

NYCHA: South Jamaica Houses Cloudburst Master Plan 2018



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ACKNOWLEDGEMENTS

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This study was prepared by Marc Wouters|Studios and supported by Grain Collective landscape architects. Marc Wouters|Studios led the charrette team.

Our sincere thank you to the Resident Association, Resident Green Committee, and residents of South Jamaica Houses, who made this study possible.

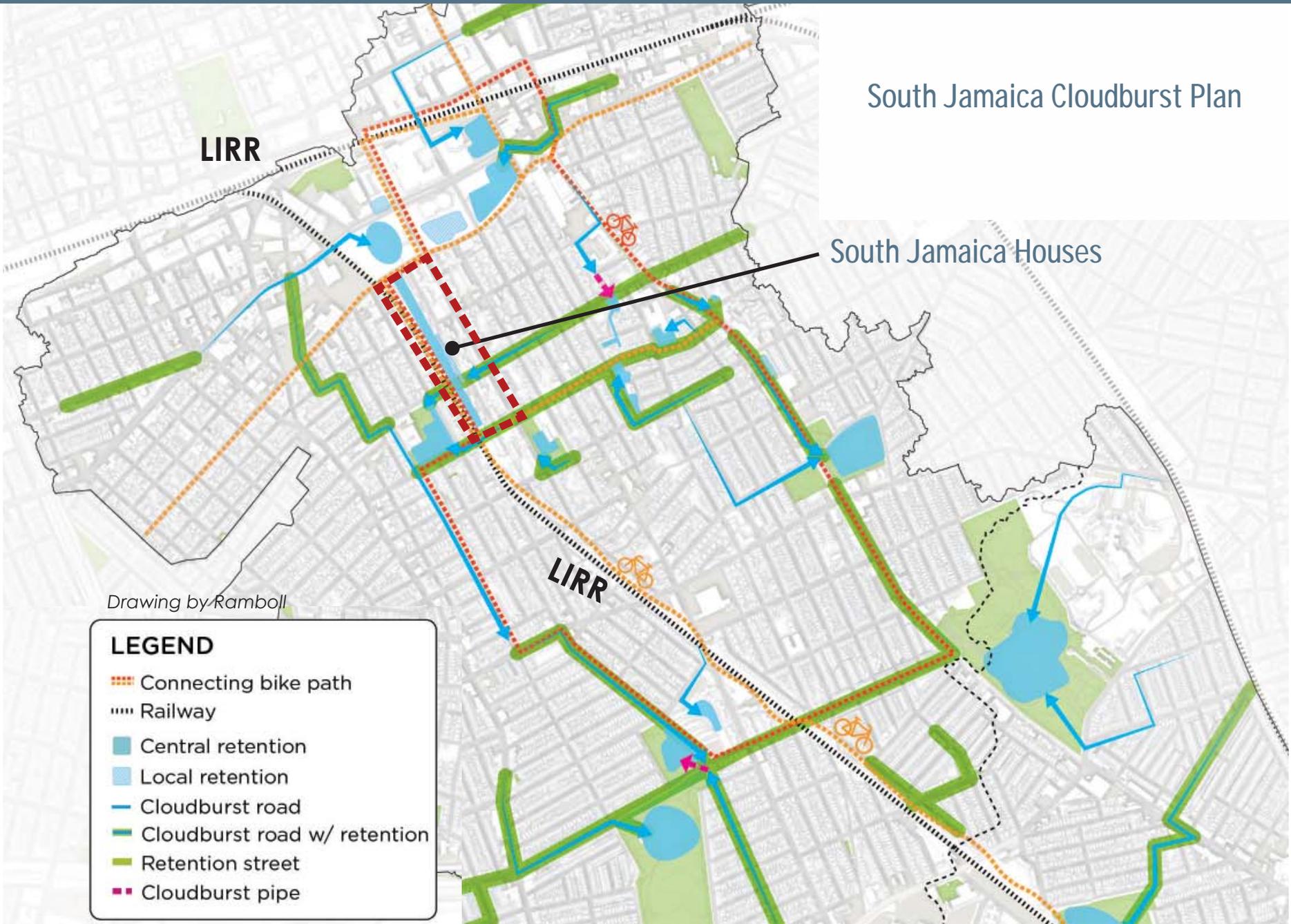
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Landscape Architecture | Urban Design | Community Planning

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South Jamaica Cloudburst Plan



LEGEND

- Connecting bike path
- Railway
- Central retention
- Local retention
- Cloudburst road
- Cloudburst road w/ retention
- Retention street
- Cloudburst pipe

INTRODUCTION

The goal of cloudburst planning at NYCHA's South Jamaica Houses is to control neighborhood flooding for rain events ranging from a 10-year storm to everyday rain events through the use of well-designed outdoor spaces and infrastructure. The project will be a pilot for New York City's cloudburst planning program and a first for NYCHA's grounds. To develop conceptual designs for the project, the process includes extensive resident engagement and dialogue with NYCHA, NYCDEP, and a design charrette team of consultants including engineers, urban designers, and landscape architects.

According to the principles of cloudburst planning, new outdoor public spaces can be designed to manage large volumes of stormwater while they provide public amenities and reduce the need for new below-grade infrastructure. A core principle of cloudburst planning is Blue-Green Infrastructure (BGI).

“Blue-Green Infrastructure (BGI) connects urban hydrological functions (blue) with vegetation systems (green). BGI generates social and environmental value for the local area, and may often reduce the need for traditional grey infrastructure.”

*Cloudburst Resiliency Planning Study,
NYCDEP, January 2017*

The public engagement process, which includes a public charrette and several workshops, was designed to maximize co-benefits for the community of both improved public space design, better social spaces, and innovative stormwater management. The overall scope of the project includes site analysis, development of design alternatives for the pilot project, and a recommendation for a conceptual plan.

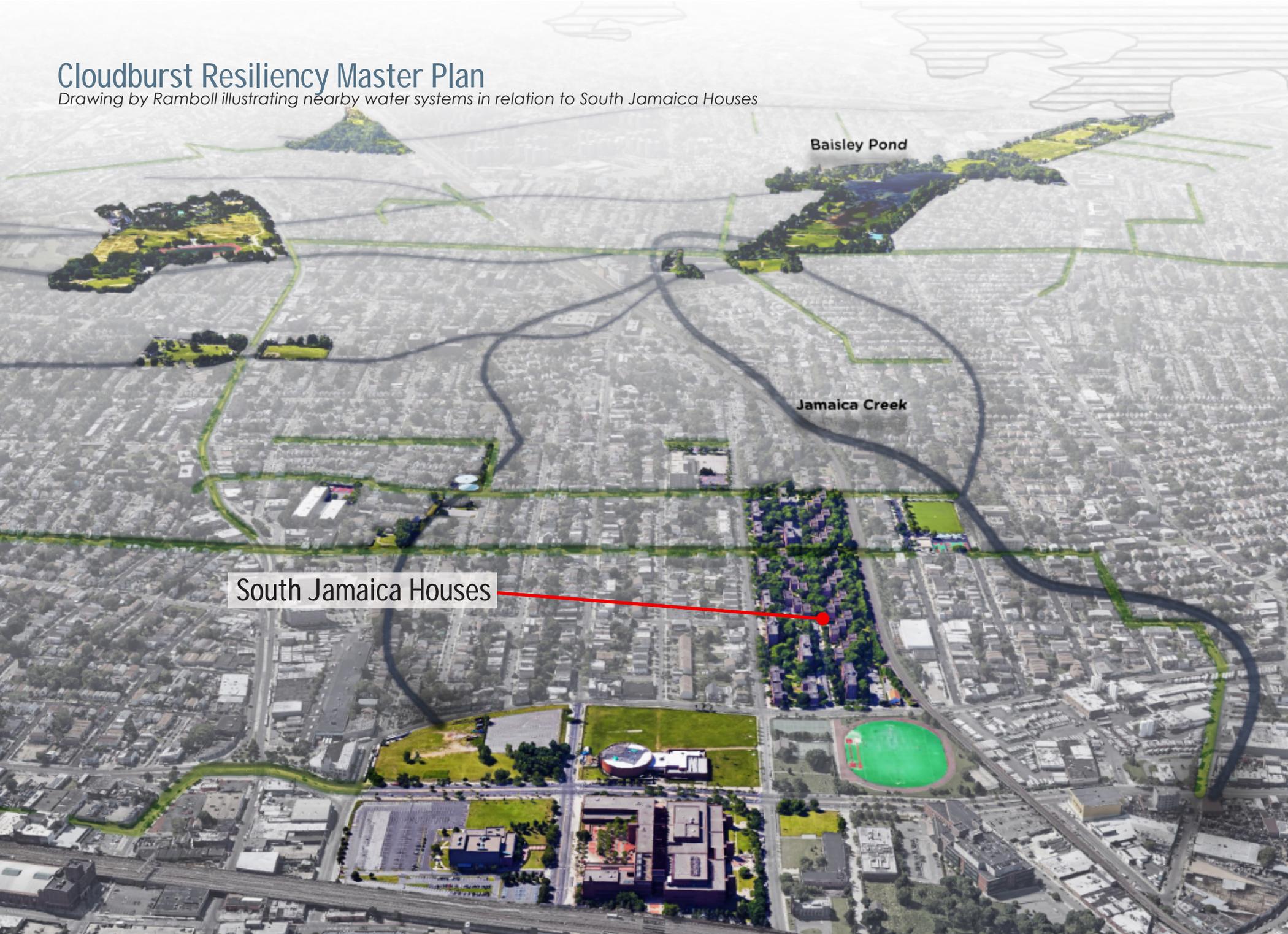
DEP Cloudburst Resiliency Master Plan, South Jamaica, Queens

Prior to this study, NYCDEP prepared a regional Cloudburst Master Plan for the South Jamaica portion of Queens. The plan was created to respond to the increasing occurrences of local flooding in the area from rainstorms. With the limited capacity of the area's existing stormwater drainage system and increasing number of heavy rain events, the Cloudburst Master Plan establishes a framework of open spaces and Blue-Green Infrastructure (BGI) to manage stormwater flooding. The plan utilizes stormwater bioswales, and detains stormwater in public spaces while slowly releasing it into the existing storm sewer system. The plan outlines methods to use playfields, portions of streets, and parks to establish a network of devices that detain and drain stormwater in a controlled manner. The plan estimates that it is not only a lower cost alternative to constructing more engineered infrastructure devices such as storm sewers, but also offers the opportunity of co-benefits such as improved public and social spaces, and environmental benefits.

The South Jamaica plan is meant as a piece that will fit into the larger framework for Southeast Queens.

Cloudburst Resiliency Master Plan

Drawing by Ramboll illustrating nearby water systems in relation to South Jamaica Houses



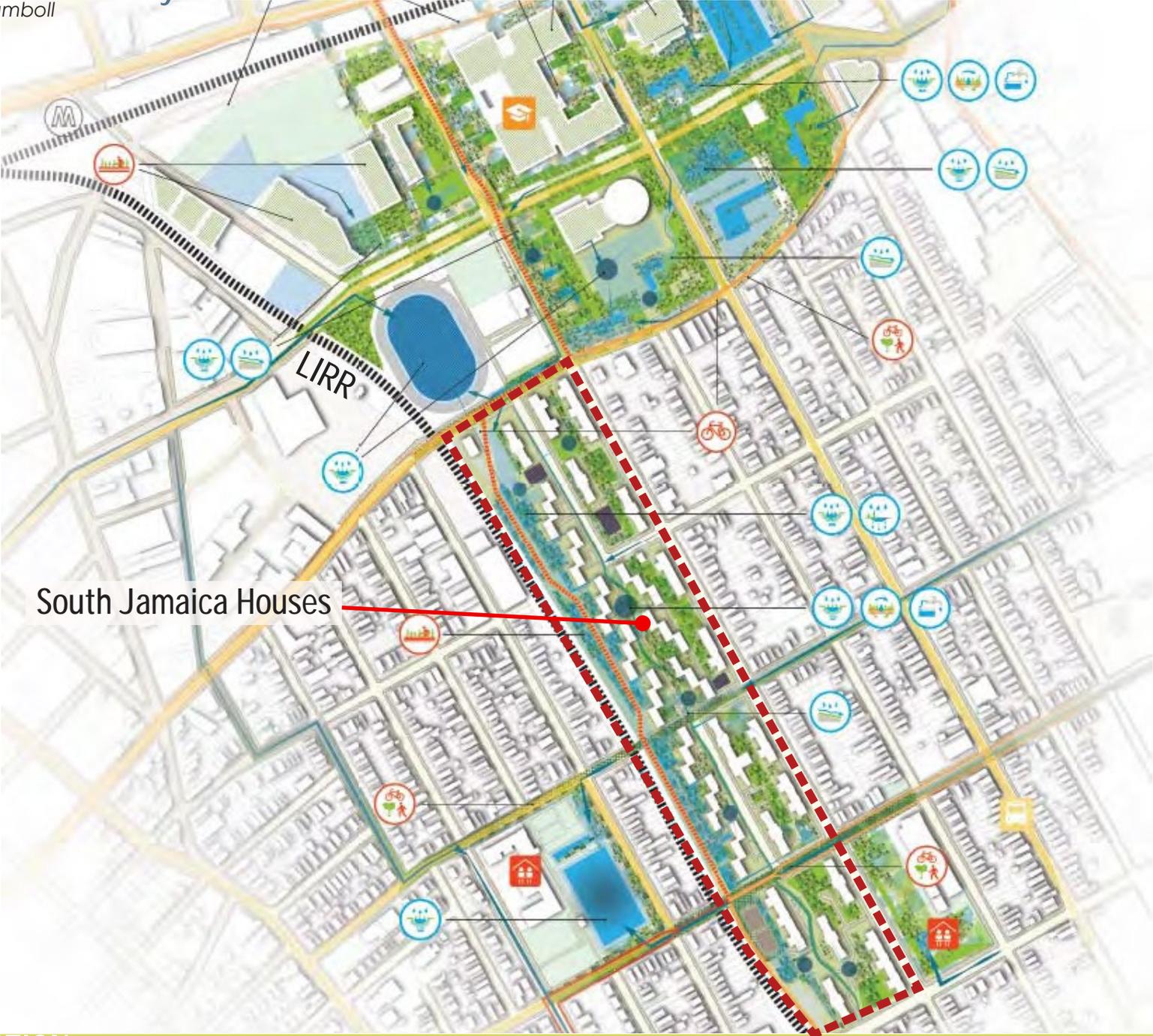
Baisley Pond

Jamaica Creek

South Jamaica Houses

Cloudburst Resiliency Master Plan

Drawing by Ramboll



I. SITE ANALYSIS



Garden by South Jamaica Houses residents

I.A South Jamaica Houses Existing Conditions

South Jamaica Houses is located between 160th Street and the Long Island Rail Road (LIRR), Tuskegee Airman Way and Brinkerhoff Avenue near the transit hub of Jamaica Center in Queens. It was constructed in the 1940's and 1950's, comprises 8 blocks with 23.2 acres, and is home to approximately 2,600 residents. Twenty-seven low-scale apartment buildings are located on tree-lined streets and along pedestrian walkways. Green spaces are located throughout. The site has a four-block-long green space adjacent to the Long Island Rail Road.

The community has an active community garden program organized by the Resident Green Committee (RGC). They have established a series of ornamental gardens and a community agricultural garden, and they demonstrate how enhanced public space improves the quality of the neighborhood. They have a strong interest in how public space is used.

A.1 Prior Studies

Hazen and Sawyer (HS), the stormwater engineers on the project, provided a study (February 19, 2018) commissioned by NYCDEP of 10-year stormwater volumes at South Jamaica Houses and potential methods to retain the water. The study indicated that the green spaces adjacent to the Long Island Rail Road (LIRR) had relatively low topography and could capture substantial portions of the stormwater running off from other portions the site. Both the Cloudburst Resiliency Master Plan and the HS report suggested that this greenway could become both a stormwater retention area and a linear public space. The HS report identified two blocks of the greenway, Blocks 5 and 7, which had the lowest elevations and were best suited for a cloudburst pilot project.



Site walk with residents, DEP, NYCHA, and charrette team



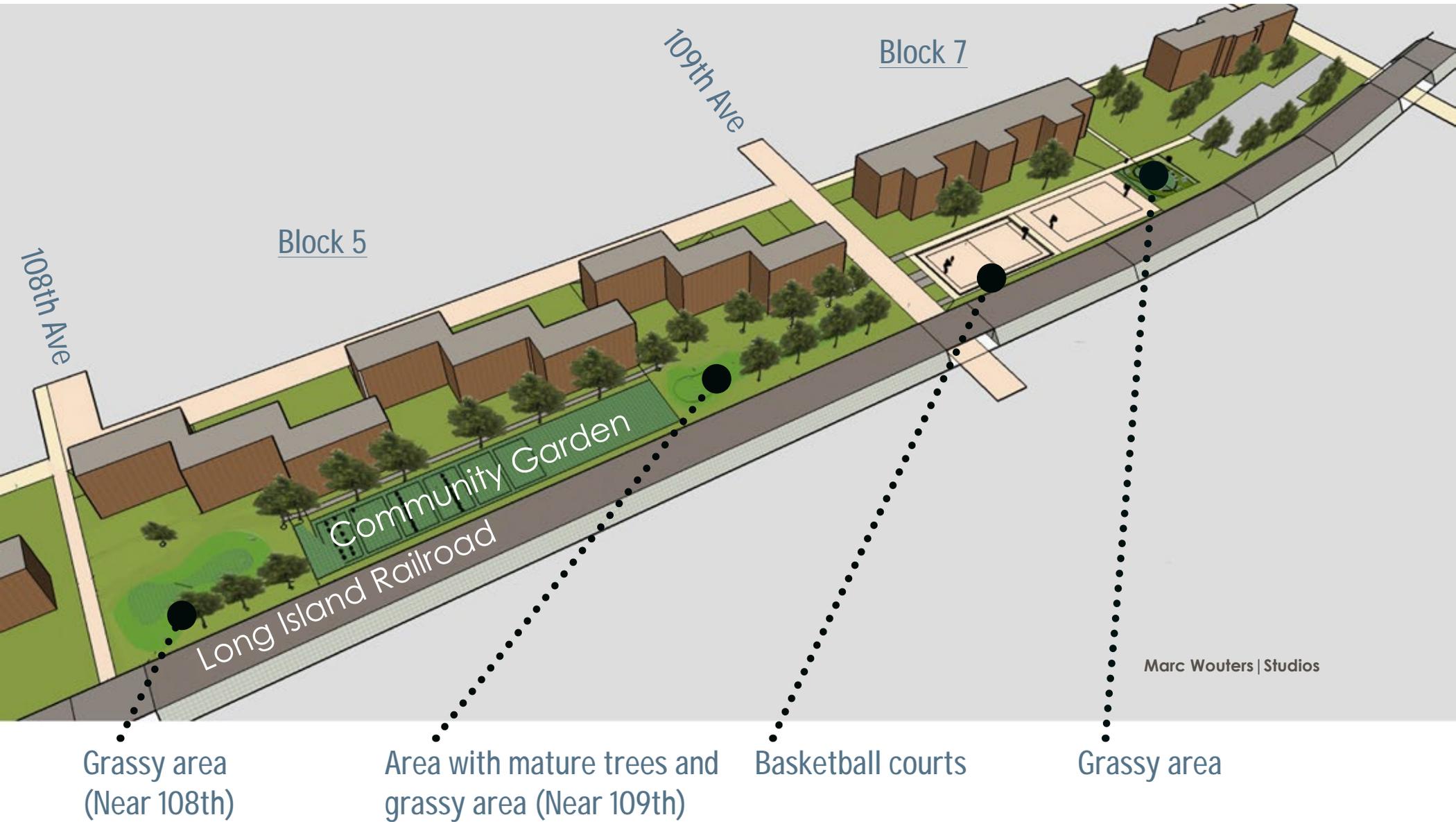
Garden by local residents



Linear space adjacent to LIRR is candidate for BGI

Cloudburst pilot project area at blocks 5 & 7

A.2 Existing Site Plan of Blocks 5 & 7



Grassy area (Near 108th)

Area with mature trees and grassy area (Near 109th)

Basketball courts

Grassy area

Marc Wouters | Studios

A.2 Block 5: Existing Conditions

Block 5 is bounded by 108th Street, 109th Street, and the LIRR. The area has metal fencing along 108th and 109th Streets with large lockable gates. Major features include the large community vegetable garden maintained by the Resident Green Committee (RCG). The garden has its own enclosure and is divided into a series of plots that are allocated to various residents. The garden has one path connecting it to 159th Street's walkway, but there are no paths connecting it to gates at 108th Street or 109th Street. There are large grass areas at the northern and southern end of this block. There are several mature trees in Block 5, mostly London Plane trees, with root systems that extend under portions of these grass areas. Soil borings from the original construction documents indicate sandy soils and a relatively low water table. The required stormwater volume for a 10-year storm on Block 5 is 20,500 cf.



Block 5: Grassy area near 108th Street



Block 5: Grassy area near 109th Street



Block 5: Area near 109th Street with several mature trees



Block 5: Community garden



Block 5: Community garden



Block 5: Members of Resident Green Committee



Block 5: Pathway near community garden

A.3 Block 7: Existing Conditions

Block 7 is bounded by 109th Street, Brinkerhoff Avenue, and the LIRR. Two basketball courts are located in the north end, and adjacent to the LIRR. The courts have tall fencing around them and have small sets of bleachers on the west side. The courts are approximately 10 feet shorter than professional or NCAA standard sizes. The courts have a pedestrian path that connects to 109th street and also up toward the residential buildings. There is a large grassy area south of the courts and a parking lot. The required stormwater volume for a 10-year storm on Block 7 is 21,600cf.



Block 7: Aerial view



Block 7: Existing basketball courts

I.B Stormwater Retention Studies

B.1A Preliminary Studies for Blocks 5 & 7

In Block 5, the HS study indicated that two sites, one grassy area near 108th Street and one near 109th Street, could be used as stormwater retention areas. The concept included limited planting, budgeted at \$10/sf, and under-drains that connect these sites to a central underground tank system located in Block 7. In Block 7, the report suggested one basketball court be reconstructed with a series of underground retention tanks that are connected to the area's storm sewer system. The tanks would be large enough to hold stormwater for average storms and gradually drain into the storm sewer system. Stormwater volumes from 10-year storms would back up into the new landscape areas of Blocks 5 and 7 and gradually filter down to the tanks as they drained. The reconstructed basketball court might be recessed into the ground to hold stormwater on the occasions that volumes exceeded the capacity of the tanks. Resurfacing or reconstruction of the second court was not indicated as a necessary place to incorporate stormwater retention facilities. HS also discussed stormwater retention in the grassy area just south of the basketball courts. The report also discussed a preliminary construction budget of approximately \$2 million.

B.1B Additional Cloudburst Analysis

Additional analysis was conducted by the design charrette team. Studies examined if public spaces could emulate the design recommendations of the Cloudburst Resiliency Master Plan by relying more heavily on Blue-Green Infrastructure (BGI) and less on below-grade grey infrastructure. The Cloudburst Study discussed the following benefits of this approach:

“It is approximately double the cost to build the Masterplan using grey infrastructure rather than BGI. On the other hand, yearly operational costs are roughly 30% higher for BGI than grey infrastructure.”

“Based on the study assumptions the avoided risk costs total \$310 million (for the entire South Jamaica Community Study Area), the avoided social and environmental costs total \$290 million and the created social and environmental values total \$3 million. In total the benefits provide a positive impact of \$603 million.”

“Findings in the Cost Benefit Analysis show that it is possible to achieve greater urban value and co-benefits for capital investments by using BGI for stormwater management. When socio-economic parameters are included in terms of avoided cost or created value, the benefits of the masterplan outweigh the costs, even for a masterplan designed to a 100-year storm.”

B.2 Preliminary Open Space Sizing

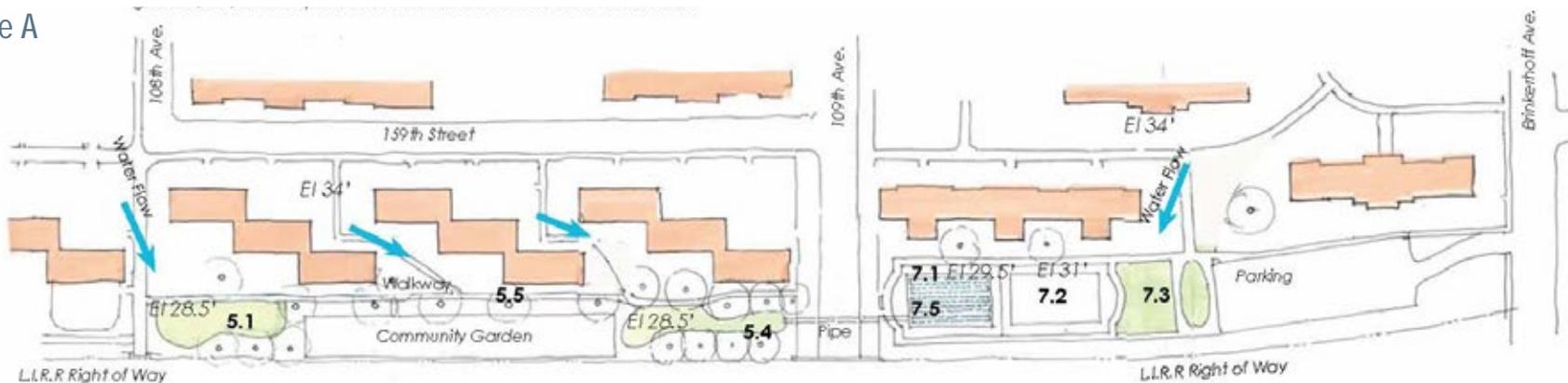
The team examined precedents of BGI and their applicability to the South Jamaica site. As part of this analysis, the charrette team explored the size and shape of potential Cloudburst features that would accommodate the anticipated stormwater volumes. Alternatives were examined that used no below-grade tanks, so that all construction funds could be directed to above-ground public space. Other alternatives examined a variety of combinations of BGI landscape elements and sizing of underground tanks. The team also discussed a variety of precedent photos and design criteria. Final alternates are discussed in **Chapter III, Technical Working Group**.

Alternate A examined the use of retaining stormwater in shallow landscape elements in Blocks 5 and 7. The limited volume of water the shallow landscape spaces could store necessitated over 30,000 cubic feet of underground retention tanks.

Alternate B examined somewhat deeper landscape excavations in order to retain more stormwater above grade. The option required approximately 5,000 cubic feet of underground retention tanks.

Alternate C examined somewhat extensive landscape excavations in order to retain all stormwater above grade. The option required no underground retention tanks. Concerns of the option were the increased maintenance of the deeply excavated areas.

Alternate A



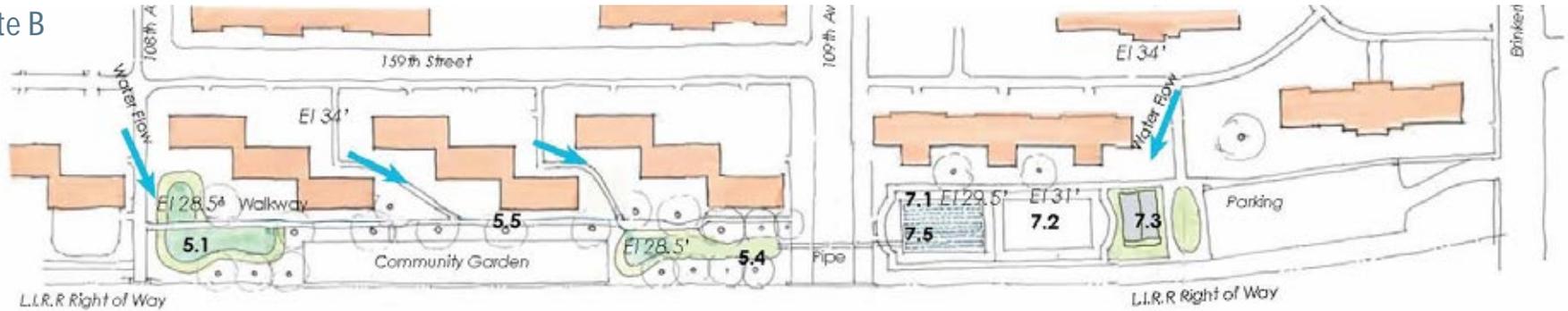
Block 5: Alternate A

Required Volume 10yr Storm	20,500cf		
	Area	Avg Depth	Volume
	5.1 5,500sf	1.4ft	7,700cf
	5.4 5200sf	.5ft	2,800cf
	5.5 1800sf Sidewalk	.5ft	900cf
	Retention Tank (in Block 7)		9,100cf
	Total		20,500cf

Block 7: Alternate A

Required Volume 10yr Storm	21,600cf		
	Area	Avg Depth	Volume
	7.1 8,000sf	1.0ft	8,000cf
	7.2 8,000sf	.0ft	0cf
	7.3 3,500sf	.75ft	2,625cf
	Retention Tank		10,975cf
	Total		21,600cf
	7.5 Retention Tanks (for Block 5+7)		20,415cf

Alternate B



Block 5: Alternate B

Required Volume 10yr Storm 20,500cf

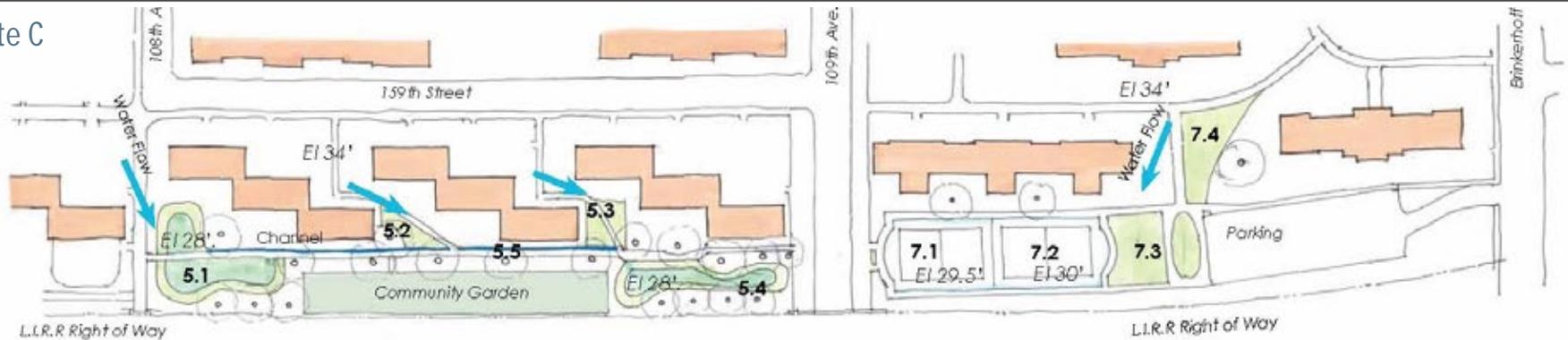
	Area	Avg Depth	Volume
5.1	7,100sf	1.6ft	11,360cf
5.4	5200sf	.6ft	3,120cf
5.5	1800sf(sidewalk)	.5ft	900cf
Retention Tanks (in Block 7)			5,120cf
Total			20,500cf

Block 7: Alternate B

Required Volume 10yr Storm 21,600cf

	Area	Avg Depth	Volume
7.1	8,500sf	BB 1.6ft	12,750cf
7.2	8,000sf	0.0ft	0cf
7.3	3,000sf	HB 2.9ft	8,850cf
Retention Tanks			0cf
Total			21,600cf
7.5 Retention Tanks (for Block 5&7)			5,120cf

Alternate C



Block 5: Alternate C

Required Volume 10yr Storm 20,500cf

	Area	Avg Depth	Volume
5.1	7,100sf	2.0ft	14,200cf
5.2	800sf	.5ft	400cf
5.3	600sf	.5ft	300cf
5.4	5,200sf	.85ft	4,400cf
5.5	900sf(channel)	1ft	900cf
Total			20,500cf

Block 7: Alternate C

Required Volume 10yr Storm 21,600cf

	Area	Avg Depth	Volume
7.1	7,000sf	1.5ft	10,500cf
7.2	8,000sf	1.0ft	8,000cf
7.3	2,500sf	.75ft	1,875cf
7.4	2,500sf	.75ft	1,875cf
Tanks			0cf
Total			22,250cf
Retention Tanks			0cf

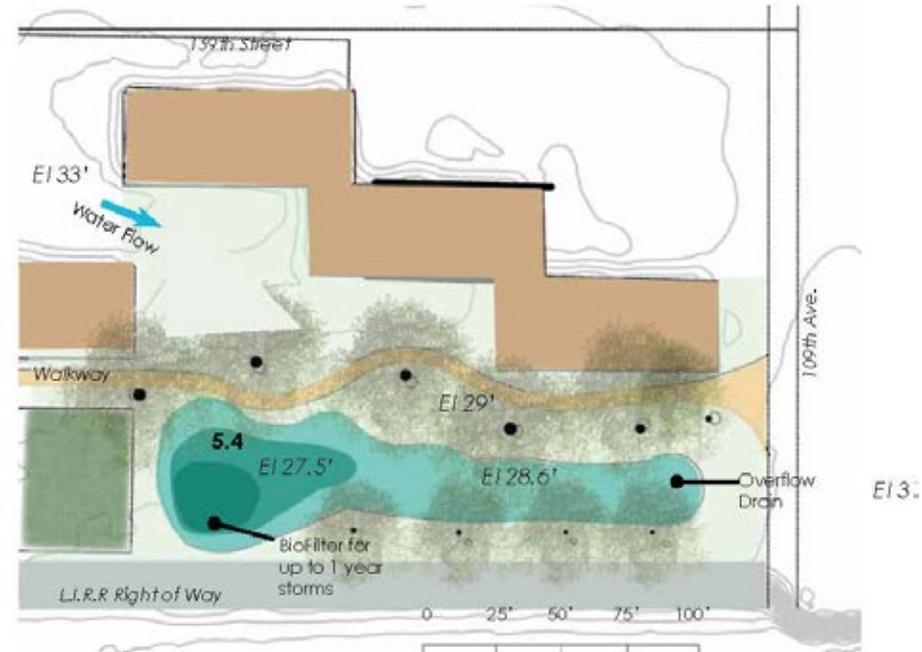
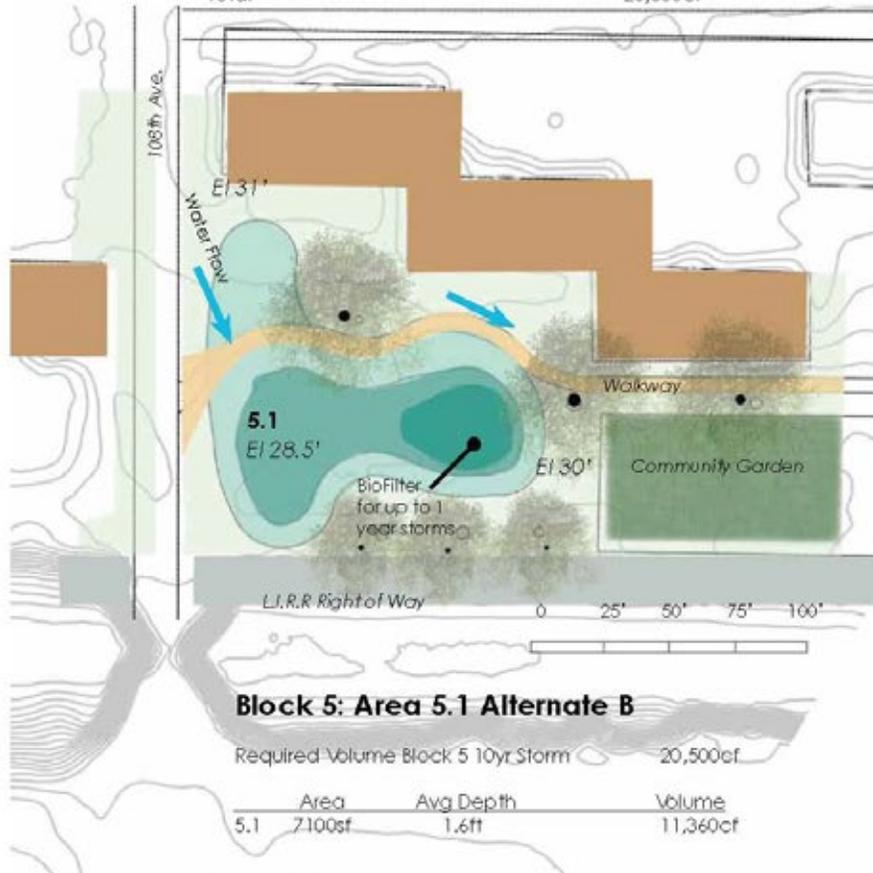
B.3 Alternates: Preliminary Enlarged Plans Block 5

Preliminary enlarged plans were developed for Block 5 to calculate sizes of stormwater retention areas and to estimate volumes of stormwater they could retain. Color gradations on the plan illustrate variations in depth of excavation and blue arrows indicate direction of surface water flow on the site.

Block 5: Alternate B

Required Volume 10yr Storm 20,500cf

	Area	Avg Depth	Volume
5.1	7,100sf	1.6ft	11,360cf
5.4	5200sf	.6ft	3,120cf
5.5	1800sf (sidewalk)	.5ft	900cf
Retention Tanks (in Block 7)			5,120cf
Total			20,500cf



B.4 Alternates: Preliminary Basketball Court Block 7

In Block 7, multiple alternatives were developed for the basketball court. Options explored the amount the courts might be depressed into the ground to hold stormwater. Options included no depression of the court and use of retention tanks below, and ranged to a four-foot-deep depression and no below-grade retention tanks. Options with no tanks required stormwater to accumulate on the court after every rainstorm and regularly interrupt court usage.

Block 7: Area 7.1 Alternate A

Required Volume Block 5 10yr Storm 20,500cf

	Area	Avg Depth	Volume
7.1	8000sf	1.0ft	8,000cf



Block 7: Area 7.1 Alternate C

Required Volume Block 5 10yr Storm 20,500cf

	Area	Avg Depth	Volume
7.1	8,000sf	4.0ft	32,000cf



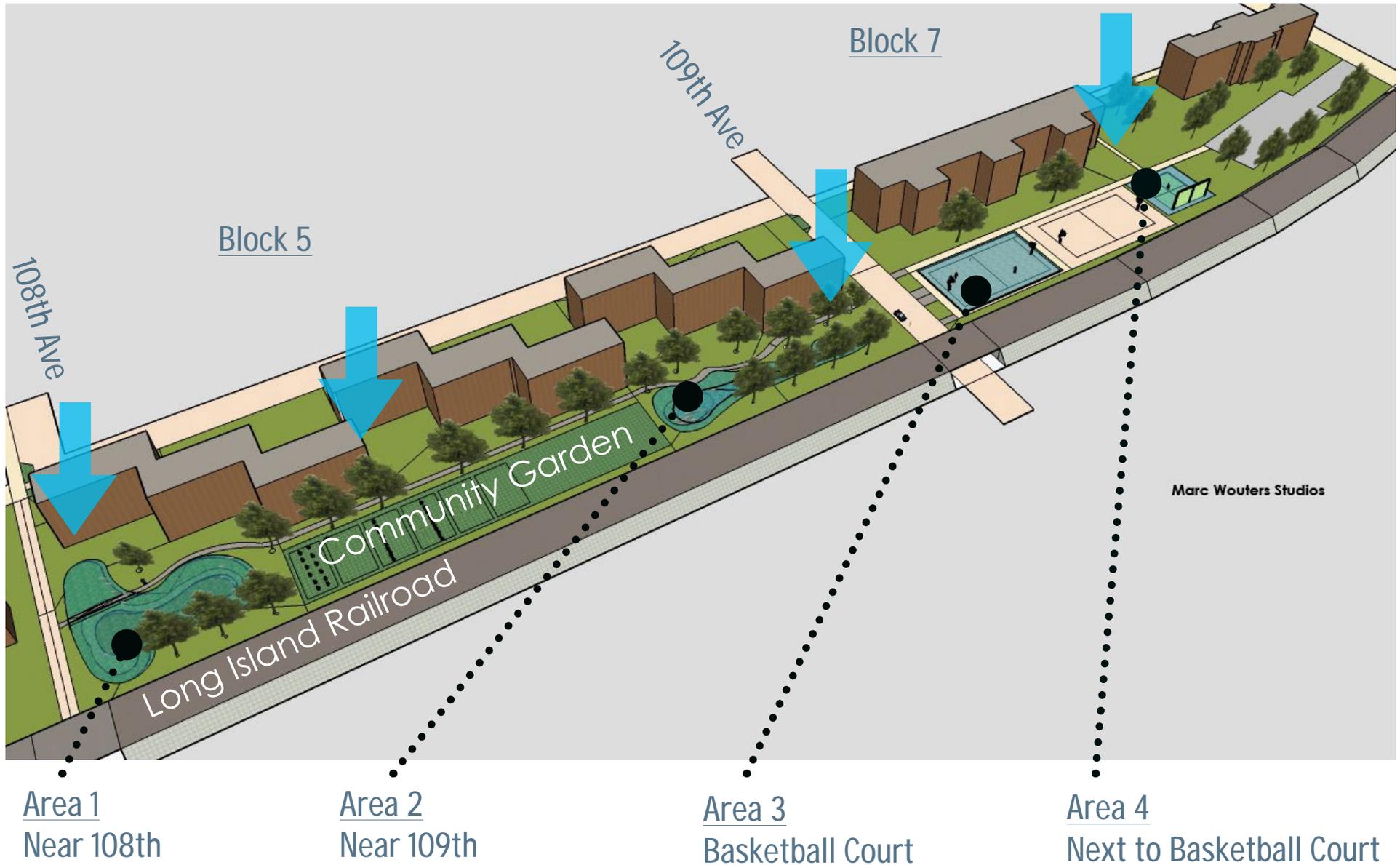
B.5 Alternates: Pedestrian Access

A new path was proposed to connect the public spaces of Blocks 5 and 7. The path would be made of pervious concrete to allow stormwater infiltration.



B.5 Alternates: Open Spaces Holding Stormwater

The diagram below depicts how a series of open spaces would be flooded during a major rain event. There are four primary spaces that will temporarily flood in a controlled manner and then drain within 48 hours. Drainage is either through infiltration or through piped connections to the city's existing storm sewer system.



II. PUBLIC ENGAGEMENT



II.A. Public Engagement Simultaneous with Site Analysis

The charrette team met with residents and area stakeholders to inform them of the cloudburst planning initiative at South Jamaica Houses, the opportunities for the community to guide the design, and the upcoming public design charrette. The following introductory meetings were held:

A.1 Resident Green Committee (RGC)

The team of NYCHA, DEP, and the design charrette team attended a regular meeting of the RGC on July 17, 2018. At the meeting, the charrette team presented boards of precedent photos of cloudburst planning in other locations. These included both planted areas designed to retain water for no more than 48 hours and paved public plazas that were designed to temporarily hold stormwater. Residents appeared supportive of the initiative and of some of the precedents. The concept of lowering the basketball court to temporarily capture stormwater, while also including improved seating, received particular interest. RGC was informed of an upcoming public charrette.



A.2 F.A.I.T.H. Youth Group Meeting

The team attended a regular meeting of the F.A.I.T.H. youth group at the Community Center on August 9, 2018. The group consists mainly of young men in their teens, many who utilize the basketball court on a regular basis. The charrette team presented image boards. The resident group also showed particular interest in the concept of lowering the basketball court to temporarily capture stormwater while also including improved seating. Some members of the group also liked some of the landscape areas designed to retain stormwater. The F.A.I.T.H. group was invited to come to the public charrette.



A.3 Back To School Day

The team set up display boards at Back to School Day on August 25, 2018, to inform area residents about the project, to learn from residents about how they use the grounds, and to gain preliminary input on their preferences regarding cloudburst design opportunities. Most residents appeared supportive of the initiative and several of the precedent images. Residents were invited to come to the public charrette.



A.4 Family Day

The team set up a table at South Jamaica House's Family Day on September 15, 2018, to inform area residents about the project, to learn from residents about how they use the grounds, and to gain preliminary input on their preferences regarding cloudburst design opportunities. The pop-up session featured boards and maps to facilitate community feedback. Most residents appeared to support the initiative and some of the precedent images. Residents were invited to come to the public charrette.



II. B Flyers, Cards, and Messaging

Flyers, posters, Facebook pages, email, and postcards were developed to inform local residents and area stakeholders of the public charrette and workshops. These were handed out at public events and placed on the doors of local buildings.

DESIGN CHARRETTE

JOIN US !

We want to hear your vision and ideas for the common outdoor space in the South Jamaica Houses!

Join us at the charrette to learn more about the stormwater strategies and concepts for the South Jamaica Houses. Help us figure out which new outdoor public amenities can be a part of this resiliency effort. Your input will directly impact the redesign of your outdoor common areas!

SATURDAY SEP. 22
12:00PM - 3:00PM

**YORK COLLEGE
FACULTY & STAFF DINING ROOM**
94-20 Guy R. Brewer Blvd, Jamaica, NY 11451

NYC Environmental Protection
HOUSING AUTHORITY

For more information:
connected.communities@nycha.nyc.gov
<https://m.facebook.com/SJRGIC/>
Survey: <https://www.surveymonkey.com/s/KW85QVC>

Please come out to discuss *potential changes* to the **BASKETBALL COURT** & surrounding green areas

SATURDAY OCT. 20 **12:00PM - 3:00PM**
BASKETBALL COURT
AT SOUTH JAMAICA HOUSES
Food will be provided on a first come, first serve basis!

Pick Your Design for the New Court!

Your input is needed!

Your Vote Matters, Design Your Court

For more information:
connected.communities@nycha.nyc.gov
<https://m.facebook.com/SJRGIC/>
Survey: <https://www.surveymonkey.com/s/KW85QVC>

NYC Environmental Protection
HOUSING AUTHORITY

III. TECHNICAL WORKING GROUP



III.A Charrette Preparation Meetings

Prior to the public design charrette, the charrette team held meetings with the technical working group (NYCHA, NYCDEP, and HS) to review materials to be presented to the public. Meetings of the working group were held July 10, August 6, September 6, October 25 and November 5, 2018. These meetings included summaries of community comments, summaries of site analysis, examples of best practices, and preliminary conceptual design alternatives.

The charrette team reviewed the format of the first public charrette in detail with the technical working group, including arrangements for venue, tables, chairs, presentation materials, and break-out session materials.

Each meeting of the technical working group was formatted to vet the alternatives and eliminate those that were not appropriate due to cost or technical feasibility. Funding considerations were reviewed with an understanding that NYCDEP could only fund items directly related to stormwater management. It was established that elements that were solely landscape/recreational features could not be funded through NYCDEP resources. NYCHA would have to look for additional sources of funding for these types of elements, such as funding from elected officials. Maintenance was also considered, including NYCHA's and NYCDEP's limitations on

III.B Revised Alternatives for Public Presentation

maintenance.

The discussions concluded that four specific sites, two within Block 5 and two within Block 7, were best suited to accommodate BGI stormwater retention. In order to elicit discussions with the community, two alternatives were developed for each of the four sites (see diagrams on pages 26-27). One category of alternatives included landscape designs that had "shallow" amounts of excavation to hold stormwater and had relatively simple native grass plantings. They incorporated large stones and concrete elements to allow informal seating. These alternatives were not sufficient in size to hold all required stormwater in landscape areas and incorporated under-drains to connect them to a central stormwater retention tank facility under the reconstructed basketball court.

The second set of alternatives had somewhat "deeper" landscape excavations in order to retain more stormwater above grade and less in the below-grade tanks. This category of alternatives required less funding for underground grey infrastructure. In addition to handling 10-year storms, these designs also incorporated some small pockets of bio-filters, similar to New York City's standard street bioswales, in order to naturally infiltrate smaller storms.

B.1 Four Possible Areas for “Blue-Green Infrastructure”

The discussions concluded that four specific sites, two within Block 5 and two within Block 7, were best suited to accommodate BGI stormwater retention.



Area 1
Near 108th

Area 2
Near 109th

Area 3
Basketball Court

Area 4
Next to BB Court

B.2 Summary Table of Alternatives:

The following table describes the most feasible alternatives reviewed by the technical working group. Two alternatives were developed for each of the four sites. One category of alternatives included landscape designs that had “shallow” amounts of excavation to hold stormwater. The second set of alternatives had somewhat “deeper” landscape excavations in order to retain more stormwater above grade and less in the below-grade tanks.

AREA 1

ALTERNATE 1: “SHALLOW”



ALTERNATE 2: “DEEP”



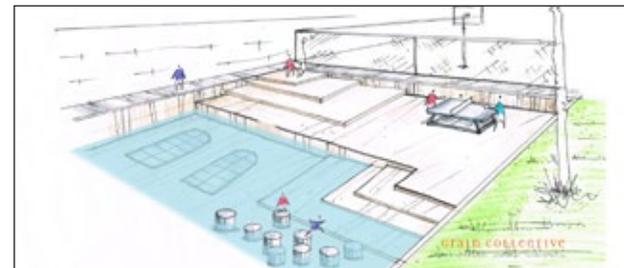
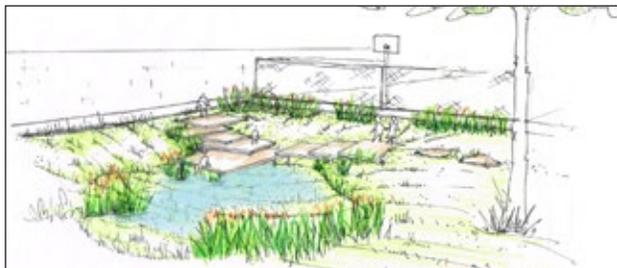
AREA 2



AREA 3

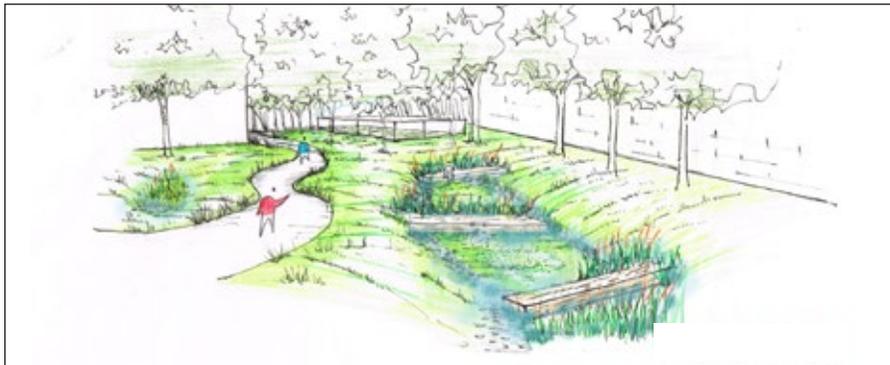
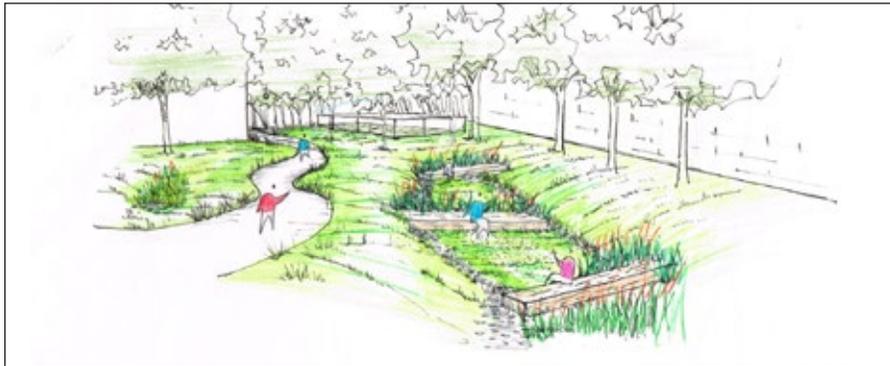


AREA 4

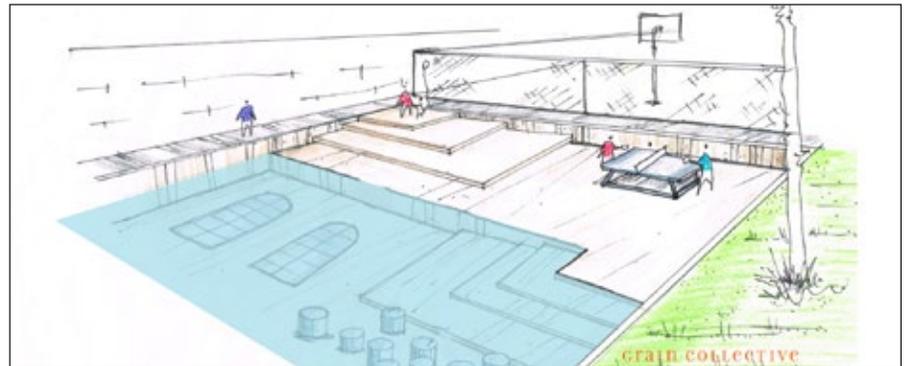
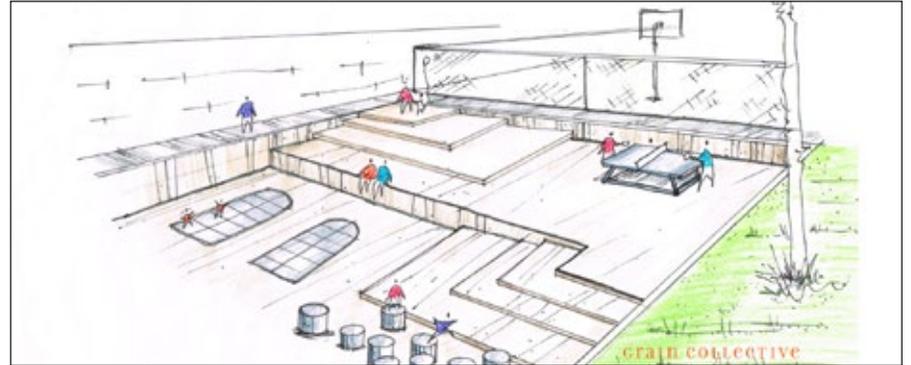
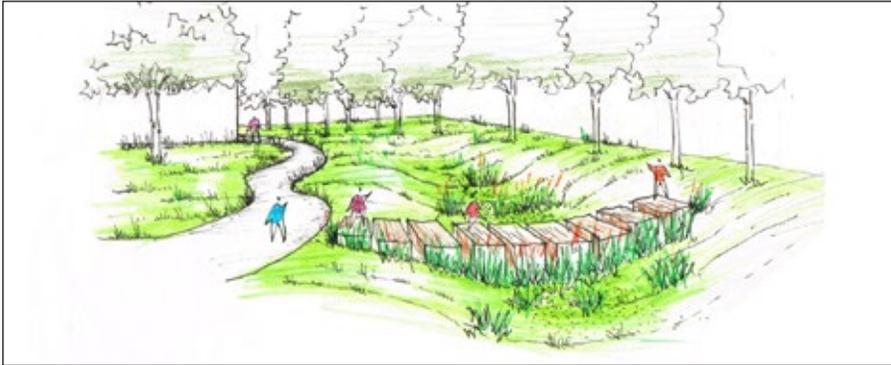


B.3 Alternates for Floodable Landscape Spaces

The following alternatives (drafted from initial resident feedback) were most feasible as reviewed by the technical working group. The residents were then shown the renderings of what the charrette team had visualized from their comments. The drawings show the public spaces during dry conditions, after a moderate rain, and then fully flooded in a major storm event.



B.3 Alternates for Floodable Landscape Spaces



IV. PUBLIC CHARRETTE & WORKSHOPS



In order to gain as much public commentary as possible, a public design charrette and two public workshops were held in a variety of locations, times, and formats

IV.A. Public Design Events

- **Event 1:** A half-day public design charrette was held September 22, 2018, at York College, adjacent to South Jamaica Houses.
- **Event 2:** An evening public workshop was held October 11, 2018, at the monthly Resident Association general meeting.
- **Event 3:** A third mid-day workshop was held Nov. 17th, 2018 outside on the basketball courts onsite.

A.1 Charrette: September 22, 2018

The public design charrette was open to all residents and stakeholders and was held at York College, a couple of blocks away from South Jamaica Houses. The event drew adults, including members of the RGC, and children. The event began with a brief introduction by NYCHA regarding major issues related to the Cloudburst design effort at South Jamaica Houses. This event had a series of tables set up with large sheets of images that depicted the various alternatives. Residents were walked through the design alternatives for each of the four potential stormwater retention areas. As residents went through the images, members of the design charrette team answered their questions. Residents were asked to indicate their preference for options by placing blue dots on images they liked and red dots on images they disliked. They could also place sticky notes with written comments on the boards.



AREA 1, NEAR 108TH ST



Existing conditions - Near 108th Street

Please use a sticky to indicate which option would you prefer for Area 1? Why?

OPTION A: SHALLOW GRASSY LANDSCAPE
A shallow landscape will hold less water. It can allow for grassy spaces with pathways.



OPTION B: SUNKEN LANDSCAPE
A sunken landscape is deeper so can hold more water. In return, it can provide opportunities for more features.



Area 1

If Option A is your preference, which kind of planting would you like to see there? Pick any 1.

- PLANTING - FLOWERS
- PLANTING - GRASSES

If Option B is your preference, which features would you like to see there? Pick any 2.

- SEATING BENCH
- STEPPING STONES
- PLANTING - FLOWERS
- PLANTING - GRASSES

AREA 2, NEAR 109TH ST



Existing condition - Near 109th Street

Please use a sticky to indicate which option would you prefer for Area 2? Why?

OPTION A: SHALLOW GRASSY LANDSCAPE
A shallow landscape will hold less water. It can allow for grassy spaces with pathways.



OPTION B: SUNKEN LANDSCAPE/CENTRAL PARK
A sunken landscape is deeper so can hold more water. In return, it can provide opportunities for more features. In this option, a portion of the community garden is relocated to allow for a large "central park" type concept.



Area 2

Which features would you like to see in your preferred option? Pick any 3. Use a blue dot for Option A and a red dot for Option B.

- PLANTING - FLOWERS
- PLANTING - GRASSES
- SEATING BENCH
- PAVING/WALL
- STEPS
- NATURAL SEATING

Workshop Board for Block 5, Area 1

Workshop Board for Block 5, Area 2

AREA 3, BASKETBALL COURT



Existing condition

Please use a sticky to indicate which option would you prefer for Area 3? Why?

OPTION A: UNDERGROUND TANK ONLY
Water will go in an underground tank. This option can allow for an upgraded basketball court.



OPTION B: SHALLOW; 9 INCH DEEP
A shallow court will hold less water above grade and mostly in an underground tank. This option can allow for a new basketball court with a simple step condition on the periphery.



OPTION C: SUNKEN; 18 INCH DEEP
A deeper basketball court can hold more water above grade. This option allows for a new basketball court with more seating and varying shaped features along the periphery. There will be an underground tank in this option too.



Area 3

If Option B or C is your preference, which features would you like to see there? Pick any 2.

- STEPS
- ONE SEATING STEP
- PATTERN ON BASKETBALL COURT
- STEPS WITH PLANTING

AREA 4, NEXT TO BASKETBALL COURT



Existing condition

Please use a sticky to indicate which option would you prefer for Area 4? Why?

OPTION A: ACTIVITY/ HARDSCAPE
A hardscape option can allow for active recreational features.



OPTION B: NATURAL/ SOFTSCAPE
A softscape option can allow for natural features and passive recreations.



Area 4

Which features would you like to see in your preferred option? Pick any 3. Use a blue dot for Option A and a red dot for option B.

- NATURAL STEPS
- SCULPTURAL STEPS
- WOODEN PLATFORM
- STEPPING LOGS
- BIORETENTION
- PICNIC/BQ
- PLAY AREA
- RUNNING PATH
- ADULT FITNESS

Workshop Board for Block 7, Area 3

Workshop Board for Block 7, Area 4



Public charrette workshop groups

IV. PUBLIC CHARRETTE & WORKSHOPS

A.2 Workshop: October 11, 2018

Members of NYCHA and the charrette team attended a regular meeting of the South Jamaica Resident's Association. This event included several seniors and some teenagers. Individuals were shown images of the design alternatives in handouts and were asked to indicate their preference for options by placing blue dots on liked images and red dots on disliked images. Several members of the design team were on hand to walk residents through the various options.



A.3 Workshop: November 17, 2018

This event was organized by the South Jamaica Houses Resident's Association president, Mr. Manny Martinez, and was held outside at the existing basketball courts. It drew a steady stream of individuals ranging from youths, seniors, adults, and a few children. Images boards with options were placed on tables at center court. Residents were asked to indicate their preference for options by placing blue dots on images they liked and red dots on images they disliked. They could also place sticky notes with written comments on the boards. Several members of the design team were on hand to walk residents through the various options.



Outdoor public workshop at basketball court



IV.B OUTCOMES: SUMMARY OF COMMUNITY COMMENTS

While resident participation was varied at the different events, residents who participated represented a large range of age groups and interests from South Jamaica Houses. These included children, young adults, adults, seniors, basketball enthusiasts and gardeners. There was a large amount of consistency in responses regardless of age group. All attendees appeared to support the general concept of utilizing “sunken” landscape spaces for temporary stormwater retention. Residents did not appear to object to any of the areas being deliberately flooded on a temporary basis.

The designs that received the most favorable responses were those that were the most recessed into the ground and held the most stormwater above grade. Residents also favored designs that allowed spaces to be occupied, such as those that incorporated seating elements. These preferences suggest that large amounts of stormwater retention could take place above grade, supported by moderate amounts of below-grade retention. Residents said outdoor spaces were currently limited for those who did not play basketball or use the children’s playgrounds. They also wished for any new outdoor area to be ADA-accessible. Residents did inquire about how maintenance would be conducted, and understood that NYCHA would have limited resources for maintenance. All resident comments are fully consistent with Cloudburst Planning Principles. The following are comments on specific areas.



SCULPTURAL STEPS



PICNIC/BBQ



WOODEN PLATFORM

B.1 Area 1, Block 5

Area 1: This site is located adjacent to the LIRR tracks next to the 108th Street pedestrian path and north of the existing community garden. Residents were shown two alternatives, one that provided a shallow depression in the landscape for temporarily retaining stormwater and one that was more sunken into the landscape. Images were also shown of how the landscapes would deliberately flood and then drain after no more than 48 hours.

- Most residents preferred the sunken option, depressed into the ground.
- Seating elements such as stone blocks or concrete steps received positive reviews.
- Some residents suggested that there may be plans to expand the existing community garden into this area.
- Residents did not express a preference for “grassy” plant types.
- Residents rejected a concept for relocation of parts of the community garden.



B.2 Area 2, Block 5

This site is located adjacent to the LIRR tracks, next to 109th Street and south of the community garden. Residents were shown two alternatives, one that provided a shallow depression in the landscape for retaining water and one more sunken into the landscape. Images were also shown of how the landscaped areas would deliberately flood during a large rain event and then drain after no more than 48 hours. Both options had limited impact on the cluster of mature trees near 109th Street.

- Most residents preferred the sunken option with a somewhat circular element, depressed into the ground.
- Residents wanted existing mature trees to remain.
- Residents preferred areas that allowed for some ledges, steps, or low retaining walls, which offer seating features and designs.

- Residents liked the idea of a continuous walking path from the south end of the block to the north end.
- Residents were asked if existing fences at 109th Street and 108th Street should be removed. Many responded that gates might be left open during daylight hours but locked at night and not necessarily removed.
- Residents indicated a preference for native plants that did not require extensive maintenance. Flowering native plants were preferred over native grasses.



B.3 Area 3 Basketball Court, Block 7

Residents were shown three alternatives for the basketball court located adjacent to the LIRR tracks. All alternatives provided stormwater retention tanks located underneath the northernmost court. The court could be reconstructed as either:

- 1) Flat; as is the existing condition; or
- 2) Sunken 1 foot with steps for seating around the edges; or
- 3) Sunken 18 inches with steps for seating around the edges.

Residents were shown images of how the sunken court would deliberately flood to temporarily retain stormwater. Residents were also informed that the second court may be repaved but not sunken.

- Residents overwhelmingly chose a sunken basketball court with three to four steps around the outer edges. They liked the idea that the steps could allow seating for games. Residents accepted that the court would flood on occasion and would be closed for use for a period of 48 hours or less. Some expressed a desire for the courts to drain relatively quickly so they could return to normal use sooner.
- Some suggested that the steps surrounding the perimeter of the sunken court must be held back from the court boundary line to allow for the game to run outside of the lines.
- Many liked the concept of pavement coloring and painted ground lines that might offer additional uses.
- Residents did not indicate strong consensus on the specific design alternatives for the types of steps for seating around the edges, such as grass steps, versus planters in concrete steps or simple concrete steps.
- Residents expressed interest in improving lighting conditions and providing fiberglass backstops.
- Requests included changing rims of the backstop from double rim to single rim.
- Some requested the new court be extended in length toward the north to accommodate a full-size professional length.
- Some suggested that the current tall fencing immediately around the court was not necessary to keep balls within the court. Some requested that at least the gates should be wider and more welcoming.

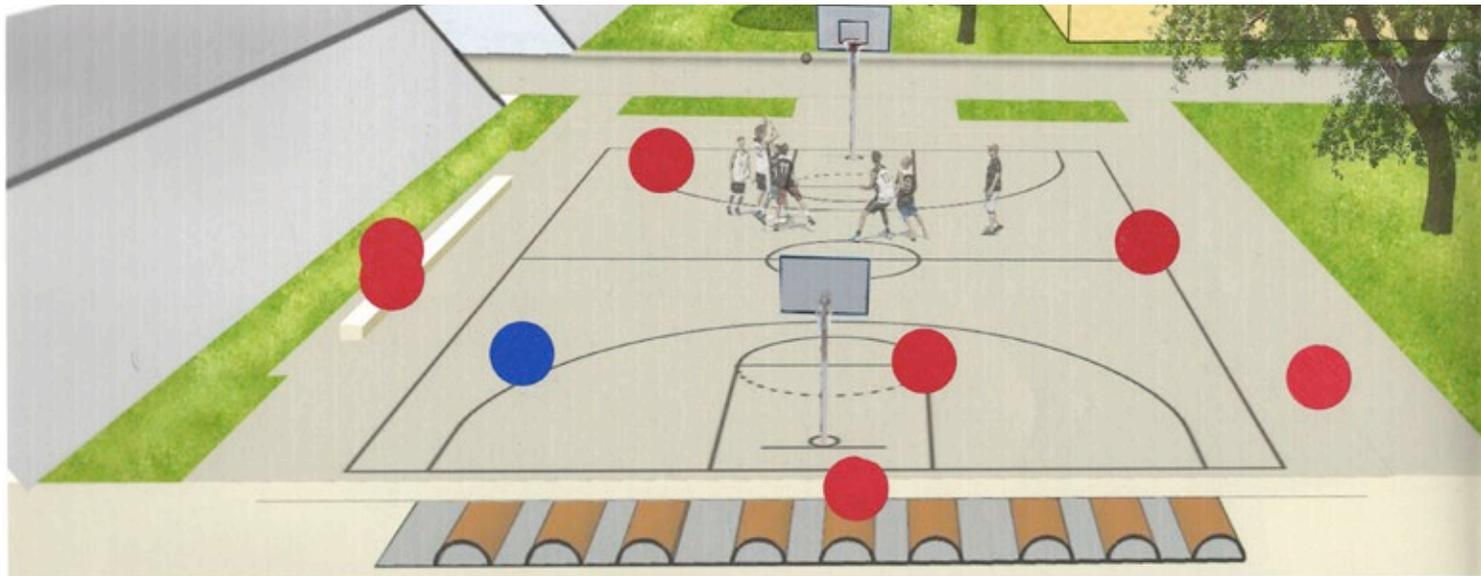


B.3 Area 3, Block 7

Blue dots indicate residents' selections for the basketball court design. Residents overwhelmingly selected the option with three to four steps down to the court. Blue dots indicate options that are liked; red dots indicate dislike.



Sunken Basketball Court

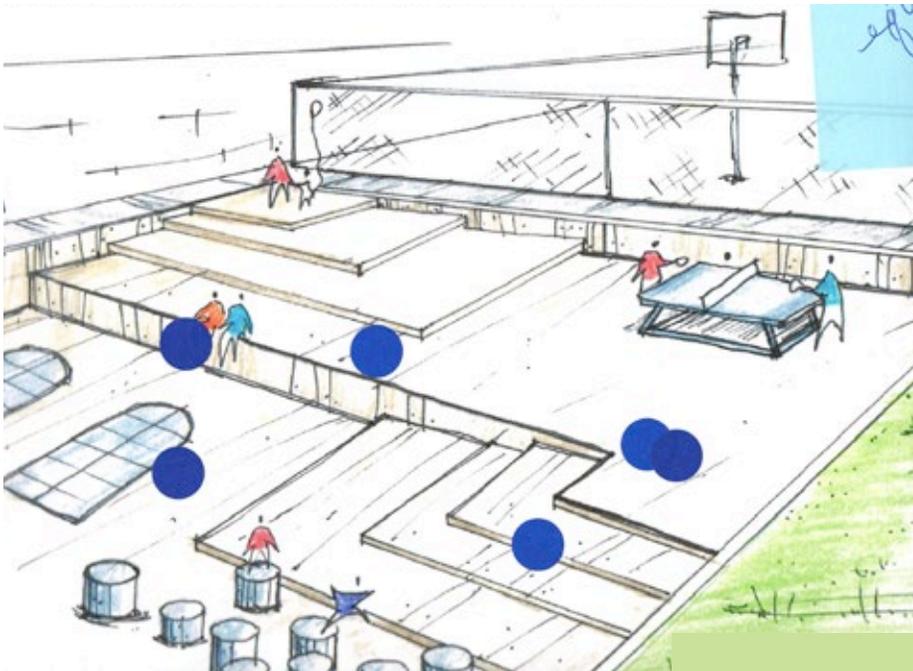


Flat Basketball Court

B.4 Area 4, Block 7

This site is located adjacent to the LIRR tracks, in a grassy area directly south of the basketball courts. Residents were shown two alternatives, one that provided a sunken, stepped grassy landscape for retaining stormwater and one with a multi-level concrete play area. Images were shown of how this area would deliberately flood and then drain after no more than 48 hours.

- Residents nearly universally preferred a sunken multi-level concrete design. Residents accepted that the court would flood on occasion and would be closed for use for a period of 48 hours or less.
- Residents nearly universally preferred the idea of painting game boards on the concrete ground, saying they currently had few other existing recreational alternatives.



PLAY AREA



RUNNING PATH

B.5 New Path

Residents reacted positively to the idea of a new path in Block 5 that would connect 109th Street to 108th Street. Some mentioned the need for additional lighting in this area for increased security. They did not request that the tall metal fences on 108th or 109th Streets be removed, but rather that the fences remain and that the gates remain open during the day and locked at night.





IV. PUBLIC CHARRETTE & WORKSHOPS

V. RECOMMENDATIONS



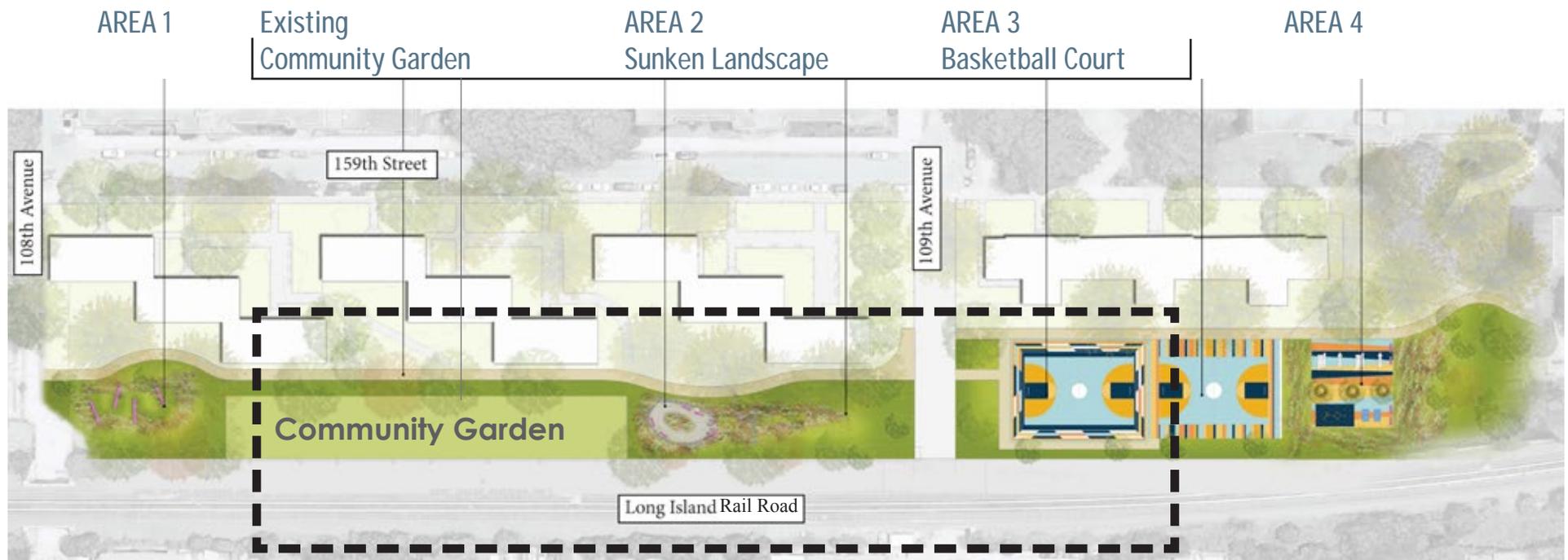
GRAIN COLLECTIVE
Landscape Architecture | Urban Design | Community Planning

V.A Summary of Community Comments and Review by Technical Working Group

A draft budget was prepared by Grain Collective to estimate which portions of the designs could be funded by NYCDEP and which would have to come from alternate sources. While the preliminary budget of \$2M would be exceeded if all the residents' preferences were selected, their highest priority areas could likely fit within budget. Additional funding for elements unrelated to stormwater, such as lighting, benches, and resurfacing of the second basketball court, would have to come from sources identified by NYCHA.

The pilot Cloudburst Project for South Jamaica Houses may focus mostly on Area 2 and the new basketball court. Since Area 2 is adjacent to the existing community garden, a series of three adjacent active areas composed of the new basketball court, Area 2, and community garden could become a strong multigenerational social gathering space for the community. A new path of pervious concrete could be created to link all of these facilities with the surrounding community.

Areas 1 and 4, which are located at either end of these three active spaces, might be scaled down in size to some extent in order to allocate funding to the highest priority areas. Following is a summary of recommendations for each area.

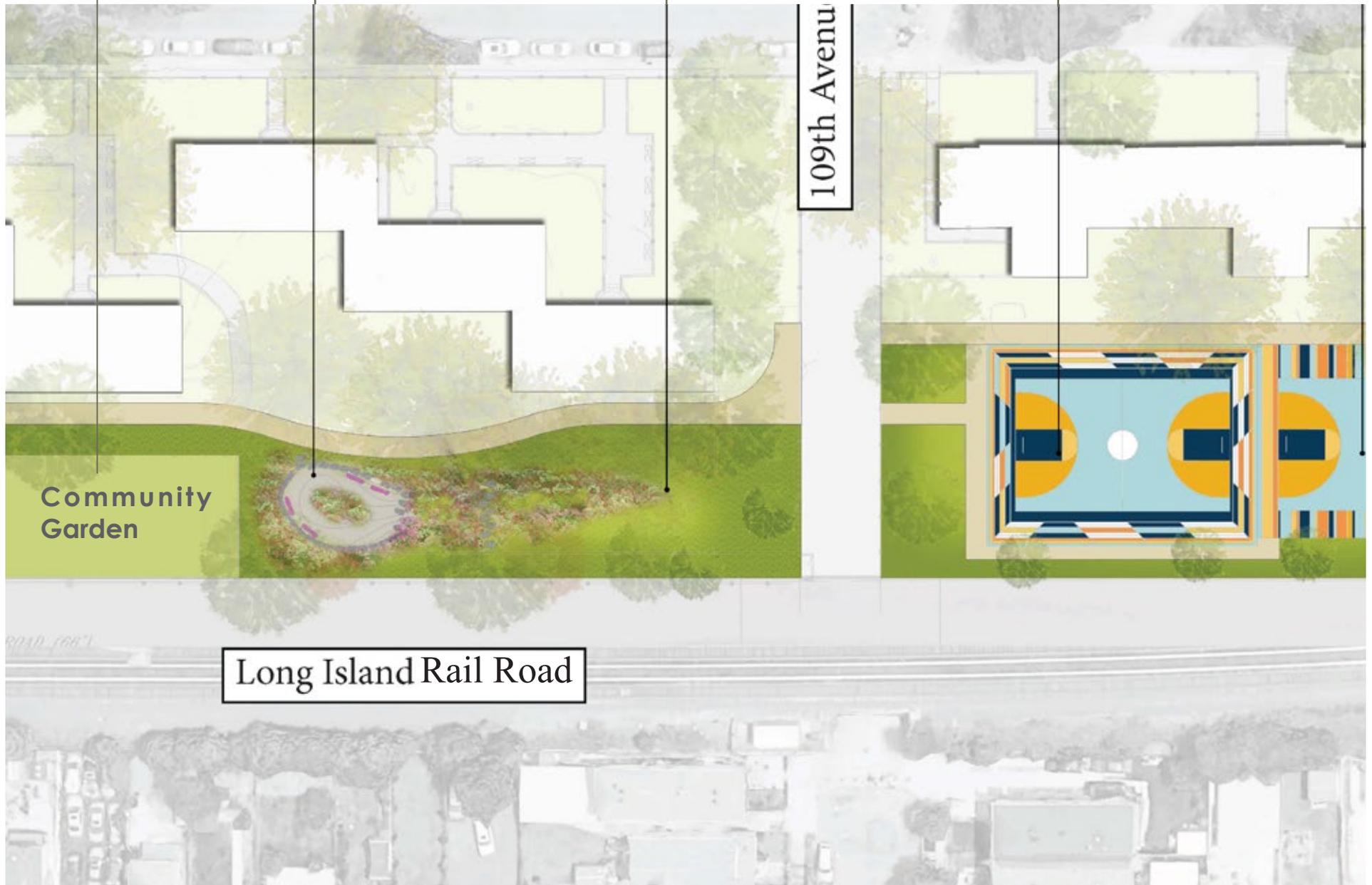


A.1 Three Central Public Spaces

Community Garden

AREA 2: Sunken Landscape

AREA 3: Basketball Court



A.1 Area 1

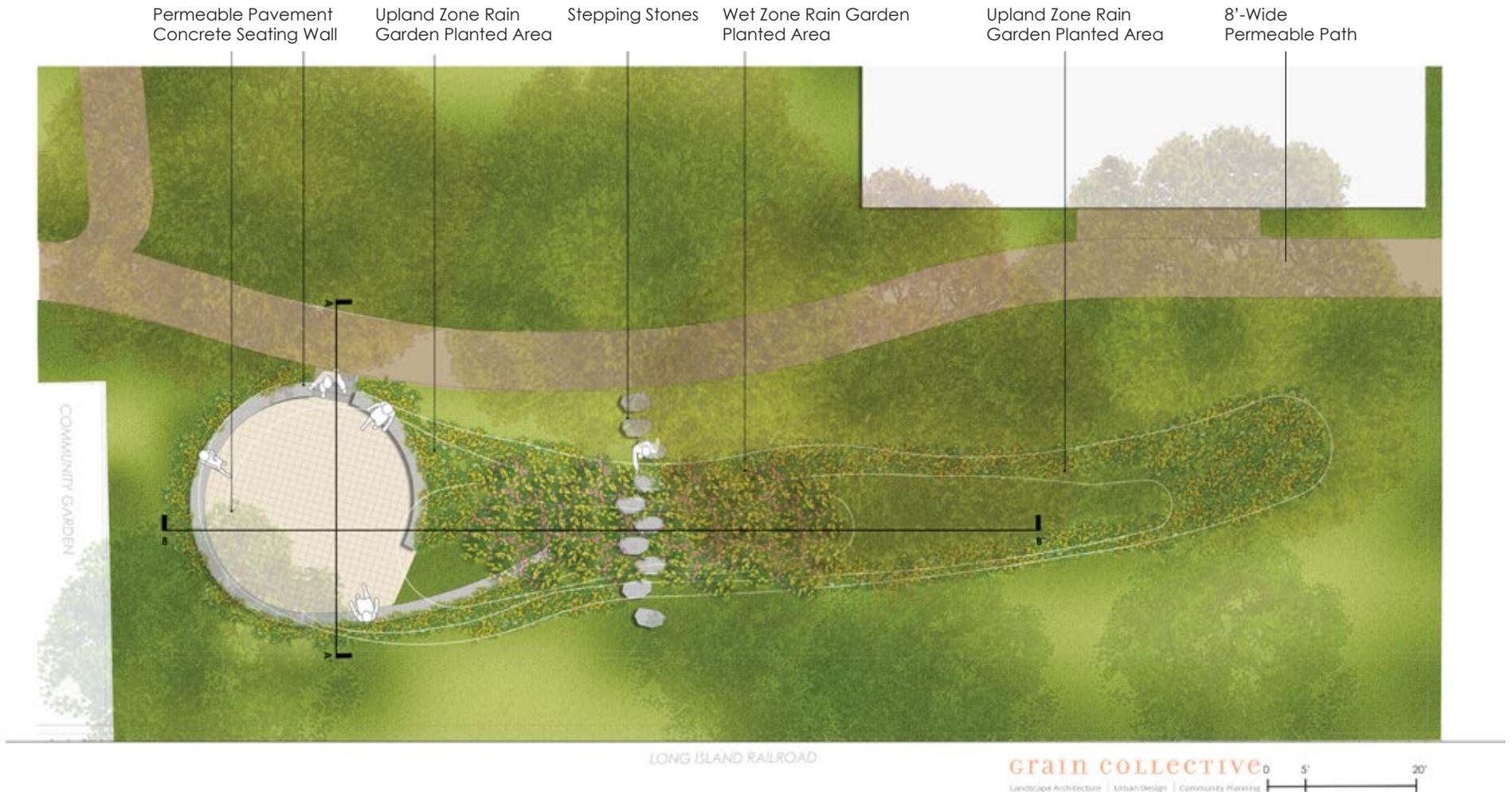
Since Area 1 is more isolated from other stormwater areas, it may be less vital as a large stormwater retention area. It did not appear to be a high-priority area for residents. The excavation depth of this area may be reduced to lower costs and allow funding to be allocated to other areas that residents appeared to indicate as higher in priority. Residents also indicated that they may eventually use portions of the area for more community gardens.



A.2 Area 2

Residents overwhelmingly voted to improve this area by installing a sunken landscape that could receive floodwaters on a temporary basis. The site would have shallow excavation and simple plantings in the southern portion of the area where large mature trees are closely spaced. The deeper excavations would occur in the large, open grass portion of the site. The design may include two general levels of excavation, a general excavation

of 1-1.5 feet for the entire area and a sunken seating area within the site that is a bit deeper. Elements such as pervious paving, basic native plantings, retaining walls that could be used for seating, site excavation, and underdrains could be funded through NYCDEP. Benches and site lighting might be funded through alternative sources.



A.2 Area 2



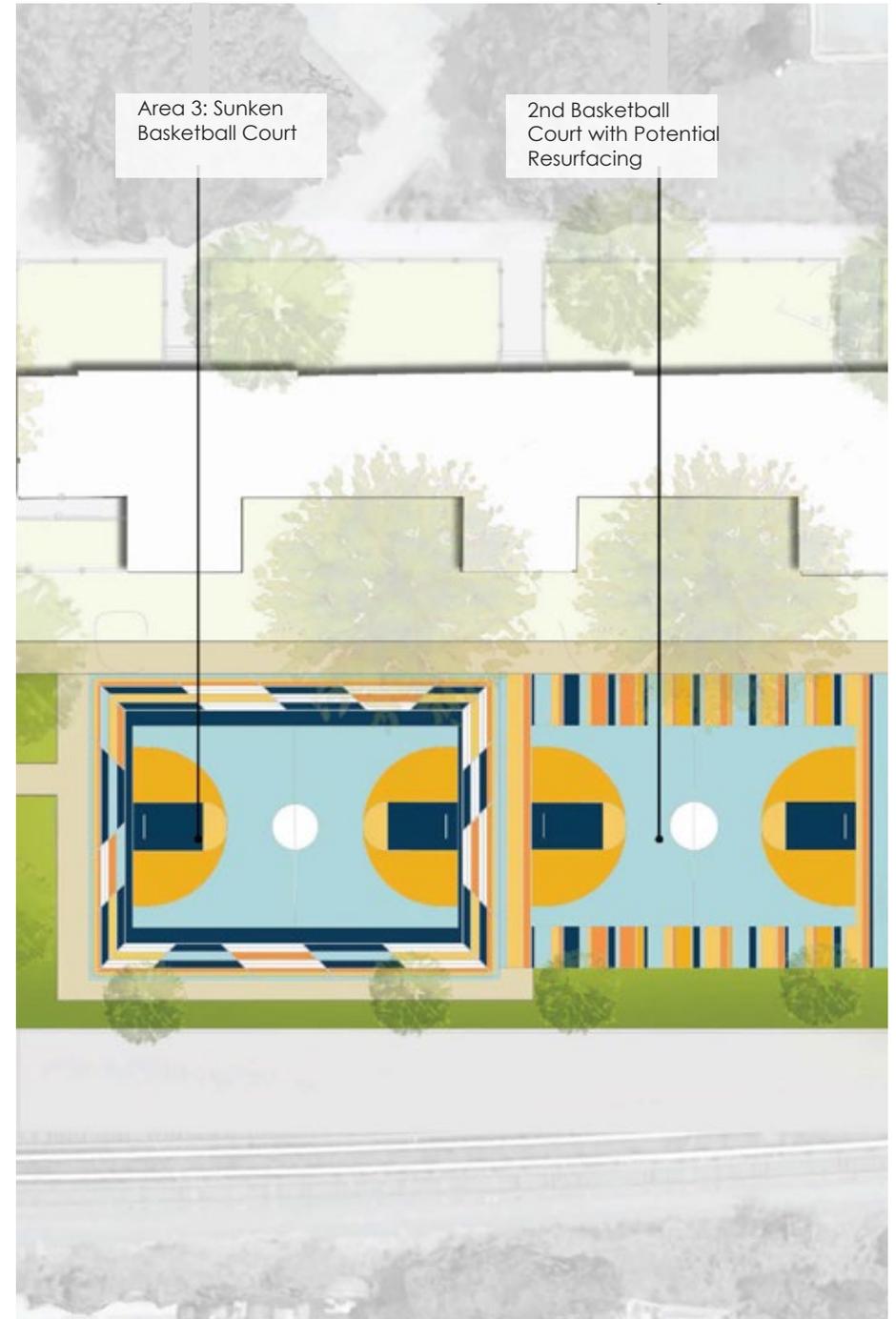
A.3 Area 3

Residents overwhelmingly chose a sunken basketball court with three to four steps around the outer edges. They liked the idea that the steps could allow seating for games. They accepted the concept of the court flooding on a short-term basis. The court would include below-grade retention tanks connected to the area's stormwater system.

The replaced court should incorporate improved pavement coloring and painted ground lines. If feasible, the court should be extended toward the north to accommodate a full-size professional length. Residents recommended improvements to the lighting, changing rims of the backstop from double rim to single rim, and if financially feasible, providing fiberglass backstops. Some suggested that the community's local informal name, "821," be painted on the court floor.

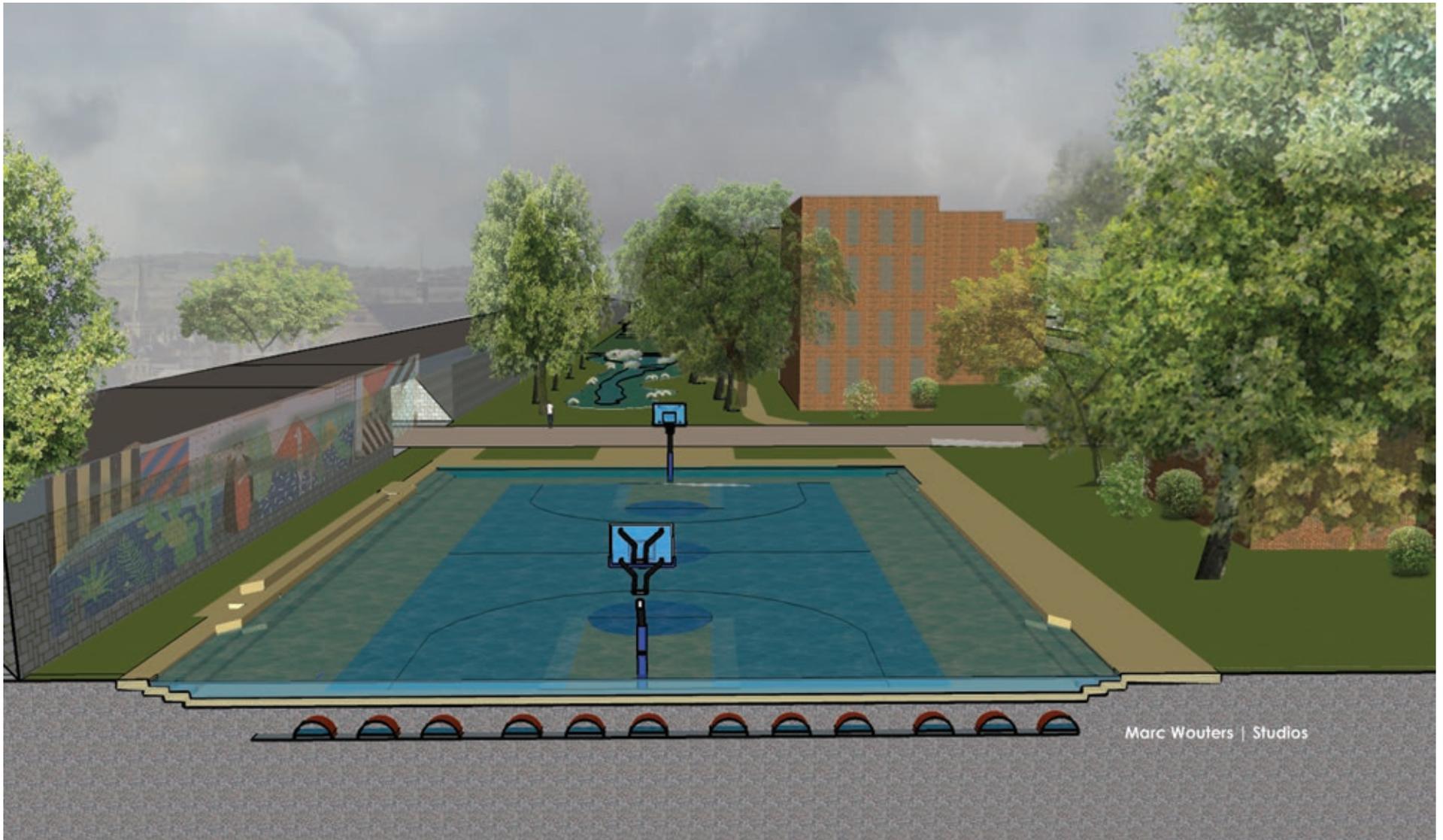
Resurfacing or reconstruction of the second court could not be funded through NYCDEP since it does not need to incorporate stormwater retention features. If funds were made available to resurface the second court, some suggested that the painted lines allow flexible uses, such as a bike track, outdoor exercise, or painted floor games.

Some suggested that the current tall fencing immediately around the court was not necessary to keep balls within the court or that the gated entrances to the court should be made wider and more welcoming.





View of proposed sunken basketball court with new seating, colored play surfaces, potential mural along the retaining wall of the LIRR, and reduced fencing.

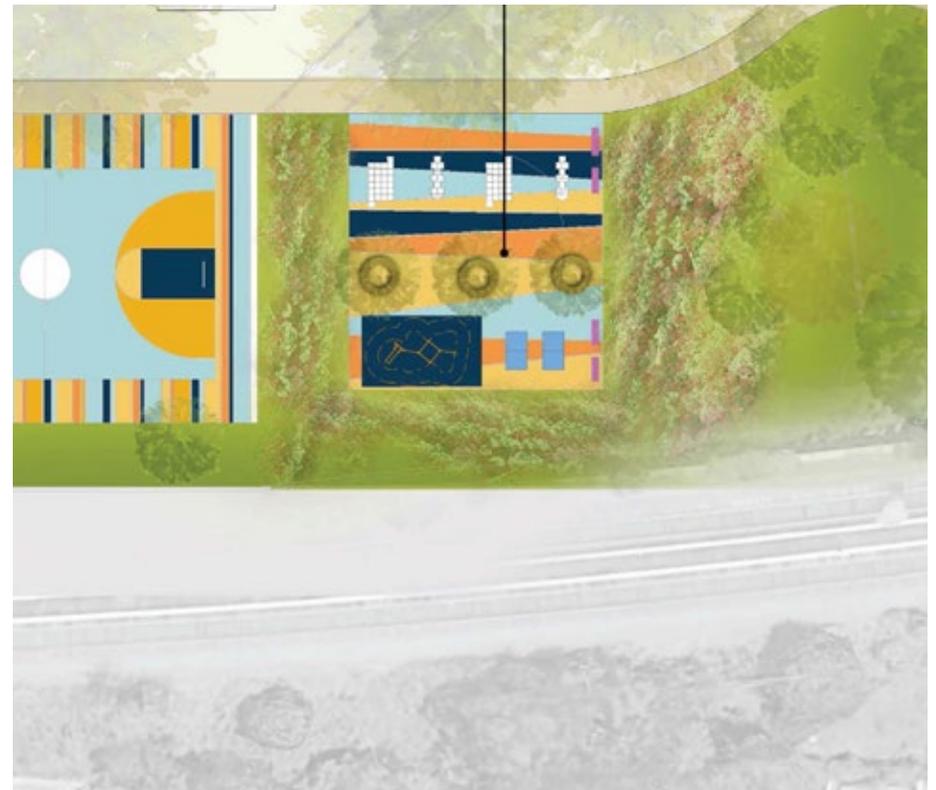


View of proposed sunken basketball court while temporarily holding stormwater. Retention is also provided by tanks located below the court. Sunken garden of Area 2 is shown temporarily flooded in background.

A.4 Area 4

While the hardscape recreation alternative for Area 4 was popular with residents, members of the technical working group were concerned it might exceed budget allowances. The residents commented that the design fulfilled an outdoor space programming need not offered in existing open spaces. The area could incorporate pervious materials and retain significant amounts of stormwater. The design of this area remains undetermined.

Area 4: New Sunken
Hardscape Play Area



V.B Plant List

Plants selected are native species that require limited maintenance. Plants include both flowering plants that were preferred by the residents as well as grasses. Plants are allocated according to whether they are in an area that will flood frequently or in an area that is mostly dry.

WET ZONE

	<u>LATIN NAME</u>	<u>COMMON NAME</u>
<u>FLOWER</u>	Equatorium purpureum	Joe Pye Weed
	Lobelia cardinalis	Cardinal Flower
	Phlox divaricata	Woodland Phlox
	Thalictrum dasycarpum	Tall Meadow Rue
	Tiarella cordifolia	Foam Flower
<u>FERNS</u>	Matteuccia pennsylvanica	Ostritch Fern
	Onoclea Sensibilis	Sensitive Fern
	Osmunda cinnamomea	Cinnamon Fern
	Osmunda claytoniana	Interupted Fern

UPLAND ZONE

<u>FLOWER</u>	Geranium maculatum	Wild Geranium
	Huchera americana	Coral Bells
	Symphyotrichum cordifolium	Blue wood aster
	Aquilegia canadensis	Wild Columbine
	Rudbeckia fulgida	Rudbeckia fulgida
	Amsonia tabernaemontana 'Blue Ice'	Blue Star
	Amsonia hubrichtii	Threadleaf Blue Star
<u>FERNS</u>	Polystichum acrostichoides	Christmas Fern
	Osmunda claytoniana	Interupted Fern

RAIN GARDEN PLANTS LIST

WET ZONE



Joe Pye Weed



Cardinal Flower



Woodland Phlox



Tall Meadow Rue



Foam Flower



Ostrich Fern



Sensitive Fern



Cinnamon Fern



Interrupted Fern

UPLAND ZONE



Wild Geranium



Coral Bells



Blue Wood Aster



Wild Columbine



Rudbeckia fulgida



Blue Star



Threadleaf Blue Star



Christmas Fern



Interrupted Fern

V.C Conclusion

The Cloudburst Plan pilot project for South Jamaica Houses was developed through extensive dialogue with local residents, NYCHA, and NYCDEP. Residents supported the concept of creating improved public spaces that would be used to accommodate and control local stormwater flooding. The pilot project that resulted from this dialogue includes a series of public spaces that closely align with the community's needs while accommodating stormwater. The spaces include a new sunken seating and native plant area, a new sunken basketball court with integrated seating, and a new public path that connects these areas to the already active community garden. Together, this series of three adjacent main public spaces will create an active social center that caters to all age groups in the community. The new public spaces manage both a 10-year storm event and daily rain events.

The principal new spaces include a sunken seating space in Block 5 designed to collect stormwater from several portions of the block. It includes pervious pavers and natural planting areas that allow infiltration of daily rain events. To accommodate large storm events, the sunken native plant area that surrounds the seating can accept high volumes of stormwater and also operate in conjunction with an underground retention tank system in Block 7. The plan also protects the many local mature trees of Block 5.

In Block 7, a new basketball court with retention tanks below it can accept high volumes of stormwater from both Blocks 5 and 7. The stormwater can be temporarily held in this configuration while the existing stormwater sewer system is at capacity. Once the existing sewer system has drained after a major storm, the retained stormwater will discharge through the existing sewer system.

The construction costs for this series of spaces appear to align with funding allowances. Other smaller stormwater areas in Blocks 5 and 7, Area 1 and Area 4 may also be included in the plan, depending on funding availability. As in all Cloudburst Planning projects with Blue-Green Infrastructure, some limited maintenance is required; however, the designs are created to reduce maintenance as much as possible.

Overall, the pilot project achieves the goals of Cloudburst Planning. It is lower cost than accommodating stormwater through new sewers and provides multiple social and environmental benefits.



V. RECOMMENDATIONS

