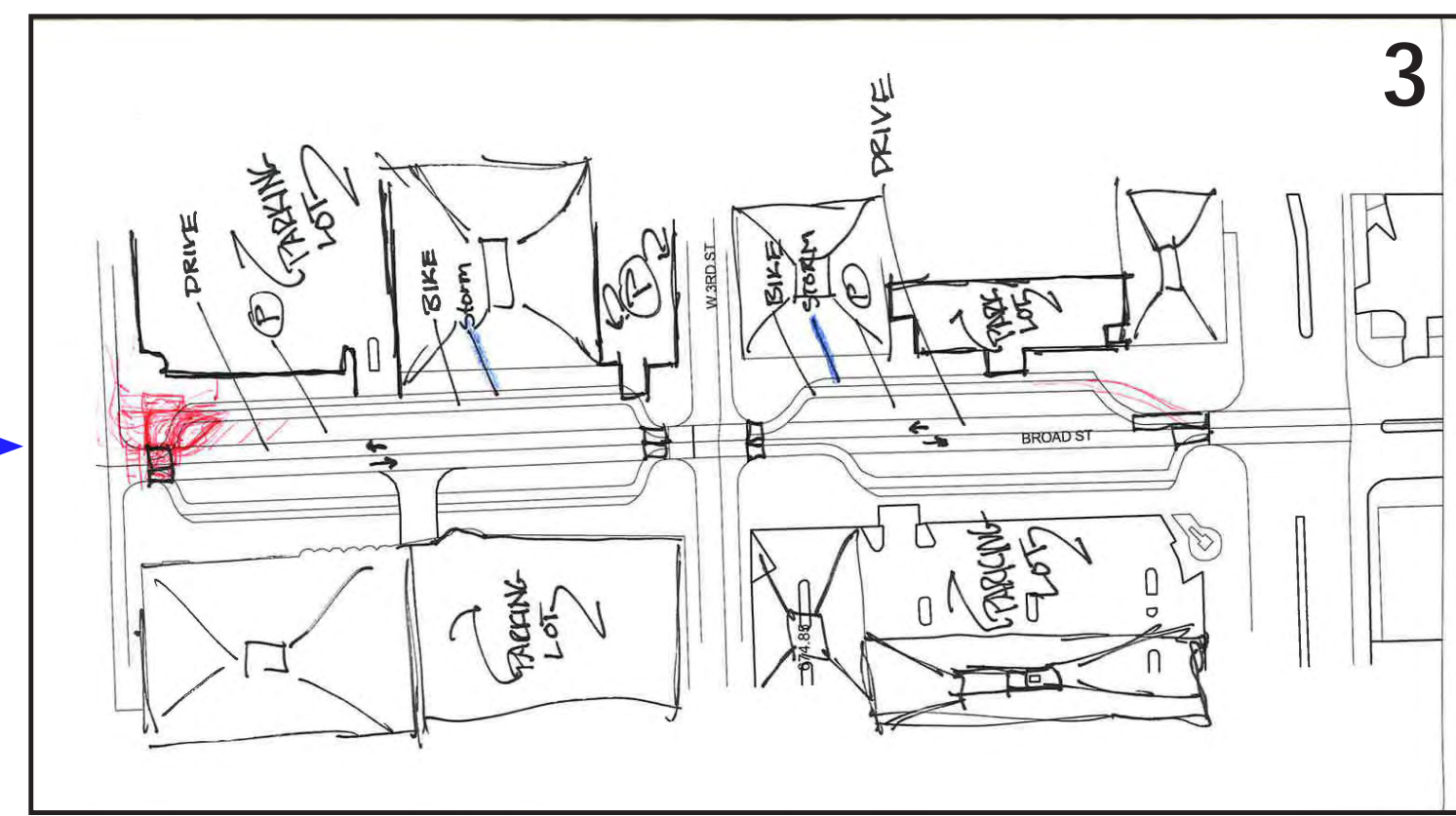
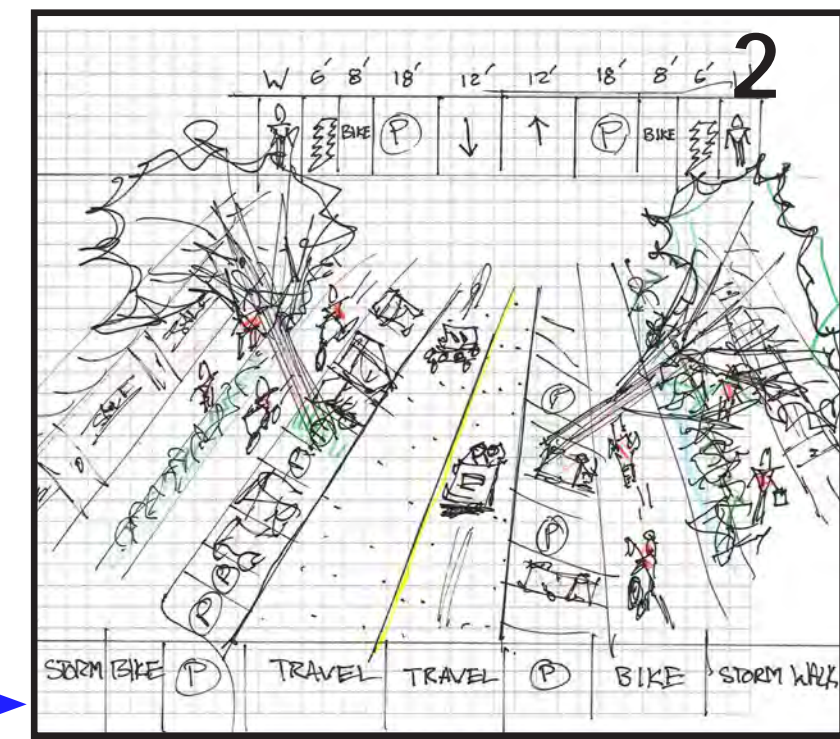
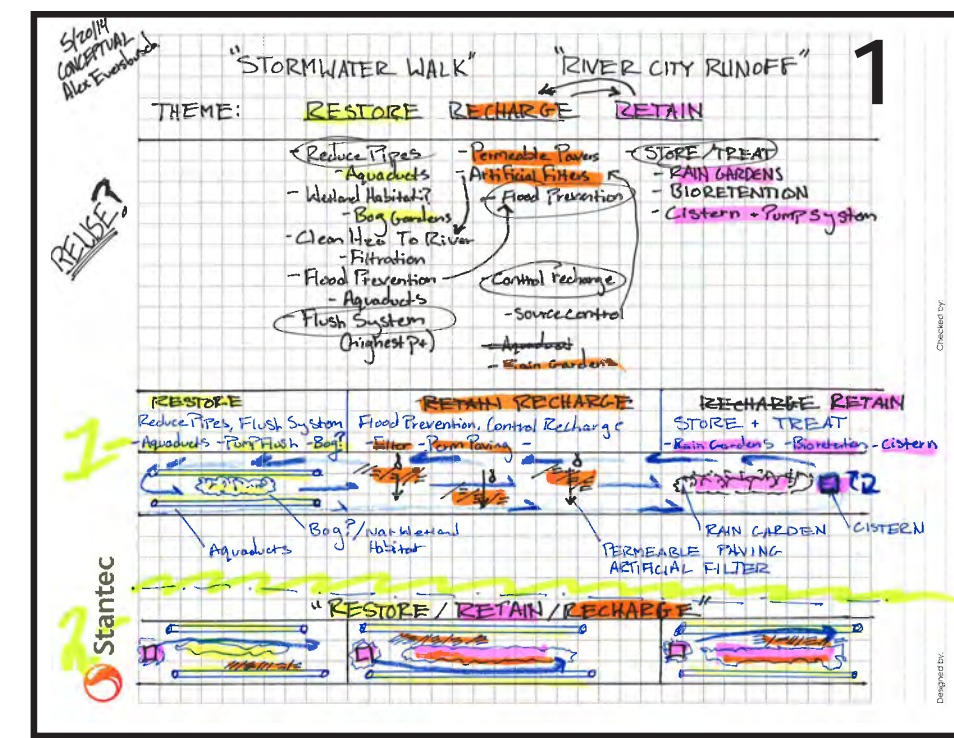


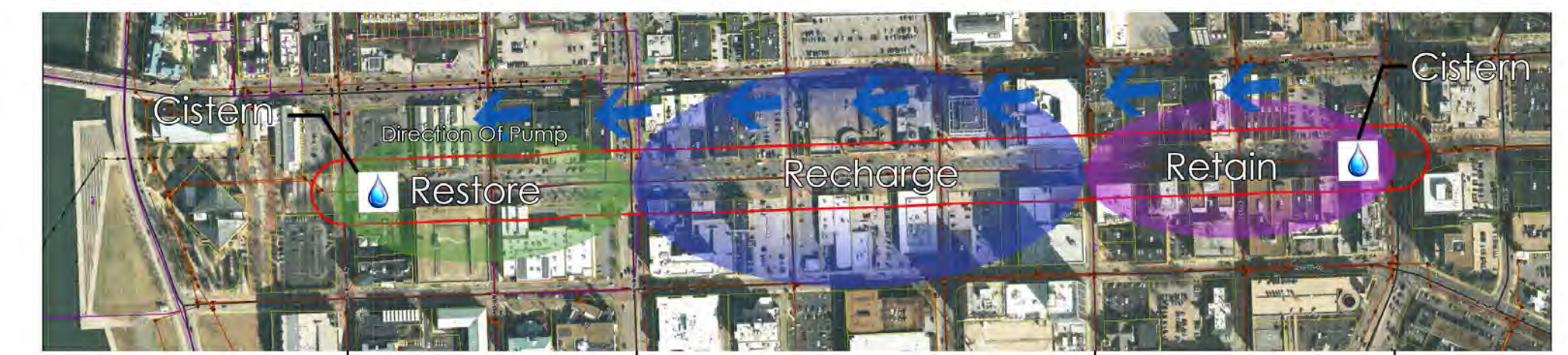
Scenic City STORM WATER

Master Plan

The Process



The Vision



Downtown Chattanooga – Broad St. "Scenic City Stormwater"

Theme: "Restore" "Recharge" "Retain"

Restore: The restoration of the watershed, its natural drainage, and its capacity to withstand excess rainwater in the event of flooding will set the stage for successful stormwater management.

- Minimize Flooding on Site – promote natural drainage
- Flush Sewer System – reduce standing waste in watershed
- Return Clean H2O to River – benefit/restore surrounding ecosystem

Key Elements: Aqueducts, Pump System, Artificial Filtration

Recharge: The return of pollution-free stormwater to the ground at a controlled rate using both mechanical and bio-filtration methods. This will also mitigate flooding, and benefit the water table and ecosystems on and around the site.

- replace impermeable surface with permeable surfaces
- Source Control – prevent hazardous materials from infiltrating the ground

Key Elements: Permeable Pavers, Artificial Filtration, Flow-Through Planters

Retain: Storing and treating stormwater for reuse using bio retention and mechanical retention methods. This will benefit the site's ecosystem and the people living and working in it.

- Treat stormwater before returning it to the sanitary sewer system
- Use stormwater to nourish vegetation in the area, and contribute to the visual appeal of the site
- Store water onsite, allowing for a backup pump system to flush the sewers or irrigate vegetation in dry season

Key Elements: Cistern, Rain Gardens / Bio Swales

Restore	Recharge	Retain
Aqueducts	Permeable Pavers	Cistern
Pump System	Artificial Filtration	Rain Gardens/ Bio Swales
Artificial Filtration (AquaShield Bio-Filter)	Flow-Through Planters	

Chattanooga, TN Broad Street Stormwater Management Study May 2014 Sht 1

RESTORE

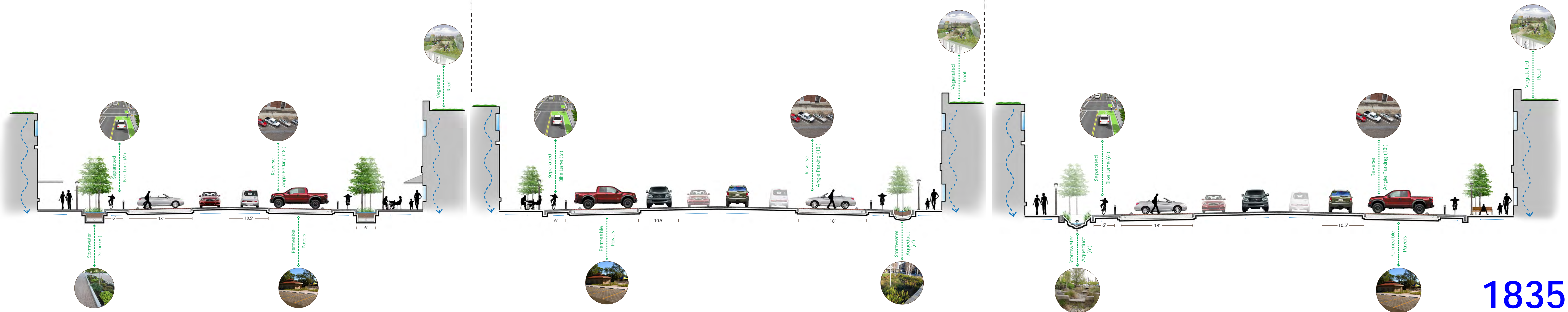
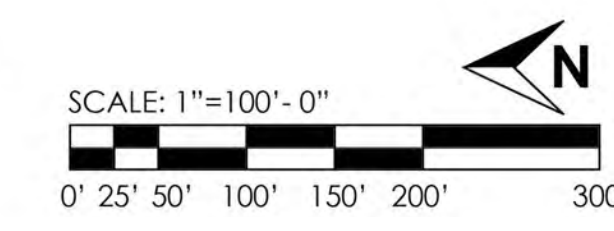
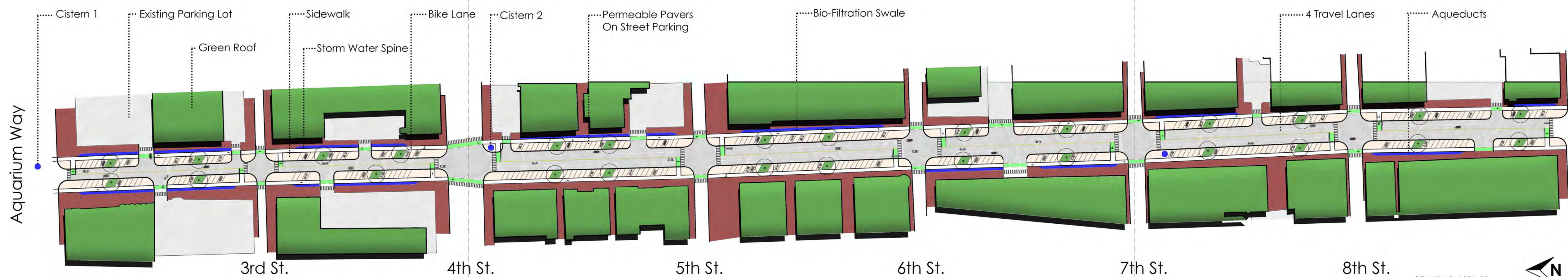
Aquarium Way - 4th Street

RECHARGE

4th St - 7th St

RETAIN

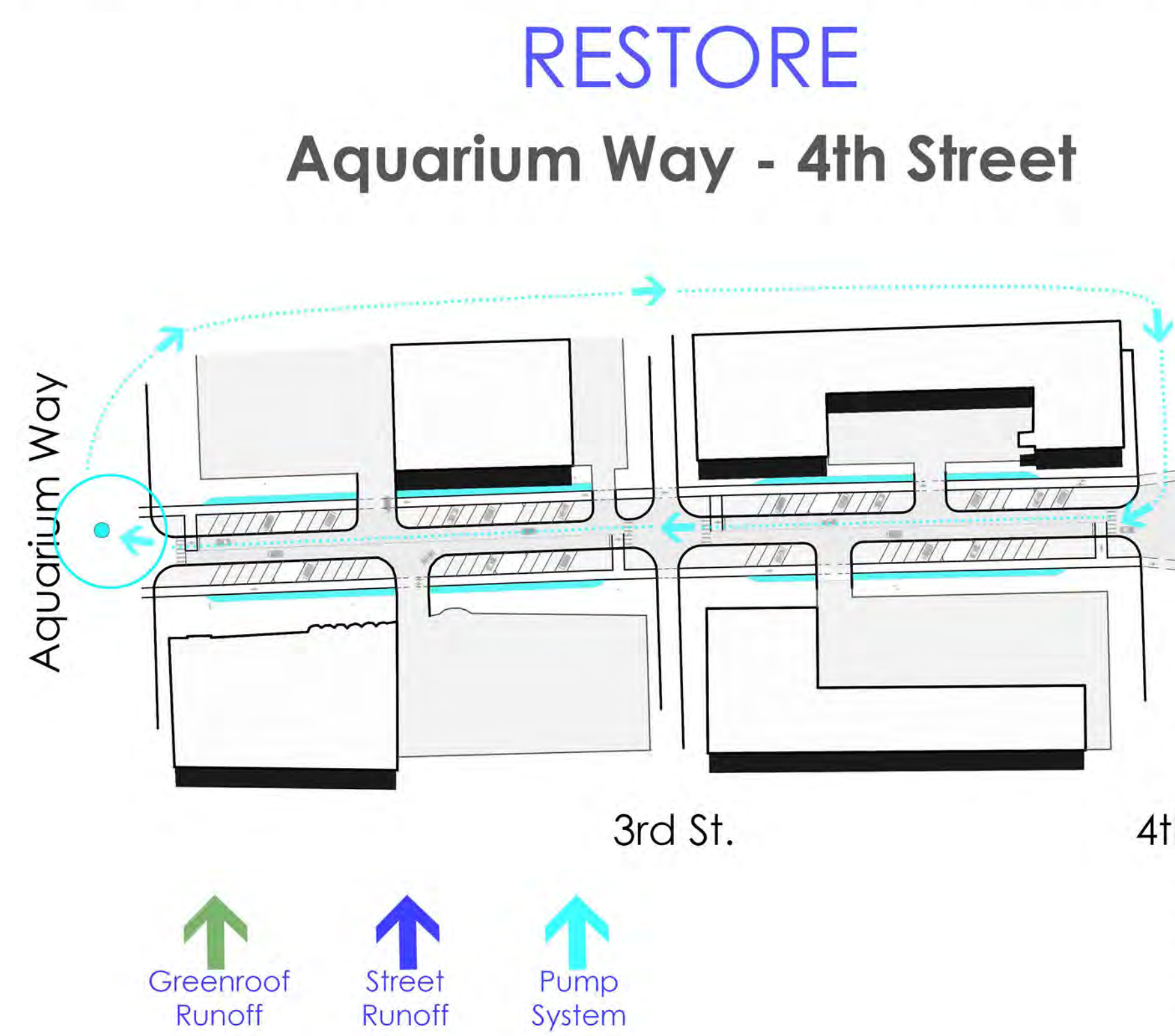
7th St - Martin Luther King Blvd



Scenic City STORM WATER

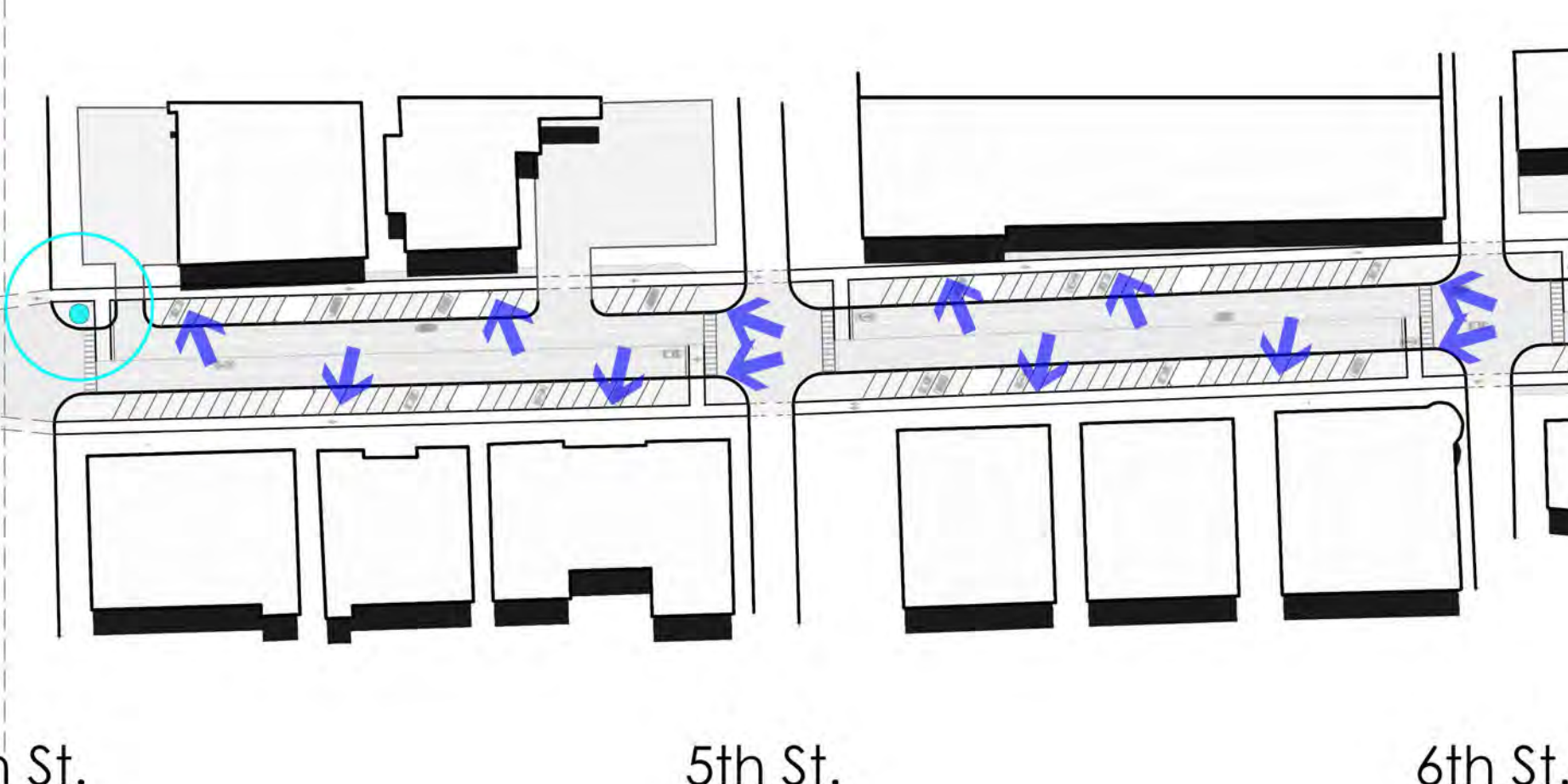
Drainage Plan And Project Numbers

Drainage Plan: System Level



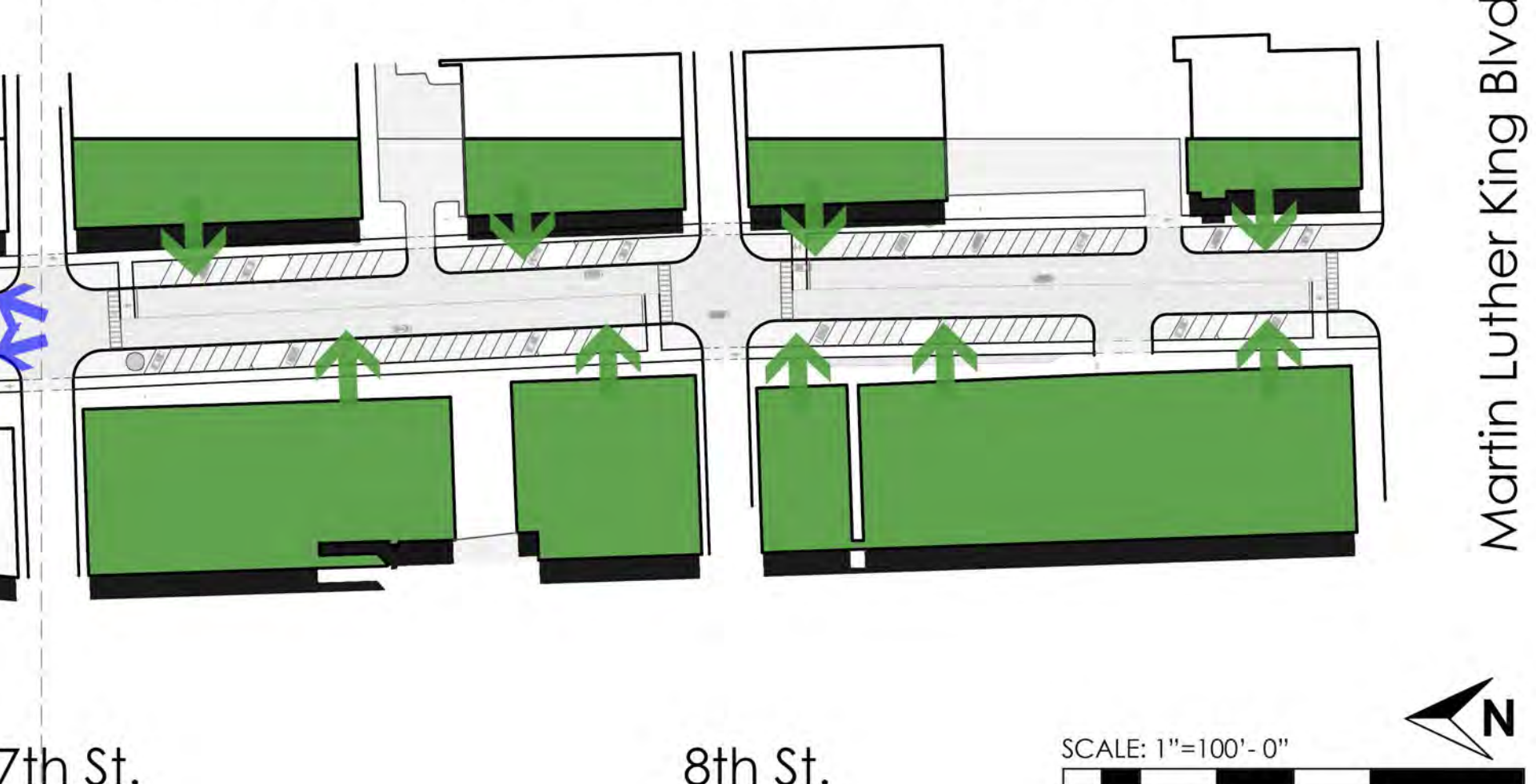
RECHARGE

4th St - 7th St

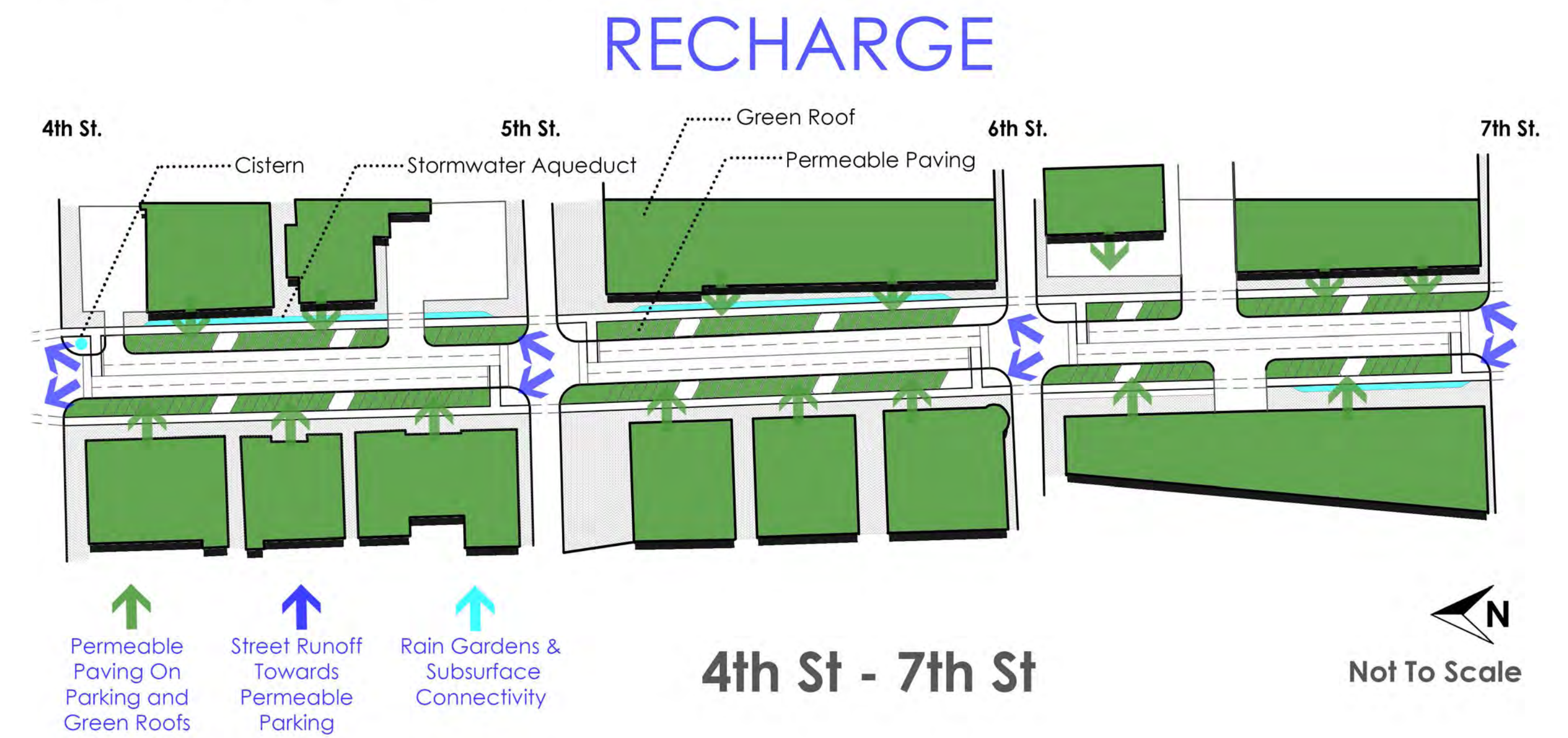


RETAIN

7th St - Martin Luther King Blvd

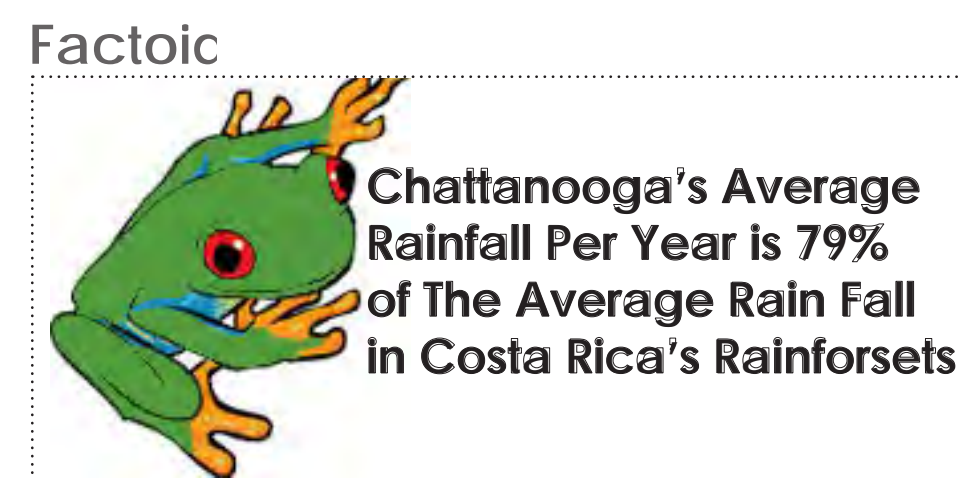


Drainage Plan: Street Level



Existing Conditions

Chattanooga Annual Averages	
Precipitation	52.48 Inches
Snowfall	3.9 Inches
SOV Design Rainfall	1 Inch
Target Loading Ratio	10
Initial Target BMP Area, Ft²	15,233 Ft²



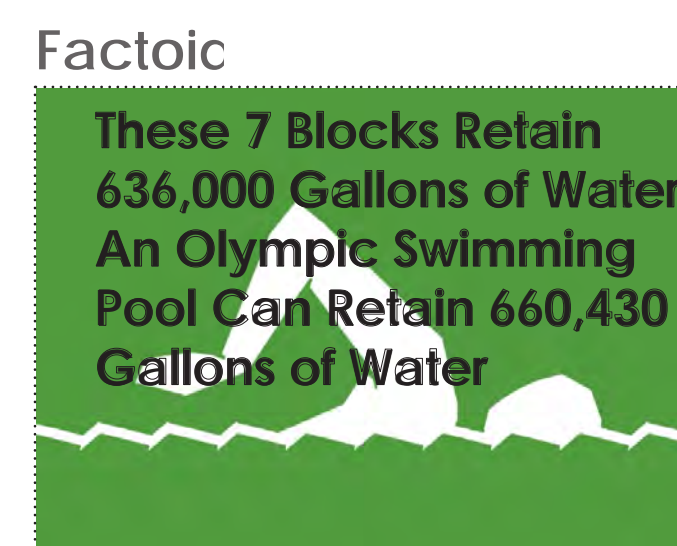
Total Surface Area Per Section

Section #	Section Name	From	To	Distance, Ft ²	Area, Ft ²	Area, Acres
1	Restore	Aquarium Way	W 4th St.	945	312,740	7.2
2	Recharge	W 4th St.	W 7th St.	1,110	490,092	11.5
3	Retain	W 7th St.	W MLK BLVD	945	326,750	7.5



Stay On Volume Per Section

Section #	Section Name	From	To	Traditional Required SOV Ft ³	LID Required SOV Ft ³	Total Storage Volume Available in LID BMPs
1	Restore	Aquarium Way	W 4th St.	23,515	21,007	28,559
2	Recharge	W 4th St.	W 7th St.	37,194	34,494	45,000
3	Retain	W 7th St.	W MLK BLVD	24,343	21,900	29,283
				85,052	77,401	102,842



The Investment

Section	LID Section Name	Non-LID Design	LID Design
W Aquarium Way to W. 4th St.	Restore	\$509,919.95	\$896,210.84
W 4th St. to W 7th St.	Recharge	\$743,299.72	\$1,306,517.57
W 7th St. to W MLK Blvd.	Retain	\$491,069.30	\$927,265.92
	Total:	\$1,744,288.97	\$3,129,994.33