

THE GREEN AT COLLEGE PARK UNIVERSITY OF TEXAS ARLINGTON





- RETAIL
- UNIVERSITY SPACE
- APARTMENTS
- PARKING

LAND USE PLAN





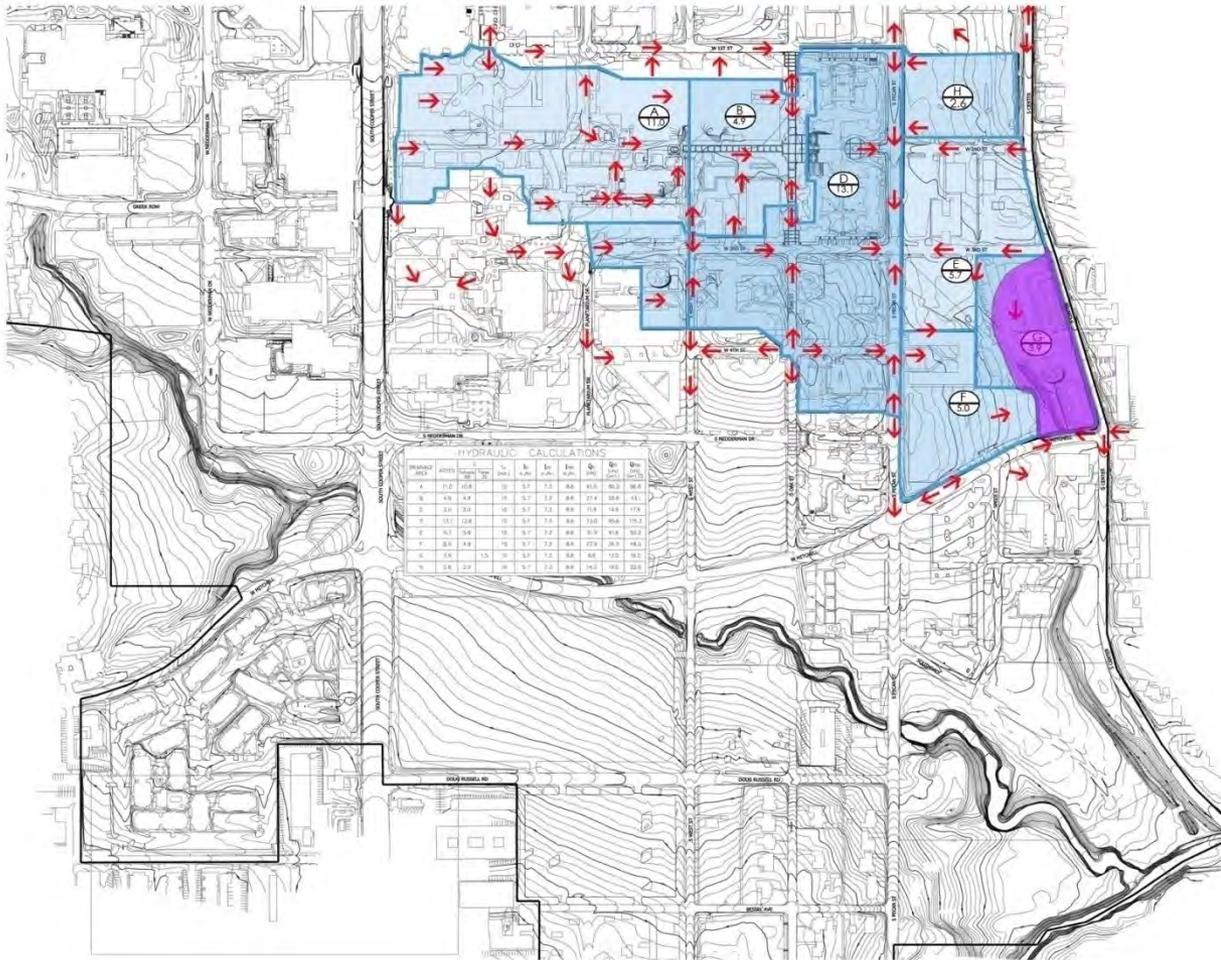




The Green at College Park, UTA



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CREDIT 2.1:

Intent:

Conduct an accurate and detailed assessment of site conditions and explore options for sustainable outcomes prior to design to inform decisions about site design, construction, operation, and maintenance.

Requirements:

HYDROLOGY: Topography and direction of overland water flow on site and its effects on the watershed as a whole.

Provided:

Hydrology Map

LEGEND:

- Drainage Area Acres
- Direction of runoff
- Drainage Area Boundary

DATE: SEPTEMBER 2010

PROJECT NAME:
The Green at College Park, UTA

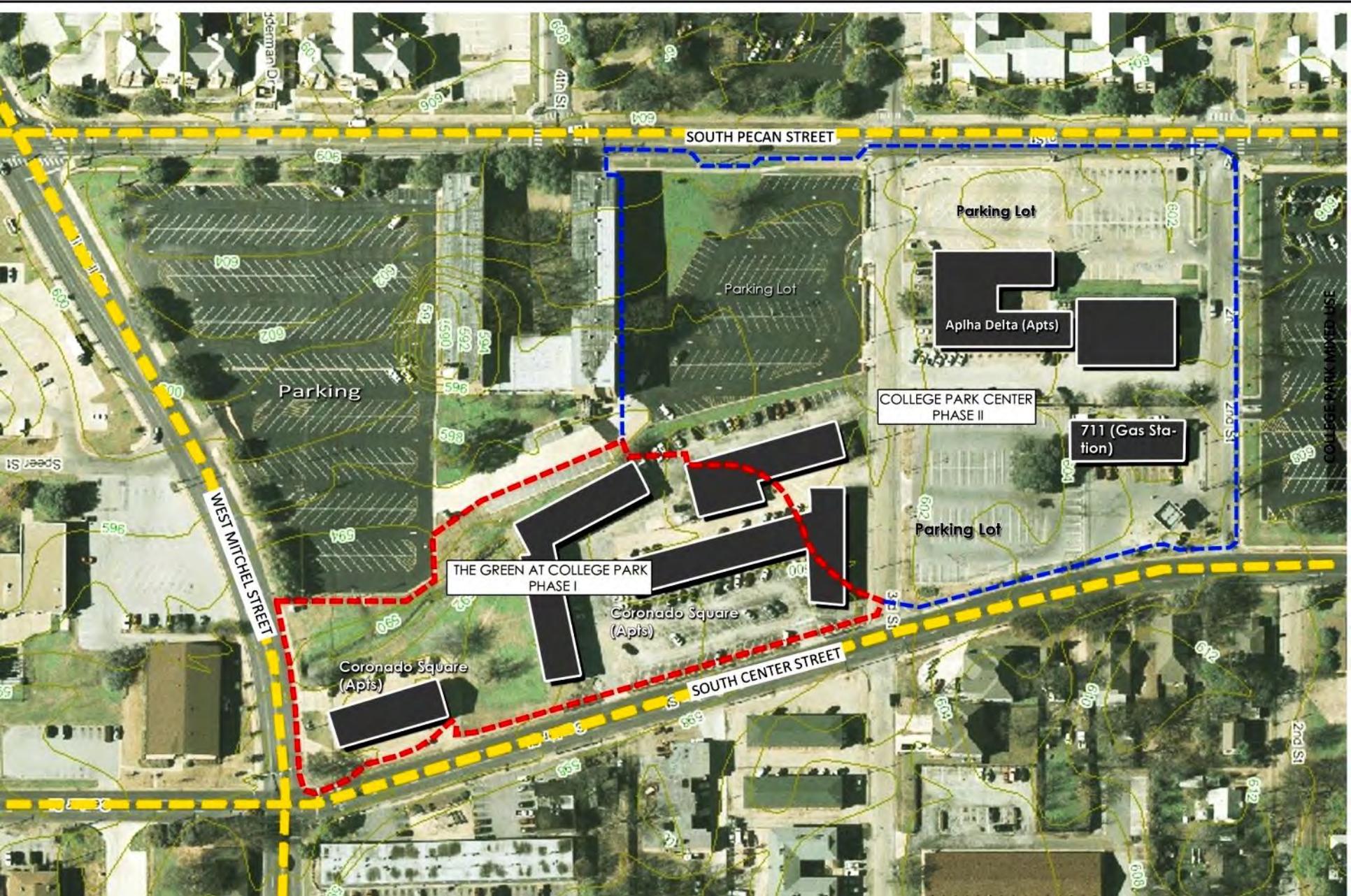
PROJECT ID: **UTA332**

PROJECT ADDRESS:
601 SOUTH PECAN STREET,
ARLINGTON TX 76019, USA

SCALE: NTS

Sheet No:
Credit 2.1

HYDROLOGY MAP



SOUTH PECAN STREET

Parking Lot

Alpha Delta (Apts)

COLLEGE PARK CENTER
PHASE II

711 (Gas Station)

Parking Lot

THE GREEN AT COLLEGE PARK
PHASE I

Coronado Square
(Apts)

Coronado Square
(Apts)

SOUTH CENTER STREET

WEST MITCHEL STREET

COLLEGE PARK PHASE II USE

THE GREEN AT COLLEGE PARK

The University of Texas Arlington



THE GREEN AT COLLEGE PARK

HIERARCHY OF STORM WATER MANAGEMENT

- Priority One – Design the site to be a green sponge
 - Encourage infiltration of storm water into the soil
 - Drain storm water from grey to green
 - Sheet flow storm water across the landscape
 - Reduce impervious surfaces
 - Slow down the flow of water
 - Create micro-depressions in the landscape to capture storm water
 - Amend soil with organic matter to encourage soil to function more like pre-development infiltration rates



THE GREEN AT COLLEGE PARK

The University of Texas Arlington

HIERARCHY OF STORM WATER MANAGEMENT

- Priority Two – Improve quality of storm water
 - Filter water through vegetated areas
 - Filter water through soil
 - Slow down flow of water to allow sediment to settle
 - Select plants that break down pollutants in water
 - Slow down the flow of water
 - Provide a highly organic soil so microorganisms can break down pollutants



Expected Pollutants:

- Sediment,
- heavy metals and
- Petroleum compounds from adjacent parking

BMP's

BMP's:

Rain Planters:

- Designed to store and convey run-off and filter contaminants

Biofilters:

- Located between parking areas and rain garden
- Saw tooth curb added to allow stormwater to drain through biofilters
- biofilters contain native vegetation

Rain Garden:

- connects and flows into the Rain Garden.
- Water infiltrated into the rich planting media in the rain planters flows through the soil into the rain garden.

Oval Lawn:

- During large storm events run-off backs up and is stored in the oval lawn area.
- Drainage across the lawn sheet flows into the Rain Garden.



STORM PLANTER



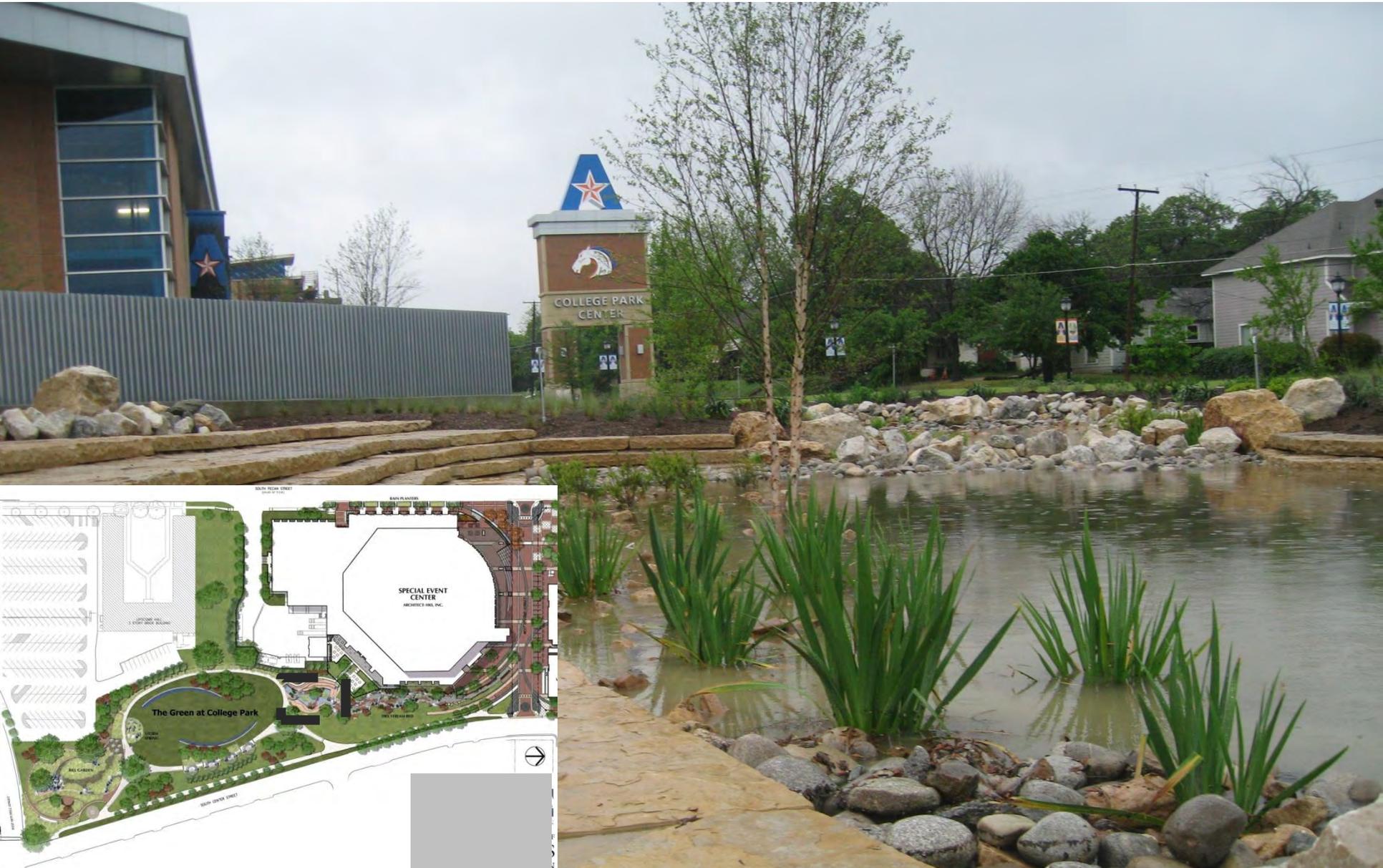
CONDENSATE FOUNTAIN



DRY STREAMBED



RAIN GARDEN

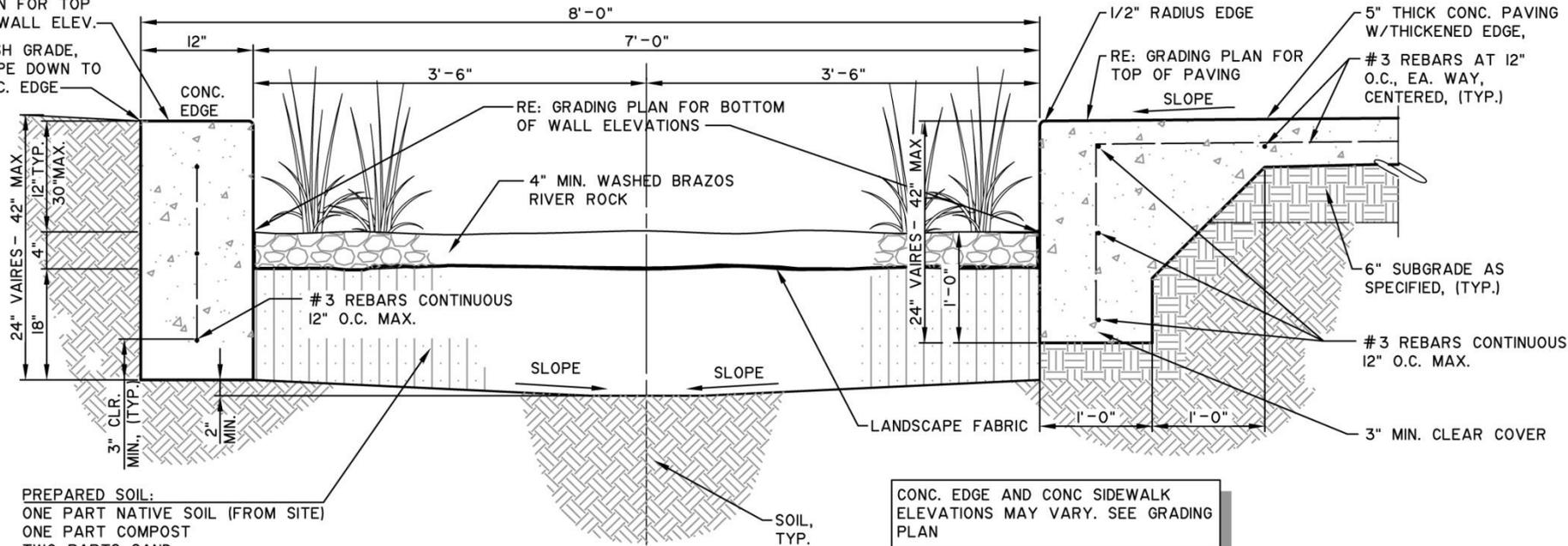


RAIN CHANNEL



RE: GRADING
PLAN FOR TOP
OF WALL ELEV.

FINISH GRADE,
SLOPE DOWN TO
CONC. EDGE



PREPARED SOIL:
ONE PART NATIVE SOIL (FROM SITE)
ONE PART COMPOST
TWO PARTS SAND
ONE PART EXPANDED SHALE

CONC. EDGE AND CONC SIDEWALK
ELEVATIONS MAY VARY. SEE GRADING
PLAN

RAIN PLANTER

SCALE: 1" = 1'-0"

RAIN GARDEN





DETENTION LAWN

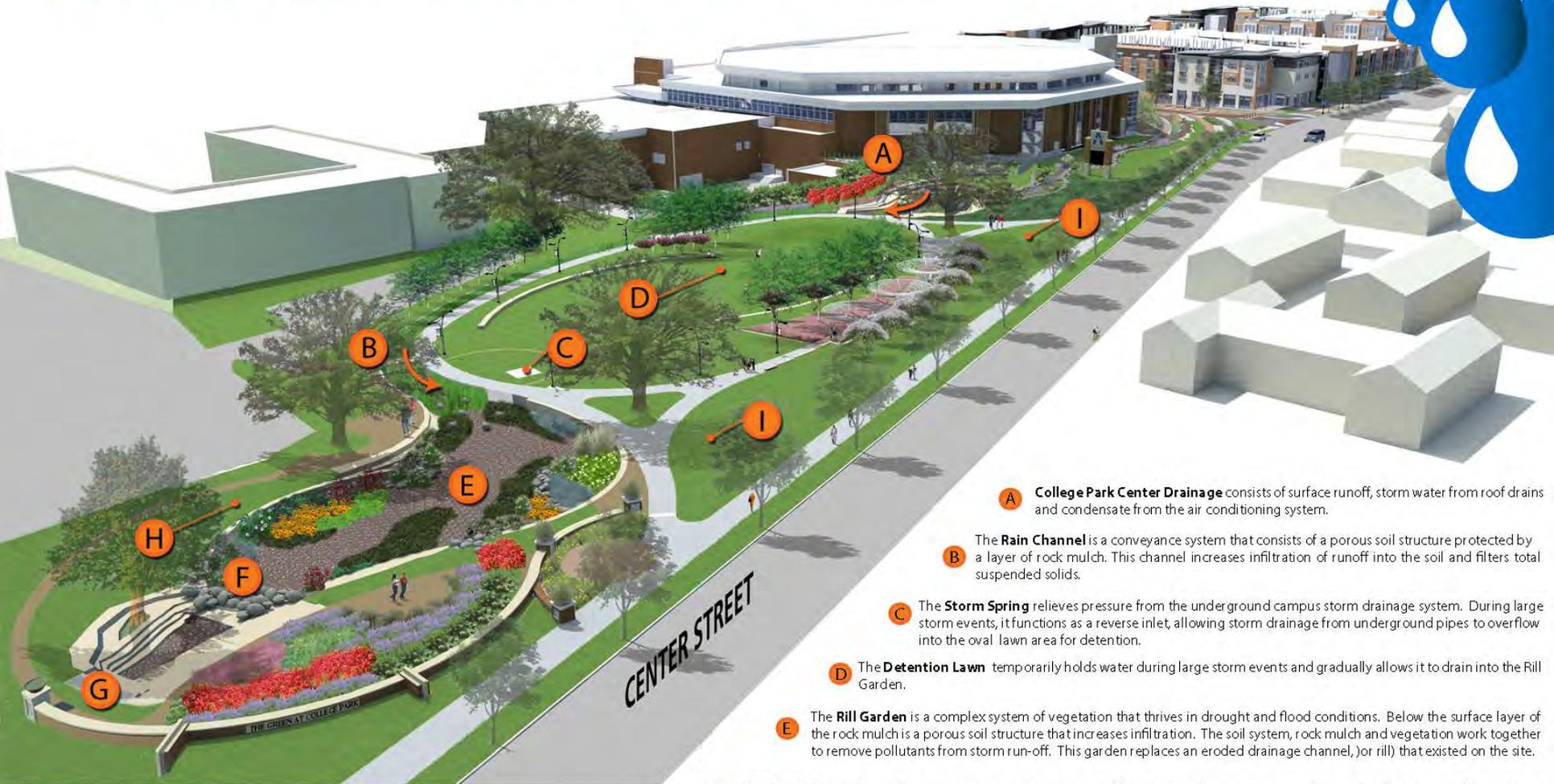




BIO FILTER

OVER FLOW





A **College Park Center Drainage** consists of surface runoff, storm water from roof drains and condensate from the air conditioning system.

B The **Rain Channel** is a conveyance system that consists of a porous soil structure protected by a layer of rock mulch. This channel increases infiltration of runoff into the soil and filters total suspended solids.

C The **Storm Spring** relieves pressure from the underground campus storm drainage system. During large storm events, it functions as a reverse inlet, allowing storm drainage from underground pipes to overflow into the oval lawn area for detention.

D The **Detention Lawn** temporarily holds water during large storm events and gradually allows it to drain into the Rill Garden.

E The **Rill Garden** is a complex system of vegetation that thrives in drought and flood conditions. Below the surface layer of the rock mulch is a porous soil structure that increases infiltration. The soil system, rock mulch and vegetation work together to remove pollutants from storm run-off. This garden replaces an eroded drainage channel, (or rill) that existed on the site.

F The **Check Dam** helps to filter storm water and encourages infiltration by reducing velocity and increasing the amount of time storm water is detained on site.

G The **Overflow Structure** controls the amount of water that leaves the garden and drains to Johnson Creek. The controlled release also alleviates potential flooding of adjacent streets.

H The **Biofilter** is a vegetated system that removes total suspended solids from parking lot run-off before eventually draining into the rill garden.

I The **Microdepressions** are shallow depressions in the landscape that are sculpted to retain irrigation and storm runoff. Below the depressions are large rock sumps that store water and release it into the soil to be used by surrounding vegetation. Planted in the shallow areas are native plants that grow in wet soil conditions.

ADDITIONAL INFORMATION:



SIMPLE ADJUSTMENTS TO ACHIEVE SUSTAINABILITY

LIMIT TURF PLANTING

- More than 50% of municipal water use goes to irrigate residential lawns

USE THE SOIL AS A WATER BANK

PLANT NATIVE GRASSES AND PERENNIALS

IMPROVE ORGANIC CONTENT OF SOIL

DRAIN FROM GREY TO GREEN





Questions



THE SUSTAINABLE SITES INITIATIVE

*"The Sustainable Sites Initiative™ (SITES™) is an **interdisciplinary effort** by the American Society of Landscape Architects, the Lady Bird Johnson Wildflower Center at The University of Texas at Austin and the United States Botanic Garden to create **voluntary national guidelines and performance benchmarks for sustainable land design, construction and maintenance practices**"*

www.sustainable sites.org



SITES vs. LEED

- SITES – Sustainable Sites Initiative (SITES)
 - **Site based**
 - Certification is on a 1,2,3,4 Star rating system
 - Just finished the pilot program phase
 - Only one form of SITES is available
 - 2009 Guidelines & Performance Benchmarks
- LEED – Leadership in Energy and Environmental Design
 - **Building Based**
 - Certification is on a Silver, Gold & Platinum rating system
 - Is an established rating system
 - Is available in several forms

SITES PILOT PROGRAM



- Mixed Use
- Transportation corridors/Streetscape
- Commercial
- Open space - Garden/Arboretum
- Institutional/Educational
- Residential
- Open space - Park
- Governmental complex
- Industrial

SITES CERTIFICATIONS



Novus Headquarters
St Charles, MI



The Green At College Park
Arlington, TX



Woodland Discovery Playground
Memphis, TN