



City Of Raleigh

NORTH CAROLINA

DATE: November 13, 2015
MEMO TO: Mayor and Council Members
SUBJECT: Council Work Session

The City Council will meet in work session 11:30 a.m. on Tuesday, November 17, 2015, in Conference Room 305, Raleigh Municipal Building, 222 West Hargett Street, Avery C. Upchurch Government Complex, Raleigh, North Carolina.

11:30 a.m. Lunch – Pick up - Conference Room 300

Topic 1 Moore Square Park
Staff Resource: **Diane Sauer, Stephen Bentley, Grayson Maughan, Parks Recreation & Cultural Resources**

In April 2015, the design team, led by Sasaki Associates, spent four active and engaging days leading over thirty meetings with staff, stakeholders, citizens, nonprofits and business owners to discuss the implementation of the Moore Square Master Plan. Support and enthusiasm for the project moving forward was overwhelming. The week of engagement yielded a set of priorities that informed schematic design. At this point in time 15% of the total design is complete. On November 10, 2015 staff and consultants from Sasaki presented the updated design progression at an open house that included members of the master plan public leadership group. Comments regarding the status of the project were positive. The work session presentation will provide updated information and an overview on next steps. At the December 1st City Council meeting an additional presentation will be made that includes a staff request to proceed to construction documentation and permitting.

Topic 2 Stormwater Project Priority Update
Staff Resource: **Blair Hinkle, Stormwater, Public Works**

During the March 19, 2015 Budget Work Session, Stormwater staff highlighted several key policy themes related to the City's Stormwater Management Program. These themes touched on many aspects of the Program, but related strongly to service delivery, efficiency, and transparent prioritization of capital projects. Significant work has been completed over the last eight months in these areas, and staff is pleased to provide Council with an update of our progress in increasing the Program's level of service to our customers – specifically in the area of Drainage Assistance, where the City partners with private property owners to address flooding or erosion issues on private property.

Louis M. Buonpane
Chief of Staff

cc: City Manager Ruffin Hall
City Attorney Tom McCormick
City Clerk Gail Smith
Assistant City Managers Marchell Adams David, James S. Greene, Jr. and Tansy Hayward
Parks Recreation & Cultural Resources Director Diane Sauer, Stephen Bentley
Public Works Interim Director Rich Kelly, Blair Hinkle-Stormwater



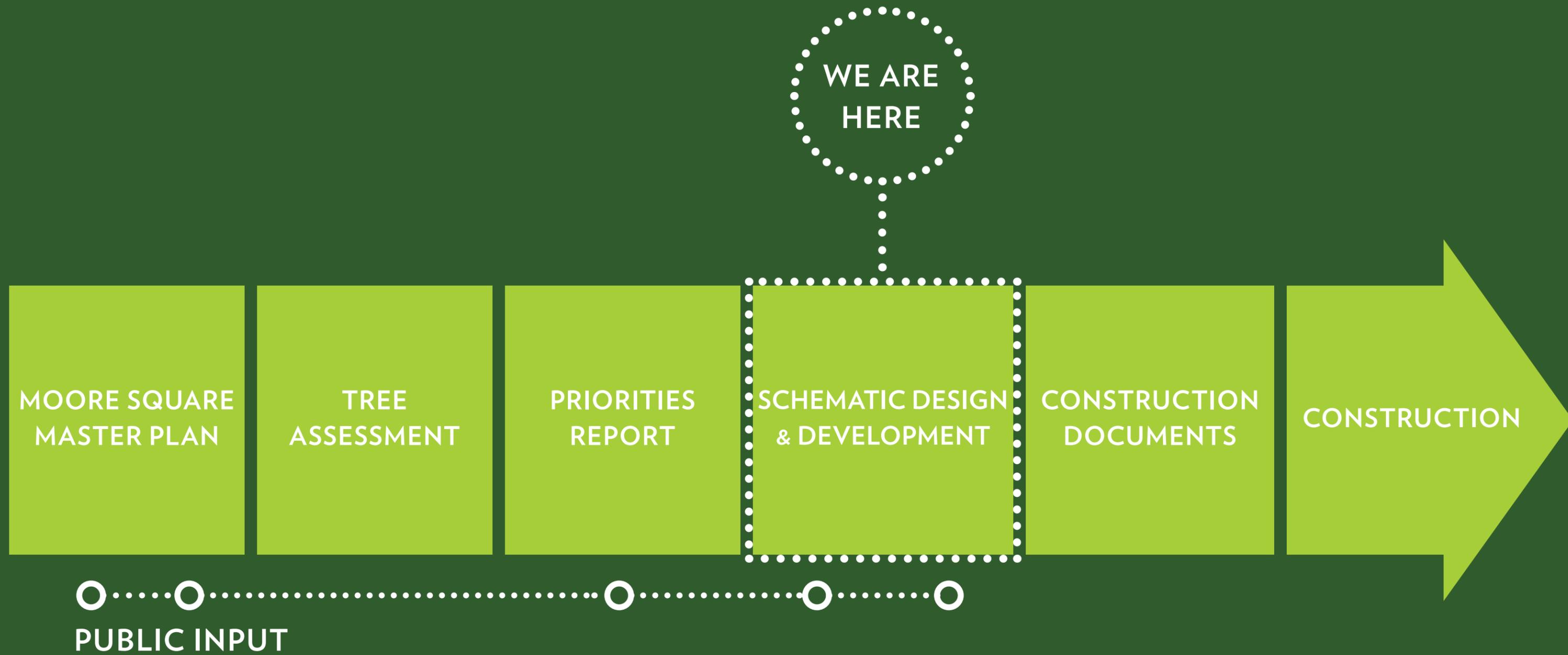
MOORE SQUARE PARK MASTER PLAN

for the City of Raleigh
November, 2015

Agenda

- **Implementation Schedule**
- **Framework Analysis**
 - History
 - Views from the Square
 - Slopes in the Square
 - Soils
 - Tree Protection
 - Tree Succession
- **Current Plan**
- **Architecture**
- **Views**

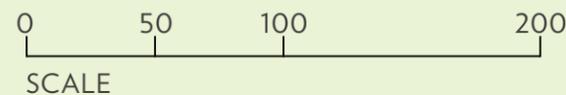
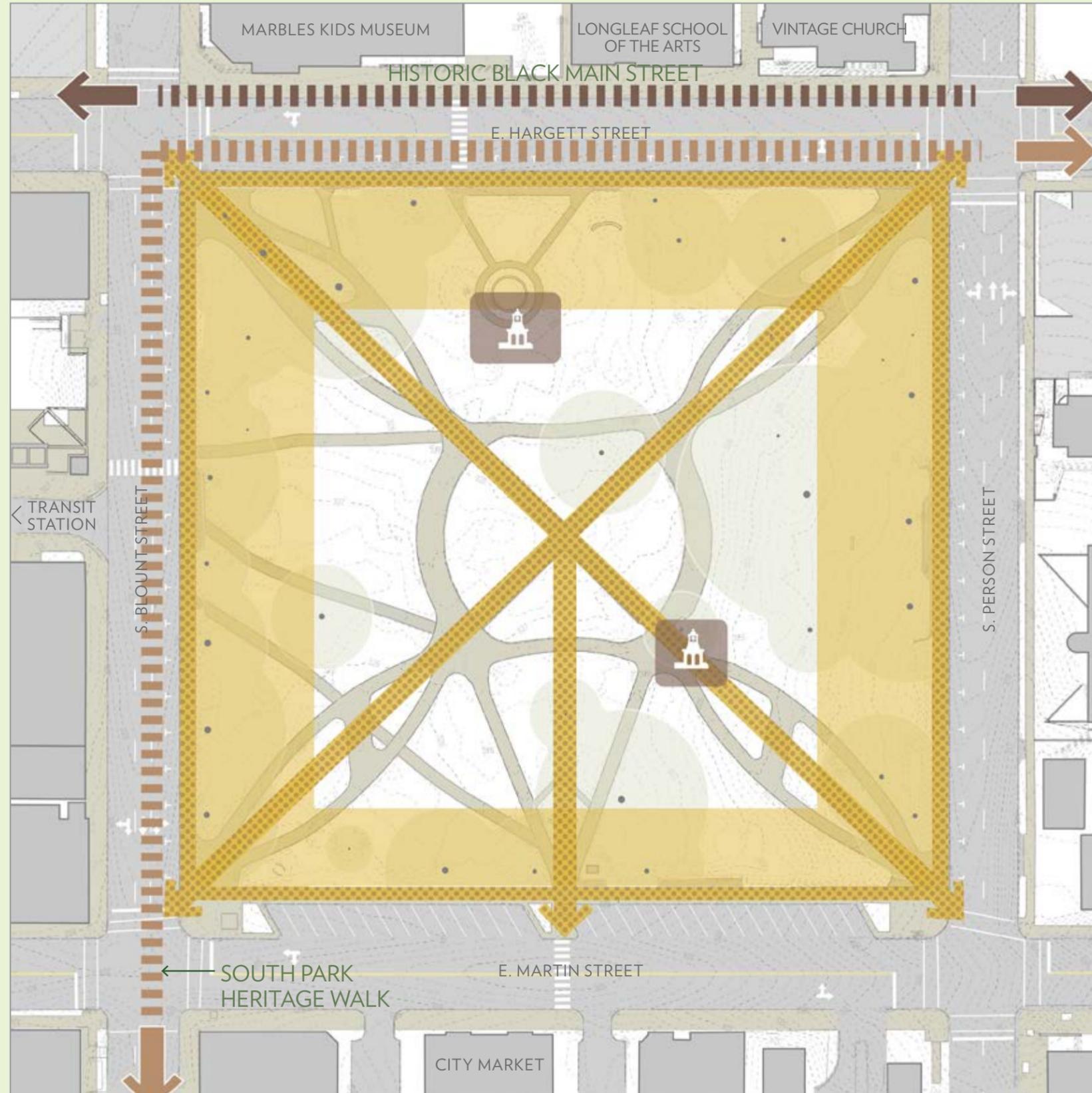
IMPLEMENTATION SCHEDULE



A green-tinted photograph of a park with many trees and a path, overlaid with the text "FRAMEWORK ANALYSIS".

FRAMEWORK ANALYSIS

HISTORY



Summary

The design of the square will celebrate its significance as one of the original four squares of the City of Raleigh. History analysis addresses the following priorities:

-  **HISTORY:** Acknowledge the historically significant elements of the square.
-  **PUBLIC ART:** Develop public art that celebrates the square's rich history.
-  **CONNECTION TO CONTEXT:** Strengthen critical visual connections.
-  **TREES:** Preserve the site's local history as the grove.
-  **DURABILITY AND FUNCTION:** Choose durable, high-quality materials to accommodate the rising density of Raleigh and last for future generations.

DESIGN IMPLICATIONS

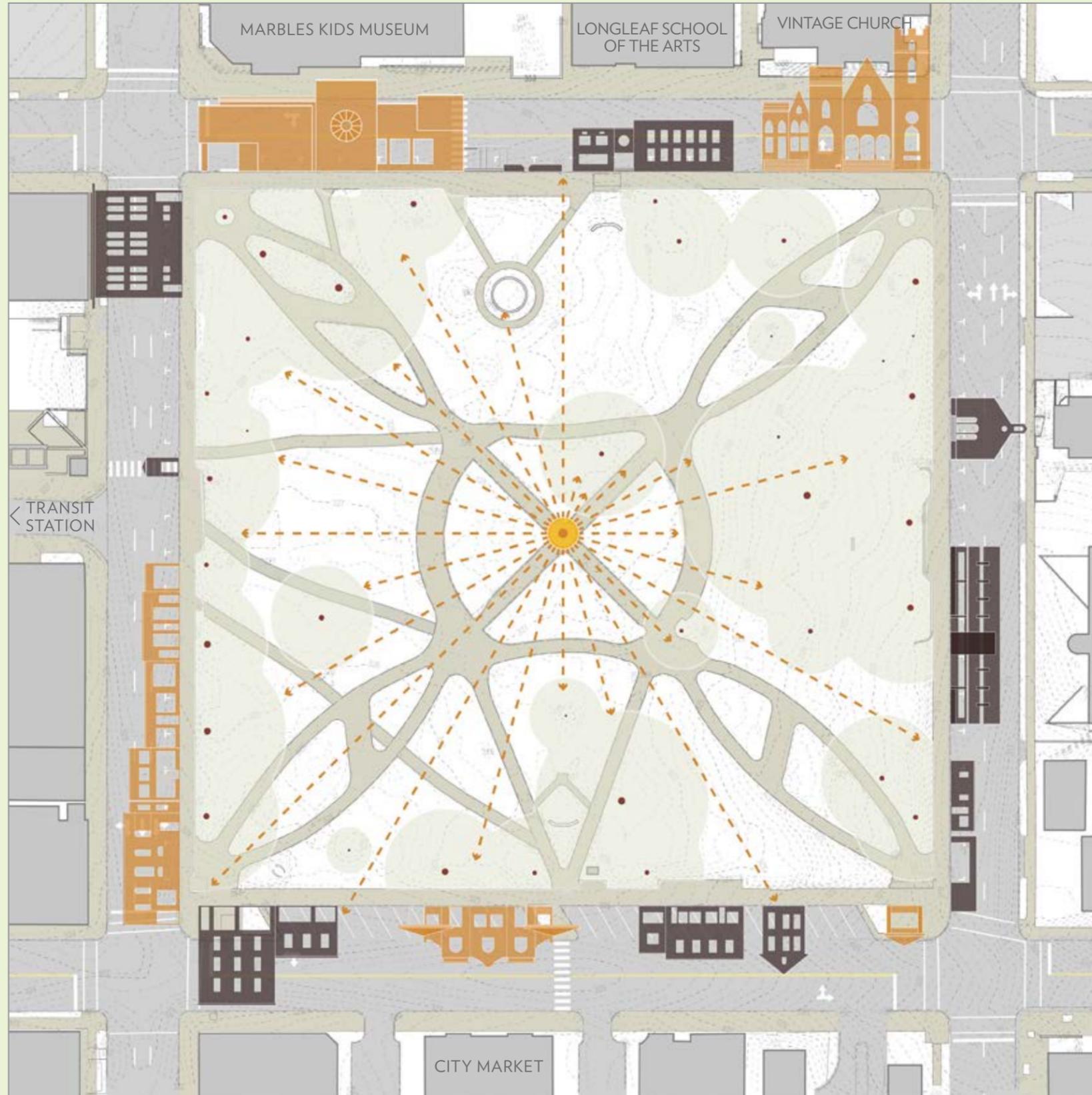
- The design will be coordinated with the planning of the South Park Heritage Trail.

-  HISTORIC TREE FRAME (EARLY 1900s)
-  HISTORIC PATH ALIGNMENT (EARLY 1900s)
-  HISTORIC BUILDING LOCATIONS

Historical Path Development



VIEWS FROM THE SQUARE



Summary

The square will strengthen visual connections to surrounding context. The design will also improve visibility within the square. View analysis addresses the following priorities:



SAFETY: Create open sight lines throughout the park to instill a sense of safety among visitors.



FOOD AND RESTROOMS: Preserve critical views when locating the structure.



CONNECTION TO CONTEXT: Preserve and create visual connections between the square and its surroundings.



TREES: Plan limbing up of trees and future tree placement to preserve critical views.

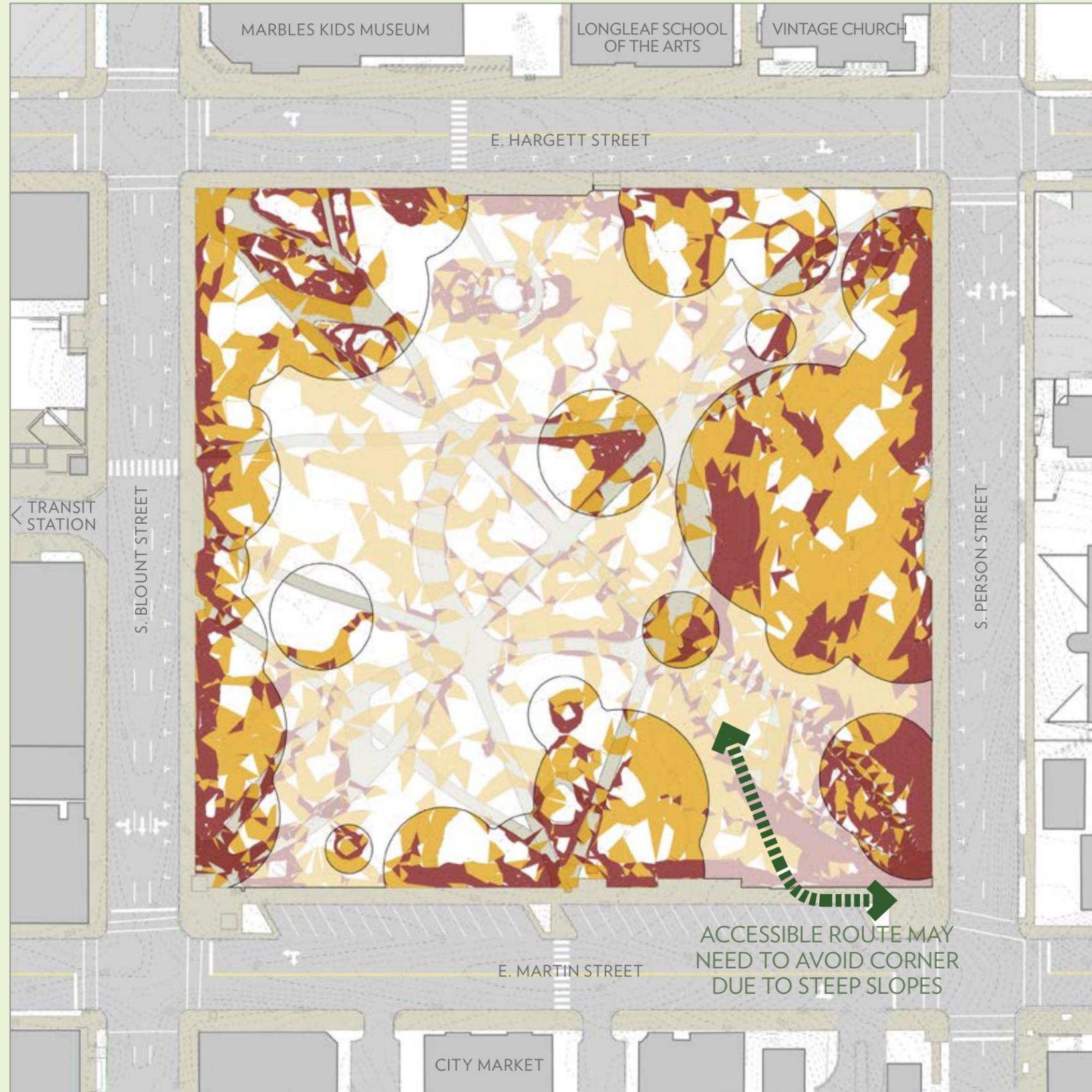
DESIGN IMPLICATIONS

- The design of the square will make visual connections to the adjacent architecture. Critical views include City Market, Marbles Kids Museum, Historic Gas Station, Blount Street, and Vintage Church.
- The transit station is a critical visual connection.

0 50 100 200
SCALE



SLOPES INSIDE THE SQUARE



Summary

Protecting the historic frame of oaks around the square during and after construction is a key objective of the project. Topography analysis addresses the following priorities:



FLEXIBILITY: Maintain flat open area at the center of the square to maximize potential uses.



HISTORY: Maintain the historic topography and viewsheds through the square.



SAFETY: Design grades to provide safe and accessible walkways throughout the square. Maintain open and safe views through the square.



TREES: Minimize regrading within the critical tree root zones to ensure tree health.



PLAY: Make use of existing grades for play area.

DESIGN IMPLICATIONS

- New path alignments will account for accessibility and tree protection.



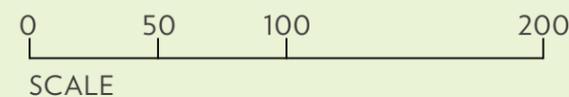
0% - 2% Slopes



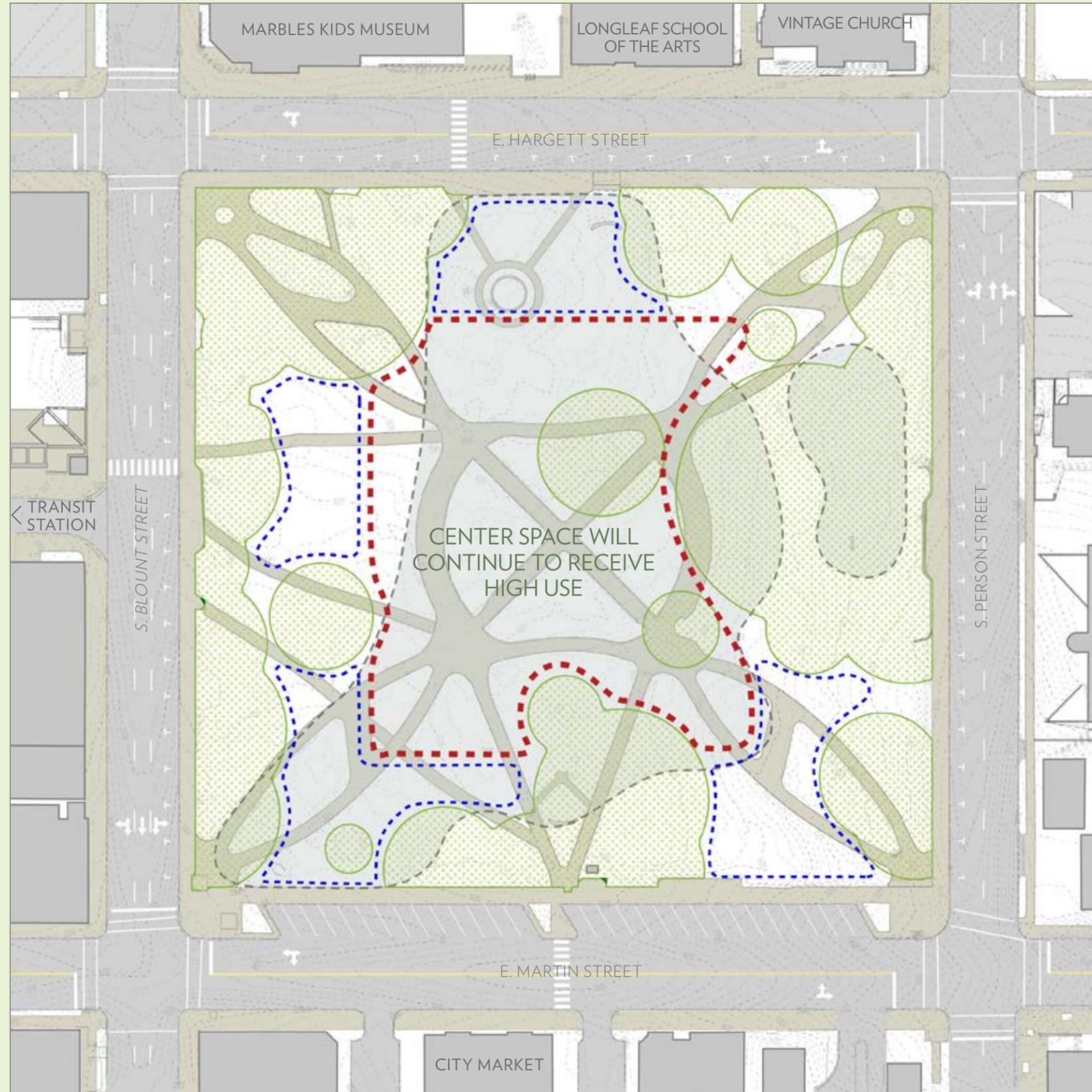
2% - 5% Slopes



>5% Slopes



SOILS



Summary

The square's existing soils are compacted from years of heavy use. Rebuilding these soils to support activities and vegetation is a key objective of this project. Soil analysis addresses the following priorities:



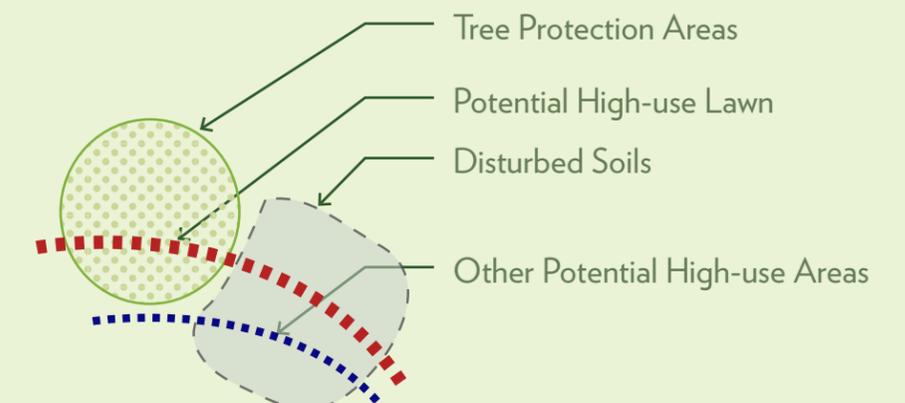
FLEXIBILITY: Use soils designed for heavy use in the center of the square to support a diversity of activities.



TREES: Provide new, healthy soils for some existing trees and all new planting.

DESIGN IMPLICATIONS

- High-use areas will require modified soils to accommodate intense use. These soils will remain porous and slow draining to support long-term health of the lawn.
- Drainage may be directed to the existing subsurface gravel zone to provide infiltration and treatment of the stormwater.

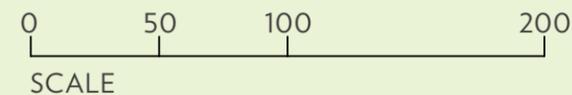
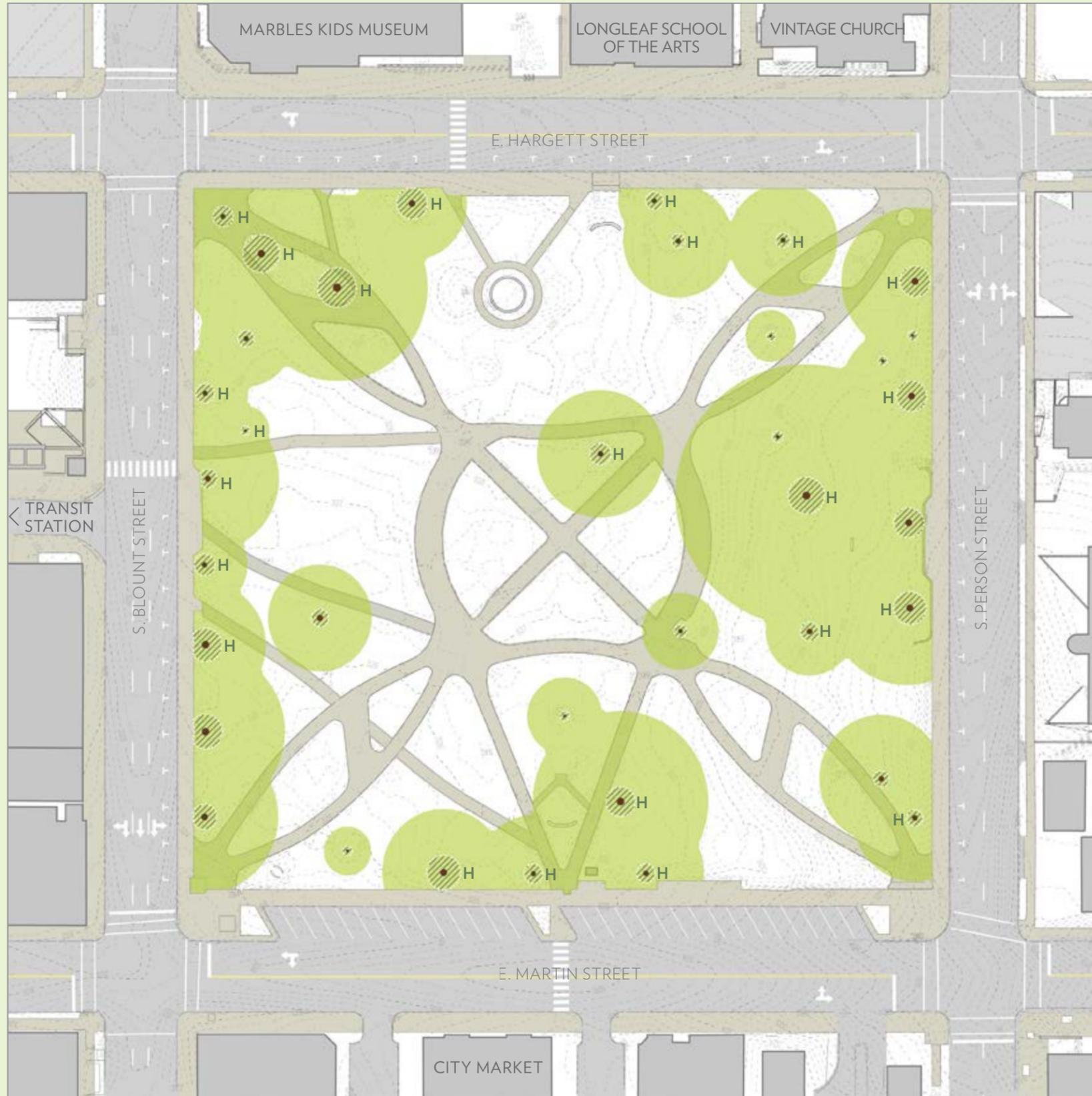


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SCALE



TREE PROTECTION



Summary

Protecting the historic frame of oaks around the square during and after construction is a key objective of the project. Tree analysis addresses the following priorities:



HISTORY: Preserve the existing oaks as a critical part of the square's legacy.



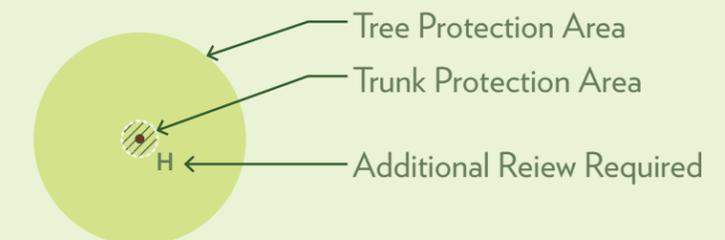
TREES: Preserve mature trees to define the space and provide shade for visitors.



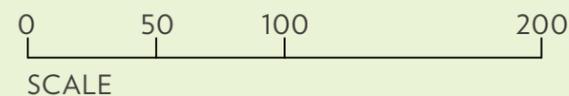
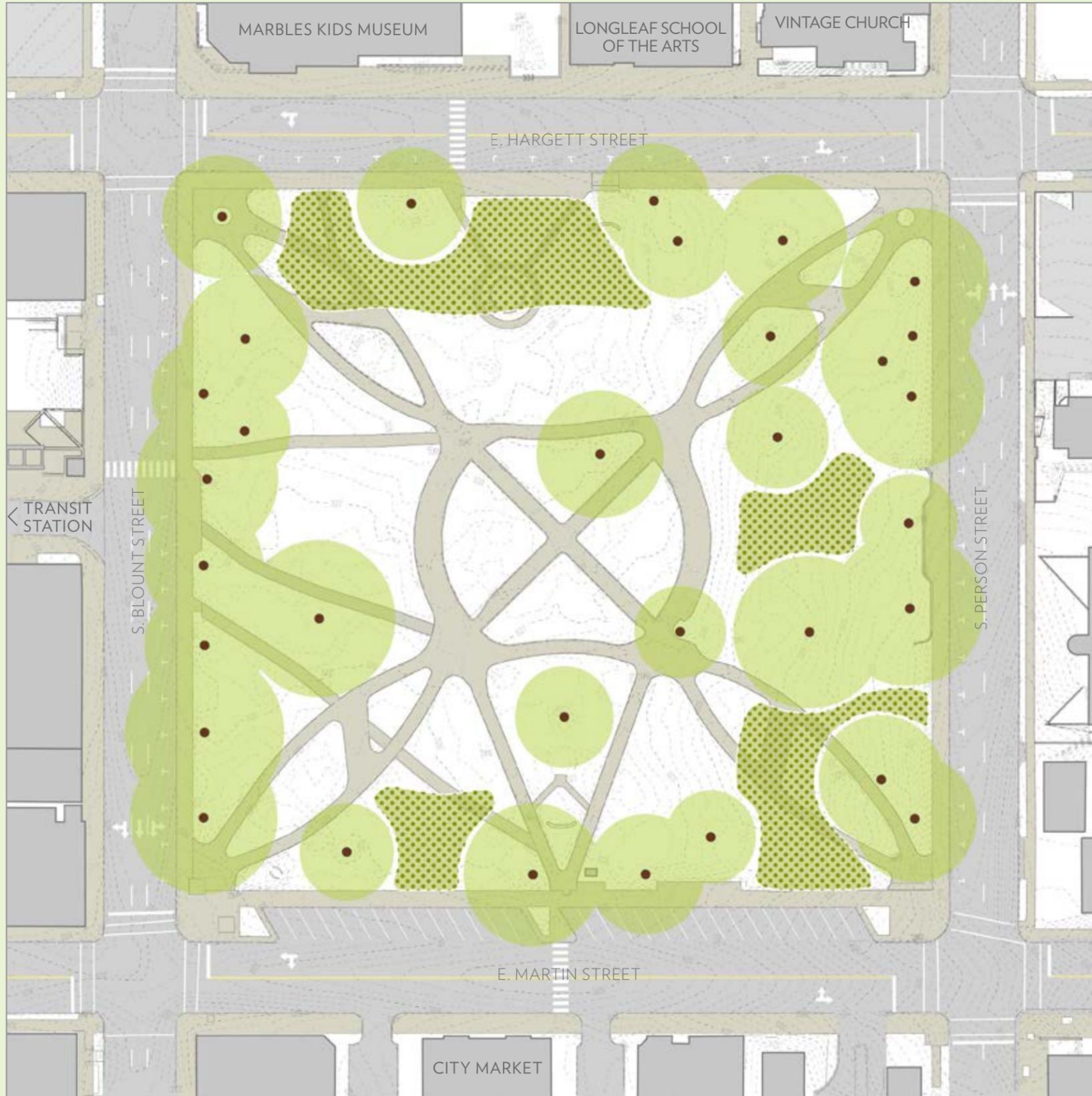
DIGNIFIED FRAME: Use the dignified frame seatwall to protect critical root zones and ensure long-term tree health.

DESIGN IMPLICATIONS

- The design should discourage pedestrian access and all vehicular uses within the Tree Protection Area, as these activities will further compact soils and potentially damage trees.
- The design should limit new construction and grading within the Tree Protection Area because these will require special construction methods that add cost and may impact trees.



TREE SUCCESSION



Summary

Planting a new generation of trees within the frame will sustain the historic grove for the future. Tree analysis addresses the following priorities:



HISTORY: Preserve the historic shaded grove for future generations.



TREES: Infill the existing mature frame of trees to ensure a constant canopy persists while older trees reach the end of their lifespan.

DESIGN IMPLICATIONS

- Where feasible, the design will address the future gaps in canopy by planting new canopy trees in the anticipated gap areas.
- The design should continue the historic use of oaks at the perimeter, while integrating diverse species to ensure long-term resilience of the canopy.



A green-tinted photograph of a park with many trees and a path, overlaid with the text "CURRENT PLAN". The image shows a wide, open area with several large, mature trees scattered throughout. In the background, there are some buildings and a path. The overall scene is peaceful and natural.

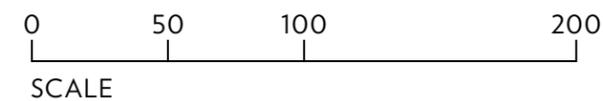
CURRENT PLAN

CURRENT PLAN



PROJECT PRIORITIES

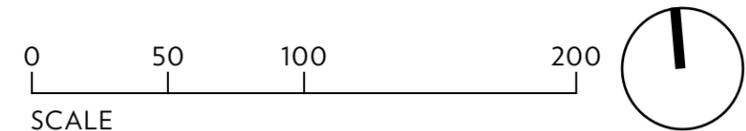
-  Flexibility
-  History
-  Safety
-  Trees
-  Play
-  Dignified Frame
-  Public Art
-  Connection To Context
-  Food And Restrooms
-  Durability And Functionality



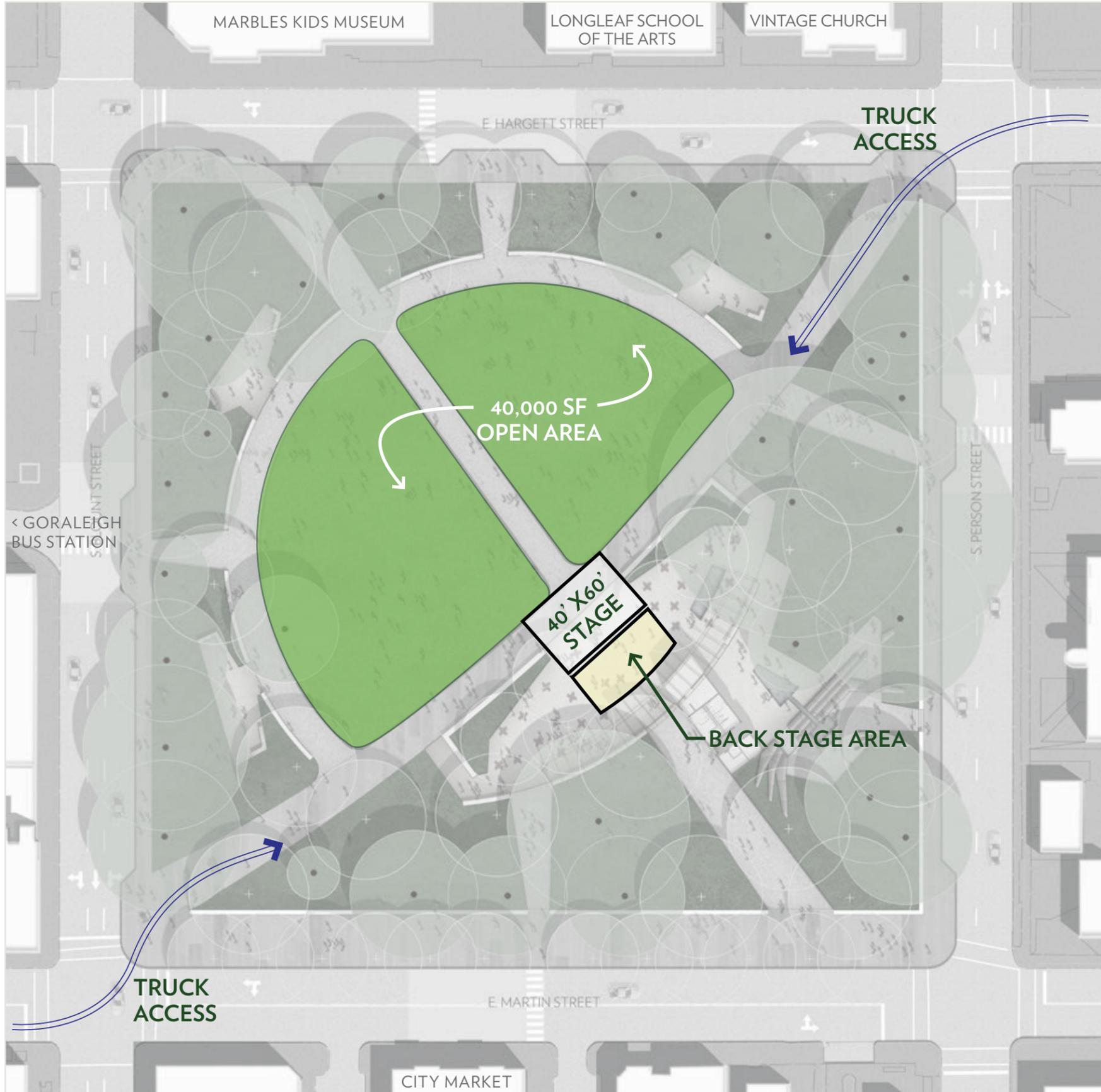
NEIGHBORHOOD ACTIVITIES



- CENTRAL LAWNS (40,000sf)**
 - 2-3 Exercise Classes
 - 1 Acoustic Concert
- GROVE ROOMS (1,000-1,400sf each)**
 - Group conversations & meetings
- PLAY AREA (5,500sf)**
 - Approximately 70 child capacity based on national standards
- CIVIC PLAZA (8,000sf)**
 - Approximately 500 people at cafe tables and chairs (15sf/person)
- ENTRY PLAZAS (15,600sf total)**
 - Informal gatherings and performances
- FRAME WALLS (1,400lf)**
 - 470 people seated on wall (3lf/person)

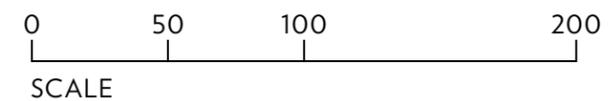


TEMPORARY STAGE PERFORMANCE



NOTES

- Central lawn activities may include open mics, acapella gospel performances, and movies.
- Back of stage area for equipment and staging



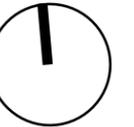
A green-tinted photograph of a park with many trees and a building in the background. The word "ARCHITECTURE" is overlaid in white text in the center.

ARCHITECTURE

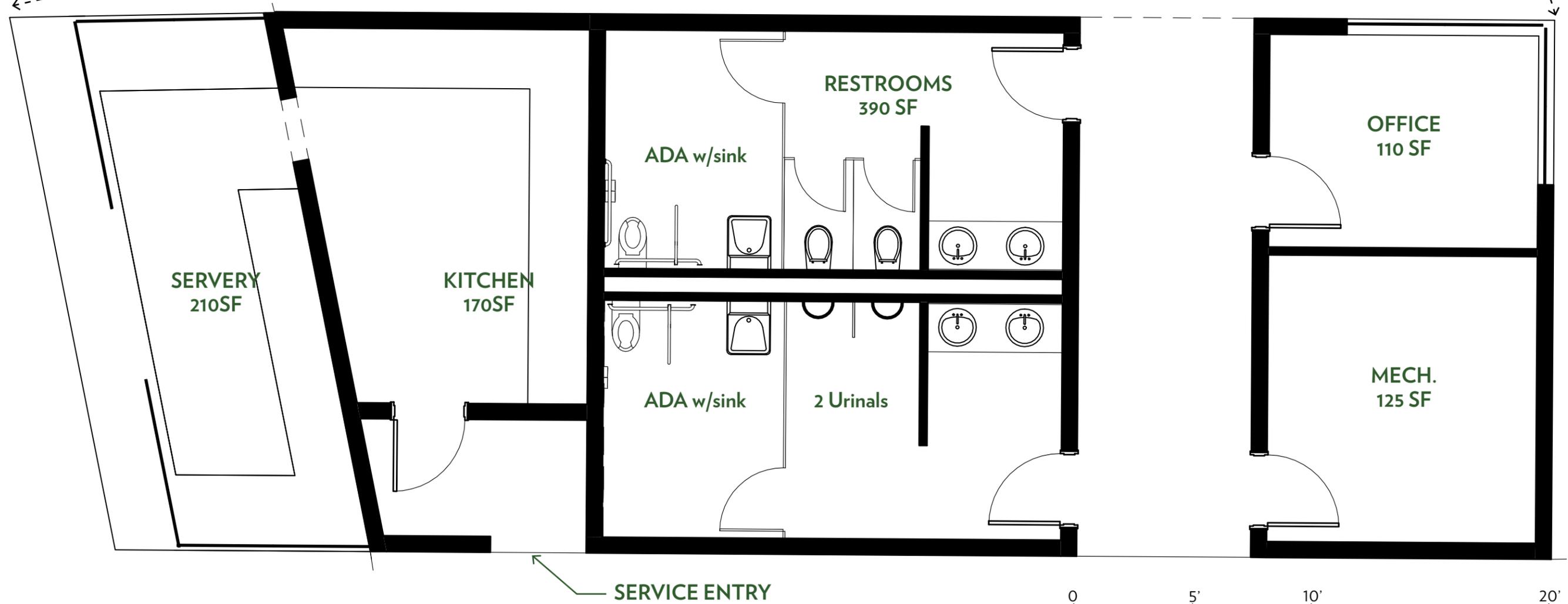
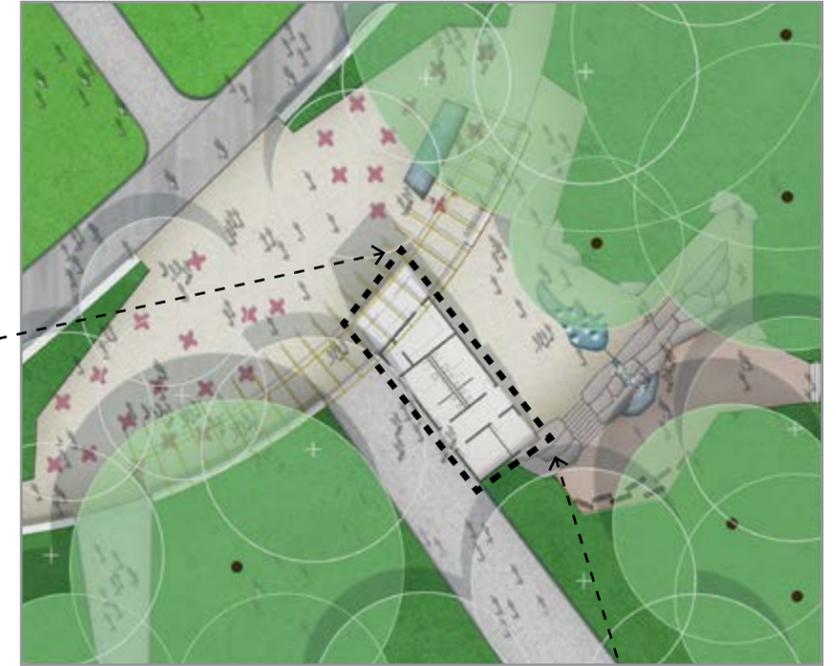
BUILDING LOCATION



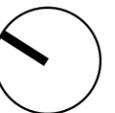
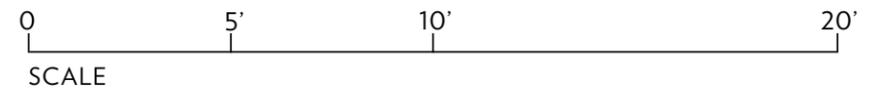
0 20 40 80
SCALE



BUILDING FLOOR PLAN



SERVICE ENTRY



BUILDING PRECEDENTS: HUMAN SCALE



BROOKLYN BOTANIC GARDEN



SISTER CITIES PARK, PHILADELPHIA



BORDEN PARK PAVILION, EDMONTON CANADA



MADISON SQUARE PARK, NYC

BUILDING PRECEDENTS: SOCIAL



SOUTHWEST PORCH, BRYANT PARK, NYC



SOUTHWEST PORCH, BRYANT PARK, NYC



INDEPENDENCE BEER GARDEN, PHILADELPHIA



PLACE DE LA REPUBLIQUE, PARIS

BUILDING PRECEDENTS: MATERIAL/TEXTURE



SOUTHWEST PORCH, BRYANT PARK, NYC



SERLACHIUS ART MUSEUM PAVILION MANTTA, FINLAND



SISTER CITIES PARK, PHILADELPHIA



SISTER CITIES PARK, PHILADELPHIA

A green-tinted photograph of a park. The foreground is dominated by several large, mature trees with thick trunks and dense foliage. The ground is covered in grass and fallen leaves. In the background, a long, low building with a series of windows is visible, partially obscured by more trees. The overall atmosphere is serene and natural.

VIEWS

VIEWS: View Across The Square To The Northeast



IEWS: View of a 'Grove Room'



VIEWS: View Across the Square from the Northeast



VIEWS: View from Marbles Kids Museum



VIEWS: View along East Martin Street Linear Plaza



NEXT STEPS

- December 1: Council Meeting for 15% Schematic Design
- January 2016: Award additional design services
- March/April 2016: 40% review
- Summer 2016: bidding and start construction
- Summer 2017: park reopens



City Of Raleigh

NORTH CAROLINA

To: Ruffin Hall, City Manager
From: Blair Hinkle, Stormwater Program Manager
Subject: Stormwater Program Update
Date: November 12, 2015

During the March 19, 2015 Budget Work Session, Stormwater staff highlighted several key policy themes related to the City's Stormwater Management Program. These themes touched on many aspects of the Program, but related strongly to service delivery, efficiency, and transparent prioritization of capital projects. Significant work has been completed over the last eight months in these areas, and staff is pleased to provide Council with an update of our progress in increasing the Program's level of service to our customers – specifically in the area of **Drainage Assistance**, where the City partners with private property owners to address flooding or erosion issues on private property.

Developing Program Efficiency

As a first step in increasing the efficiency of the Drainage Assistance Program, staff looked for opportunities for process improvement within the constraints of our current budget. As a result of these efforts, the program now has on-call engineering contracts with several qualified firms, which allow for designs and cost estimates to be completed quickly when projects are identified. In addition, staff has completed the prequalification process for one or more on-call construction contracts, which we expect to bid in December. The successful bidder(s) on these contracts will complete small Drainage Assistance Projects quickly, allowing for a significant reduction in turnaround time for citizens requesting service.

Of the current petition project backlog of approximately 50 approved projects, five are under construction, ten are awaiting additional property owner participation, and 25 will be constructed during 2016 as the first phase of the new on-call construction contract. The balance will be completed using in-house resources over the next several months. As additional projects are added moving forward, staff anticipates a 6-12 month turnaround time as a sustainable level of service for the completion of the highest priority projects.

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Integrated Stormwater Project Prioritization Model

Following implementation of the above process improvements, staff turned to an examination of possible program adjustments that require changes to policy or resource levels. A first step in this process was to address the need to be able to clearly and objectively prioritize projects, both large and small, against one another. This was accomplished by the creation of an integrated model with which to score and rank stormwater projects to determine relative priority.

To provide input and guidance during development of this model, a Stormwater Management Advisory Commission (SMAC) Sub-Committee and Staff team met for four, two-hour working sessions: May 26, June 3, June 18, and July 30. SMAC welcomed and provided time for public input during the meetings. An open request for public input was also extended to the community. State of the practice within peer NC municipalities and beyond was also researched and reviewed as part of the City's model development.

The resulting Integrated Stormwater Project Prioritization Model has been completed and initial implementation is underway. The model will serve as a key decision support tool for the City team beginning with the upcoming Fiscal Year 2017 budgeting process to evaluate and rank in relative order of priority potential Stormwater Capital Improvement Projects. Leveraging available resources, a high scoring project brings together stormwater quantity and quality management to achieve multiple stormwater program and City strategic goals.

The model is grounded in four basic eligibility criteria and nine main integrated prioritization criteria, all of which have been fully vetted with SMAC and are in alignment with the City's Strategic Plan and Comprehensive Plan. The nine main prioritization criteria are:

- Public Safety and Public Health
- Flood Hazard Reduction Benefits
- Regulatory Mandates and Compliance
- Water Quality Benefits
- Watershed Management Benefits
- Stormwater Infrastructure Asset Management Benefits
- Community Support and Implementation Complexity
- Resource Leveraging Opportunities, and
- Indirect Community Benefits

As a note, this model will be used to rank all capital stormwater projects, not just those in the Drainage Assistance Program. Future Capital Plan submittals will generally include project-scoring information in addition to schedules and planned expenditures. Staff intends to transition fully to the use of the model over the next two fiscal years in order to maintain project commitments that have been made to date.

Proposed Drainage Assistance Program Changes

With the model now in place, staff developed a spectrum of options for possible enhancements to the Drainage Assistance Program that could further increase level of service. These options were presented to SMAC at their last meeting.

The recommended improvements are intended to modernize and enhance stormwater services under the Drainage Assistance Program for the community. Key themes for program enhancement include: Consistency and Equity, Efficiency and Effectiveness, and Sustainability. In addition to these themes, a significant point discussed with SMAC was that preferred options for improving drainage assistance are designed to better manage public runoff for stormwater utility customers citywide. Public runoff is a significant source of stormwater-related problems, both water quantity and quality. Regardless of the level of existing or future resources, an enhanced program to manage public runoff and meet customer needs based on vetted priorities (via the prioritization model) is highly recommended.

Summary takeaways from the discussions with SMAC included:

- A more consistent, equitable, and integrated drainage assistance program would focus on fixing the worst qualifying problems citywide in a prioritized and system-based manner, utilizing historical complaint data along with new requests for service to develop repairs that solve issues rather than construct a patch-work of less meaningful projects.
- The only problems associated with public runoff that are currently able to be addressed through the Drainage Assistance Program are for property owners that are ready, willing, and able to cost share.
- The problems considered to date by the program satisfy minimum qualifications of the program but may not generally represent the highest and most urgent needs of the community.
- It is important for the City to obtain public easements over infrastructure in which the City has invested funds for repair or upgrade.
- Since 2010, the Council-adopted Comprehensive Plan has been calling for a review and evaluation of how to improve the management of runoff affecting private property, including the acquisition of public drainage easements.
- Four levels of options (see Table 1, attached) to improve the drainage assistance program were discussed with SMAC. Within this table of options exist four primary decision points related to funding, personnel, public easements, and cost share.

Ultimately, the unanimous recommendation of the Stormwater Management Advisory Commission was to pursue a hybrid of Options Three and Four. If Council concurs with this recommendation, the Drainage Assistance Program would:

- **Seek a modest increase in funding for capital expenditures to allow for the slight expansion of project scopes.** By doing so, the number of projects completed annually would likely not significantly increase, but those projects would become much more effective at resolving area drainage issues rather than acting as a “band-aid”. Staff believes that this increase in general project scopes can be accommodated at the program’s current staffing level. In addition, a portion of any potential rate increase would be recommended to fund the addition of resources within the Transportation Field Services Division’s Stormwater Operations workgroup to create additional dedicated stormwater construction crews. This addition would further enhance the program’s efficiency by allowing smaller projects and maintenance items to be completed quickly and without the need for lengthy engineering designs to be completed by consultants.
- **Remove the cost share aspect of the program.** There are many projects under this program that would become more effective by expanding the project area to adjacent properties. Currently, in order to do so, those adjacent property owners need to become participants in the cost-share program and, many times, they are unable or unwilling to do so. Removing the cost share aspect of the program would allow the City to expand project scopes when necessary to solve broader issues without the need to convince adjacent property owners to enter into the program. Moving forward, in order to participate, adjacent property owners would need only to grant necessary easements to the City. This recommendation relies heavily on the Integrated Prioritization Model, as the number of requests for service will increase significantly once the cost-share is removed. The model will serve as the objective priority list for projects, and the number of projects completed in any year will rely solely on the level of program funding rather than the ability of our ratepayers to participate in the cost-share program.
- **Require that property owners dedicate permanent public drainage easements over newly repaired infrastructure on private property.** As discussed above, this will allow the City to protect its investments in stormwater infrastructure. A very important note is that drainage systems on private property would remain the responsibility of the private property owner(s) until such time as the city performs a stormwater improvement project. Even after improvements, property owners would retain responsibility for routine property and easement maintenance items such as mowing or minor debris removal. The City would be responsible for construction and maintenance of the required stormwater system improvements within the dedicated public easement. Removal of major blockages and/or debris within the easement would become the responsibility of the City as these could significantly impair the performance of the system. This is no different in concept than Public Utilities treatment of public sanitary sewer mains, for example.

Staff believes that implementing these changes will result in a significantly improved level of service, as well as improved program efficiency and equity. If directed to move forward, staff will develop a revised Drainage Assistance Policy for Council consideration and will include expanded capital and operational funding in the Fiscal Year 2017 proposed budget.

Table 1 – Options for Drainage Assistance Program Enhancement

	Option 1 – No Changes to Current Drainage Assistance Program [Status Quo]	Option 2 – Maintain Current Policy, Increase Funding/Resource Allocation	Option 3 – Enhanced Policy, No Changes to Funding/Resource Allocation	Option 4 – Enhanced Policy, Increase Funding and Resource Allocation
FUNDING	Maintain current level of \$750,000 per year	Increase funding level from \$1-\$3M per year	Maintain current level of \$750,000 per year	Increase funding level from \$1-\$3M per year
POLICY	No Change (maintain cost-share/petitions approach to qualifying & resolving private property drainage issues linked to public runoff)	No Change (maintain cost-share/petitions approach to qualifying & resolving private property drainage issues linked to public runoff)	Move to fully integrated minor/maintenance CIP policy/approach; elimination of cost-sharing linked to public runoff	Move to fully integrated minor/maintenance CIP policy/approach; elimination of cost-sharing linked to public runoff
STAFFING/RESOURCES	No Changes to Staff/Resources <ul style="list-style-type: none"> ▪ 1 FTE Sr. Program Manager ▪ 2.5 FTE Project Managers ▪ 3 FTE Engineering Techs 	Increase Staffing/Resources <ul style="list-style-type: none"> ▪ 1 FTE Sr. Program Manager ▪ Up to 3.5 FTE PM's ▪ Up to 5 FTE Engineering Techs 	No Changes to Staff/Resources <ul style="list-style-type: none"> ▪ 1 FTE Sr. Program Manager ▪ 2.5 FTE Project Managers ▪ 3 FTE Engineering Techs 	Increase Staffing/Resources <ul style="list-style-type: none"> ▪ 1 FTE Sr. Program Manager ▪ Up to 3.5 FTE PM's ▪ Up to 5 FTE Engineering Techs
EASEMENTS	No change to easement approach – drainage easements on private property remain private & full responsibility of homeowner	No change to easement approach – drainage easements on private property remain private & full responsibility of homeowner	Move to adoption and integration of improved drainage systems on private property through dedication of Permanent Public Drainage Easements	Move to adoption and integration of improved drainage systems on private property through dedication of Permanent Public Drainage Easements
BENEFITS	<ul style="list-style-type: none"> ▪ Maintains focus on reducing current projects load ▪ No required adjustments to funding and/or staffing 	<ul style="list-style-type: none"> ▪ Provides funding in better alignment with current (and potential future) staff capacity ▪ Provides increased funding for growing demand 	<ul style="list-style-type: none"> ▪ Advances integrated approach and/or staffing ▪ Increases program efficiency and effectiveness ▪ Increases service availability to all customers ▪ Generally aligns with City strategic goals and comprehensive plan 	<ul style="list-style-type: none"> ▪ Advances integrated approach ▪ Increases program efficiency and effectiveness ▪ Increases service availability to all customers ▪ Generally aligns with City strategic goals and comprehensive plan ▪ Provides funding in line with current (and potential future) staff ▪ Expansion of in-house design and construction capability
CHALLENGES	<ul style="list-style-type: none"> ▪ Not forward looking with current resources ▪ Does not advance integrated approach 	<ul style="list-style-type: none"> ▪ Increased costs with no advancement of policy and no increase in project efficiency ▪ Does not advance integrated approach 	<ul style="list-style-type: none"> ▪ Not forward looking with current resources ▪ May require new maintenance staff resources and equipment 	<ul style="list-style-type: none"> ▪ Requires increased funding/costs ▪ Requires additional staff ▪ Requires new maintenance staff resources and equipment



Stormwater Program Update and Opportunities for Additional Enhancement

City Council Work Session

November 17, 2015



Commitment to City Council

Key Policy Themes

- Should the City's Stormwater Program become more proactive? If so, in what ways?
- To what extent should stormwater systems be treated as public systems?
- How much public benefit is sufficient to merit City participation in a stormwater improvement project?
- To what extent should the City invest in stormwater services?

Action Plan Highlights

- Work with SMAC to develop specific program enhancement recommendations for Council consideration within 12 – 18 months
- Develop Integrated Project Prioritization Model ahead of FY 17 budget as first phase
- Provide budgetary and resource information in concert with above

Commitment to City Council

Key Policy Themes

- Should the City's Stormwater Program become more proactive? If so, in what ways?
- To what extent should stormwater systems be treated as public systems?
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- Provide budgetary and resource information in concert with above

Outline

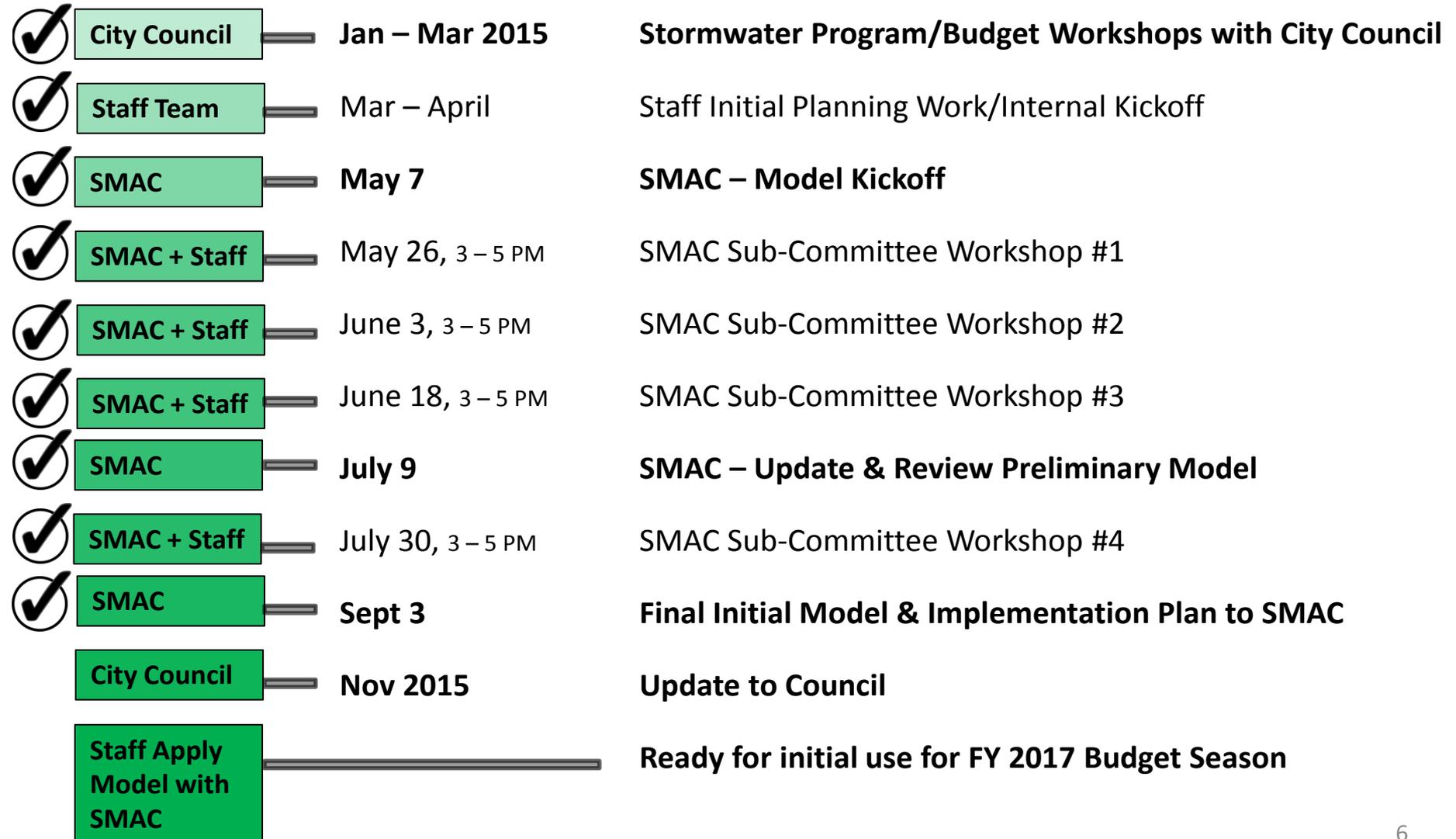
- **Integrated Project Prioritization Model**
- **Drainage Assistance Program**
 - Brief historical perspective on Raleigh's drainage assistance programs
 - Challenges and opportunities for the current drainage assistance program
 - Moving forward - options for programmatic improvement



Integrated Stormwater Project Prioritization Model

A screenshot of a spreadsheet used for project prioritization. The spreadsheet has multiple columns and rows, with some cells highlighted in yellow. It appears to be a detailed data table for project management.

Development Timeline



Direct Outcomes Achieved

- The Integrated Stormwater Project Prioritization Model
- Scoring Guidance/Metrics for **Weighted Criteria** within Model
- Process for implementing, applying, and adaptively updating the Model
- Key Decision Support Tool for the Stormwater CIP Team and Program


Integrated Stormwater Management Project Prioritization Model
 Divisional Implementation Plan
 (Updated August 26, 2015)

Overview of Divisional CIP Program Integration

- The Integrated Stormwater Project Prioritization Model (the Model) is distributed to the Program Managers (Sectional Heads) and Sectional Teams across the Stormwater Management Division.
- Each team uses the Model to help identify, rate, and store potential projects on an ongoing basis throughout the year as determined by each Program Manager. The Project ID Number is set up to recognize the group that is evaluating/managing a given project. A field to indicate the status of the project will also be included within the Model, i.e., preliminary, budgeted, active, and complete. Further, the Model will indicate the original date of project evaluation as well as the most recent update, if/so applicable.
- Program Managers retain responsibility for assigning, reviewing, checking, and approving all projects identified and evaluated within their sectional program area. Program Managers are responsible for assigning and empowering staff within their sectional teams to help identify potential projects that are then applied with and through the model. Scoring metrics and guidance are summarized within the model under each of the same main scoring criteria tabs. Drop-down menus also help provide a basis for consistent scoring. Training/orientation sessions for model utilization are also provided for staff.
- Each group within the Division develops and stores their projects in a sectional master file(s) of projects.
- On a regular quarterly basis throughout the year, projects evaluated, reviewed, and checked at the sectional level are reaped into an integrated divisional master file of potential CIP projects to be considered and prioritized for budgeting and subsequent implementation upon official approval and authorization.

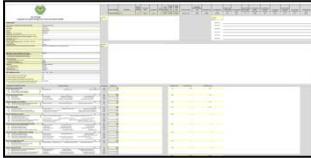
Model Highlights



- **Foundational elements of Prioritization Model**
 - **Integrated Prioritization Criteria**
 - Defined and Weighted
 - Scoring Metrics

Public Safety & Public Health	(17%)
Flood Hazard Reduction Benefits	(14%)
Regulatory Mandates & Compliance	(13%)
Water Quality Benefits	(11.5%)
Watershed Management Benefits	(10%)
Stormwater Infrastructure Asset Management Benefits	(10%)
Community Support & Implementation Complexity	(9%)
Resource Leveraging Opportunities	(8.5%)
Indirect Community Benefits	(7%)

Model Highlights



- **Foundational elements of Prioritization Model**
 - **Scores and other output information to support decision making**

Project ID Number	Project Name	General Category of Project	Primary Type of Project	Sub-Watershed	Council District	Total Project Score (TPS) (0 - 100)	Safety Criticality Score (SCS) (0 - 100)	Mission Criticality Score (MCS) (0 - 100)	Lead Group for Project	Study and/or Engineering Design Cost (\$)	Construction Cost (\$)	Total Project Cost (\$)	Watershed Area Served by Project (in Acres)	Cost / Area Served (\$/acre)	Number of Parcels Directly Impacted (# of parcels)	Cost / Parcel(s) Directly Impacted (\$/acre of parcels)	Annual TN Pollutant Load Reduced (lbs TN/yr)	Cost / TN Reduced (\$/lbs TN/yr)	Annual TSS Pollutant Load Reduced (lbs TSS/yr)	Cost / TSS Reduced (\$/lbs TSS/yr)	Cost-Score Index (\$/TPS)
Prioritization Model	Project Name	CIP	Integrated	Rocky Branch	A	100.00	100.00	100.00	Infrastructure (110)	\$5,000	\$50,000	\$55,000	10.0	5,500	5	11,000	N/A	N/A	N/A	N/A	550.00

Project ID Number	Project Name	General Category of Project	Primary Type of Project	Sub-Watershed	Council District	Total Project Score (TPS) (0 - 100)	Safety Criticality Score (SCS) (0 - 100)	Mission Criticality Score (MCS) (0 - 100)
Prioritization Model	Project Name	CIP	Integrated	Rocky Branch	A	100.00	100.00	100.00

Project	Type	Total Project Score	Safety Criticality Score	Mission Criticality Score
Pigeon House Restoration	CIP - Multi	79.84	70	78.81
Lower Longview Lake Dam	CIP - Multi	70.31	100	84.52
Northshore Lake Restoration	CIP - Multi	64.94	90	78.72
Citywide LID-GI Study	Planning/Study	49.85	0	42.16
Yorkshire Downs	CIP Infra	42.83	50	41.46
E Martin/Camden Rehab	CIP Infra	42.00	70	36.44
Simmons Branch Ph 2	CIP Infra	40.46	50	38.12
East and Boundary Drainage	CIP Infra	37.69	70	31.38
Temple Dr Drainage	DA	30.29	50	27.92
4125 Windsor Place	DA	29.30	70	28.56
Typical DA Stream Proj	DA	17.83	10	14.38
Lower Longview Lake Dredging	CIP - WQ	8.64	0	7.72

{ Higher # = higher priority, in general }

Model Highlights

- Provides objective and transparent way to prioritize projects
 - All projects – WQ, Flood Reduction, DAP, Hazard Mitigation
- Provides a foundation for consistent review of capital expenditures and Stormwater program area needs
- Already used successfully to present the Fall 2015 round of Drainage Petition Projects to SMAC



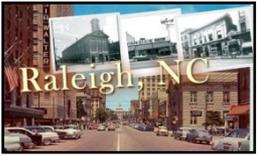
Drainage Assistance Program

A screenshot of a spreadsheet or data table. It has multiple columns and rows, with some cells highlighted in yellow. The table appears to be a project schedule or budget, with various columns for dates, tasks, and costs.

Current Stormwater Drainage Assistance Program

- 85% or 85% City cost share for problems on private property
 - Structural flooding
 - Failing drainage infrastructure
 - Severe erosion / degraded open channel streams
- Property owner cap of \$5,000
- Annual budget of \$750,000 (under the CIP budget)
- Projects recommended by SMAC & approved by City Council
- Well over a hundred petition projects constructed citywide since 2000
- Currently about 60 approved projects





A Brief History of the City's Drainage Assistance Program and Stormwater Policy

1970's

- **1970 – First stormwater ordinance; “you buy the pipe, City will install it”**
- 1971 – First petition measures for drainage assistance established
- 1974 – Soil Erosion & Sediment Control Program started
- 1978 – Floodplain program started

1980's

- 1985 – Stormwater Division started
- 1986 – Council acknowledgement of the impacts of upstream development to drainage ways on private property
- **1989 – 50/50 cost share establishment**
- 1989 – Stormwater Policy adopted into the City's Comprehensive Plan

1990's

- 1991 – Basic framework for current version of policy is drafted (much of the original language still exists)
- 1993 – Policy revised to eliminate minor erosion, yard flooding and aesthetic/maintenance issues; also establishment of “least cost alternative”
- 1995 – EPA NPDES Municipal SW Permit for Raleigh approved
- **1996 – One-third/Two-third cost-sharing established**

2000's

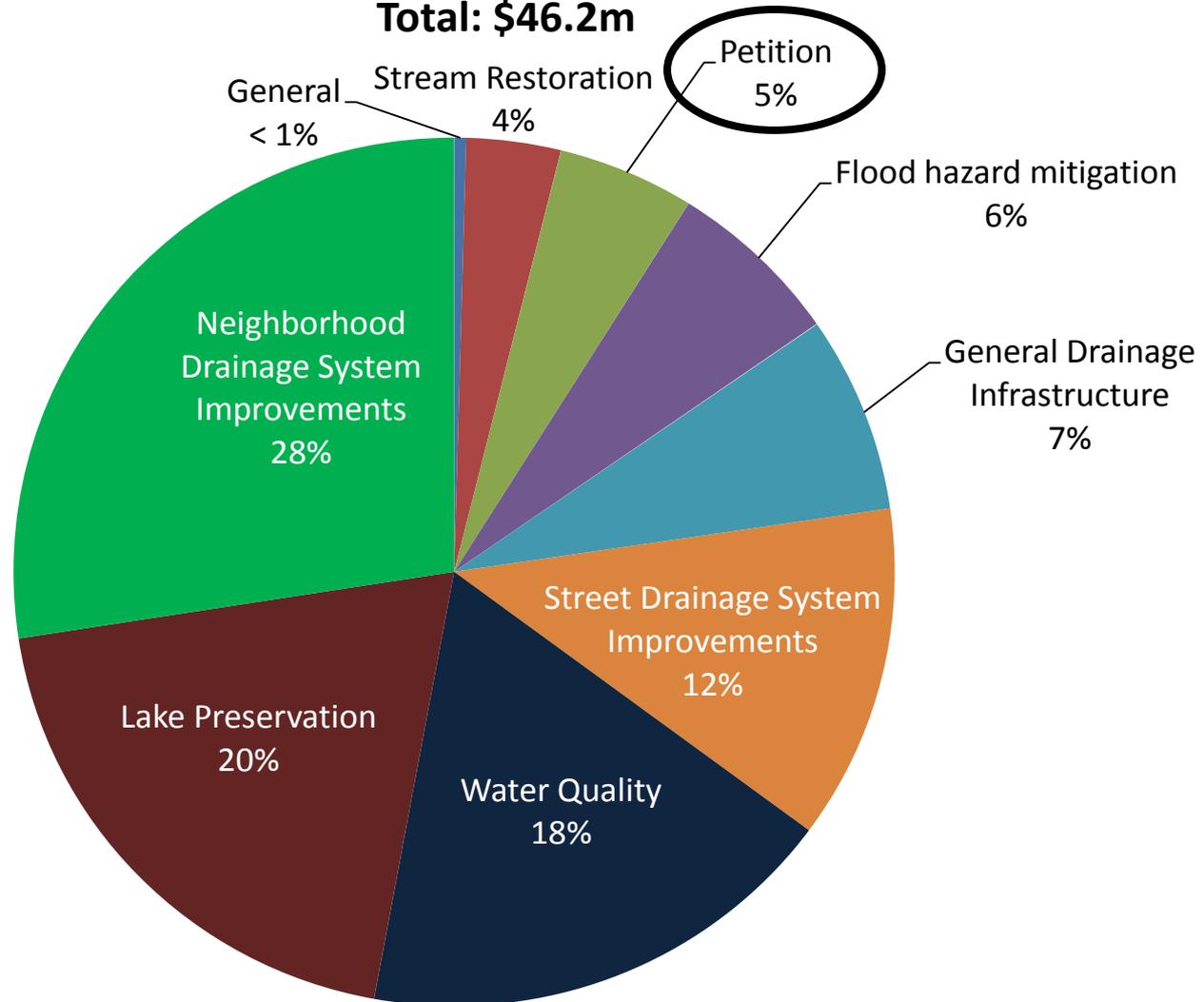
- 2001 – Post Construction Stormwater regulations established for new development
- 2004 – Stormwater Utility Fee established in COR [Current annual Stormwater Utility revenue approximately \$16m]
- **Mid 2000's – 85/15 and 80/20 cost-sharing, \$5k caps established for petition projects**
- 2014 – Council charges Stormwater Division to review program for specific program enhancements and further service delivery improvements



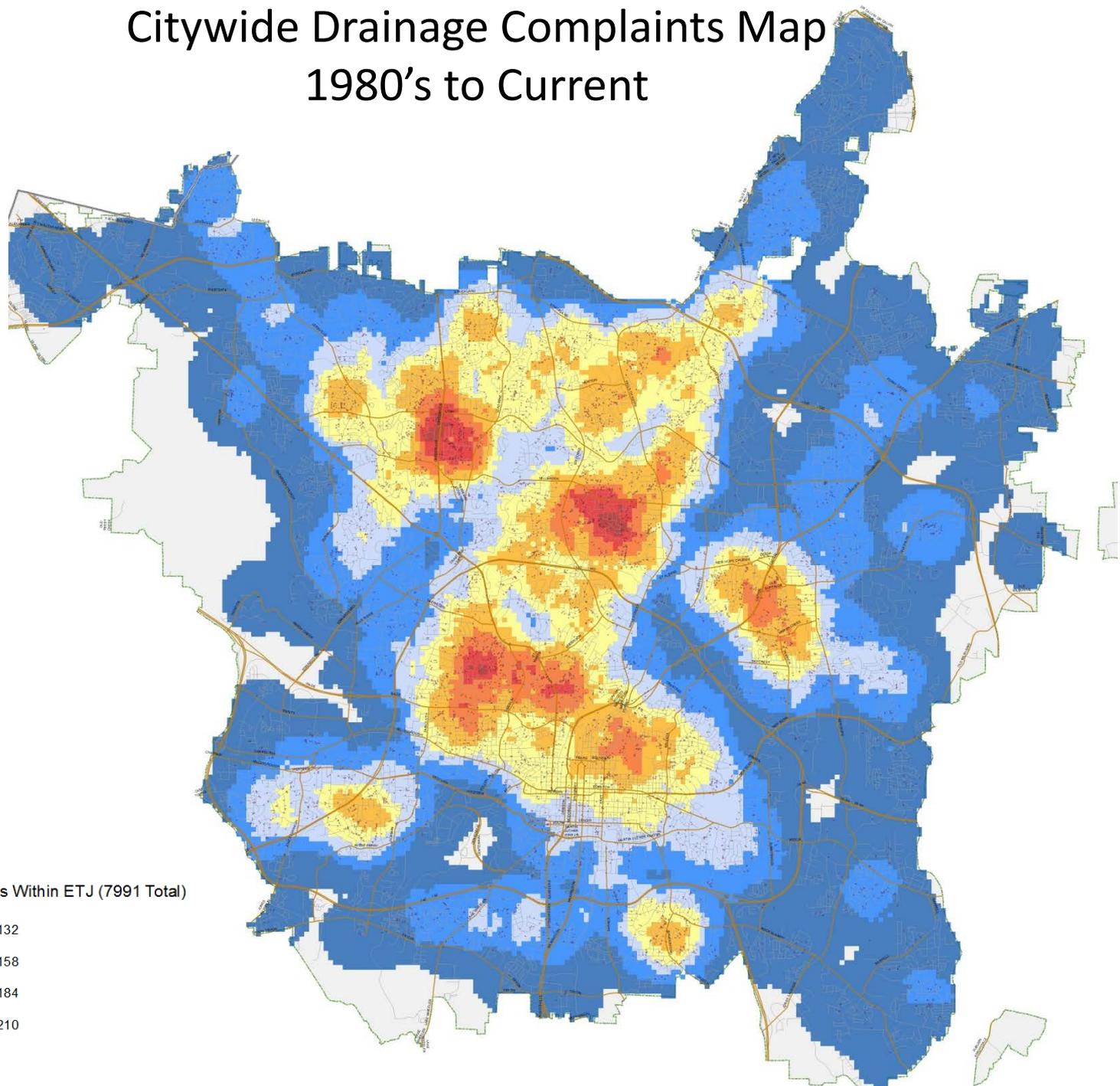
Petitions Program in relation to overall CIP

Project Expenditures by Services From FY04 to FY14

Total: \$46.2m



Citywide Drainage Complaints Map 1980's to Current



Service Challenges

- Capital improvement and drainage petitions project volume.
- Growing demand and expectation to effectively manage drainage systems and stream channels beyond the street rights-of-way.
- Infrastructure assessment and asset management.



Efficiency - Case Study

“The Band-Aid Approach”

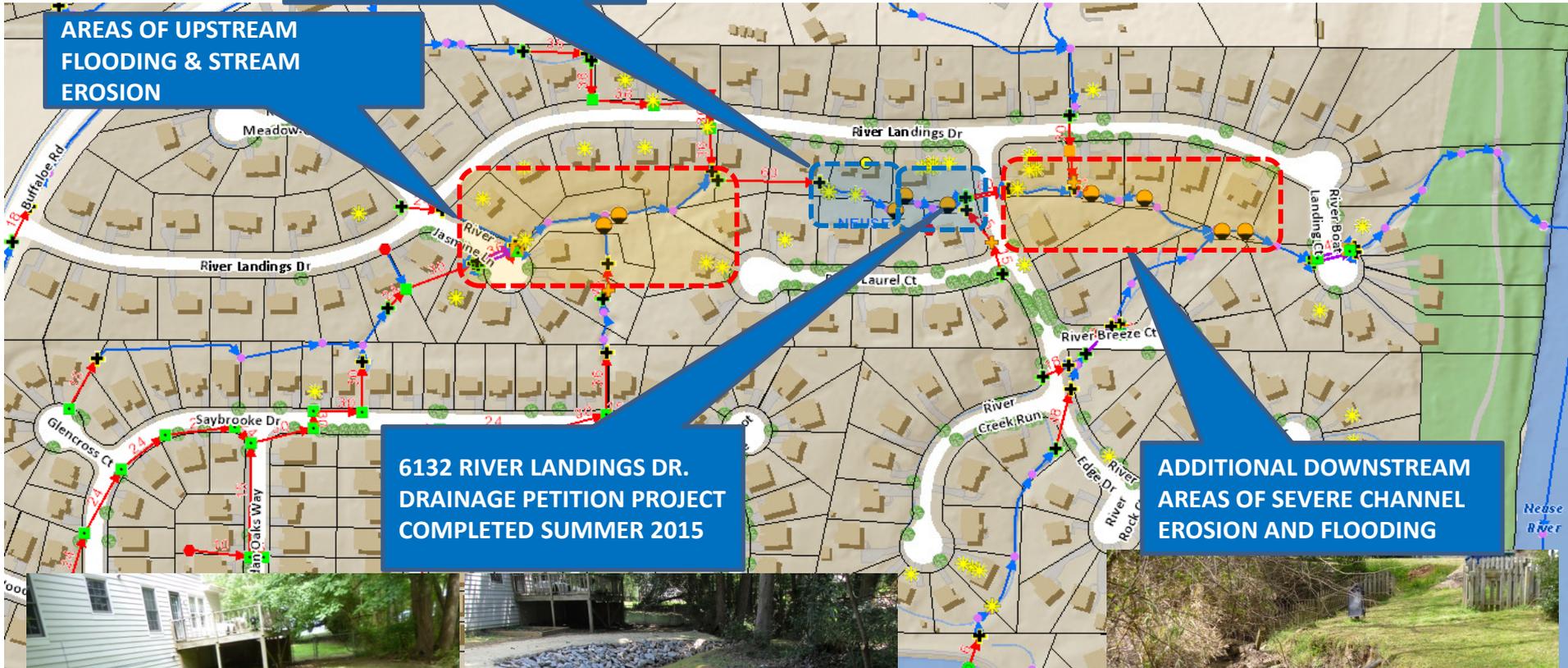
River Landings Area

6128 RIVER LANDINGS DR.
DRAINAGE PETITION PROJECT
COMPLETED IN 2006

AREAS OF UPSTREAM
FLOODING & STREAM
EROSION

6132 RIVER LANDINGS DR.
DRAINAGE PETITION PROJECT
COMPLETED SUMMER 2015

ADDITIONAL DOWNSTREAM
AREAS OF SEVERE CHANNEL
EROSION AND FLOODING



STRATEGIC OPTIONS FOR DRAINAGE ASSISTANCE PROGRAM

	Option 1 – No Changes to Current Drainage Assistance Program [Status Quo]	Option 2 – Maintain Current Policy, Increase Funding/Resource Allocation	Option 3 – Enhanced Policy, No Changes to Funding/Resource Allocation	Option 4 – Enhanced Policy, Increase Funding and Resource Allocation
FUNDING	Maintain current level of \$750,000 per year	Increase funding level from \$1-\$3M per year	Maintain current level of \$750,000 per year	Increase funding level from \$1-\$3M per year
POLICY	No Change (maintain cost-share/petitions approach to qualifying & resolving private property drainage issues linked to public runoff)	No Change (maintain cost-share/petitions approach to qualifying & resolving private property drainage issues linked to public runoff)	Move to fully integrated minor/maintenance CIP policy/approach; elimination of cost-sharing linked to public runoff	Move to fully integrated minor/maintenance CIP policy/approach; elimination of cost-sharing linked to public runoff
STAFFING/RESOURCES	No Changes to Staff/Resources <ul style="list-style-type: none"> ▪ 1 FTE Sr. Program Manager ▪ 2.5 FTE Project Managers ▪ 3 FTE Engineering Techs 	Increase Staffing/Resources <ul style="list-style-type: none"> ▪ 1 FTE Sr. Program Manager ▪ Up to 3.5 FTE PM's ▪ Up to 5 FTE Engineering Techs 	No Changes to Staff/Resources <ul style="list-style-type: none"> ▪ 1 FTE Sr. Program Manager ▪ 2.5 FTE Project Managers ▪ 3 FTE Engineering Techs 	Increase Staffing/Resources <ul style="list-style-type: none"> ▪ 1 FTE Sr. Program Manager ▪ Up to 3.5 FTE PM's ▪ Up to 5 FTE Engineering Techs
EASEMENTS	No change to easement approach – drainage easements on private property remain private & full responsibility of homeowner	No change to easement approach – drainage easements on private property remain private & full responsibility of homeowner	Move to adoption and integration of improved drainage systems on private property through dedication of Permanent Public Drainage Easements	Move to adoption and integration of improved drainage systems on private property through dedication of Permanent Public Drainage Easements
BENEFITS	<ul style="list-style-type: none"> ▪ Maintains focus on reducing current projects load ▪ No required adjustments to funding and/or staffing 	<ul style="list-style-type: none"> ▪ Provides funding in better alignment with current (and potential future) staff capacity ▪ Provides increased funding for growing demand 	<ul style="list-style-type: none"> ▪ Advances integrated approach ▪ No required adjustment to funding and/or staffing ▪ Increases program efficiency and effectiveness ▪ Increases service availability to all customers ▪ Generally aligns with City strategic goals and comprehensive plan 	<ul style="list-style-type: none"> ▪ Advances integrated approach ▪ Increases program efficiency and effectiveness ▪ Increases service availability to all customers ▪ Generally aligns with City strategic goals and comprehensive plan ▪ Provides funding in line with current (and potential future) staff ▪ Expansion of in-house design and construction capability
CHALLENGES	<ul style="list-style-type: none"> ▪ Not forward looking with current resources ▪ Does not advance integrated approach 	<ul style="list-style-type: none"> ▪ Increased costs with no advancement of policy and no increase in project efficiency ▪ Does not advance integrated approach 	<ul style="list-style-type: none"> ▪ Not forward looking with current resources ▪ May require new maintenance staff resources and equipment 	<ul style="list-style-type: none"> ▪ Requires increased funding/costs ▪ Requires additional staff ▪ Requires new maintenance staff resources and equipment

SMAC Recommendation

- **Funding**

- Increase to \$1,250,000 (+\$500,000) in order to account for expanded project scopes moving forward

- **Policy**

- Remove cost-share aspect of program to allow most severe problems to be corrected in a systematic way
- Will allow the City to expand project scopes without requiring additional participation of neighboring property owners



SMAC Recommendation (continued)

- **Staffing**

- Current staffing level is sufficient for proposed program enhancements, given increased efficiency

- **Easements**

- City should adopt public easements covering improvements



Larger Stormwater Program Benefits

- **Heightened Stormwater Program Integration**
 - encourages an efficient, effective, innovative, and strategic approach to stormwater management
 - preferred projects help achieve both stormwater quality and quantity goals
 - provides framework and priorities for enhanced watershed management and master planning
- **Alignment with recently adopted City Strategic Plan**
 - leading practice example consistent with organizational excellence
 - contributing to overall community quality of life and helping advance the City of Raleigh



Next Steps

- **Policy**

- Staff will revise policy to incorporate removal of cost-share element and easement dedication requirements
- Will be presented to Council for consideration/adoption prior to new budget year

- **Funding**

- Will be incorporated into the FY17 budget request through the normal budget process
- Rate modeling will be completed to ensure the most effective use of the smallest rate increase necessary in this and other program areas



Questions & Discussion

