

DURHAM



1869  
CITY OF MEDICINE

GENERAL SERVICES  
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# Durham Pool Assessment Findings City Council Presentation





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# Introduction

## Status of Szostak Assessment Study

- Szostak began City Pools study in May 2014.
- Initial focus of study has been on Long Meadow Pool that was closed for 2014 season due to an electrical hazard from water infiltration into the underground Pump Room.
- The Long Meadow Assessment was presented to Council in October 2014. At the Council's direction, the first phase of repairs to the facility is underway.
- Today's presentation focuses on the City of Durham's remaining aquatics facilities, with an update on progress at Long Meadow.



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## Status of Szostak Assessment Study

- Study includes all five City Pool facilities and four spraygrounds
  - Long Meadow Pool
  - Hillside Pool and sprayground
  - Forest Hills Pool and sprayground
  - Campus Hills Pool
  - Edison Johnson Pool and sprayground
  - East End Park sprayground
- Goals for the Durham Pool Assessment
  - Identify major facility deficiencies
  - Identify facility code violations and minor deficiencies
  - Provide options and cost estimates for repairs/improvements
  - Develop a long-term planning strategy implementation



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# Forest Hills Key Issues



Original Pool Construction: Late 1920s. Sprayground Construction 2001.

- **Age**
- **Location in Flood Plain**
- **Deficiencies and Code Violations**



# Forest Hills Key Issues

- **Age**
- **Pool Constructed in 1920s - Over 85 Years Old**
  - **Pool Shell Liner / 14 years old / Minor Leakage**
  - **Deteriorating Wall at Access Ramp / Safety Hazard**

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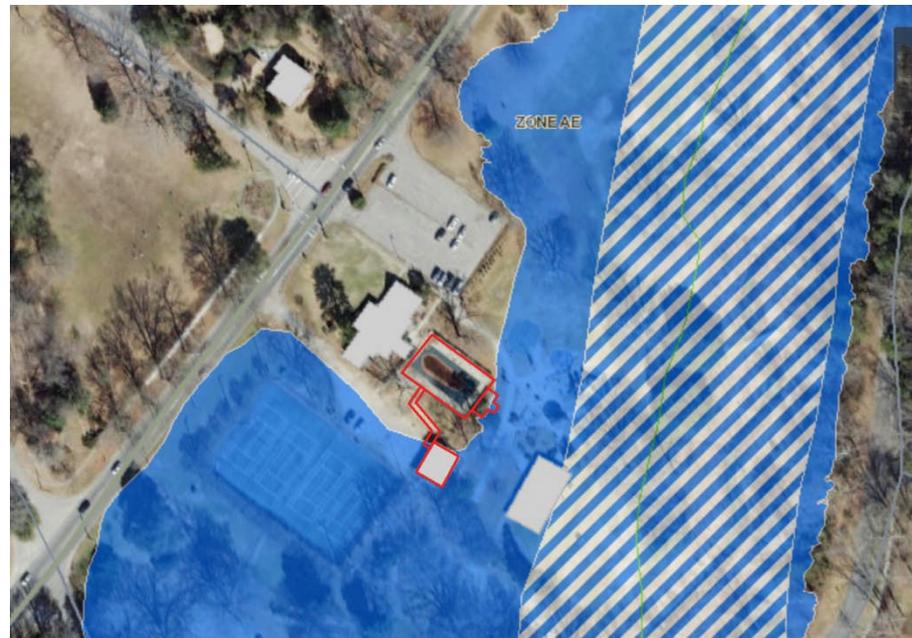


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# Forest Hills Key Issues

- **Location in Floodplain**

**FEMA and UDO govern new development and repairs of existing facilities**



-  Forest Hills Pool Facility
-  High Flood Risk
-  Floodway



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Pump Room

# Forest Hills Key Issues

- **Location in Flood Plain**

- Forest Hills Pump Room is subject to frequent flooding; the Bath House is also prone to flooding.
- Any New Facility Improvements in Floodplain will continue to be at risk.
- Some types of repairs may require that the structures be brought into full compliance with UDO Floodplain Code:

Full compliance means either floodproofing the structures or raising them 2 feet above the floodplain.

**Either renovation is prohibitively expensive.**



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Dry Ramp is not compliant with the ADA

# Forest Hills Key Issues

- **Deficiencies and Code Violations**
  - Backwash Pit Undersized
  - Chemical Controller
  - Access from Parking to Pool Inefficient
  - Inadequate Wayfinding Signage
  - Misc. Minor Repairs
  - Non-Compliant ADA Access to Facility and Pool
  - Minor Aquatics Health Code Violations



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# Hillside Key Issues



Pool Facility and Sprayground. Original Pool and Sprayground Construction: 2000

- **Pool Shell Leakage**
- **Deck Drainage**
- **Deficiencies and Code Violations**



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# Hillside Key Issues

- **Pool Shell Leakage**

- Pool Shell Leakage: Approx. loss of 4-6" water per day.
- Leak Testing: Portion of the work is complete.

- **Deck Drainage**

- Water ponding.
- Minor cracking.
- Excessive erosion at pool enclosure on south and west



Cracked skimmer  
Erosion at fence



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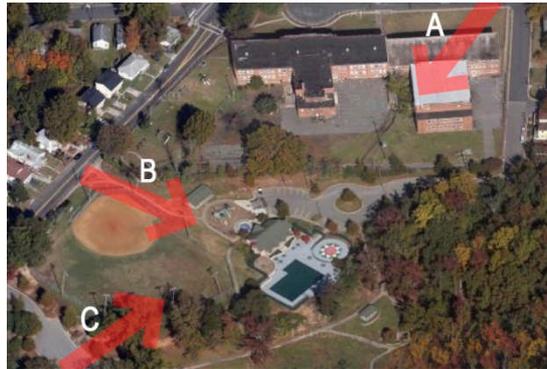
# Hillside Key Issues

## • Deficiencies and Code Violations

- Security/Visibility
- Inadequate Wayfinding Signage
- Minor Repairs
- Non-Compliant ADA Access
- Minor Aquatic Health Code Violations



Security: A. Cashier  
B. Patron Approach



Visibility: A. No visibility from street.  
B. No visible vehicular access. C. No  
Visibility from main parking lot.



ADA Ramp: Inadequate Landing and  
Guardrails



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Natatorium. Original Construction: 1990

# Campus Hills Key Issues



- **Failing Dehumidification Unit**
- **Hazardous Natatorium Lighting**
- **Deficiencies and Code Violations**



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Corrosion at coils

# Campus Hills Key Issues

- **Failing Dehumidification Unit**

- Corrosion and Refrigerant Leaks
- Inability to maintain humidity and air quality standards
- Insufficient air circulation
- Undersized for peak occupancy
- Replacement recommended within two years

- **Hazardous Natatorium Lighting**

- Fixtures not adequately sealed
- Ballast failures resulting in dangerous sparking



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# Campus Hills Key Issues

## • Deficiencies and Code Violations

- Cracked, Uneven Deck Tile
- Pool Shell Finish
- Minor Repairs
- ADA Pool Access
- Minor Aquatics Health Code Violations



Chipped and delaminating tile.



Ponding at deck.



Non-ADA compliant dry ramp.



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# Edison Johnson Key Issues



Pool Facility and Sprayground. Original Pool Construction: 1990. Sprayground Construction: 2001

- **Failing Dehumidification Unit**
- **Lighting Deficiencies**
- **Deficiencies and Code Violations**



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Overheating light fixture  
In inaccessible location

# Edison Johnson Key Issues

## • Failing Dehumidification Unit

- Corrosion and Refrigerant Leaks
- Inability to maintain humidity and air quality standards
- Insufficient air circulation
- Undersized for peak occupancy
- Needs to be replaced as soon as possible

## • Lighting Deficiencies

- Frequently overheats
- Fixtures inaccessible without draining pool
- Excessive glare on water surface, limits lifeguards' visibility



# Edison Johnson Key Issues

- **Deficiencies and Code Violations**

- Issues with Operable Roof Panels
- Pool Shell Finish
- Minor Repairs
- ADA Access Ramp
- Minor Code Violations

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Unsecured roof panels.



Equipment corrosion.



Ramp missing hand rail.



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Standing water at sprayground.

# East End Sprayground Key Issues



Original Construction: 1999.

- **Deficiencies**

- Shared Water Service with Restroom
- Sprayground Drainage and Standing Water



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# Budget Estimate

## Outdoor Facilities

### Forest Hills

1. Pool Liner Replacement	\$36,000
2. Replace Pool Access Ramp and Retaining Wall	\$70,000
3. Elevate Chemical Storage to 304.4' Elev.	\$6,000
4. Deficiencies	\$16,450
5. Code Violations	\$20,500
6. Fees, P&O and Contingencies	\$77,156

#### Subtotal

**\$226,106**

### Hillside

1. Pool Shell Leakage	\$35,000
2. Deck Drainage/Install Linear Deck Drain	\$12,000
3. Deficiencies	\$36,100
4. Code Violations	\$12,200
5. Fees, P&O and Contingencies	\$49,365

#### Subtotal

**\$144,665**

### East End Sprayground

**\$22,770**



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## Indoor Facilities

### Campus Hills

1. Replace Dehumidification Unit	\$475,000
2. Replace Natatorium Lighting	\$75,000
3. Deficiencies	\$58,000
4. Code Violations	\$13,400
5. Fees, P&O and Contingencies	\$321,885

#### Subtotal

**\$943,285**

### Edison Johnson

1. Replace Dehumidification Unit	\$410,000
2. Replace Natatorium Lighting	\$100,000
3. Deficiencies	\$69,200
4. Code Violations	\$6,500
5. Fees, P&O and Contingencies	\$303,393

#### Subtotal

**\$889,093**

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## Total

**\$2,225,919**

# Budget Estimate



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# Long Meadow Update

## Short-Term Option

### Minimum Repairs Required to Reopen the Pool:

#### 1. Pool Shell Leak Repairs

- Six leaks – repairs complete.
- New Gutter leak identified and repairs underway – 70% complete.

#### 2. Stormwater Inlet / Piping Flushing

- Video investigation revealed the storm drain pipe is collapsed and cannot be flushed.
- Replacement cost quoted.
- Surveying is underway.
- Internal design, then bid phase/construction phase.

#### 3. Pump Room Stairwell Cover

- Work complete.

#### 4. Seal Cracks in Pool Deck

- Work complete.



# Long Meadow Update

## Further Repairs that May be Required

### 5. Foundation Drain

- This work will require design services and municipal approvals

### 6. Electrical Upgrades in Pump Room

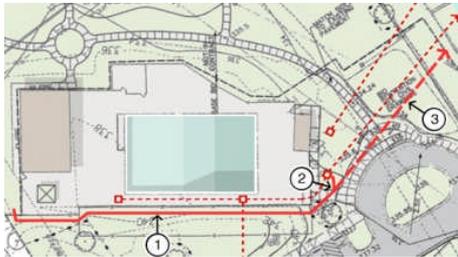
- Includes Testing for all Fixtures/Fittings, Water-Tight Fittings, High Water Sensor Alarm, Shunt Trip Breaker, Staff Training

### 7. Building Code Requirements

- Includes ADA Lift, Stairwell improvements, Latching Gates

### 8. Health Code Requirements

- Includes Gutter Covers, Removal of Trip Hazards, Depth Marker Replacement, Elevation of Chemical Storage





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# Durham Pool Assessment Schedule

March/April

Pool Assessment Report finalized.

Late April

Evaluate the Short-Term repairs at Long Meadow for effectiveness in mitigating the water infiltration in the pump room.

June

Potential Long Meadow reopening.

Note: If water infiltration is still a problem, pool to remain closed and foundation drain work to begin.



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# Durham Pool Assessment Recommendations

## Short-Term

- Develop Funding Strategy to Address Critical Issues at All Pools

## Long-Term Planning

- Develop Aquatics Master Plan
  - Demographic Analysis
  - Aquatics Needs Assessment
  - Define Future Program Requirements
  - Recommend New Construction and Facility Renovations