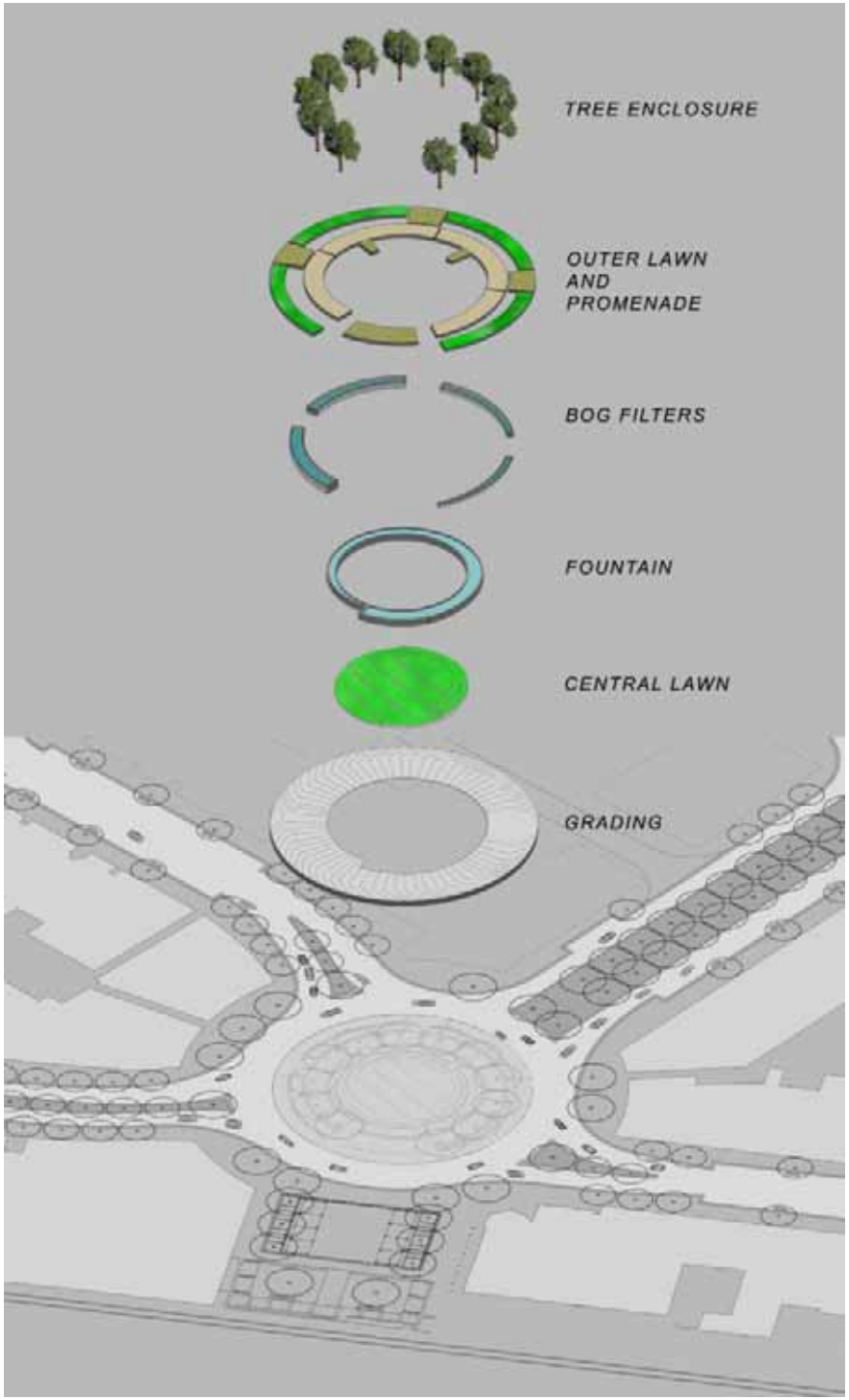
- Railroad
- Former Creek
- Uptown Circle

Existing view of Project Area (2002)

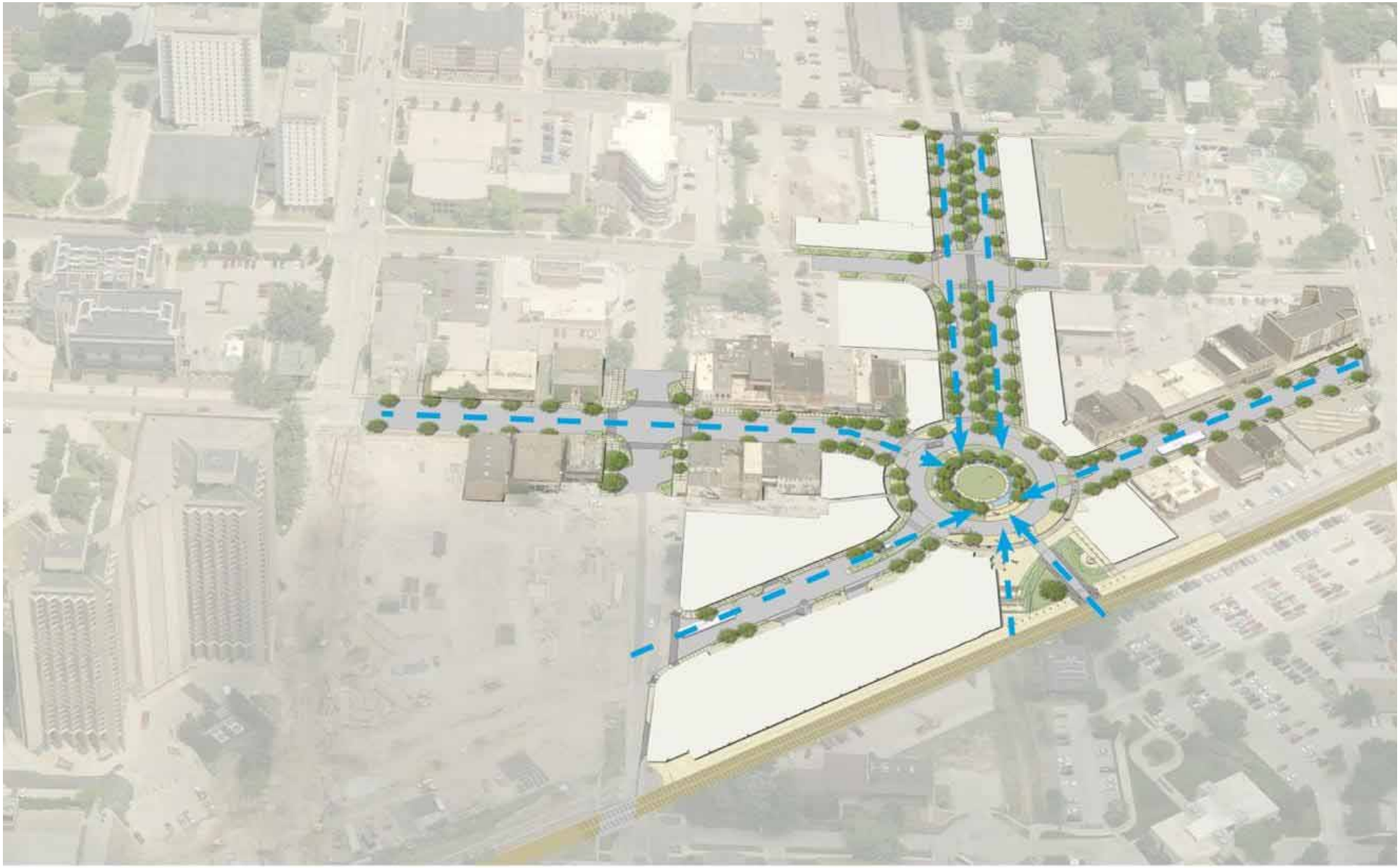
Landscape Master Plan


Town of Normal
Client: Wayne Aldrich, Project Manager
Hoerr Schaudt Landscape Architects
(formerly Peter Lindsay Schaudt Landscape Architecture)
Lead Landscape Architect
Farnsworth Group
Subsurface Infrastructure Engineers
Clark-Dietz
Civil/Traffic Engineers
CMS Collaborative
Fountain Consultants
Hey and Associates
Ecological Consultant
James Urban
Arborculture Consultant
Charter Sills
Lighting Consultant
Jeffery L. Bruce
Turfgrass Consultant
Landtech
Irrigation Consultant

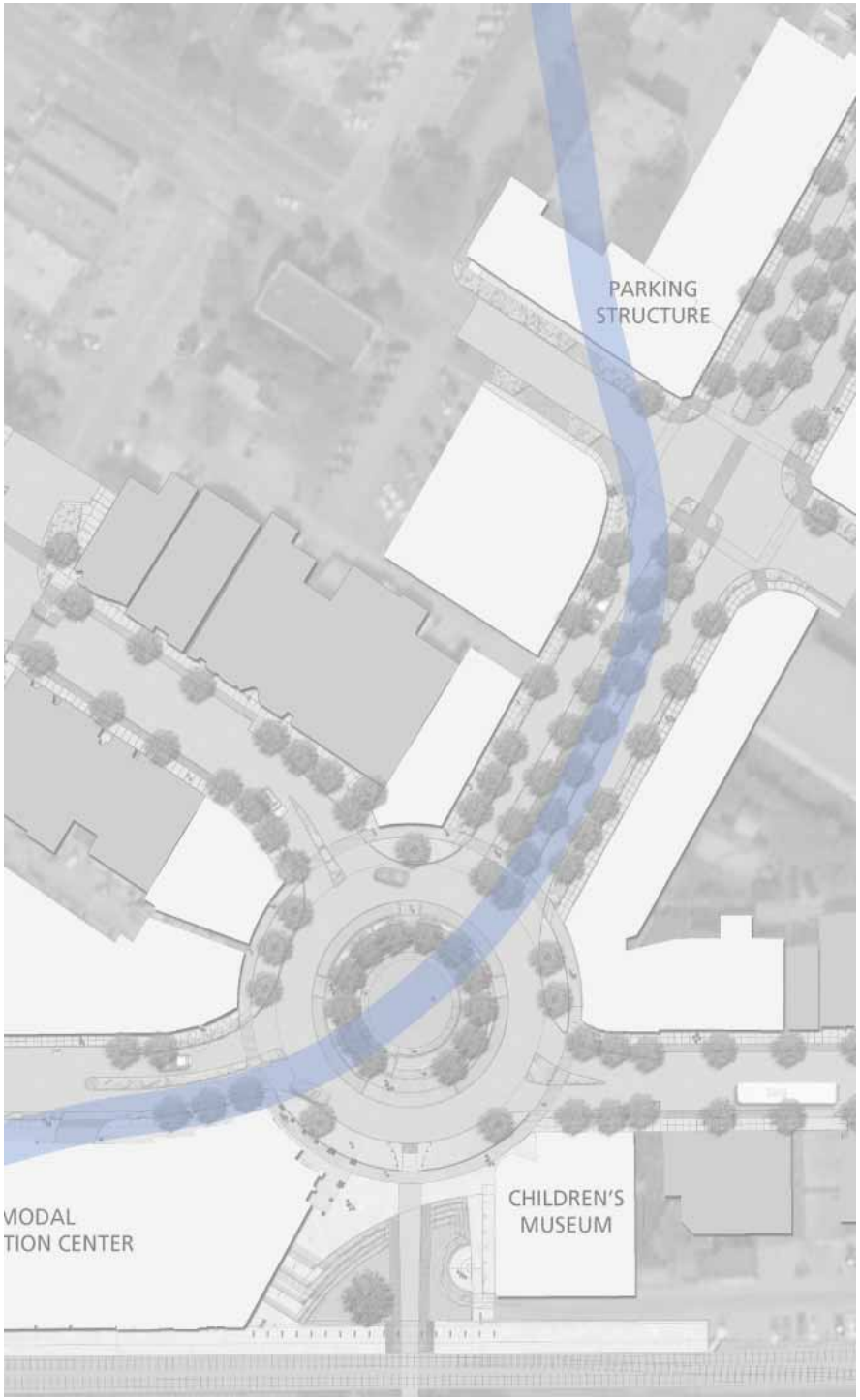

Selected Concept



Project Elements



Stormwater Diagram



Stormwater Storage Cistern:

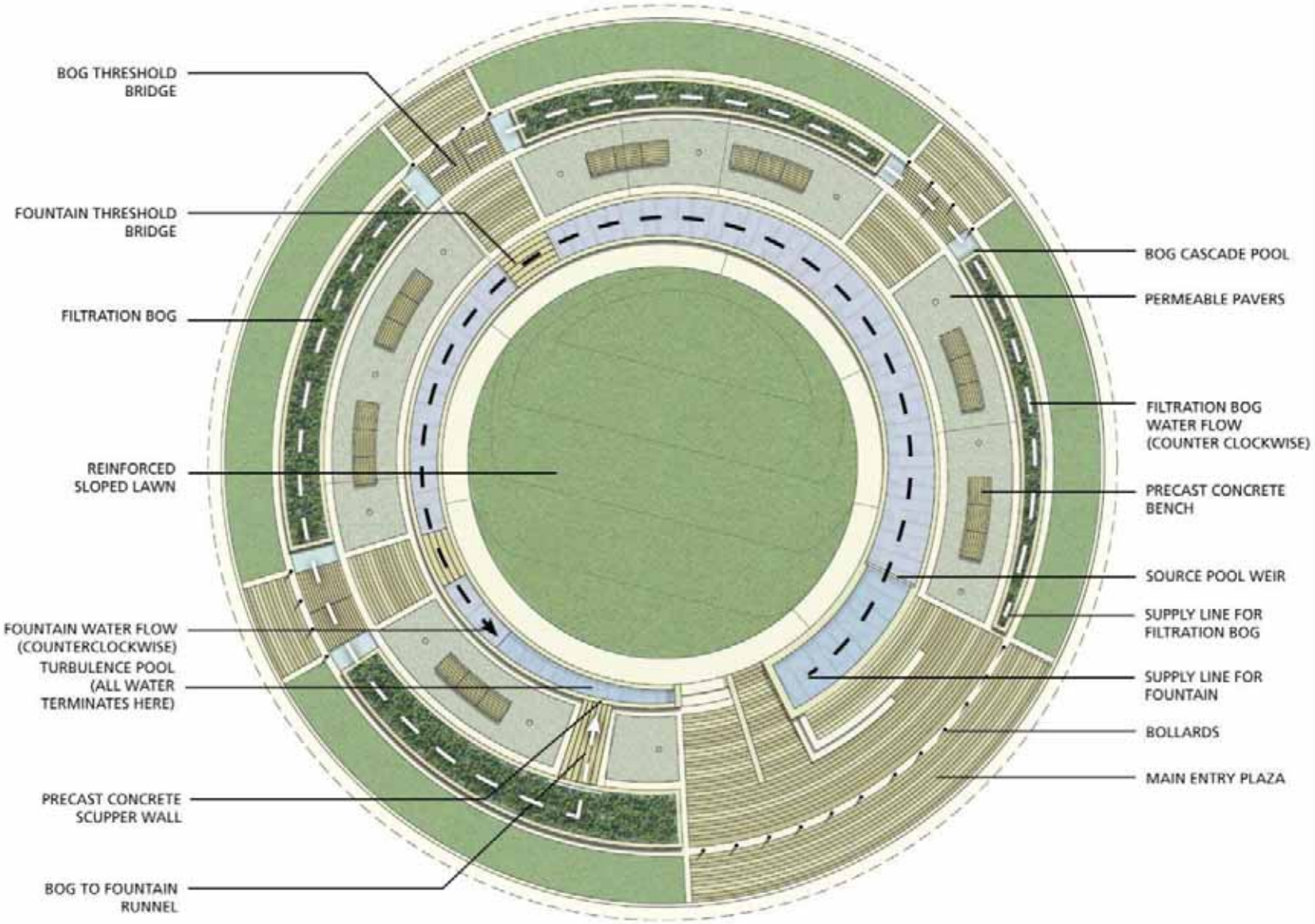
Former creek traversed the site

Stormwater Storage Cistern:

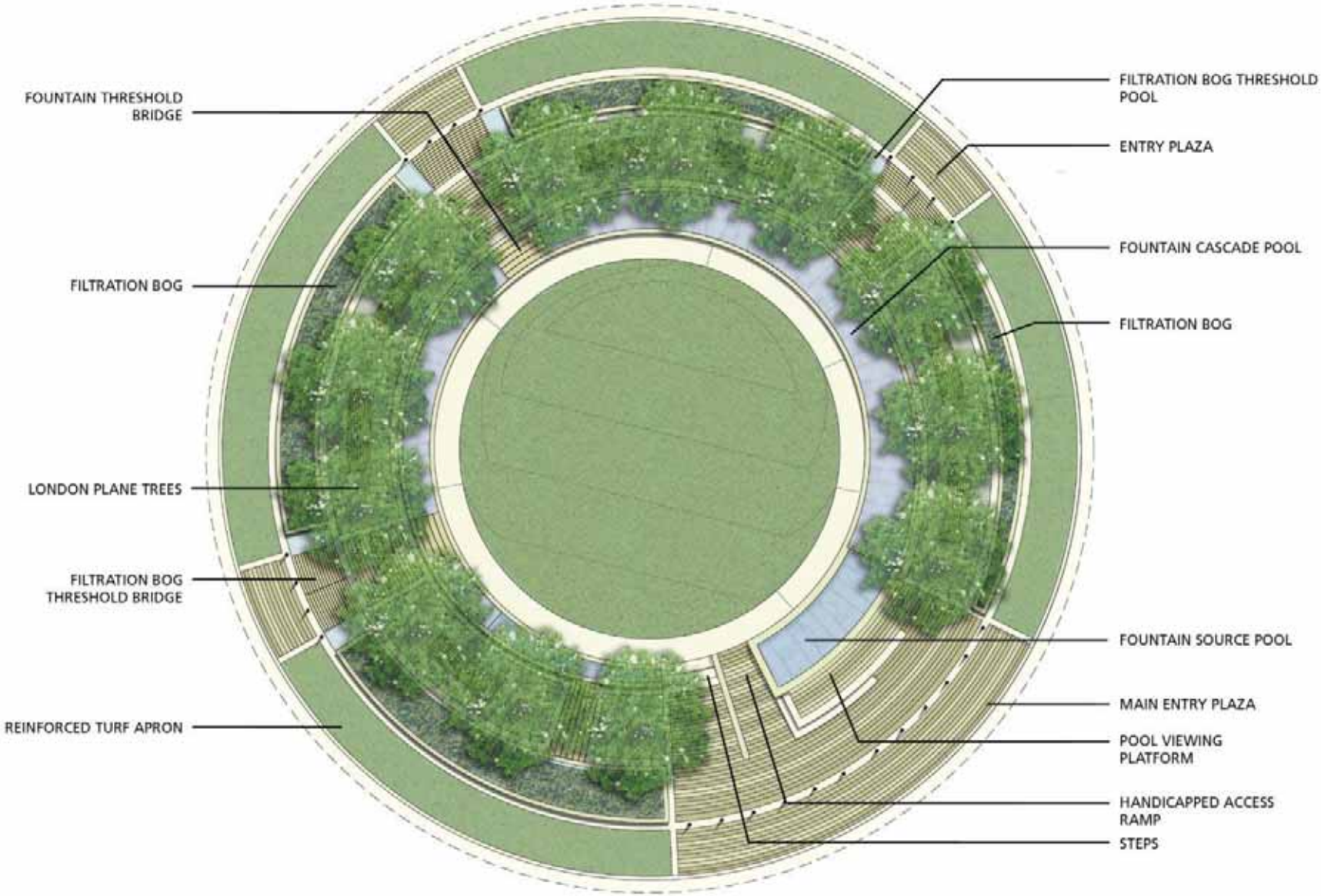
Former creek traversed the site

Converted to large diameter storm sewer as town developed

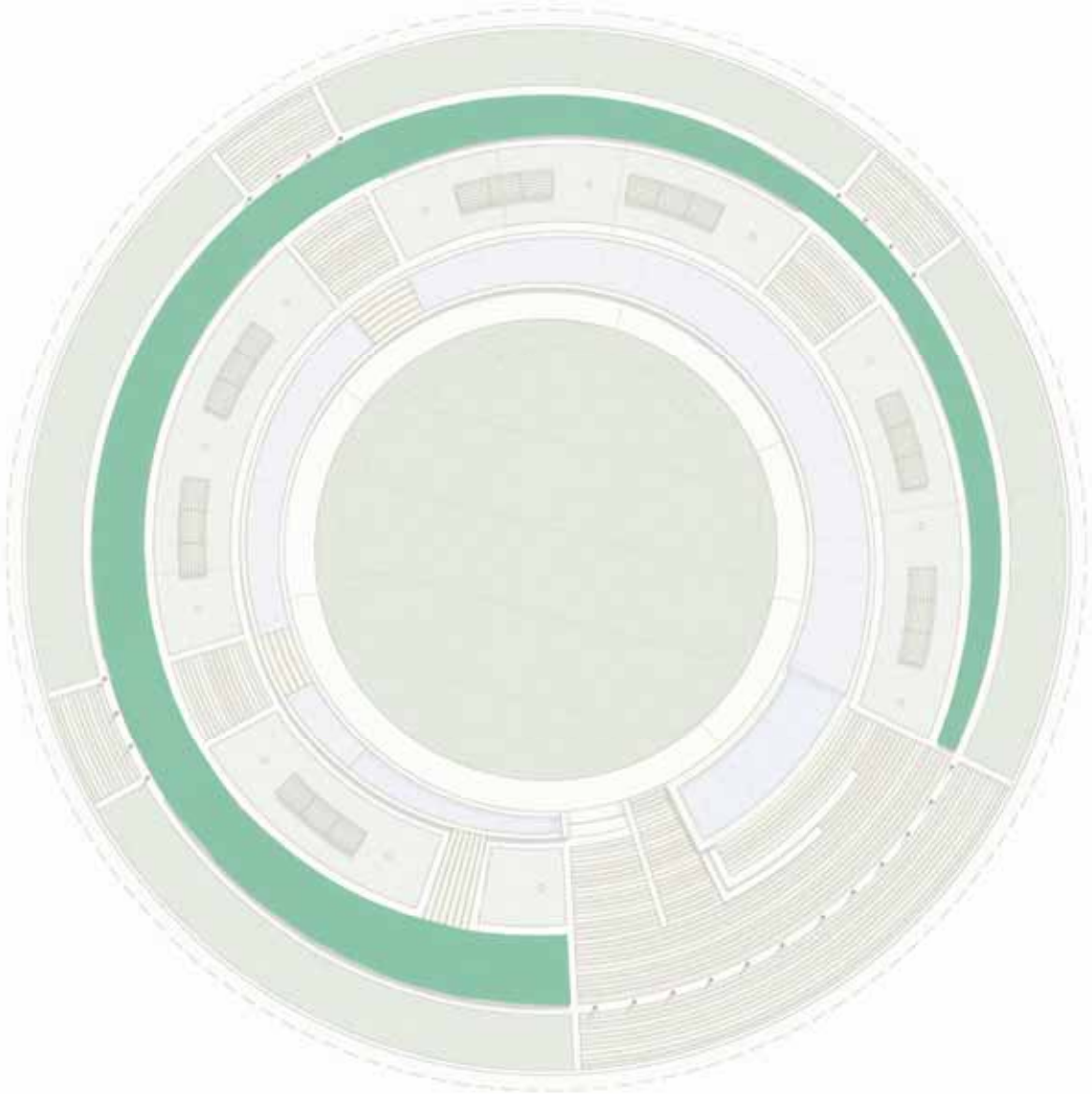
Repurposed as an underground stormwater cistern with development of new infrastructure


BOG THRESHOLD BRIDGE
FOUNTAIN THRESHOLD BRIDGE
FILTRATION BOG
REINFORCED SLOPED LAWN
FOUNTAIN WATER FLOW (COUNTERCLOCKWISE)
TURBULENCE POOL (ALL WATER TERMINATES HERE)
PRECAST CONCRETE SCUPPER WALL
BOG TO FOUNTAIN RUNNEL
BOG CASCADE POOL
PERMEABLE PAVERS
FILTRATION BOG WATER FLOW (COUNTER CLOCKWISE)
PRECAST CONCRETE BENCH
SOURCE POOL WEIR
SUPPLY LINE FOR FILTRATION BOG
SUPPLY LINE FOR FOUNTAIN
BOLLARDS
MAIN ENTRY PLAZA

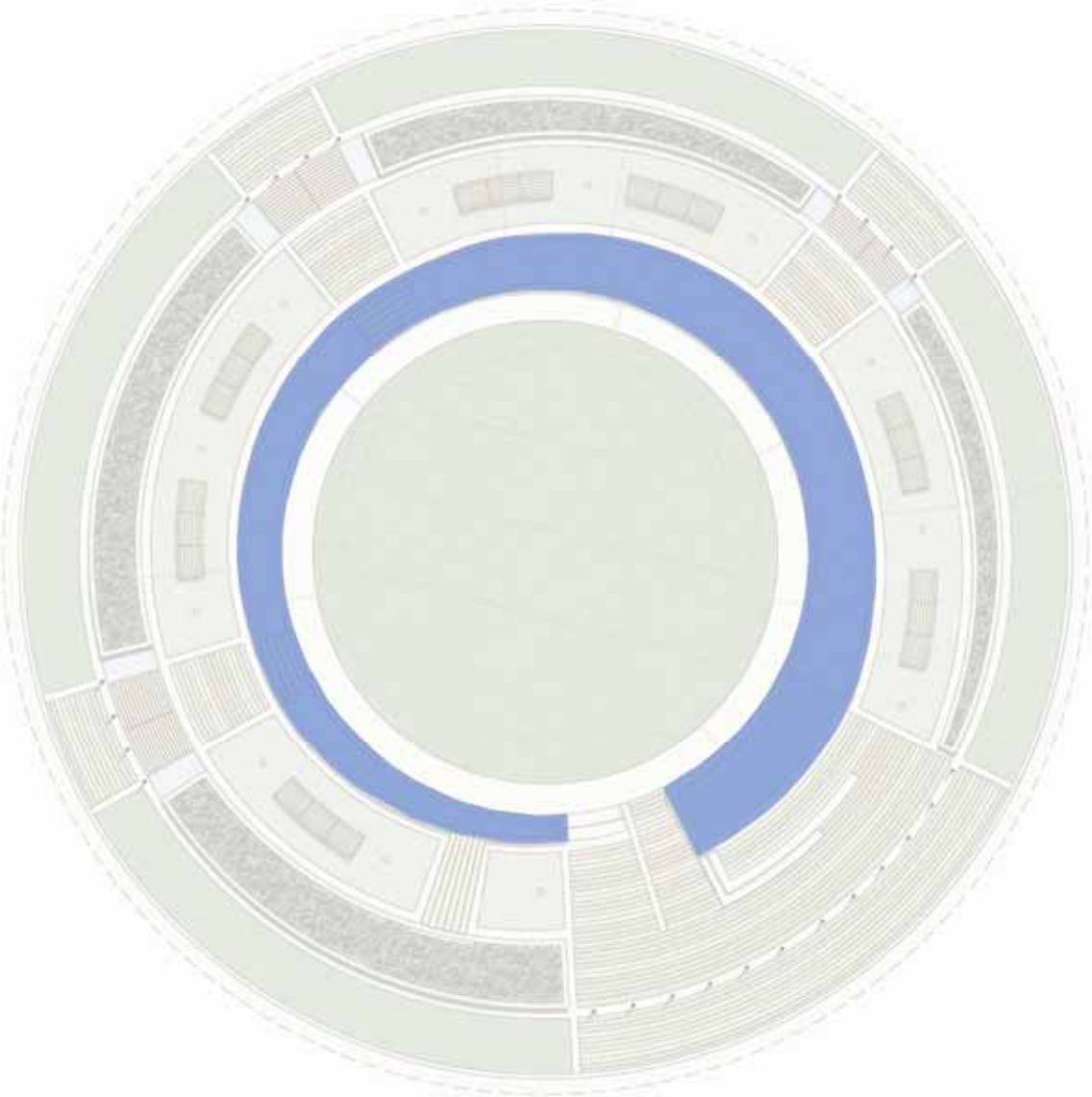
Detail Plan


FOUNTAIN THRESHOLD BRIDGE
FILTRATION BOG
LONDON PLANE TREES
FILTRATION BOG THRESHOLD BRIDGE
REINFORCED TURF APRON
FILTRATION BOG THRESHOLD POOL
ENTRY PLAZA
FOUNTAIN CASCADE POOL
FILTRATION BOG
FOUNTAIN SOURCE POOL
MAIN ENTRY PLAZA
POOL VIEWING PLATFORM
HANDICAPPED ACCESS RAMP
STEPS

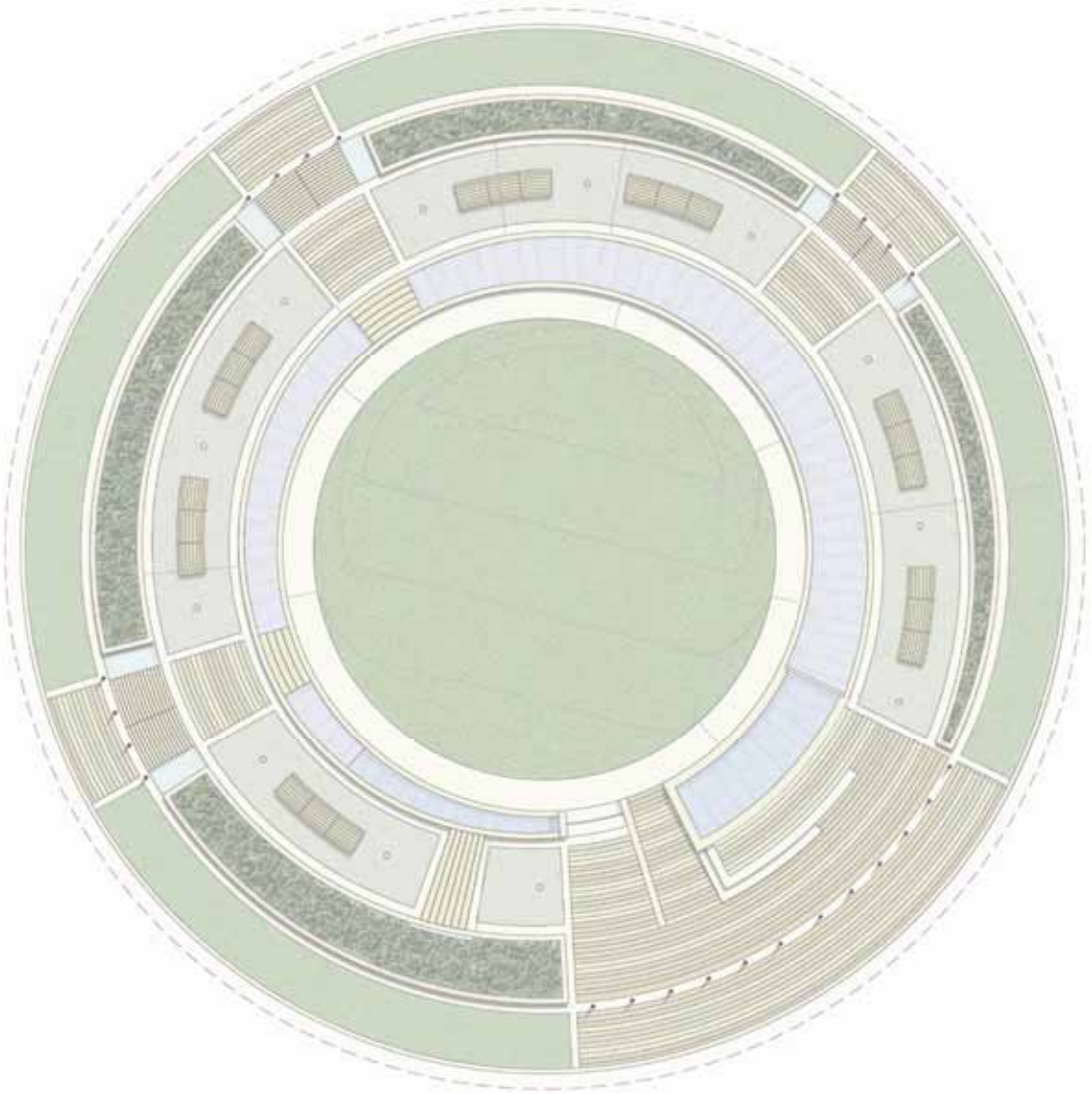
Detail Plan



Anatomy of the Circle: *Filtration Bog*



Anatomy of the Circle: *Water Feature*



Legend:

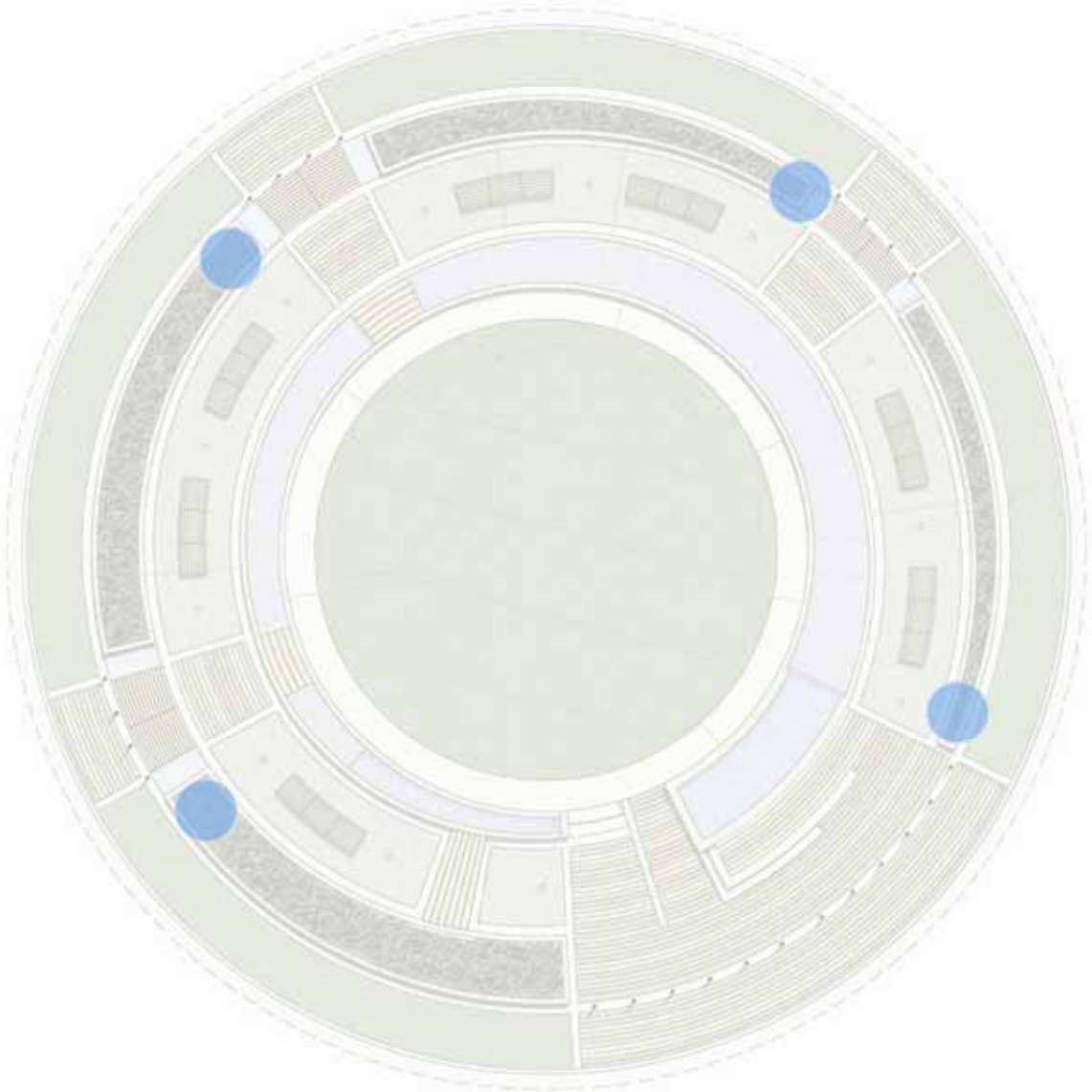
Filtration Bog Flow

Water Feature Flow

Water Source Point

Water Intake Point

Anatomy of the Circle: Flow Patterns



Legend:

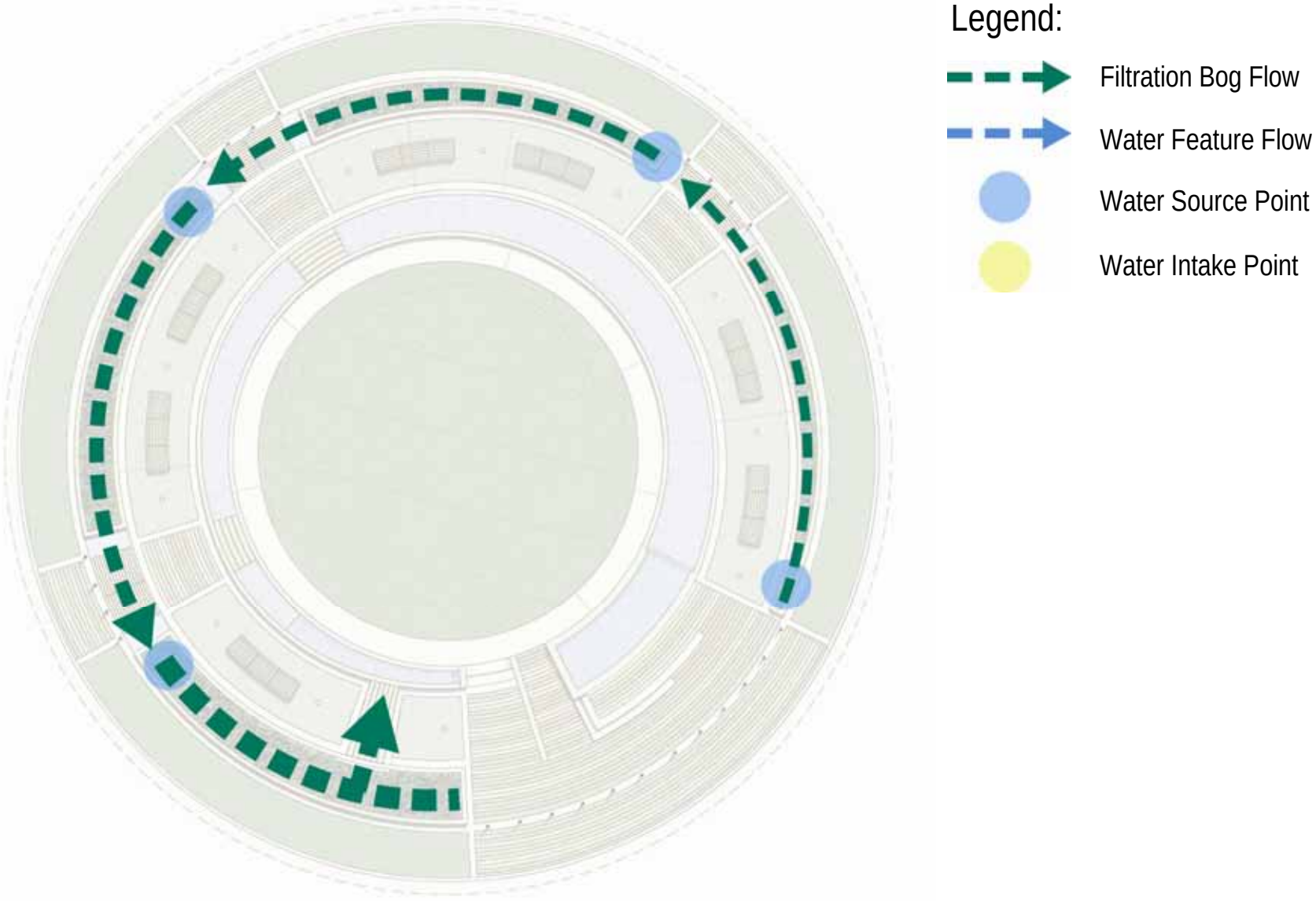
Filtration Bog Flow

Water Channel Flow

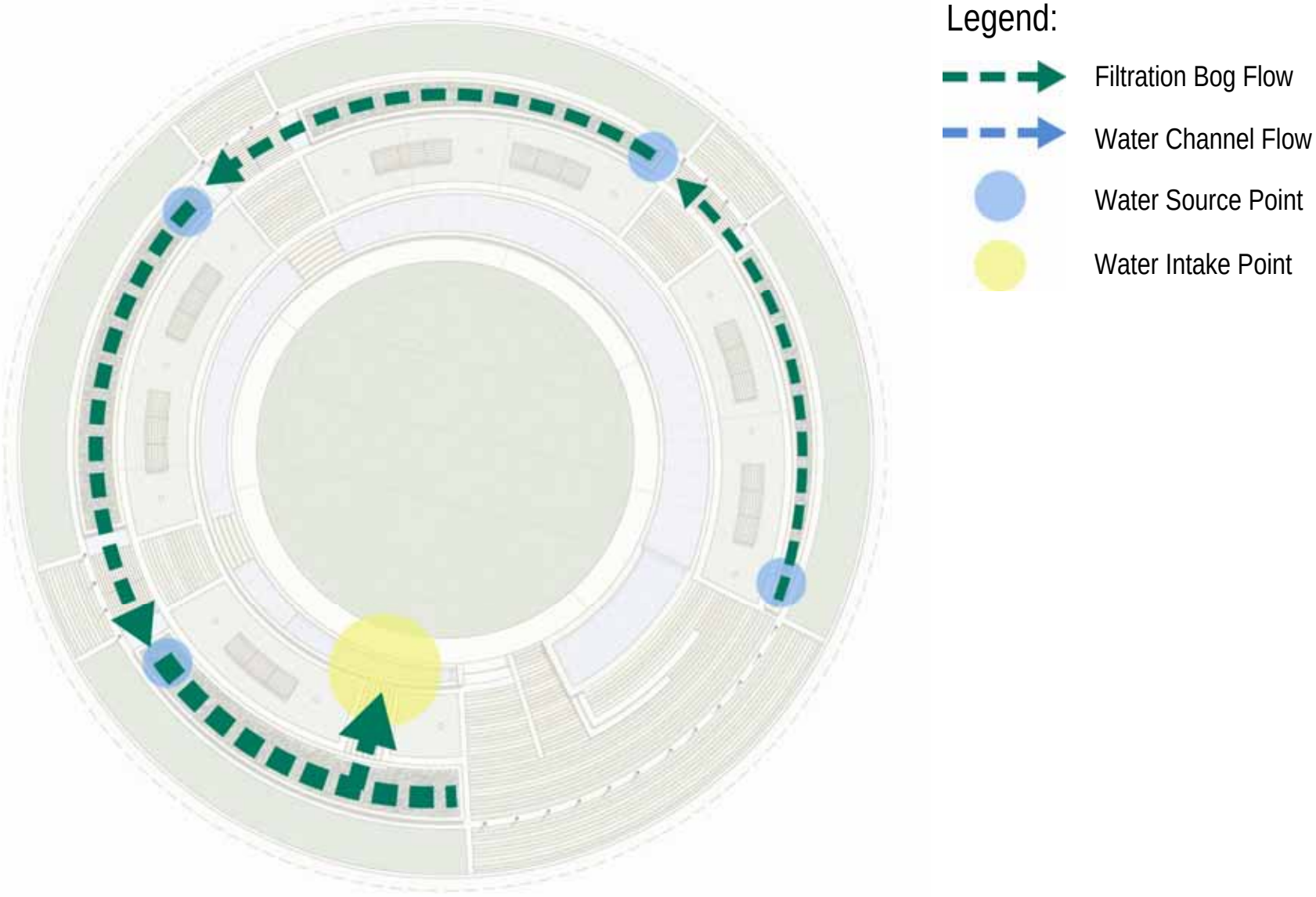
Water Source Point

Water Intake Point

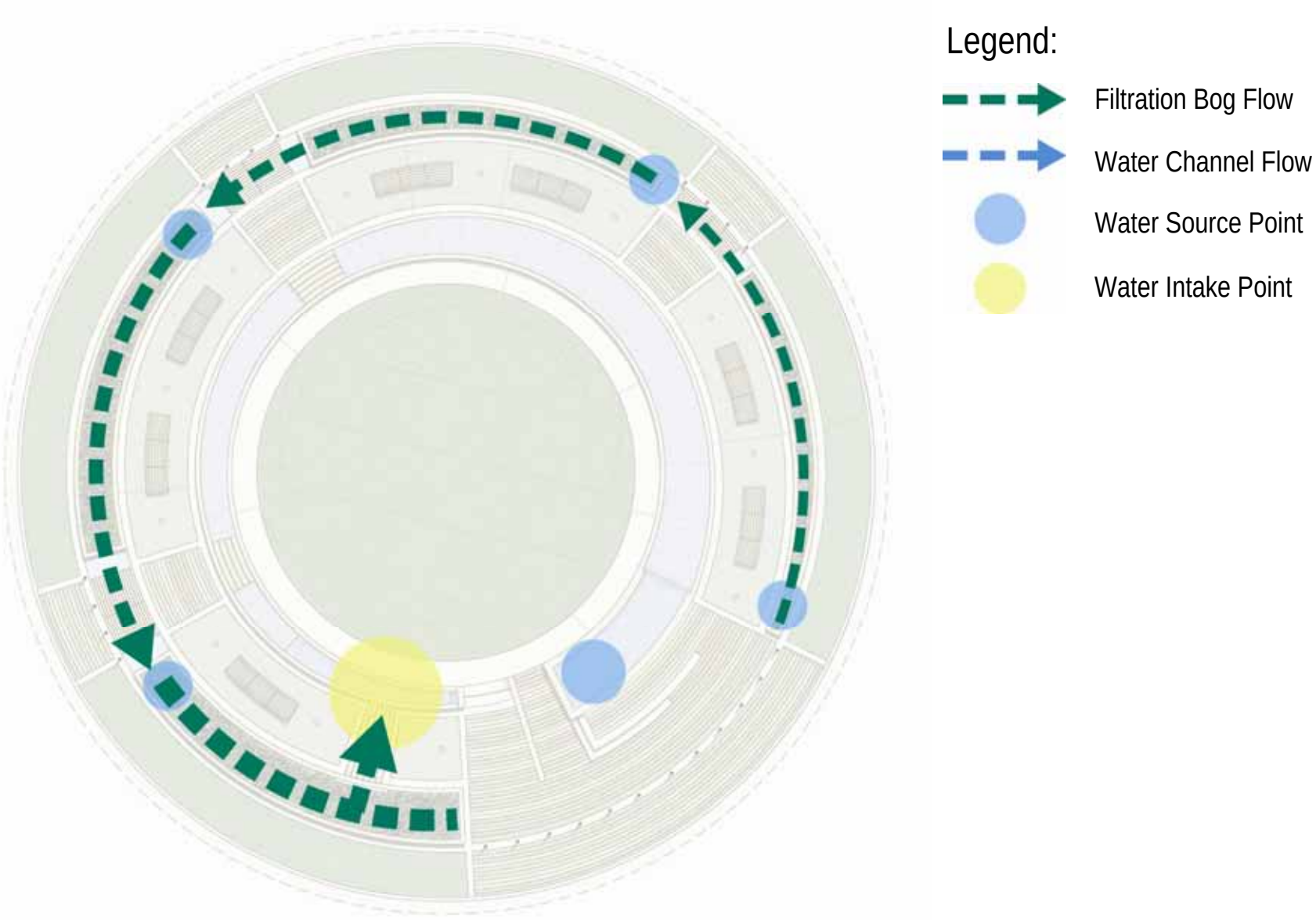
Anatomy of the Circle: Flow Patterns



Anatomy of the Circle: Flow Patterns



Anatomy of the Circle: Flow Patterns



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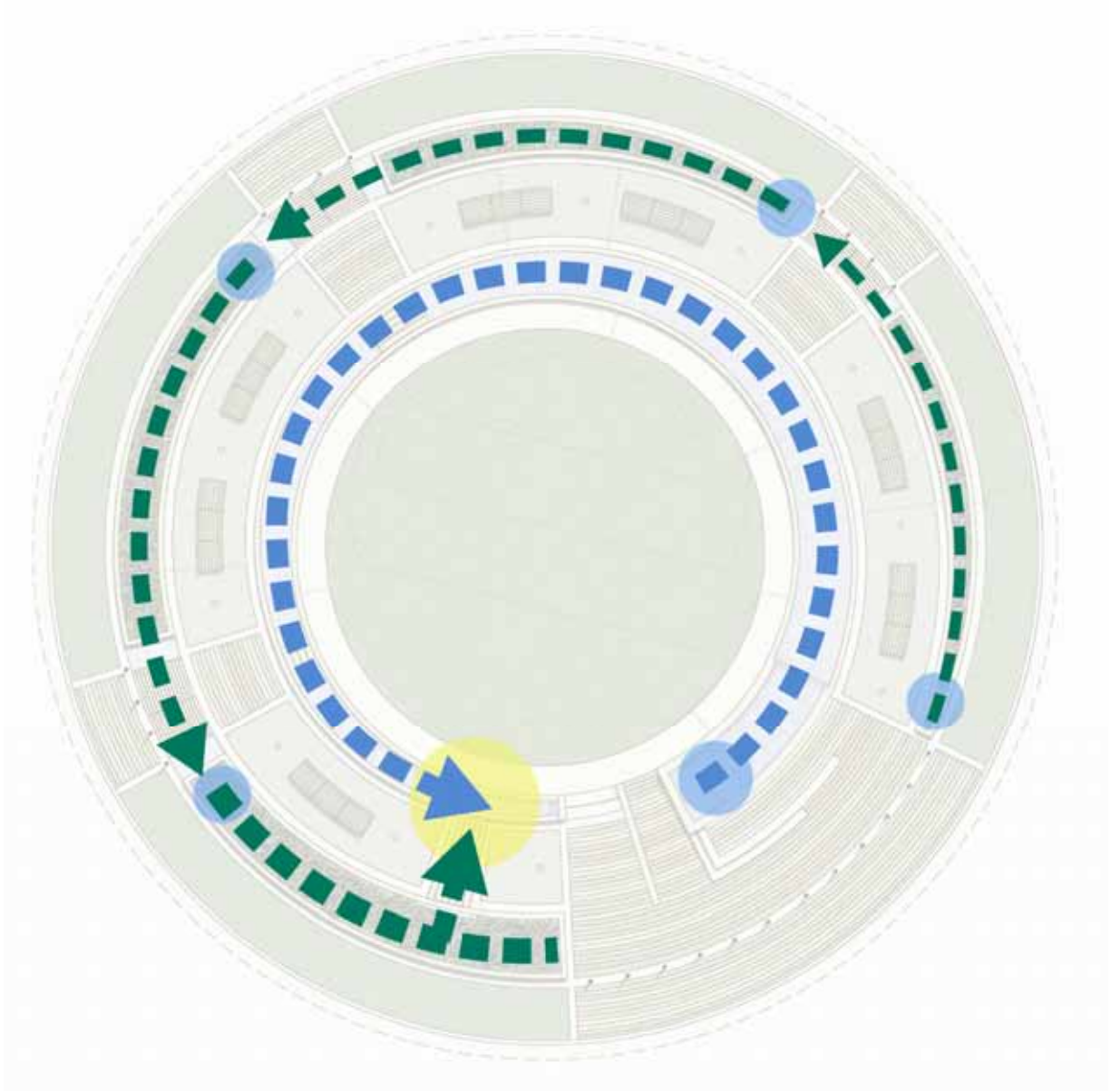

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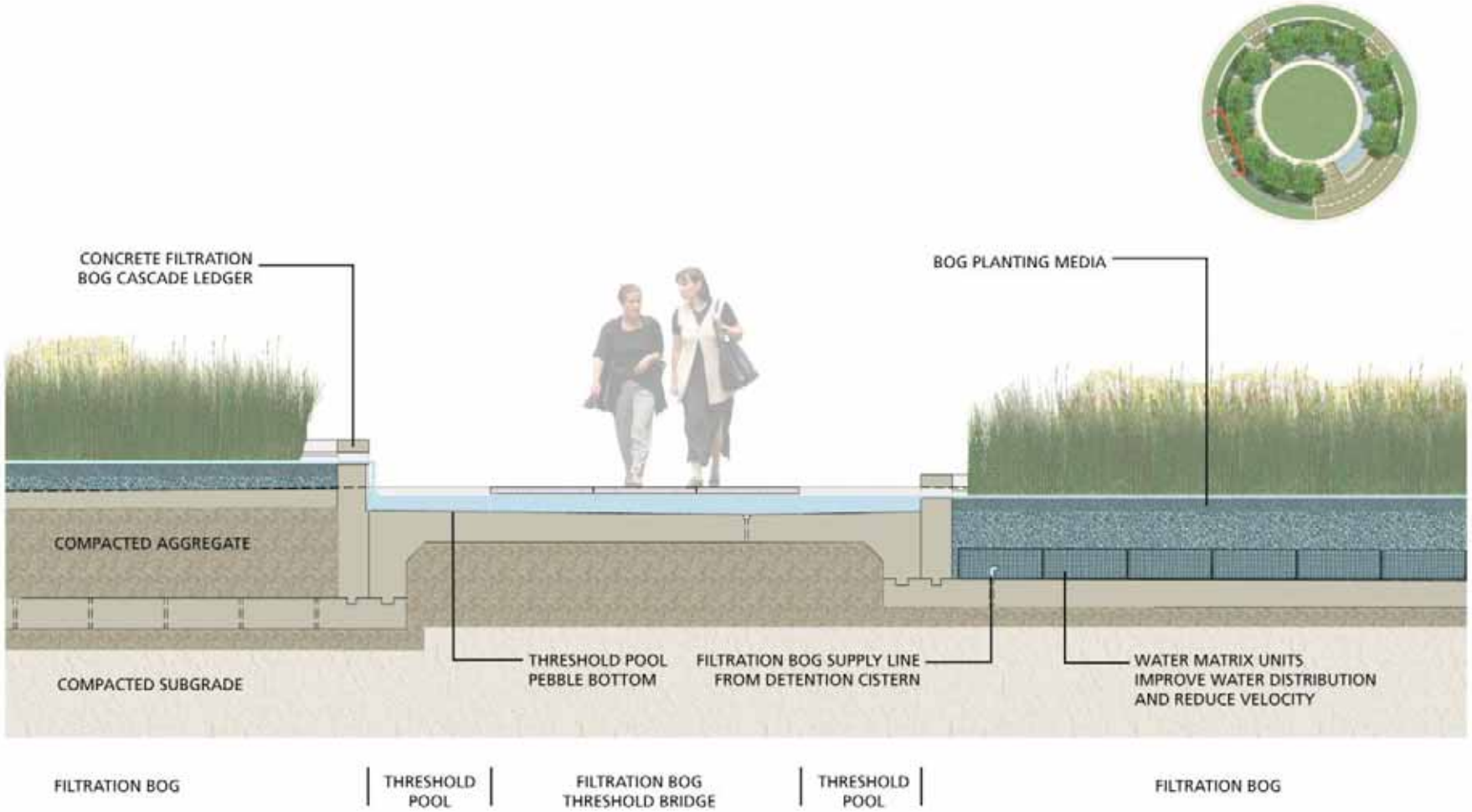
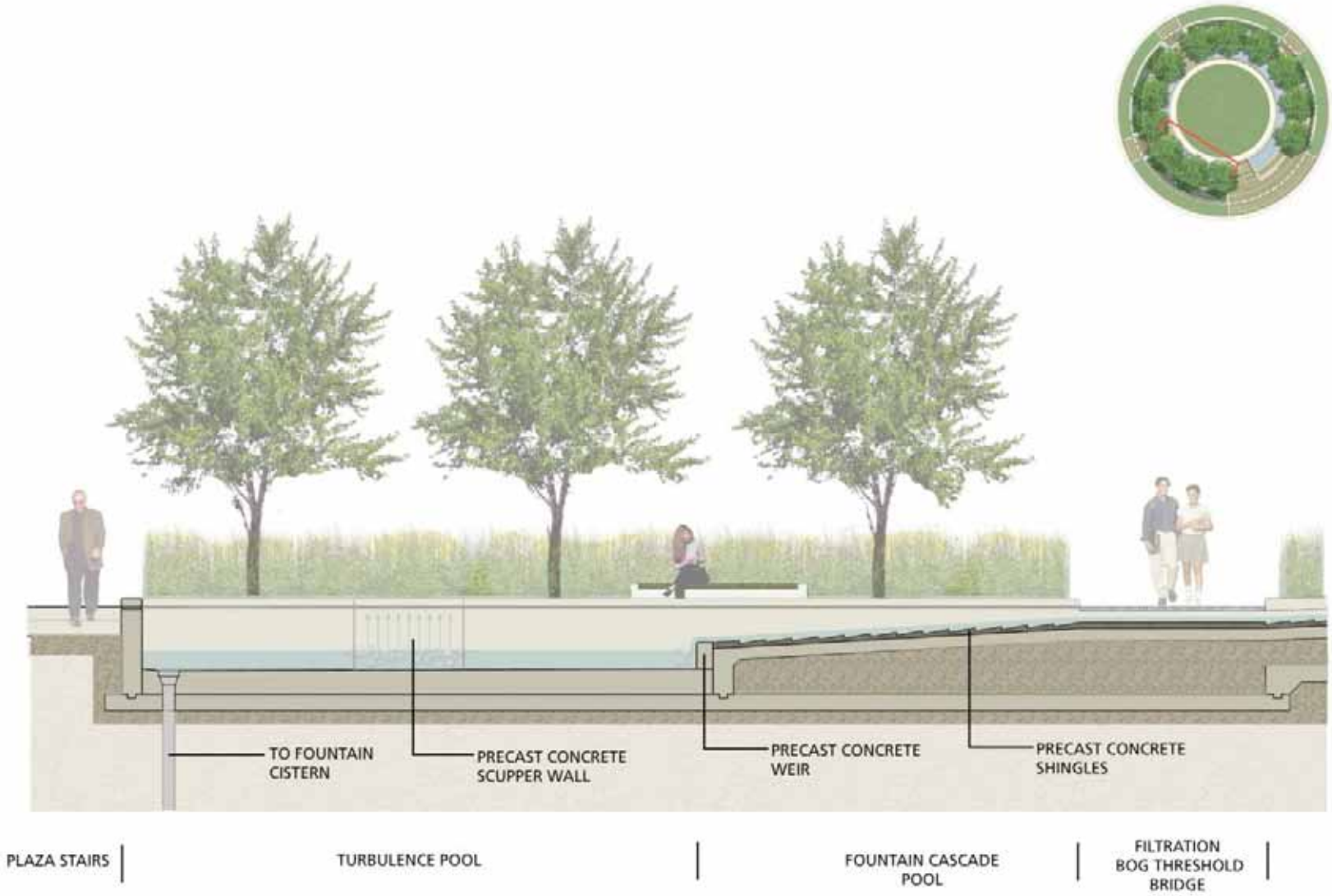
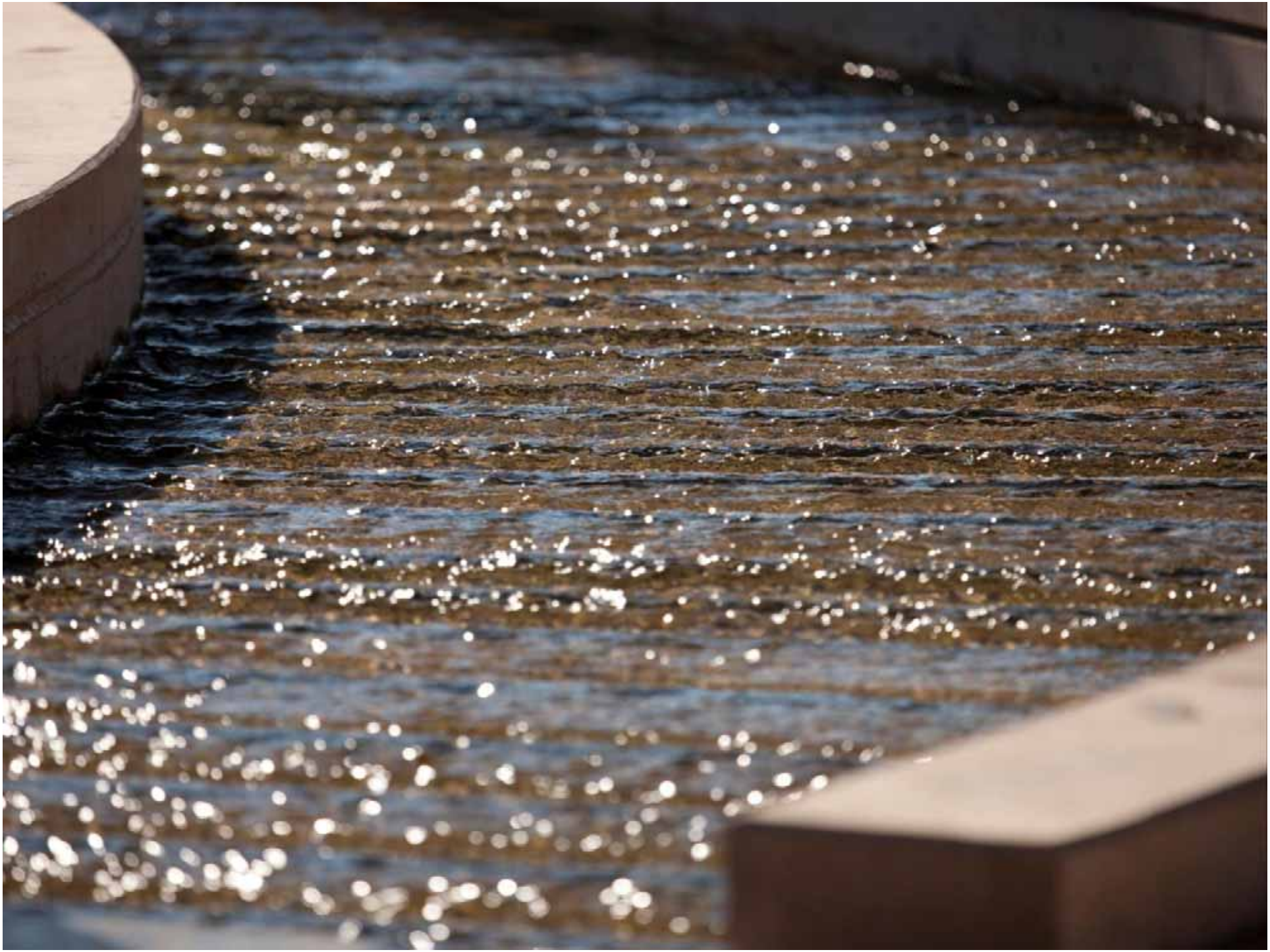


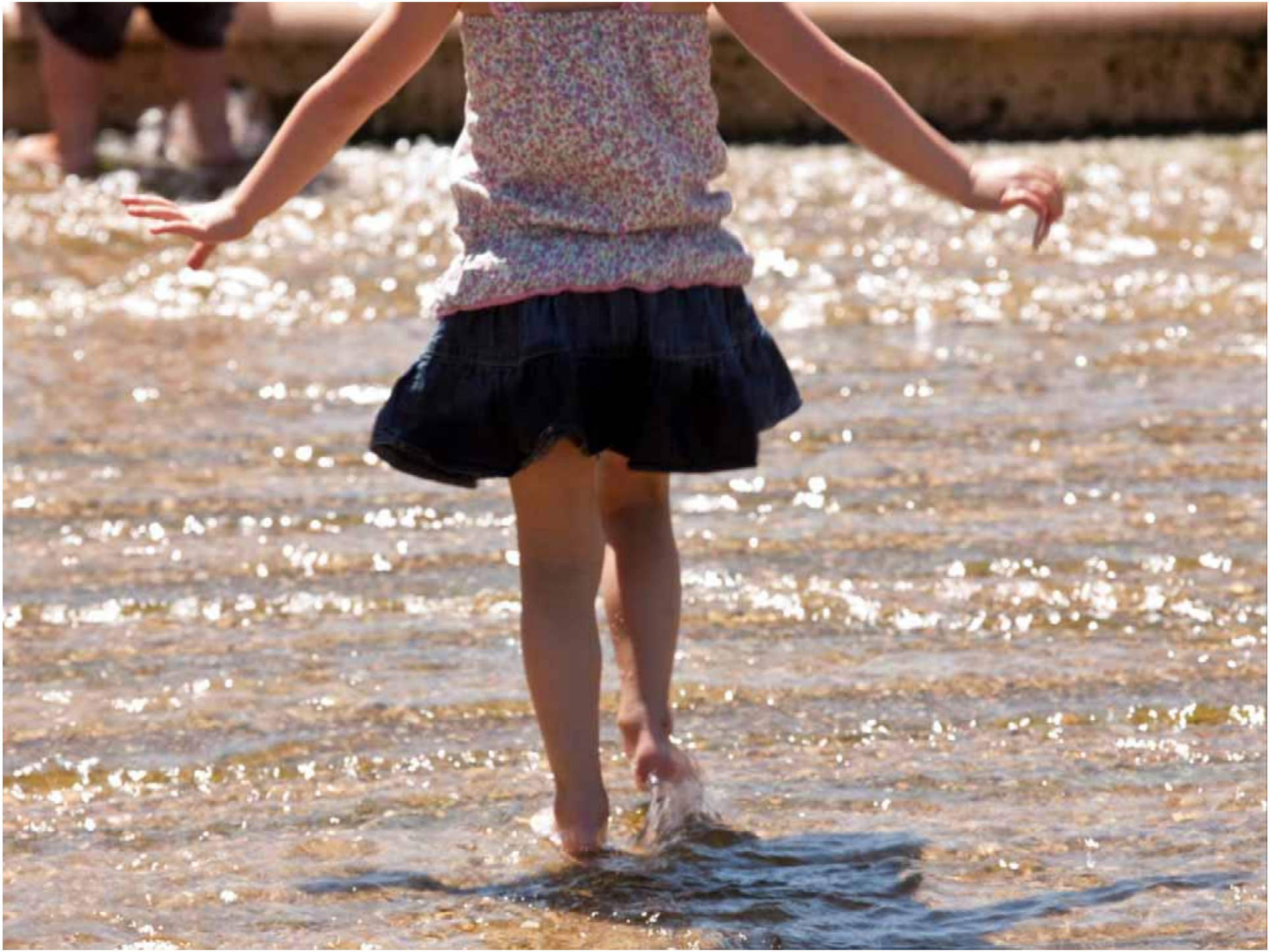
Filtration Bog Threshold



Water Channel Detail




10
FIRE



CONSTRUCTION & ENGINEERING

Wayne Aldrich, Town of Normal

2007 Construction (Big Dig)

- Install Underground Infrastructure to support the Water Feature
- New 60-inch Storm Sewer
- Abandon Old 60-inch Storm and use as Cistern
- Install Storm Sewer Filter
- Install Cistern Vault and Equipment Vault


Quality
Upstream
D-1

2008 Uptown Street Contract

- June 16, 2008 Council Conditionally Awards Project with Water Feature in the Amount of $9,710,832
- July 21, 2008 Council Received Recommended VE and Authorized Budget Adjustment
- Total Contract $8,947,883 with Water Feature

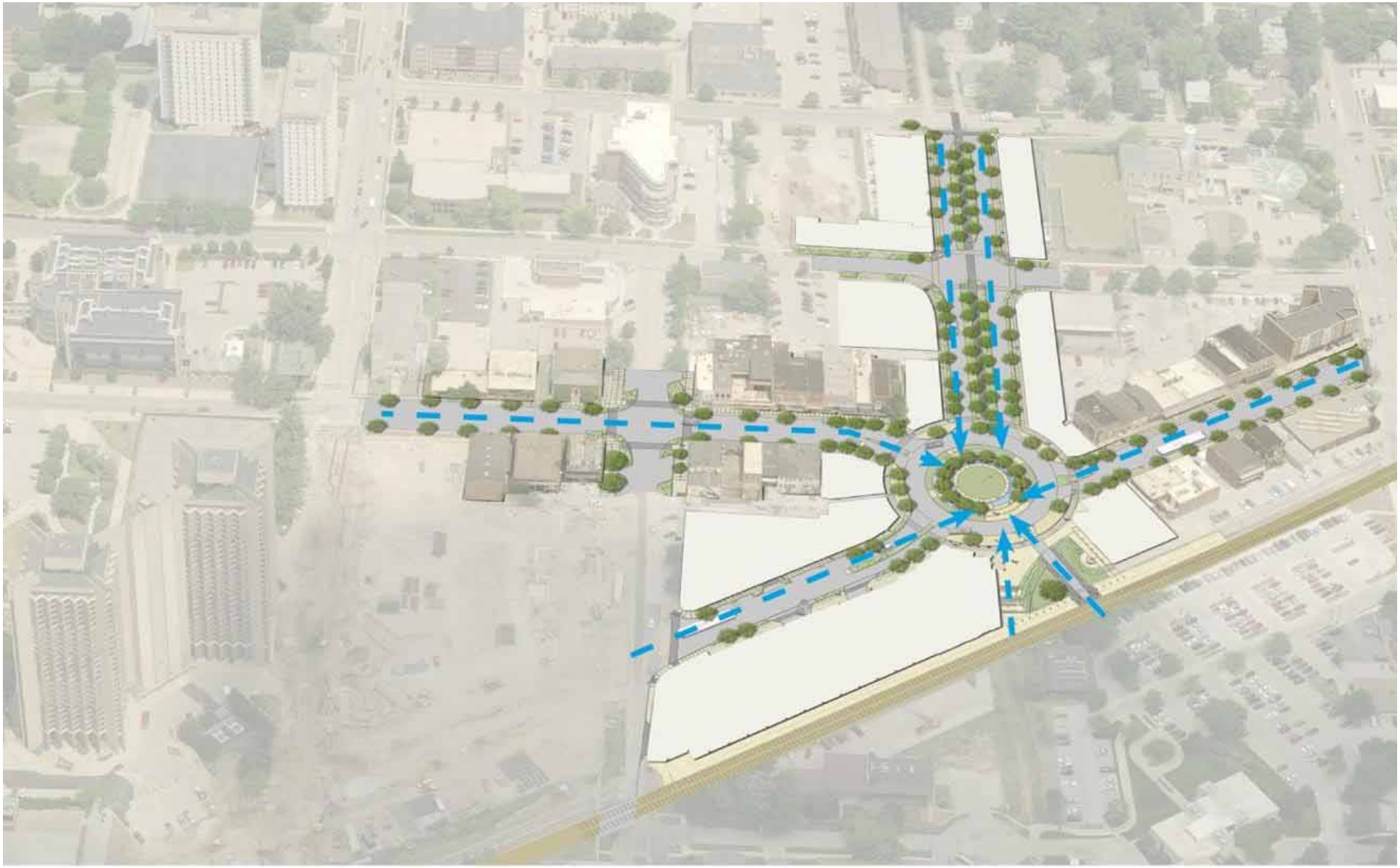
Contractors

- Stark Excavating, Inc.
- Anderson Electric
- Laesch Electric
- Prochnow Landscaping (LPS Paving)
- Commercial Irrigation
- F&W Lawncare & Landscaping


2001

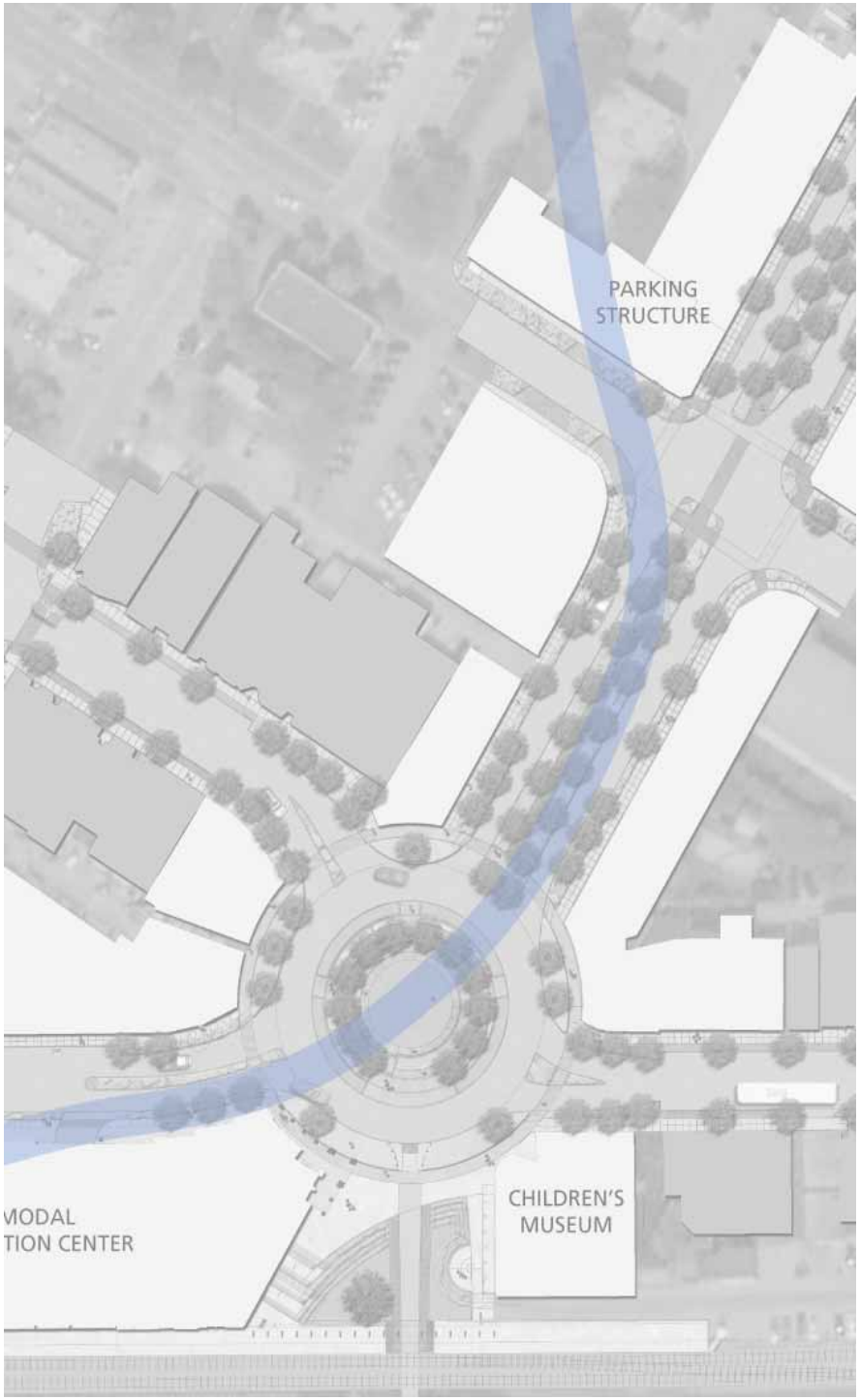
BOG DESIGN & STORMWATER

Tim Pollowy, Hey and Associates



STORMWATER DIRECTION FLOW
INTO DETENTION CISTERNS

Stormwater Diagram



Non-Point Source Pollution in Stormwater Runoff:

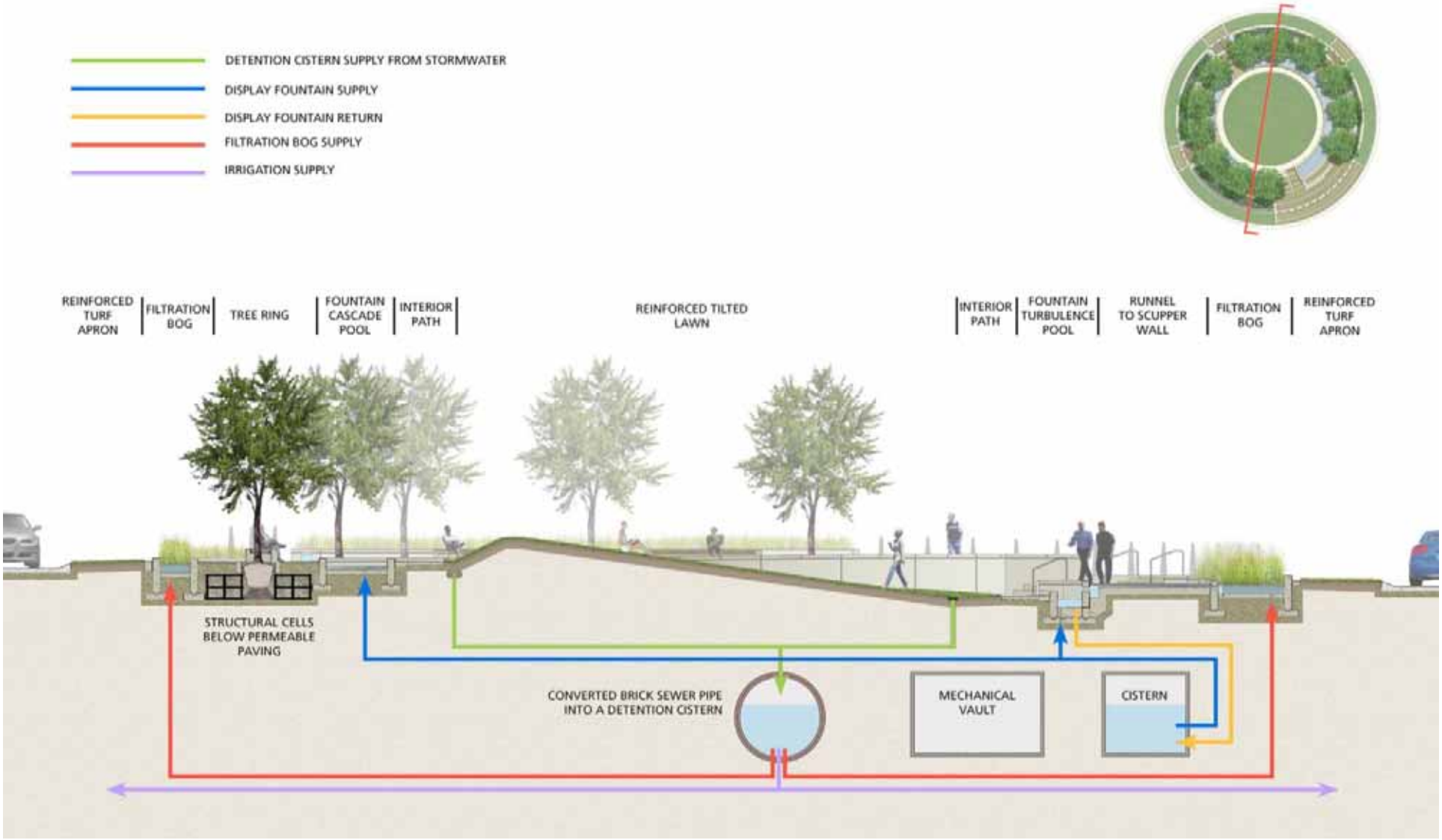
Sediment
Hydrocarbons
Nutrients
Heavy Metals
Thermal Pollution

Stormwater Storage Cistern:

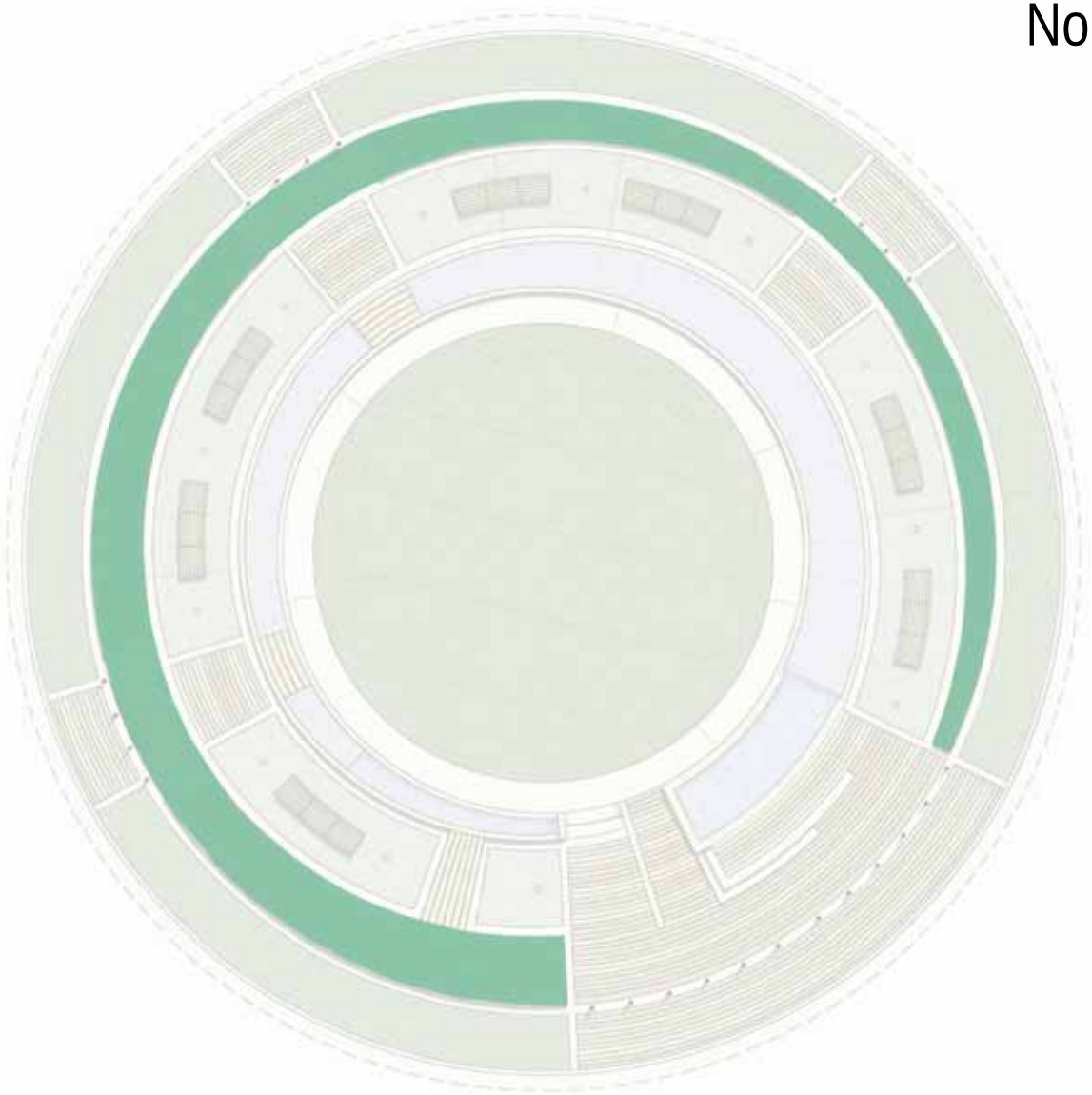
Former creek traversed the site

Converted to large diameter storm sewer as town developed

Repurposed as an underground stormwater cistern with development of new infrastructure



Illustrative Water Infrastructure Schematic



Non-Point Source Pollution Removal Pathways

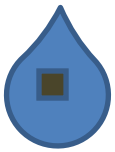
Sedimentation
Filtration
Adsorption
Microbial action
Volatization
Aeration
Direct plant uptake *

*typically minimal and/or of secondary importance

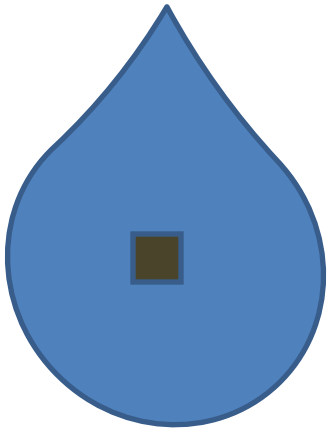
How does the Filtration Bog work?

Non-Point Source Pollution Volume vs. Runoff Volume

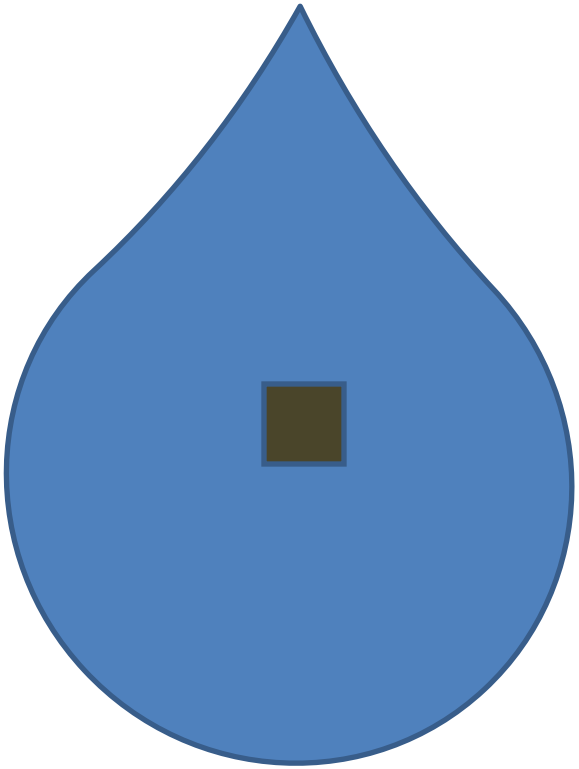
Small storms



Medium storms

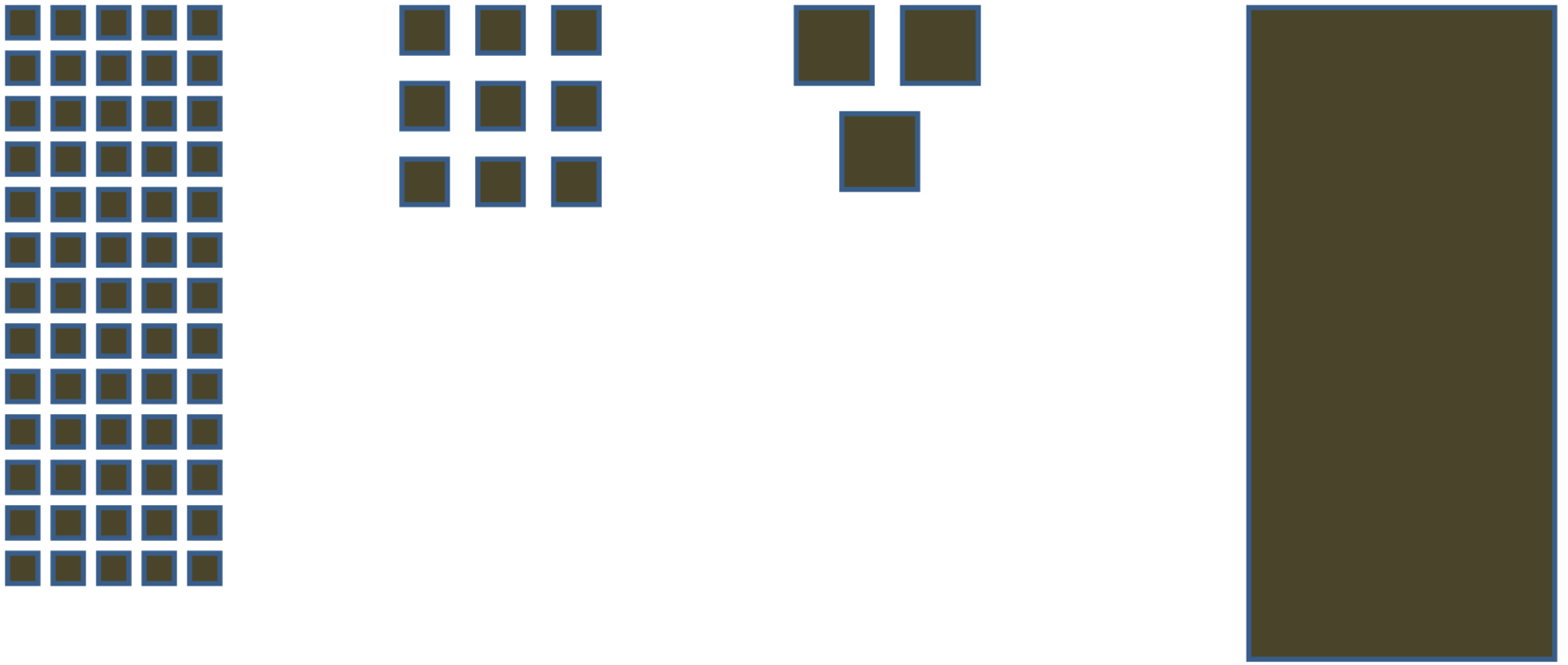


Large storms

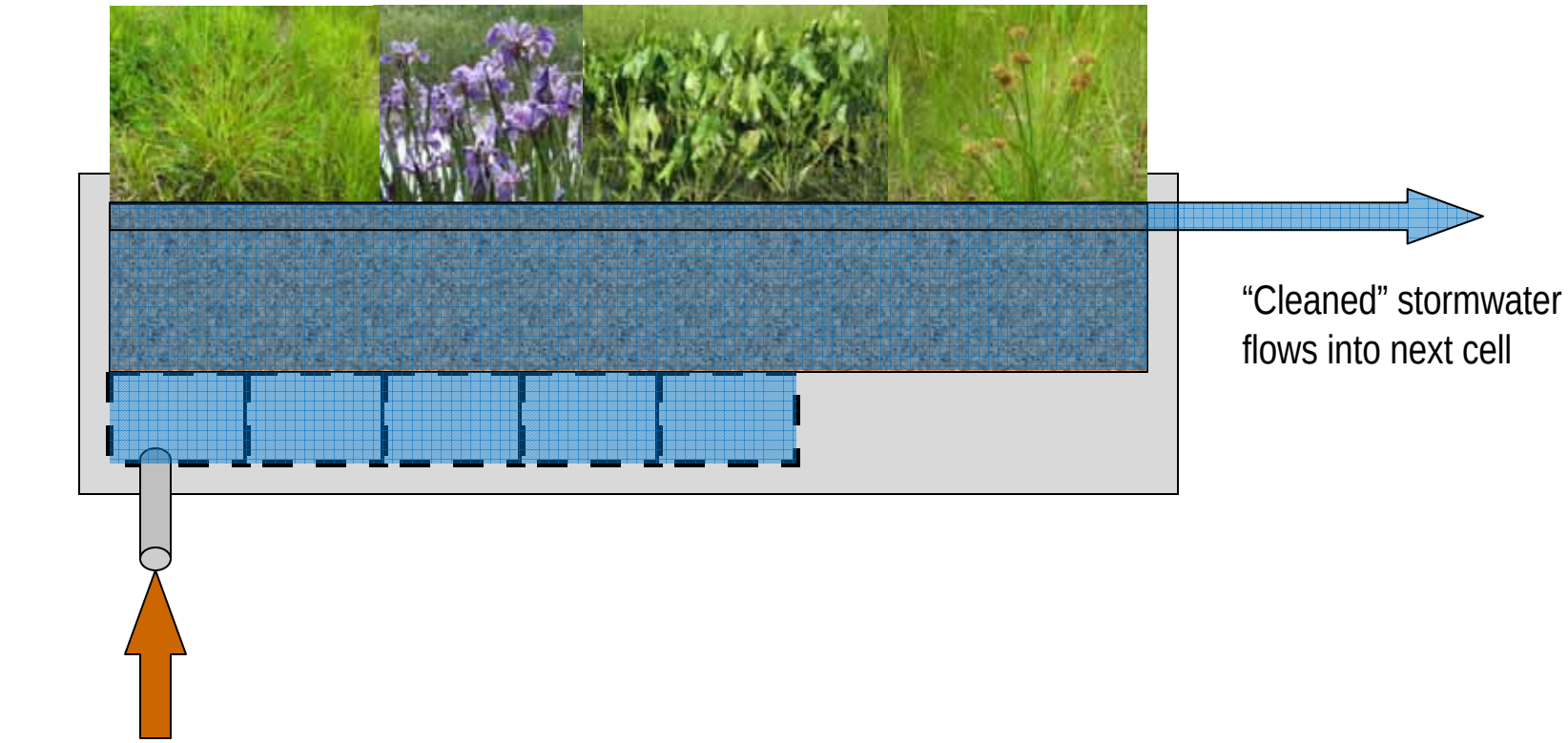


Non-Point Source Pollution – Total Annual Load

Small storms + Medium storms + Large storms = Total Annual Pollutant Load



Anatomy and Operation of the Bog Filter




Filtration Bog (prior to planting)

Filtration Bog