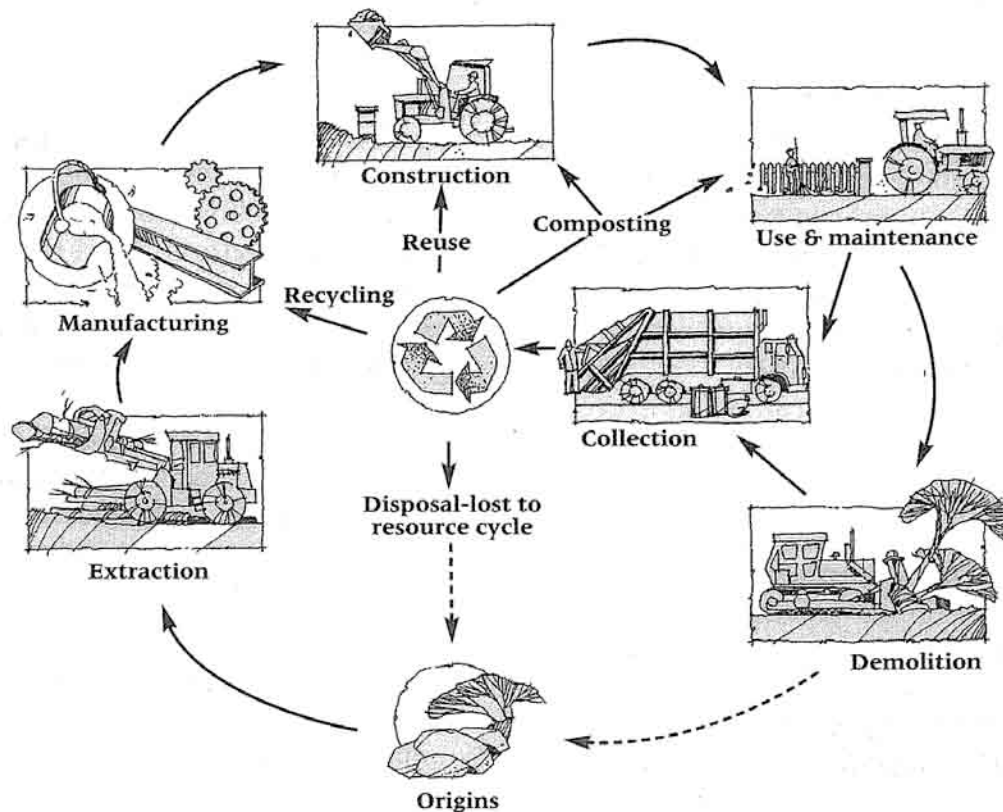


SYME HALL

RAIN

GARDEN

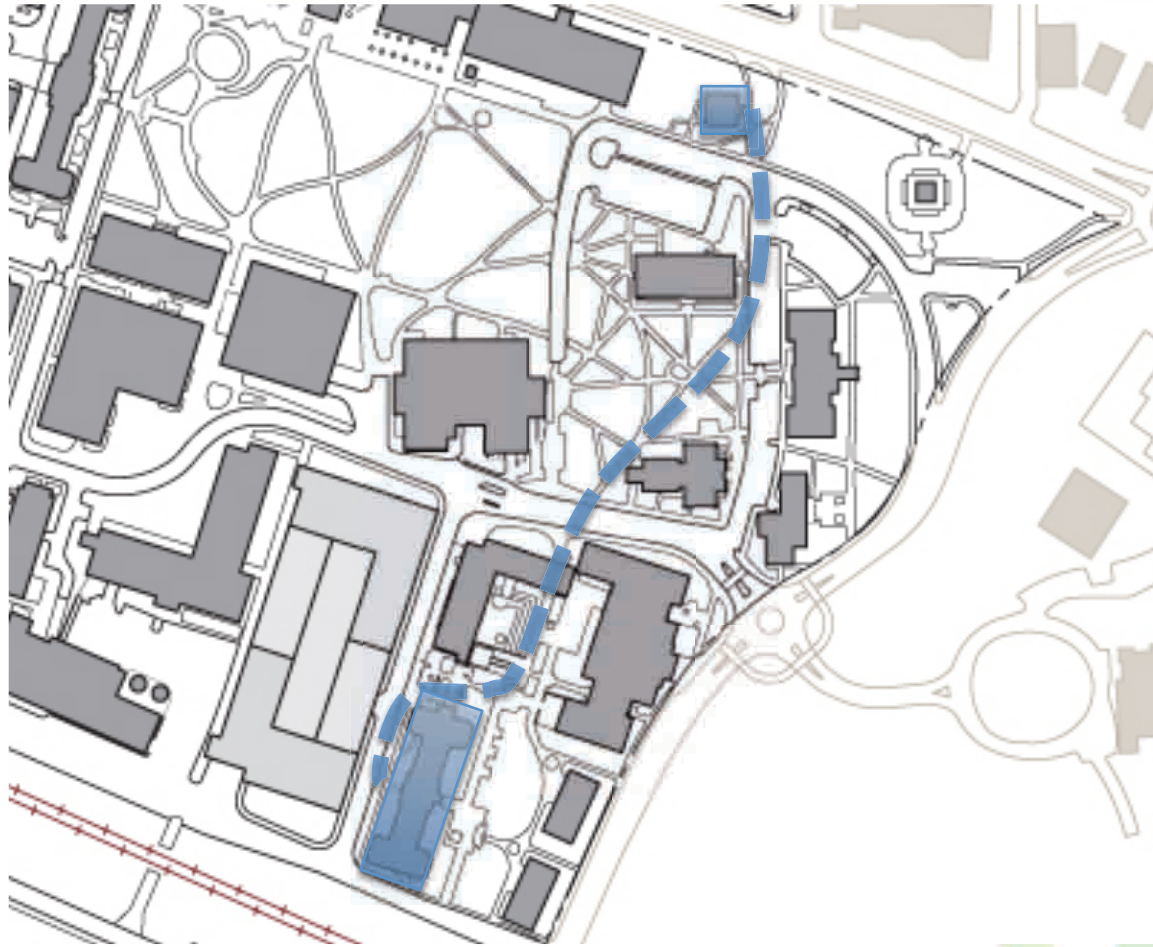
Building Great Places Through Low Impact Development (LID)



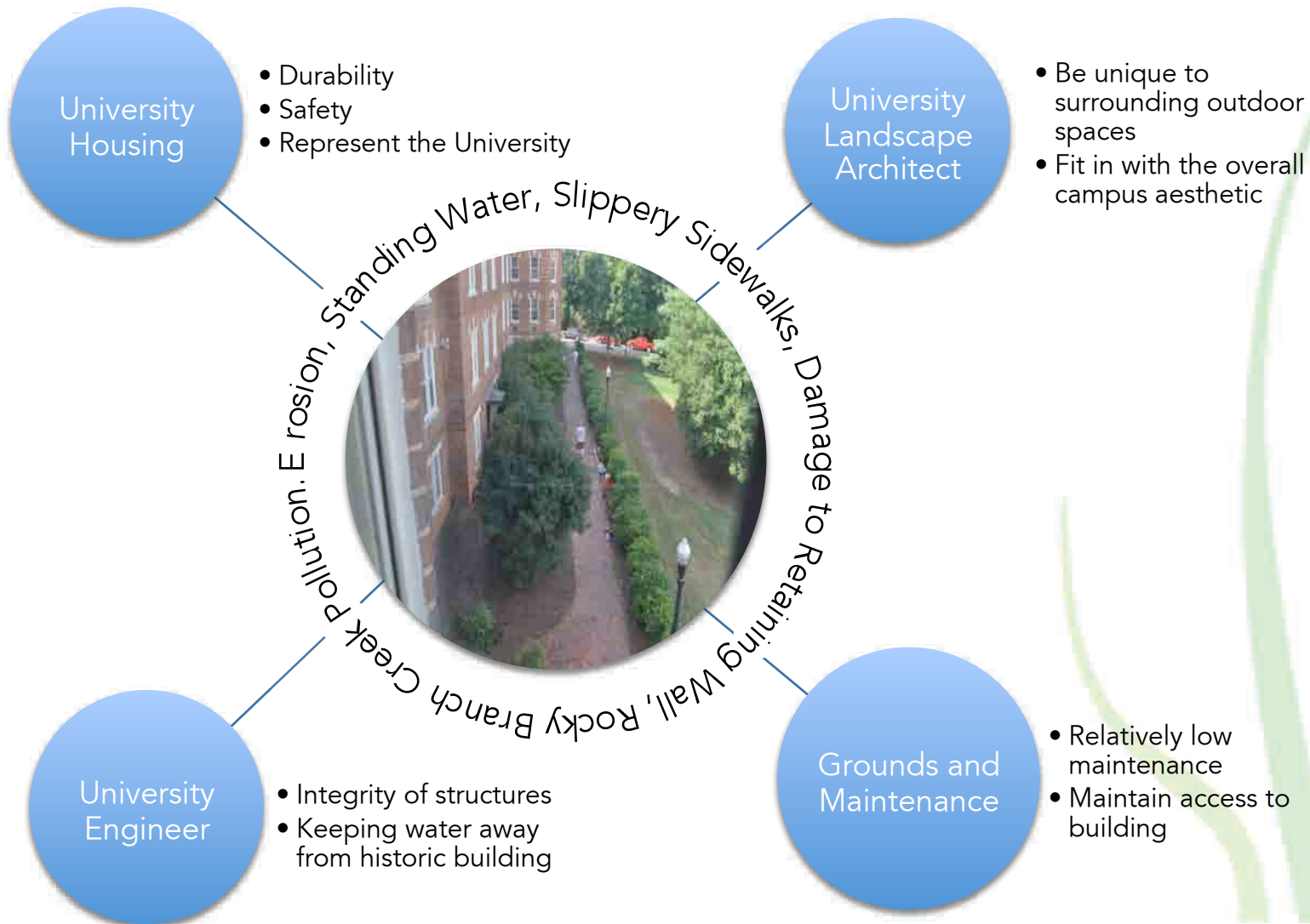
Graphic Source:
Thompson & Sorvig, 2000

- Building Better Sites
 - Context Sensitive Design
 - Program / Users / Environment / Materiality / Maintenance
 - Integrated Design
 - Building / Site / Infrastructure
 - Living Systems Design
 - Soils / Hydrology / Flora / Fauna
 - Water Quality + Quantity
 - Capture / Convey / Release
 - Best Management Practices
 - Amended soils / Treatment chain / Bio-infiltration / Water-wise plants
 - Life-Cycle Assessment
 - Cost / Durability / Maintainability
 - Reuse + Repurpose
 - Water / Recycled Materials
 - Leading-edge Methods
 - Engagement / Design / Engineering / Materials / Fabrication / Installation

You are here



Stakeholders – Starting with the client



Sustainability Integrated With Client Needs



- Safety, Health + Welfare
- Beautification
- Usability

Team Development

- *Site Grading + Layout*, Barry Duncil
- *Detail Development*, Nathan Bass
- *Procurement + Logistics*, Matt Evans
- *Planting*, Sarah Elsaesser
- *Signage + Marketing*, Melissa Miklus





Materials + Logistics

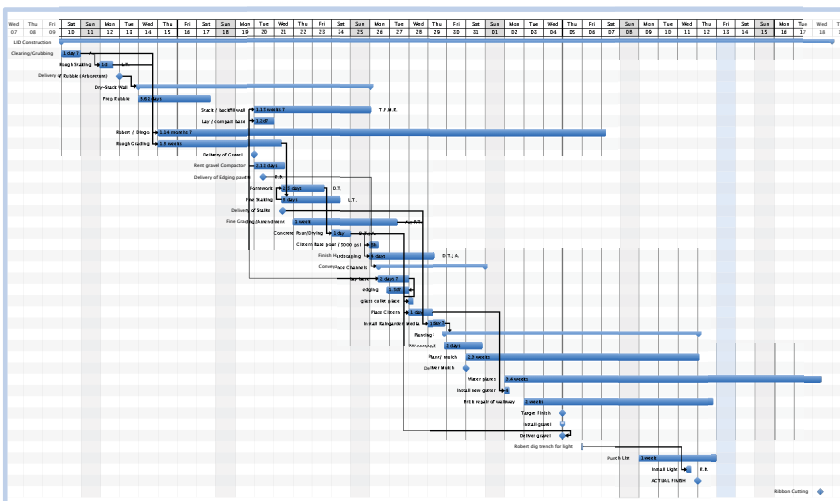
FINAL DESIGN - LID STUDIO SUMMER 2010
Estimates of Probable Cost

TAX ID# 400021

HARDSCAPES	DESCRIPTION	QUANTITY	UNIT	PRICE per UNIT	TOTAL ESTIMATE	SUPPLIER	PURCHASED BY	TOTAL PAID
Conveyance channels	71 LF x 1.5'W x 2" thick compacted	Crushed Agg - ABC approx 1.7 CY per ton	1	CY	\$30.00	Triangle Landscape Supply		
Total for project	Glass Agg. Concrete pavers	4 ton = .5 CY 150 LF		\$200.00 \$0.00	\$800.00 \$0.00	Strategic Materials NCSU		
for concrete separators	80# bag of concrete	0	1 80# bag	\$5.00	\$0.00	Lowes		
Reinforced cover	Concrete 300psi Fly Ash 20% Concrete Delivery	1.3 CY 1		\$125.00 \$100.00	\$162.50 (\$100 for Res)	Thomas Concrete: 5yd = free delivery 1 day	Matt E. 7-22, full order	\$415.50
	Render Board	5	boards	\$60.00	\$300.00		14-Jul Nate	\$185.40
	Wood Form	1	Free	\$0.00	\$0.00			
	Tie wire	1	roll = 300'	\$3.80	\$3.80	Guaranteed Supply	NATE - 19-Jul Supply Run	\$137.75
	stakes	100	EA	\$0.35	\$35.00	Guaranteed Supply	Andy hardware run	\$54.00
50 SF X 4" BASE	#3 rebar	4	EA = 20'	\$3.95	\$15.80	Guaranteed Supply		
	ABC Crushed Agg.	1	CY	\$12.50	\$12.50	Wake Stone	Matt 7-20	
	Jax's	1		\$4.00	\$4.00	Lowes		
	Nails	1	5 lb box	\$10.00	\$10.00	Guaranteed Supply		
	Screws	1	box	\$10.00	\$10.00	Guaranteed Supply		
	Caulk - Silicone outdoor	2	tubes	\$7.00	\$14.00	Lowes		
31 SF x 4" Retaining Wall	Glass Agg.	0	ton	\$200.00	\$0.00		4 CY	
90 LF x 2' T	Concrete Rubble	425	LF	\$0.00	\$0.00	City of Raleigh		
90 LF x 2.5' w x 6" compacted	Crushed Ag - Base ABC: 1.7 CY to ton	2.75	CY	\$12.50	\$34.38	Wake Stone	delivery?	
65 LF x 2' Filter Fabric - commercial landscape fabric		65	SY	\$0.65	\$42.25	Atlantic soil & mulch	Matt 7-20	\$42.50
	Stonc Fines	1	YD	\$30.00	\$30.00	Atlantic soil & mulch	Matt 7-20	\$30.00

Project Budget:

- Source Materials
- Coordination of Purchasing and Delivery of Materials
- Projected Costs vs. Actual Costs



Project Timeline:

- Projecting Duration and Necessary Resources for Each Phase of the Project
- Coordinating Resources: People, Tools, Materials, Money
- Projecting Critical Path of Project
- Coordinating Purchase of Materials with Phases of Project Development

Typical Day

So...

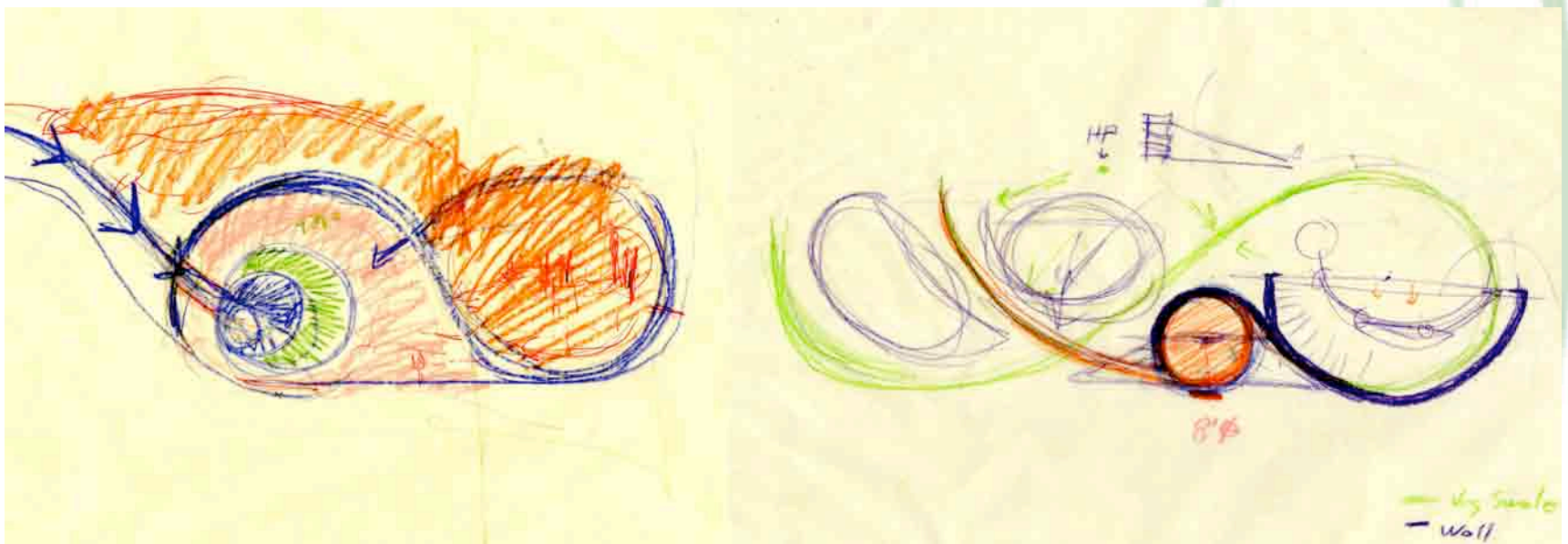
An engineer... A landscape architect... An administrator... A grounds manager...



Confused graduate student...

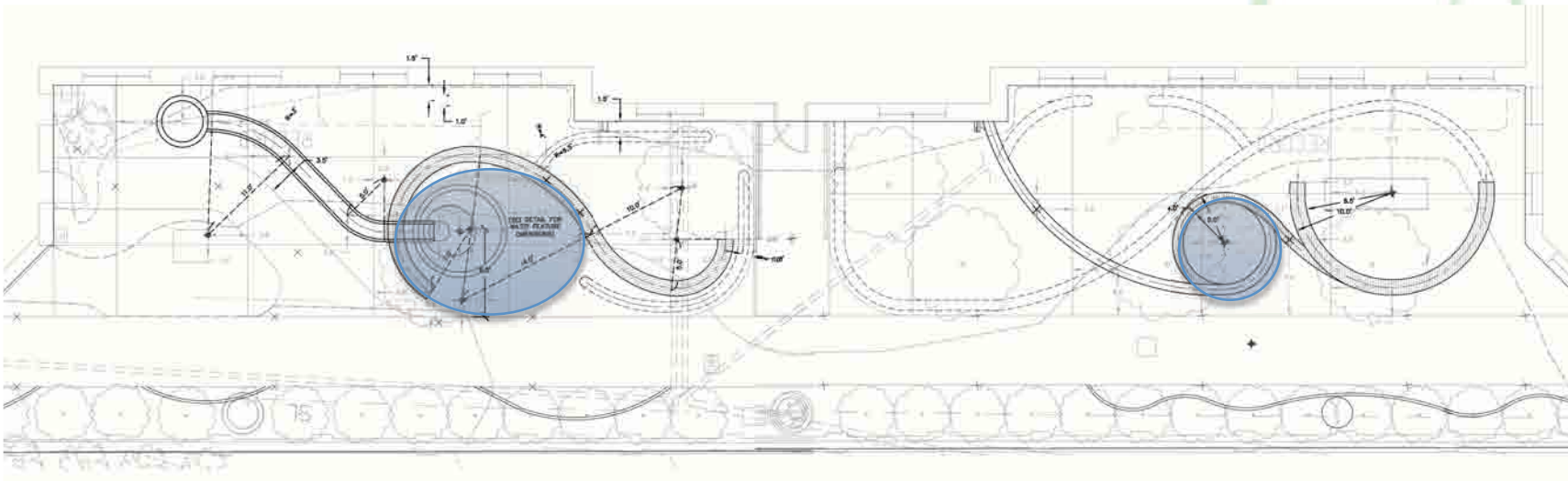
Grading + Layout

- Sketches to understand the bones of the design
- Path and flow of water
- Structures such as dry-stack walls and runnels



Grading + Layout

- Technical documents for reference in the field
- Measure, measure, measure
- Rain gardens and walls = priority



Grading + Layout



Grading + Layout

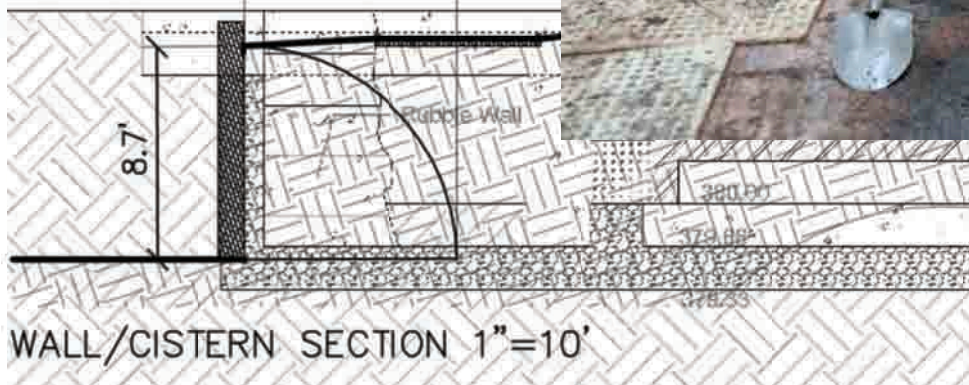


Grading + Layout



Detail Design + Implementation

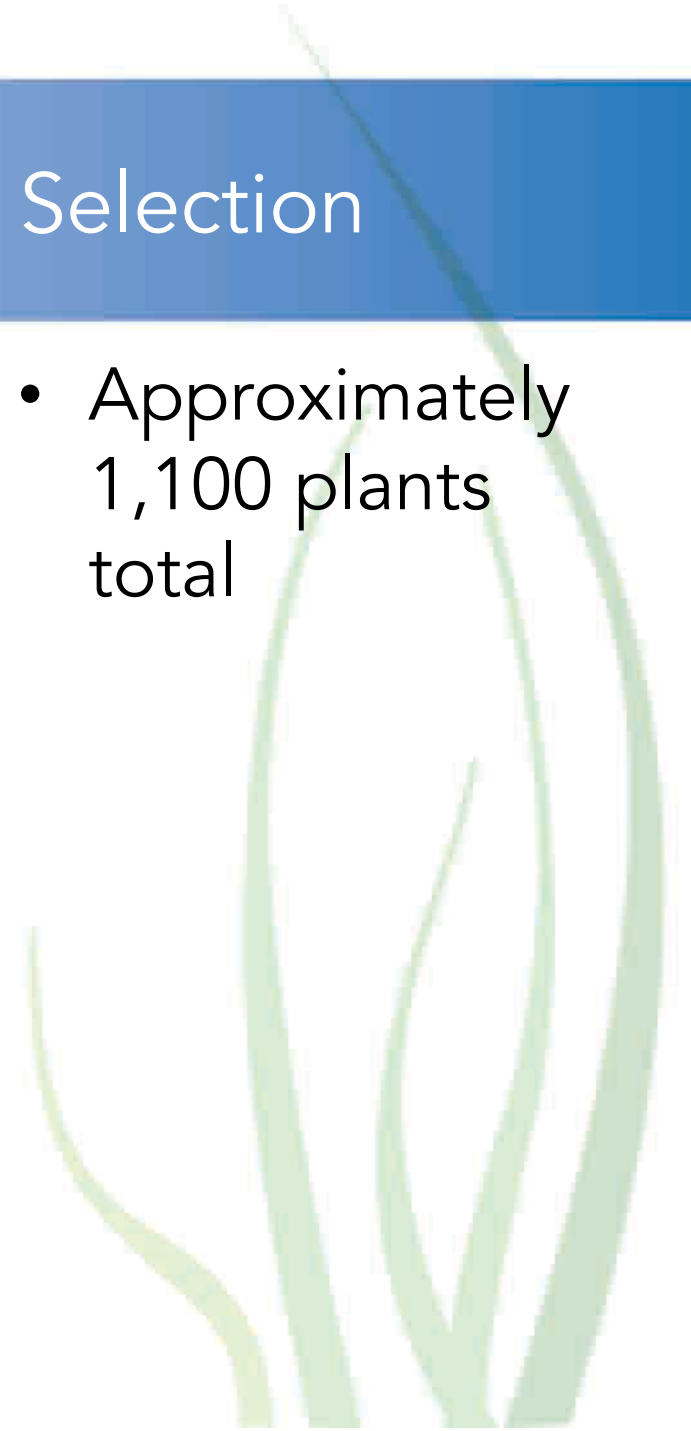
- Detail elements
 - Concrete cistern base
 - CIP wall + Infiltration basin
 - Forming Process
 - Conveyance channels



Plant Design + Selection



- Approximately 1,100 plants total



Education + Experience: Signage

- Appropriate for the design
- Durable
- Educate
- Step away from the norm



MATERIAL TEXTURE
COLOR IMPACT MESSAGE
BRAND SHAPE
EDUCATION SIZES PLACEMENT



The Experience





Marketing: Promotion

NC State News

SHIFTNCSU.wordpress.com

NORTH CAROLINA STATE UNIVERSITY | FIND PEOPLE | LIBRARIES | NEWS | CALENDAR | MYPACK PORTAL | GIVING | CAMPUS MAP

BULLETIN

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Grassroots Education

08.03.2010 | Filed Under: Academics, Bulletin
Home, Campus, Features



- TWITTER
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When Andrew Fox surveyed the grounds behind Syme Residence Hall this spring, he saw a landscape in distress.

"It was basically denuded of plants," he says. "When it rained, it got squishy nasty."

But he was concerned by more than just the threat of muddy footwear. As an assistant professor of landscape architecture, Fox recognized an even more serious problem caused by poor landscaping. Rainwater was carrying sediment – along with pollutants – down a brick walkway and directly into the storm water system that connects to the newly restored Rocky Branch Creek.

Not good.

So Fox applied for and received a grant from the Provost's Office to harness the design power – and muscle – of his grad students to find a sustainable solution to the problem.



Assistant Professor Andrew Fox gets his hands dirty cleaning up the landscaping behind Syme

Bulletin Updates

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Story Highlights

- Graduate students in landscape architecture designed and built a rain garden behind Syme Residence Hall to filter rainwater.
- The summer project was the first design/build studio ever offered in landscape architecture at NC State.
- The Provost's Office provided funding for the project through a grant.

Digging Deeper

Curiosity piqued? Use these links to dive in and learn more about what's happening at NC State.

- Department of Landscape Architecture
- Rain Garden Manual (PDF)

Related Features

Gerler Wins Counselor Education Award
Dr. Edwin Gerler received Pennsylvania State University's Counselor



NCSU Landscape Architecture Student Blog | Home | Contact Us | Meeting Minutes | Student Gallery | 2010 Department Awards

Day 15 : Summer LID Stormwater Studio

AUGUST 11, 2010

by davevims

tags: Summer LID Stormwater Studio

Summer LID Stormwater Design Build Studio

The soil preparations, as well as a few more details with the conveyance channels were finished up to get ready for planting day.



LEAVE A COMMENT

from → Experience

Lecture 8/12 : Hit, Run, and Broadcast: The New Wave of Artistic Interventions in Public Space



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- Day 14 : Summer LID Stormwater Studio
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- Day 12 : Summer LID Stormwater Studio

- LAND8LOUNGE

The screenshot shows the Land8Lounge website interface. At the top, there are navigation links for 'Sign Up', 'Sign In', and 'Search The Lounge'. The main header features the 'Land8Lounge' logo and the tagline 'THE PREMIER SOCIAL NETWORK FOR LANDSCAPE ARCHITECTS'. Below the header is a navigation menu with categories like 'The Lounge', 'My Folio', 'Gallery', 'Videos', 'Forum', 'Events', 'Groups', 'Links', 'Firms', and 'Jobs'. The main content area displays a blog post titled 'NCSU Students Complete Stormwater LID Design Build Project - Check it out!' with a rating of 5 stars and a post date of August 5, 2010. The post includes a photograph of a circular concrete structure under construction and a portrait of a man wearing a blue cap and sunglasses. The text of the post describes the project's goals and the design process.

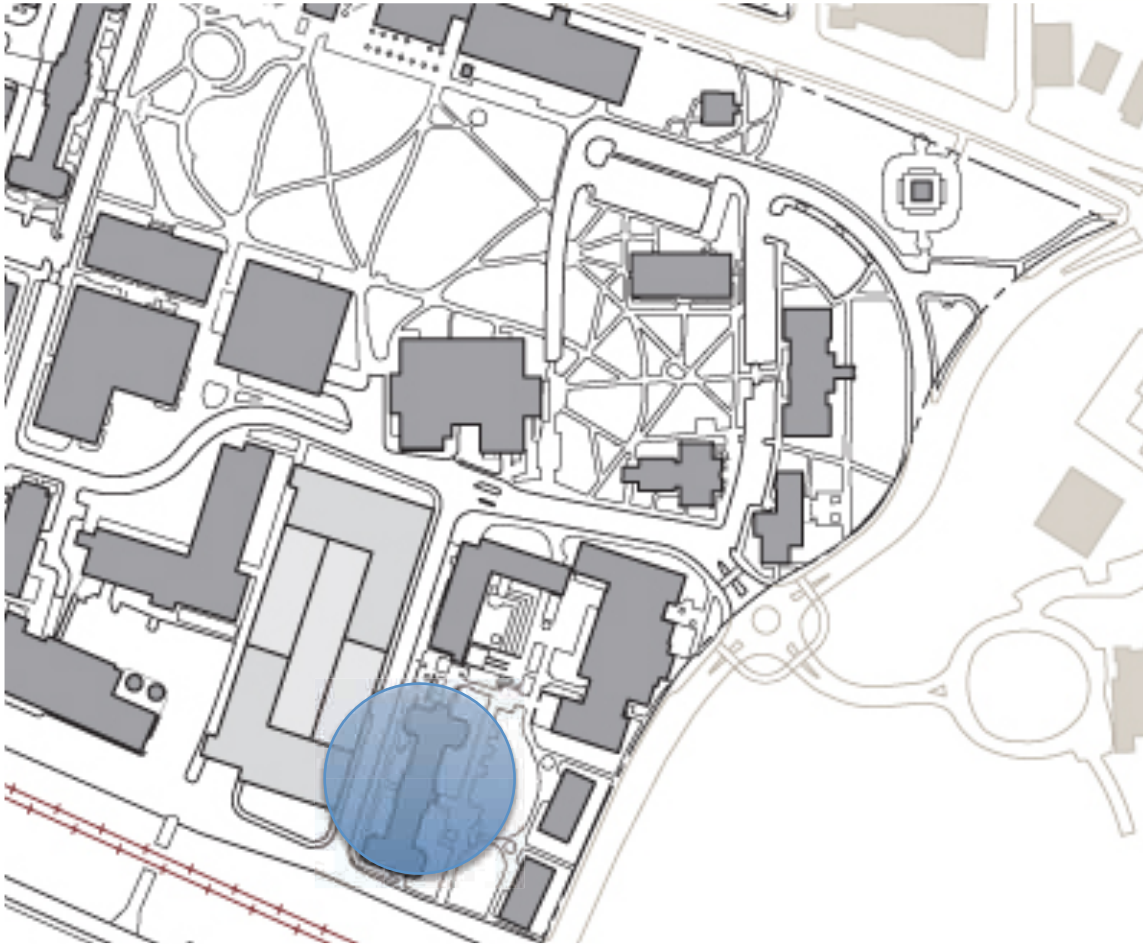
Professor Fox,
Bravo, this is an important step in what
Landscape Architecture should be about. What
better way to learn than to do it. In the words of
Yoda, "do or do not there is no try"
Bravo again, what a great project!
-Angelo Abbate, Professor Emeritus
NCSU, SOD, Dept of LA 1977-2006

Great project. I wish I could be present for the
ribbon cutting at my classmate Bob Burns
Auditorium in our Dean Henry's Hall. I dorned at
the Syme 54 years ago. Congratulations.
-Nomeriano Son, Design '57

I hope someone could give more pictures about
this project. I really like rain garden. The Low
Impact Development strategy is great for urban
stormwater treatment and landscape design.
-Oliver Chu

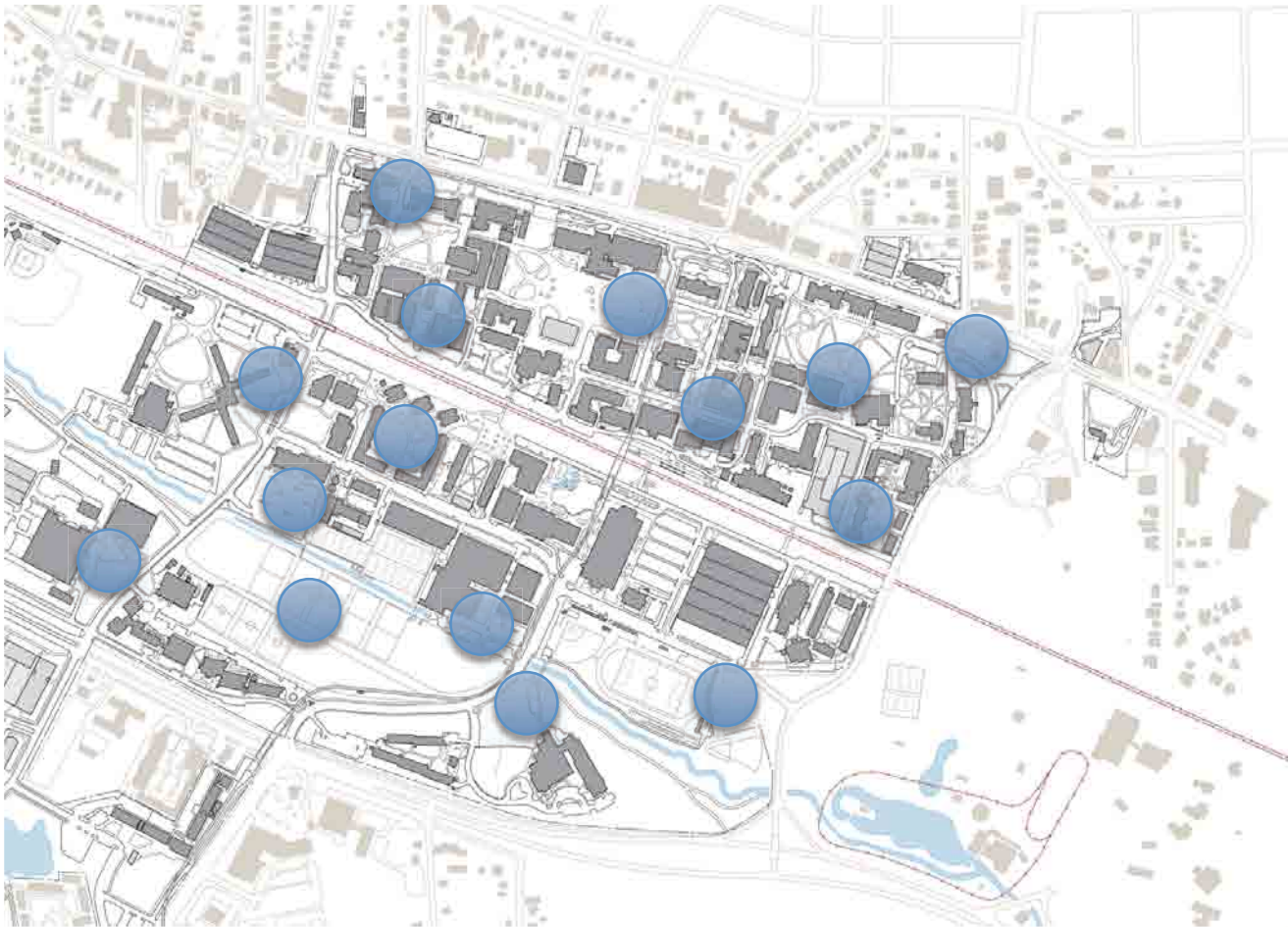
Yea, would have been awesome to do a design/
build in school!!!! Awesome, and wondering
about pictures of the finished product too!!!
-Mark Sanford

Syme Residential Hall



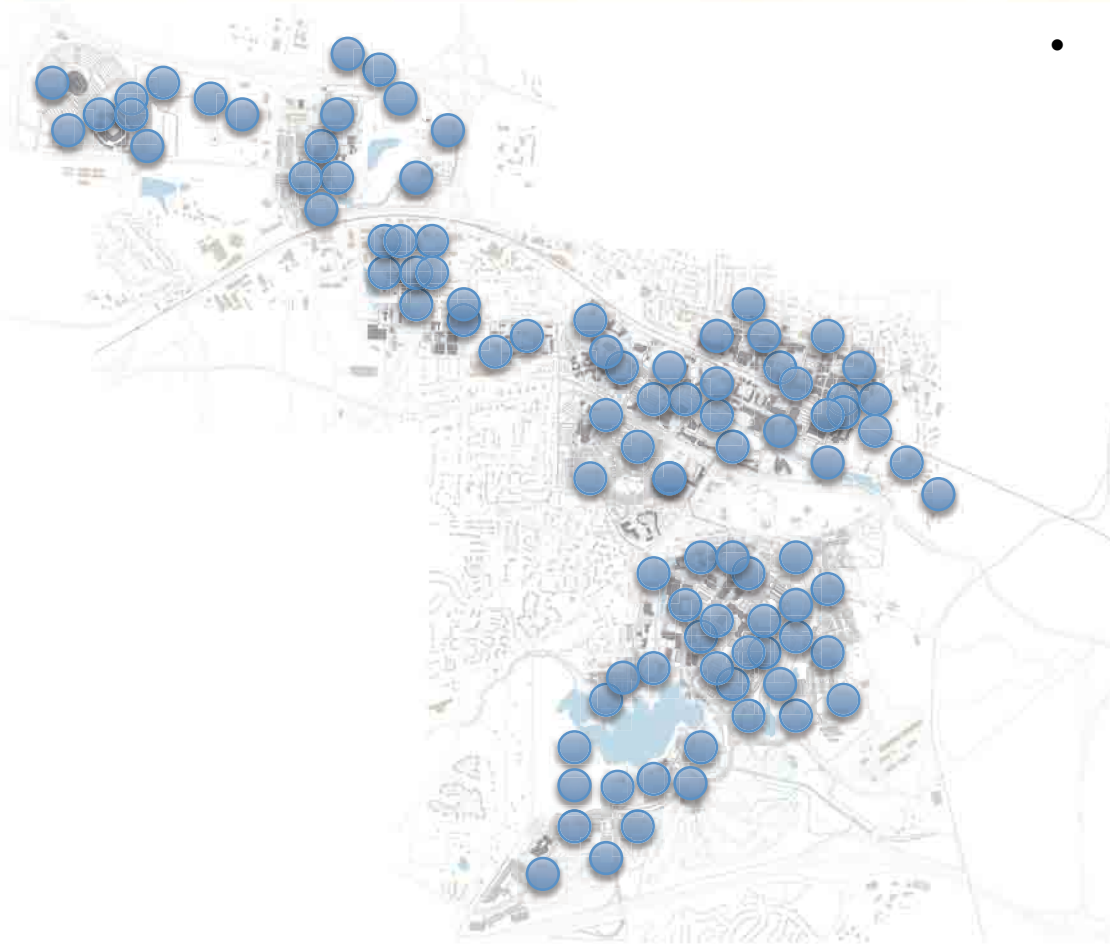
- Model for:
 - Campus as laboratory
 - Innovative learning
 - Future collaboration across disciplines
 - Research

North Campus Area



- Beyond Landscape Architecture
- Beyond Housing

Entire Campus!



- Twelve Guiding Principles of the Physical Master Plan
 - Commitment to the Master Planning Process
 - Sustainability
 - Integration of Academic, Programmatic and Physical Planning
 - Human-Scaled Campus Neighborhoods and Paths
 - Design Harmony
 - Mixed-Use Activities
 - Visible Neighborhood Activities
 - Universal Design
 - Effective Movement for a Pedestrian-Oriented Campus
 - City Context
 - Campus Safety
 - Hallowed Places



Making It Possible, A Special Thank You

NC STATE

- Cindy DeLuca
- Pete Fraccaroli
- Lisa LaBarbera
- Aris Mosier
- Jordan Luzader
- Terry Todd
- Burl Smith
- Ryan Givens
- Rick DeSilva
- Erik Hall
- Luby Lane
- Cliff Wallace
- Terry Price
- Ed Levy
- Tom Skolnicki
- Robert Bradley
- Janice Wong
- Dottie Haynes
- Michael Rodrigues

VENDORS

- ADR Hydro-Cut, Inc.
- Carolina Stalite Company
- The City of Raleigh
- Currin's Nursery
- Hoffman's Nursery
- Panther Creek Nursery
- Pender Nursery
- Powder Coat USA, Inc.
- Rainwater Solutions, Inc.
- Taylor's Nursery
- Trees Across Raleigh (Cindy + Art Rice)

Questions

