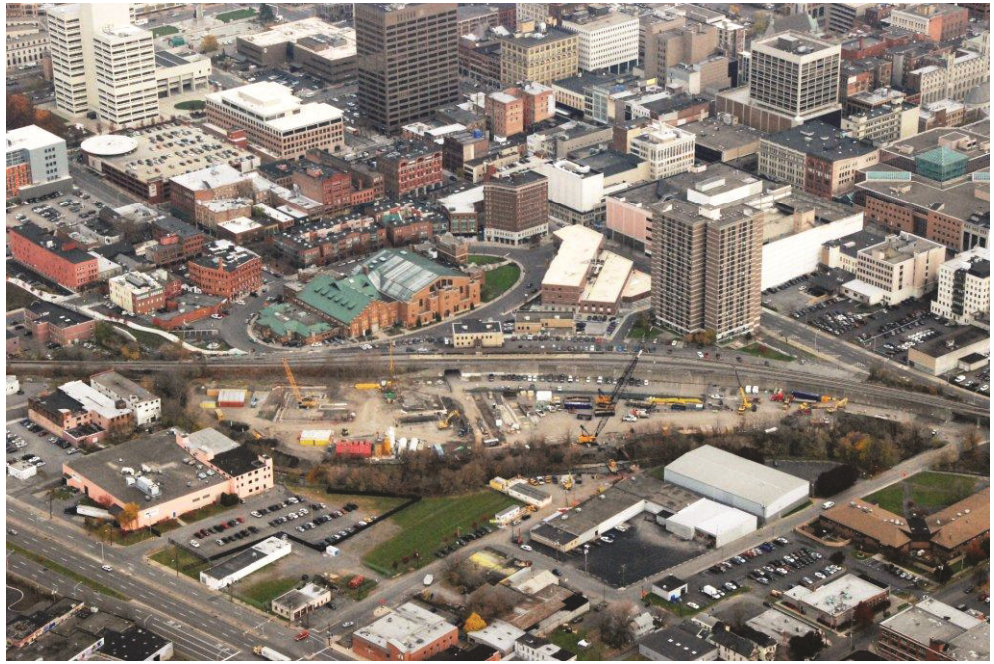
Save The Rain Program



Budget Request
Clinton – Lower MIS
CSO Abatement Program

Environmental Protection Committee
December 11, 2013

Ways & Means Committee
December 13, 2013

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Onondaga County Department of WATER ENVIRONMENT PROTECTION

History of the ACJ

- Amended Consent Judgment, January 20, 1998
- Amended four times:
  1. May 1, 1998 – First stipulation and order
  2. December 14, 2006 – Second stipulation and order
  3. April 25, 2008 – Third stipulation and order – time extension requested by Mahoney administration
  4. November 16, 2009 – Fourth stipulation and order, beginning of the "Save the Rain" program

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Old Program Based on Regional Treatment Facilities

Five RTFs were approved under the Original ACJ Program

- Hiawatha Boulevard RTF – Complete 2001, $5.5 million
- Midland Ave RTF – Complete 2004, $54 million
- Clinton RTF – Estimated cost $94 million
- Two Harbor Brook RTFs – Estimated cost $70 million

Clinton Creek Walk conveyances – Estimated cost $6 million

Harbor Brook conveyances – Estimated cost $43 million

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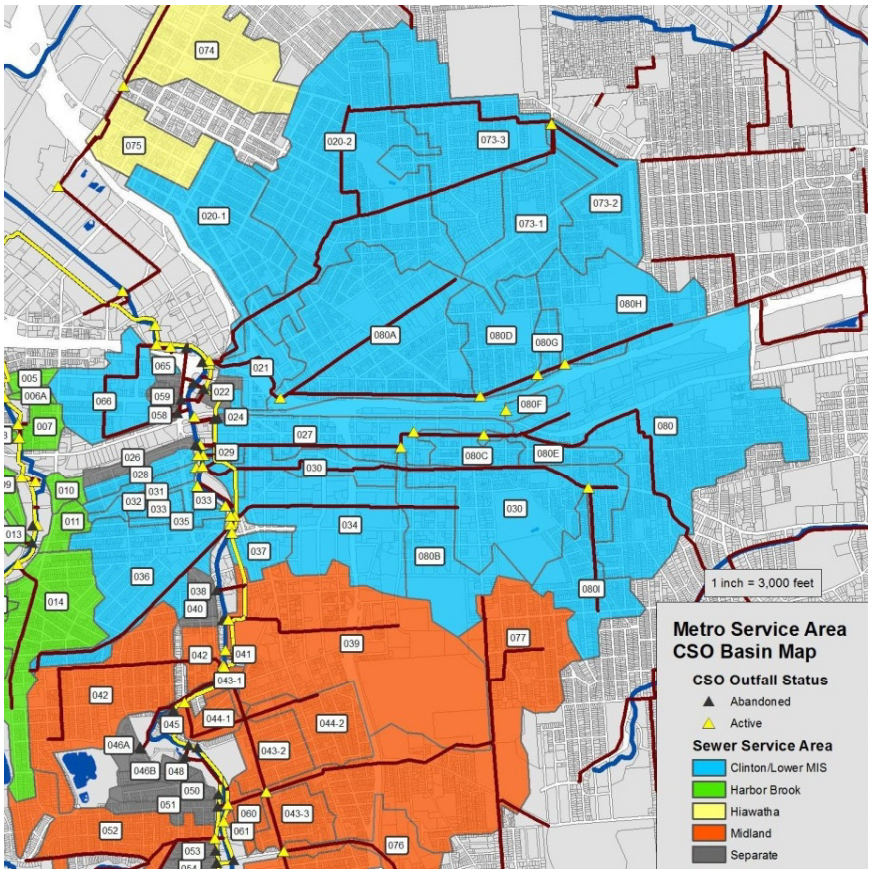
The Clinton/Lower MIS Service Area

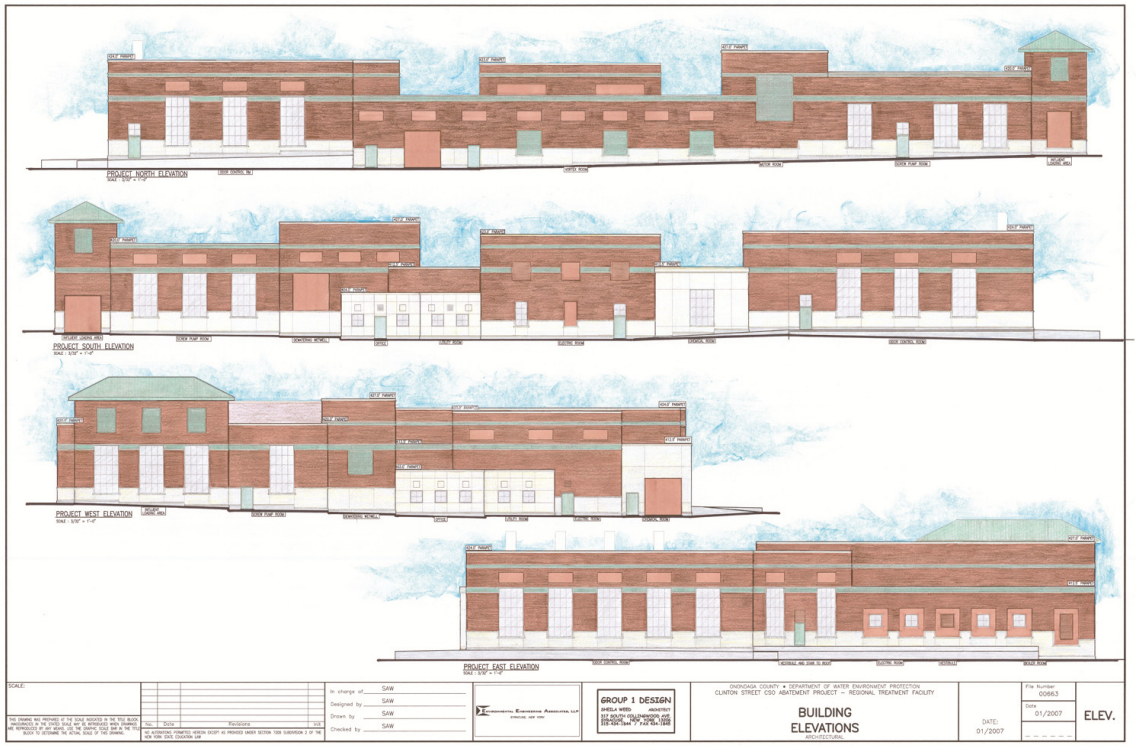
Includes:

- 16 active outfalls
- Approximately 2,400 acres of land
- 52% impervious
- Total annual CSO volume = 1022 MG
- Four “Gray” CSO control facilities:
  - Clinton Storage
  - EBSS
  - Maltbie FCF
  - Franklin FCF



Prior to the ACJ Fourth Stipulation

- Clinton and Erie Boulevard drainage basins were managed as separate CSO basins, but are now combined as Clinton – Lower MIS due to hydraulic connectivity
- Prior program was based on regional treatment facility (RTF) at Trolley Lot and Sewer Separation (022)
- RTF construction estimate: $94 million



4th Stipulation to the ACJ, November 2009 Begins "Save the Rain" Program

- Balance Green (GI) and Gray approach
- Storage option becomes possible coupled with GI
- CSO storage at Trolley Lot – 6.5 million gallon storage tank
- Annual capture: 124 million gallons

Hartford MDC to Abandon Swirl Technology

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Water Quality Benefits Storage vs. RTF

- Water quality benefit for Onondaga Creek and Onondaga Lake: All captured flow sent to Metro for higher levels of treatment
- RTF swirl technology not nearly as effective as treatment at Metro
- No chlorination at Trolley Lot planned at this time

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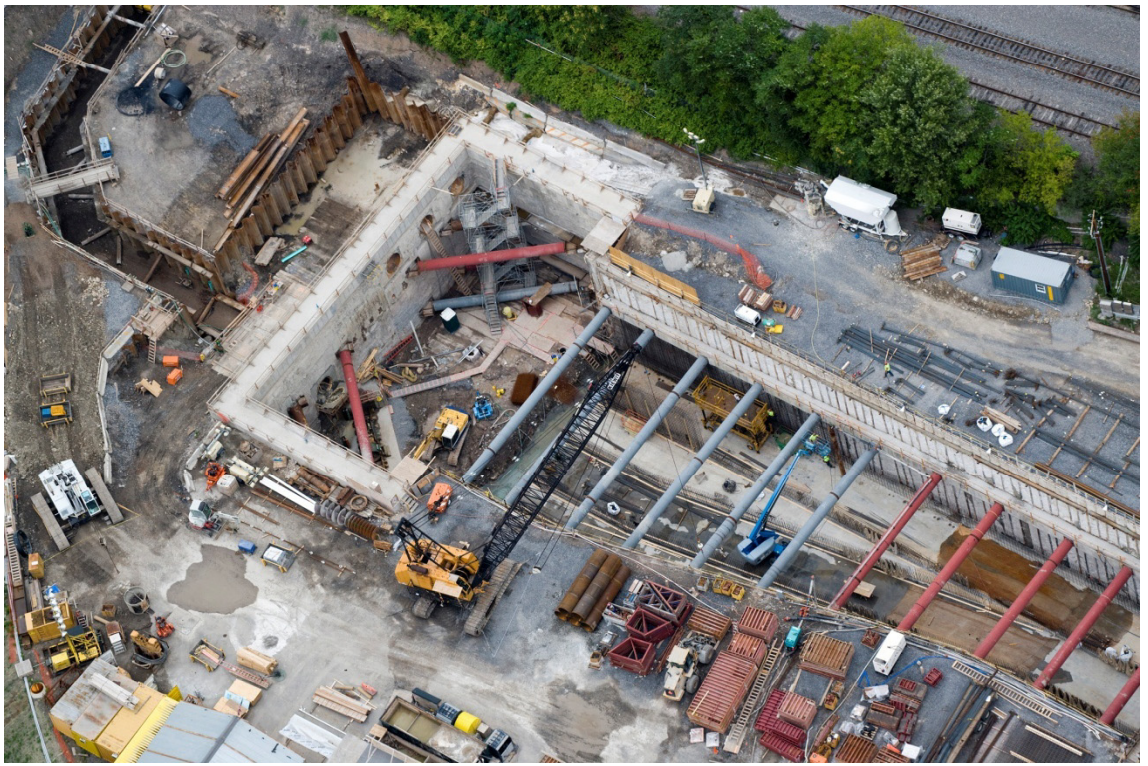
Other Benefits of Storage vs. RTF

- Less energy consumption – every drop pumped to RTF – gravity flow to underground storage
  - RTF pump electrical usage would power 1,500 households during a storm
- Lower capital and long-term operating costs
  - Construction cost savings: $16 million
  - O&M cost savings: $230,000 per year



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Why are we here?

- Request amended budget authorization
- Increased cost due to:
  - Regulatory issues and delays
  - High chloride groundwater and DEC limits
  - Complex geology
  - Consent order schedule
  - Improvements to reduce long-term operations and maintenance costs

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Regulatory Issues

- NYSDEC reviews delayed construction start
- NYSDEC placed numerical limit for chloride levels in Onondaga Creek resulting in extremely low groundwater discharge allowed to creek
- Groundwater under Trolley Lot is brine, nearly 4 times as much salt as sea water
- Construction techniques to control groundwater are more costly and higher risk than conventional construction, adding an estimated **$15 million** to construction cost and additional time

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Program Planning and Design Criteria

- Facilities underground to maximize commercial potential of lot adjacent to vibrant Armory Square
- Maximize CSO storage capacity within Trolley Lot footprint – 3.7 MG increased to 6.5 MG
- Minimize construction impacts on neighbors
- Use knowledge gained during Clinton pipeline project: groundwater chloride levels, various site conditions, parking, public interests and adherence to NYSDEC chloride limit in Onondaga Creek
- Influent flow by gravity instead of pumps to save energy

Clinton Storage Facility Cost

- Allocated Budget: $61,500,000
- $79,000,000 (June 15, 2011 EP committee minutes)
- Bid price: $70,640,000 (July 14, 2011)
- Estimated final construction cost: $77,680,000

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Changes During Construction

- Deep below-grade rocks and boulders: $939,970
- High salt content groundwater control: $862,000
- Repair/replacement of existing infrastructure: $402,000
- Modifications to reduce O&M: $504,000
- Acceleration costs: $2,926,564

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Clinton/MIS Budget

- Authorized: $165,500,042
- Required to complete: $184,960,154
- This request: $19,460,112

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Clinton/MIS Funding Sources

Drainage Basin Program

- Grants……$ 54,909,000
- EFC Low Interest Loans……$129,750,252
- Onondaga County ……..$ 300,000
- Total Clinton/MIS Program.....$184,960,154

Clinton Storage Construction

- Grants……..$ 31,120,000
- EFC Low-Interest Loans……..$ 46,260,000
- Onondaga County……..$ 300,000
- Total Clinton Storage Const. …..$ 77,680,000

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Remaining Issue

- Contractor claim of differing site conditions
- Grouting required to seal off groundwater
- County's consultants believe claim without merit
- Claim amount: $10.2 million

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Wins Along the Way

- Minimal impact on neighbors and Armory Square
- Parking mitigated - minimal impact
- Community support for the project
- No water quality violations during construction
- The “right solution” balanced with green infrastructure
- More CSO capture at lower cost per gallon
  - Better water quality in Onondaga Lake
  - Fewer discharges to creek downtown
- Meeting ACJ deadlines

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Impact on Local Economy

- Local construction employment: more than 300,000 craft hours
- 16% minority and women participation on construction
- Local engineering and architectural: more than 60,000 staff hours
- Total local payroll: more than $25 million
- Impact on local economy: more than $60 million

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