Public Information Meeting

Roof with a View
800 West Hill Street
Suite 104
Charlotte, NC 28208

May 12, 2015
6:00pm-8:00pm
Staff Introductions

**Matthew Gustis, PE**  
City Engineering Team Program Manager

**Doug Lozner, PE**  
City Watershed Area Manager

**Steven McCraney**  
City Project Coordinator

**Danee McGee, PE, CFM**  
City Project Manager  
704-336-4102  
dmcgee@ci.charlotte.nc.us

**Christopher Fleck, PE**  
Project Manager

**Crystal Williams, PE, CFM**  
Project Engineer

**Jonathan Drazenovich**  
Project Engineer
AGENDA

- Sign In
- Charlotte Mecklenburg Storm Water Services Summary
- Project Selection & Citizen Involvement
- Existing Conditions Analysis Overview
- Selected Alternative
- Future Project Milestones
  - Geo-Environmental
  - Design
  - Permitting
  - Real Estate
  - Construction
Charlotte Mecklenburg Stormwater Services Summary

Items that qualify for service:
• Public water that causes another qualifying problem, such as roadway and/or structural flooding.

Items that DO NOT qualify for service:
• Private property issues. Such as parking lots, private pipes under buildings, downspouts, and private yard flooding.

What the program includes:
• Administration and Technology
• Water Quality
• Maintenance
• Engineering
Overall Project Site Map

Hill Street Storm Drainage Improvement Project

Graphical Illustration of Maps in Back of Room for Break Out Sessions

Legend
- Hill Street Project Area
- Map A
- Map B
- Map C
- Map D

Dewberry
Why Hill Street was selected?

- Citizen Input from Property Owners (311 Requests)
  - Inadequate Existing Infrastructure
  - Observed Existing Road Flooding
  - Existing Structure Flooding

- Deteriorating Infrastructure
  - Aging culverts, pipes, and inlets

- CMSWS watershed ranking

- Larger watershed-wide and city-wide drainage issues

What do we need from you?

- Support for the project’s future phases.
Existing Conditions Analysis Overview

- Survey of Existing Information
  - Topographic Survey
  - System Inventory
- Existing Zoning, Land Use, Soils
- Engineering Evaluation of Existing System Performance
- Mapping and Reports of Engineering Results
Existing Conditions Analysis Results

- Based on nearly 50 different criteria for pipes, channels, inlets, etc., our consultants found that:

  - 75% of storm drainage pipes in project area are deficient
  - 40% of storm drainage channels in project area are deficient
  - 100% of storm drainage culverts in project area are deficient
  - 40% of storm drainage inlets in project area are deficient
  - 70% of the buildings in the project area are potentially flood prone during the design storm.
Selected Alternative Overview

Hill Street Storm Drainage Improvement Project

- Convert Open System to Closed System
- Realign New Storm System
- Add Inlets Along Morehead St. and Throughout Project
- Utility Repair/ Relocate Throughout Project
- Realign New Storm System Along Morehead St.
- Increase Pipe and Culvert Size for System
- System Improvements to Reduce Flooding/Repair Infrastructure

Legend:
- Hill Street Project Area
- Proposed Storm Pipes
- Existing Storm Pipes

Dewberry
City Design Standards Results

-Based on nearly 20 different criteria for pipes, channels, inlets, etc., our consultants found the following improvements necessary:

- 4.1 miles of Proposed Storm System
- 459 Proposed Storm Drainage Structures
- Approximately 4000 LF of Utility Relocations
Selected Alternative Results

Goals
- To provide a storm drainage system that is safe, clean, and cost effective.
- To determine the best possible solutions by:
  - Considering Public Safety, Health & Welfare
  - Maximizing Benefit vs. Cost
  - Working to Reduce Potential Flood Risks
  - Alleviating 100 Year Finished Floor Flooding

Based on nearly 20 different criteria for pipes, channels, inlets, etc., our consultants found the following improvements necessary:

- 4.5 miles of Proposed Storm System
- 486 Proposed Storm Drainage Structures
- Approximately 4500 LF of Utility Relocations
# City Design vs. Selected Alternative

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<thead>
<tr>
<th>Analysis</th>
<th>Pros</th>
<th>Cons</th>
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<tbody>
<tr>
<td>City Design</td>
<td>- Maintains more of existing alignments where possible&lt;br&gt;- Alleviates building flooding from design storm event</td>
<td>- Requires costly boring under HWY-277&lt;br&gt;- Significant foundation protection required&lt;br&gt;- Significant Impacts to private property due to alignments and easements&lt;br&gt;- Larger culverts due to single system design&lt;br&gt;- Constructability&lt;br&gt;- Cost</td>
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<tr>
<td>Selected Alternative</td>
<td>- Smaller culverts than the City Design system due to a parallel system&lt;br&gt;- Pipe alignments utilize existing right of way&lt;br&gt;- Reduces impact to private property&lt;br&gt;- Eliminates costly boring under HWY-277&lt;br&gt;- Alleviates building flooding from design storm event</td>
<td>- Significant foundation protection required&lt;br&gt;- Cost</td>
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Selected Alternative Map A
Selected Alternative Map B

Hill Street SDIP
Selected Alternative

- Convert Open System to Closed System
- Additional Pipes and Inlets
- Realign Storm System
- Additional Inlets on Morehead St.
- Existing Storm Pipe

Legend:
- Proposed Single Inlet (SA100YR)
- Proposed Double Inlet (SA100YR)
- Proposed SDR / J & S (SA100YR)
- Proposed MH / JB (SA100YR)
- Proposed 12" RCP (SA100YR)
- Proposed 15" RCP (SA100YR)
- Proposed 18" RCP (SA100YR)
- Proposed 24" RCP (SA100YR)
- Proposed 30" RCP (SA100YR)
- Proposed 36" RCP (SA100YR)
- Proposed 42" RCP (SA100YR)
- Proposed 48" RCP (SA100YR)
- Proposed 60" RCP (SA100YR)
- Proposed RGBC (SA100YR)
- SA100YR Channels Only
- Abandon / Remove Ex Storm (SA100YR)
- Existing Storm Pipe
- N:\ Hill Street Project Area
- Proposed Grading Limits (SA100YR)
Existing Conditions Map D

Hill Street SDIP Existing Conditions

Legend:
- Sufficient Storm Water System
- Deficient Storm Water System
- Potential Floodprone Buildings & Parcels
- Open 311 Requests, Priority A
- Closed 311 Requests
- Maintenance Projects
- Citizen Reported Soil Erosion
- Citizen Reported Structure Flooding & Erosion
- No Structure Flooding or Erosion
- Structure Flooding More Than Once a Year (w/ or w/o Erosion)
- Structure Flooding Once a Year (w/ or w/o Erosion)
- Erosion Only

Potential Floodprone Building (Typ)
Deficient Pipe (Typ)
Deficient Inlet (Typ)
Future Project Milestones

Planning - *(Completed)*
- Preliminary Survey (completed)
- Existing Conditions (completed)
- City Design Standard Analysis (completed)
- Alternative Analysis (completed)
- Selected Alternative Analysis (completed)

*Design and Construction may be phased due to cost, size, and complexity of watershed.*

*Note: Downstream system to be constructed first*

Geo-Environmental/Design Survey (In Progress)
Design - Estimated 1 year duration
Real Estate/Easement Phase & Permitting - Estimated 1 year duration
Bid - Estimated 9 months duration
Construction - Estimated 1-2 year duration per phase (TBD)
Conclusion

• Please remember to sign in and fill out a customer service card if you have not filled one out previously. Be sure to include if you are the owner or a tenant of the property.

• At the end of the presentation, please find the map where your property is located for details. Also feel free to speak to a representative to let us know of any additional flooding you have observed.

• General Discussion

• Thank you for coming to the meeting, and have a nice evening!

For more information please visit the Charlotte Mecklenburg Storm Water Services website at: http://charmeck.org/stormwater/Projects
Public Meeting Agenda
Hill Street Storm
Drainage Improvement Project
City Project #: 671-11-003
May 12, 2015
6:00 PM

- Sign In
- Charlotte Mecklenburg Storm Water Services Summary
- Project Selection and Citizen Involvement
- Existing Conditions Analysis Overview
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Contact
Danee McGee, PE, CFM
City Project Manager
dmcgee@ci.charlotte.nc.us
704-336-4103
www.charmeck.org
Public Meeting
Hill Street Storm
Drainage Improvement Project
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6:00 PM

Sign In Sheet:

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