



Chief Administrative Officer's 2013 Annual Report



New Haven Engineering Department

John DeStefano, Jr. – Mayor

Robert Smuts – Chief Administrative Officer

Richard Miller – City Engineer

Larry Smith – Assistant City Engineer



Chief Administrative Officer's Annual Report: Engineering

Mission and Major Areas of Focus

Engineering is responsible for most parts of the City of New Haven's public structures and infrastructure. This responsibility includes ensuring the condition and necessary maintenance, serving as project lead on many repair and new construction initiatives related to City-owned facilities and infrastructure (including pursuing funding, permitting, design, and construction oversight), and accepting the design and work done by other entities that impact City infrastructure.

Responsibilities for assets include:

- City-owned buildings and Long Wharf pier
- Bridges
- Road design (regular maintenance is under DPW)
- Sidewalks
- Sewers, drainage, storm lines and flooding
- Street lights

Engineering plays a major role in the approvals for many development projects. Other duties include catch-basin cleaning, mapping, and various permitting responsibilities.



Chief Administrative Officer's Annual Report: Engineering

Infrastructure: Buildings

The City has many buildings, ranging from City Hall to small park pavilions. The Parks Department maintains their own structures, as does the Board of Education. All other City buildings fall under the Engineering Department to maintain. They include:

- City Hall, 165 Church Street
- Hall of Records, 200 Orange Street
- Police Headquarters, 1 Union Avenue
- Police Training Academy, garage and firing range, 710 Sherman Avenue
- New Haven Animal Shelter, 81 Fournier Street
- 7 police sub-stations, owned; 1 rented (2 others are in other municipal buildings)
- Central Fire Station, 952 Grand Avenue
- 9 fire houses
- New Haven Fire Training Academy and maintenance shop, 230 Ella Grasso Blvd
- Ives Main Library, 133 Elm
- 4 branch libraries
- Public Works, 34 Middletown Avenue
- Transportation, Traffic & Parking shop, 42 Middletown Avenue
- 2 rented senior centers, 1 owned
- Health Department offices, part of condominium offices at 54 Meadow Street
- Shubert Theater, 247 College Street
- 2 tunnels

The Engineering Department is responsible for the structure, systems and overall condition of the buildings. In some cases, the individual departments using the facility (or the condominium association or theater management company) takes care of regular maintenance and cleaning and in others the Engineering Department oversees the contracts for those duties.



Chief Administrative Officer's Annual Report: **Engineering**

Infrastructure: Buildings

1. **Handling emergency repairs and (especially) ways to pay for them.** Many buildings and public properties were damaged in 2011, 2012 and 2013 storms, and Engineering was one of the lead agencies directing repairs and seeking FEMA reimbursements.
2. **Reducing costs of infrastructure.** Engineering is the lead department on energy conservation and efficiency projects, cumulatively saving the City millions in avoided costs. Current initiatives underway include LED street lights, and energy saving building modifications.
3. **Put into place preventive maintenance programs.** In the last six years, Engineering has taken over the management of, successively, library facilities, police facilities, fire department facilities and now some parks buildings from the individual departments. In each case, Engineering has done a thorough needs assessment and put in place a multi-year preventive maintenance program. The maintenance is coordinated with energy efficiency improvements to minimize costs.
4. **Assess and provide support on other buildings.** The City is taking possession of the former State Armory on Goffe Street and the former U.S. Army Reserve Center on Wintergreen Avenue. Engineering has conducted building assessments on both facilities. On the former Goffe Street Armory, Engineering expects to be successful in pursuing nearly \$3 million in grants from the State of Connecticut to repair the roof and extensive water damage, remediate asbestos, replace the HVAC systems and install elevators and ramps to make the building ADA compliant – and then project managing those repairs and improvements. With the former U.S. Army Reserve Center, much smaller building improvements are included in Engineering's capital requests.



Chief Administrative Officer's Annual Report: Engineering

Infrastructure: Bridges

New Haven has 49 bridges for which the City is responsible, and several others such as the Pearl Harbor “Q” Bridge and several other highway or railroad bridges for which the State or some other entity is responsible. Of the 49 bridges that are a City responsibility, three are movable bridges – the Ferry Street Bridge and the Grand Avenue Bridge over the Quinnipiac River, and the Chapel Street Bridge over the Mill River – that require a much greater degree of maintenance.

The Department of Public Works is responsible for day-to-day maintenance of the bridges, and staffs the three movable bridges. The Engineering Department is responsible for the long-term condition of the bridges. The five-year repair plan cost is detailed below.

BUDGET FISCAL YEAR:	2013	2014	2015	2016	2017	2018
City:	\$1,600,000 ^[*]	\$1,300,000 ¹	\$1,400,000 ⁴	\$5,000,000 ⁶	\$1,400,000 ⁷	\$1,300,000 ⁷
State:		\$458,700 ²		\$10,000,000 ⁶		
Federal:	\$2,400,000 ^[**]	\$1,600,000 ³	\$1,600,000 ⁵	\$10,000,000 ⁶	\$800,000 ⁷	

[*] Construction for Brookside Bridge – Est. \$1,000,000; Local Share 20% of East Rock Rd Bridge - \$600,000

[**] Federal Share of East Rock Rd Bridge

¹ Local funding: George Street - \$900,000; Wilmont Road - \$400,000

² State funding: George Street

³ Federal funding: Wilmont Road

⁴ Local funding: Crown Street - \$400,000; Chapel Street painting - \$1,000,000

⁵ Federal funding: Crown Street

⁶ Grand Avenue Bridge

⁷ Out year work details to be developed



Chief Administrative Officer's Annual Report: Engineering

Infrastructure: Bridges

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Every bridge is tracked for condition and needs, both major and minor. A report is produced quarterly for the Board of Aldermen and the public to keep them informed of work being done, needs that are identified and overall condition.

Shown at right is the quarterly update page for the East Rock bridge, which is under construction this Spring.

On a 9 point scale, where 1 is worst, no bridges are graded a 1.

- The only bridge graded a 2 is the State Street bridge, currently under construction.
- Two bridges are rated 3, which are both under design.
- Five bridges are graded a 4, three of which are under design for replacement and one is under construction.
- Five are given the middle score of a 5 – one of which is in design for repairs – and all other bridges are graded above that mark.

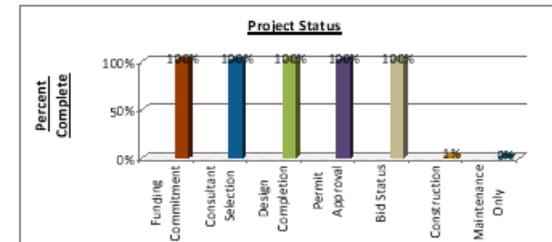
BIN 04418 East Rock Road over Mill River



1. Project Description:	Deck Replacement with Superstructure Repairs
A. Scope of Work	Replace the deck with a new deck system to correct the structural deficiency and bring deck geometry to current standards. Perform structural steel repairs to arch and field paint the bridge to improve remaining service life. Modify and repair existing stone masonry substructures. Traffic to be detoured during construction.
B. Estimated Project Cost:	\$2,500,000
2. Source of Funding:	<input checked="" type="checkbox"/> ConnDOT <input type="checkbox"/> SCRCOG <input checked="" type="checkbox"/> City Fed. Local Bridge Program (80% Reimb.)
3. Project Status: (Action Plan)	City has obtained funding commitment from ConnDOT under FLBP (80% of project costs). City's share has been budgeted. Dewberry-Goodkind, Inc. selected as consultant based on QBS. Design Agreement was executed on March 19, 2010. A meeting was held on Friday, July 27, to review the 70% design with CTDOT, CIM and Dewberry Engineers. 100% of the design is completed. Invitation to bid were placed in the New Haven Register & Hartford Courant in early December. A mandatory pre-bid meeting was held on Dec. 27, 2012. Contract awarded to ROTH A Contracting Company, Inc. for \$2,114,659. Construction to start April 22.

Red Flag Need:

- Maintenance Only
 Design & Construction



4. Achieved Progress: Last Quarter	The type study was developed. The third public information meeting was held on December 8, 2011. The City received approval from the FHA for waiver regarding the width of bridge at 20-ft. Authorization with SHPO has been completed. Contract awarded to ROTH A Contracting Company, Inc. for \$2,114,659.
5. Anticipated Progress: Current Quarter:	Bid Opening is due January 16, 2013. A schedule has been submitted by Consultant which indicates the construction starts in Spring of 2013.
6. Challenges & Special Concerns:	Deck & sidewalk rated to be in "Serious" condition and bridge posted for 17 Tons. The type study will have to balance structural requirements and decorative historic character of the bridge



Chief Administrative Officer's Annual Report: Engineering

Infrastructure: Roads

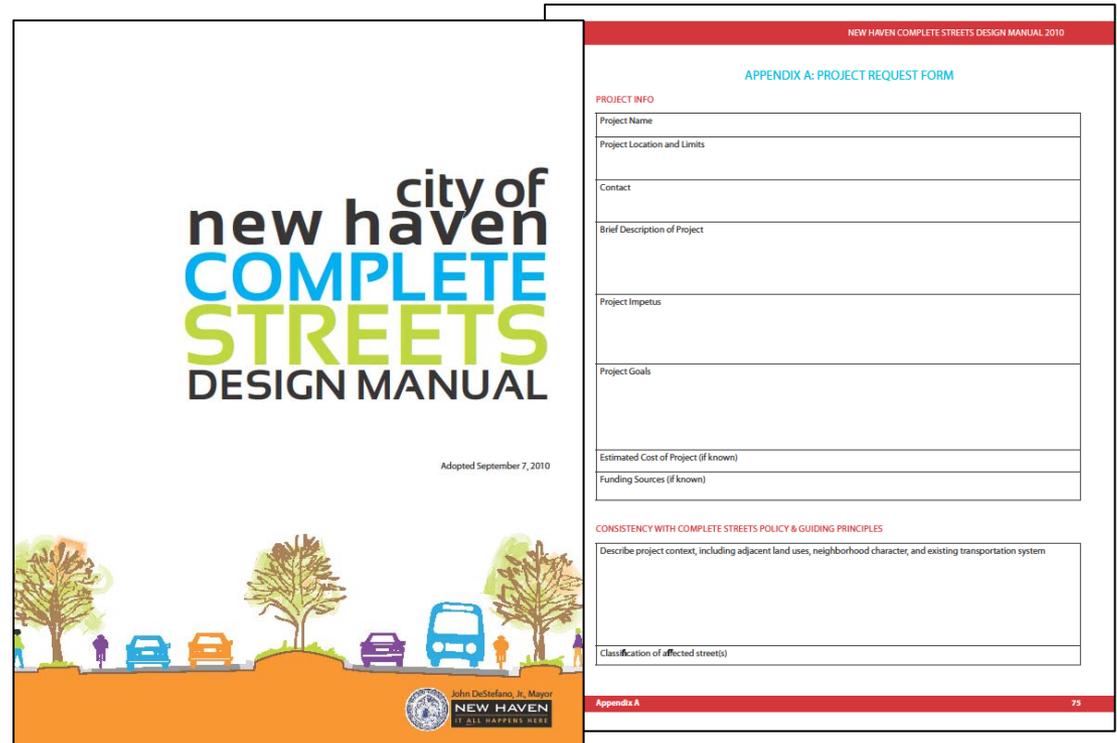
DPW is responsible for the surface condition of roads, but Engineering is responsible for any design issues.

These include:

- Instances where the road needs reconstruction (usually to restore the shape of the crown). Think of portions of Broadway or State Street where heavy traffic and buses are creating ripples in the road.
- Overseeing new road design. This includes HANH projects and the roads around 100 College Street.
- Complete Streets. TT&P handles signage, striping and other paint, but Engineering designs any changes to the road itself to make our public rights-of-way safer for all users.

The Complete Streets manual at right lays down design standards for Complete Streets projects and was adopted by the Board of Aldermen. Requests for Complete Streets projects use the "Project Request Form" shown at far right.

In a separate handout, the current status of the 57 Complete Streets applications are shown.



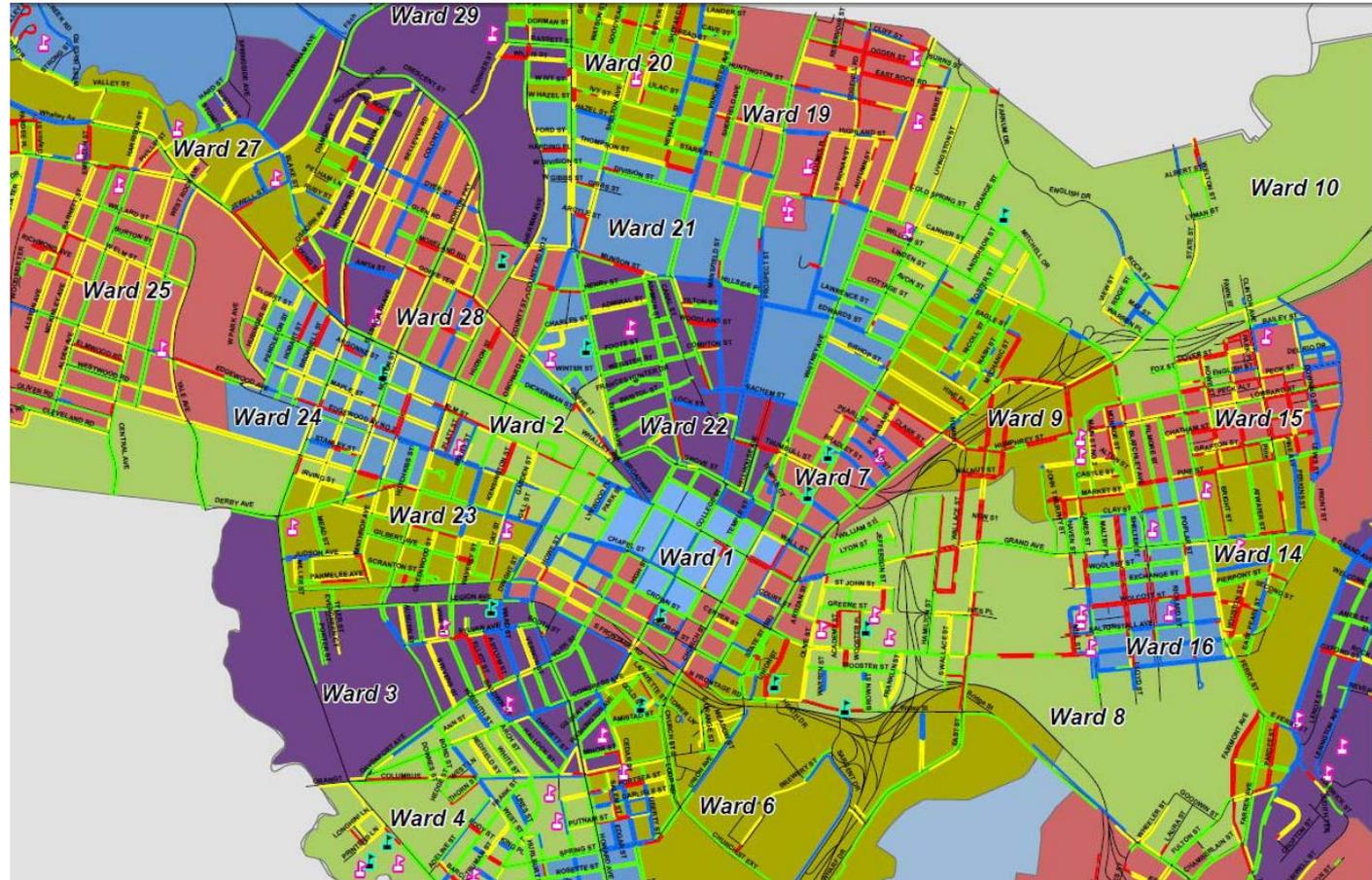
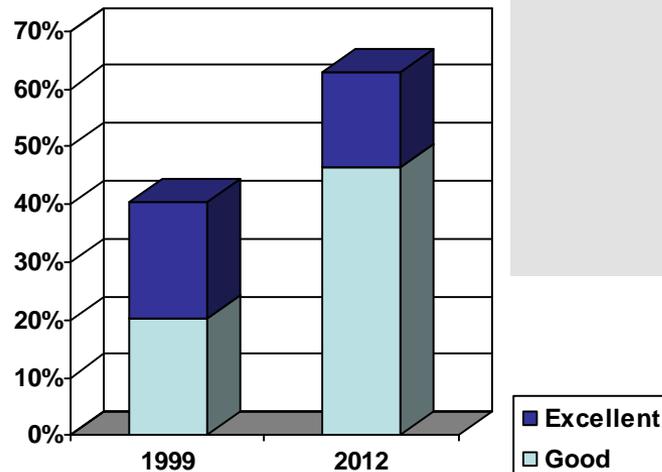


Chief Administrative Officer's Annual Report: Engineering

Infrastructure: Sidewalks

Engineering commissioned a sidewalk condition report in 2012. All sidewalks were graded as "poor," "fair," "good," or "excellent," and this information is used by the Resource Allocation Committee to help prioritize repairs.

**Sidewalk Condition
1999 and 2012**



The percentage of sidewalks graded "good" or "excellent" has increased from 40.3% in the 1999 condition report to 62.7% in 2012. While that leaves a lot of work to do, it is a significant change in such a large and costly piece of infrastructure.



Chief Administrative Officer's Annual Report: Engineering

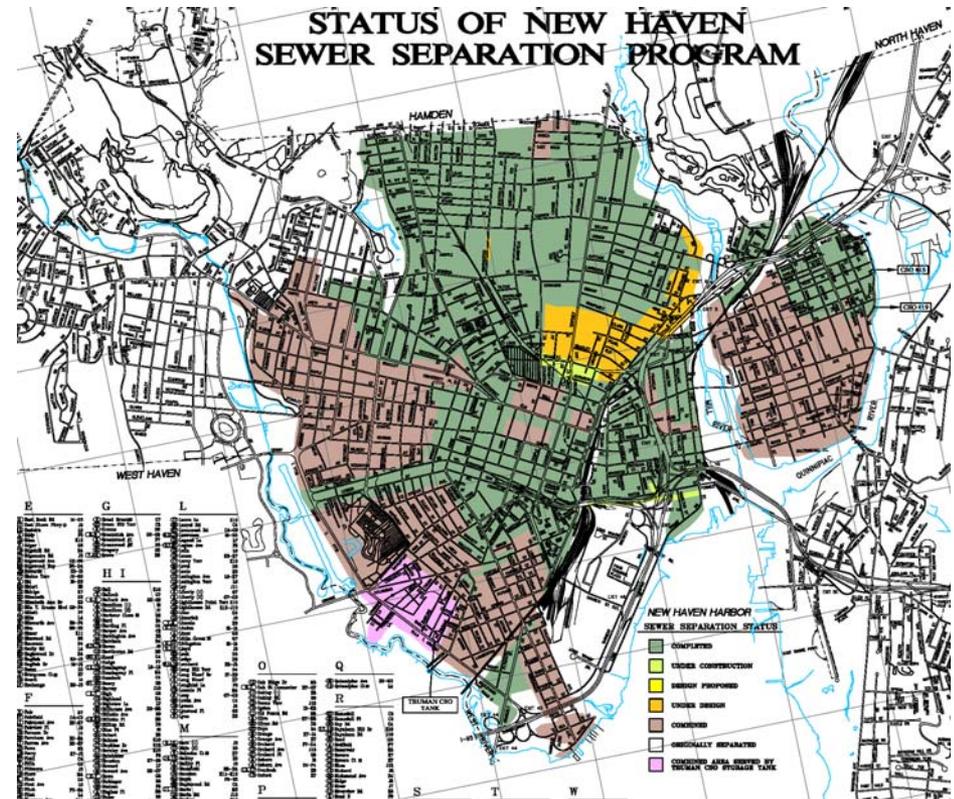
Infrastructure: Sewers, Drainage and Flooding

Engineering Department is responsible for:

- Cleaning all catch-basins
- Ensuring that stormwater sewer pipes are maintained, unclogged and adequate.
- Repairing damage to catch-basins, stormwater sewer pipes, and drainage slopes.
- Designing and building fixes for flooding that puts safety or property at risk.
- Minimizing cost.

To improve water quality, the GNHWPCA and the City are required through a federal consent order to separate the sewers that currently carry both sanitary and stormwater into separate lines, to ensure that sanitary waste does not get washed into the New Haven Harbor, as well as various other improvements. The estimated cost of these improvements is \$400,000,000, of which we expect to get half the cost paid for by federal grants, 30% covered by the GNHWPCA and 20% due from the City. Additional costs to improve the water quality from stormwater run-off are beginning to take effect, though it is unknown at present what future requirements and costs will be.

The Engineering Department is working with the GNHWPCA and Save the Sound to pioneer "green infrastructure" that might provide cheaper and more environmentally friendly ways of addressing these requirements.





Chief Administrative Officer's Annual Report: **Engineering**

Infrastructure: Sewers, Drainage and Flooding



Engineering has recently addressed flooding problems at:

- Rock Creek
- Dean Street
- Hemingway Creek
- Wintergreen culvert
- Beverly Road
- many smaller problems

Engineering has put in place a short-term solution (pictured at left) and is pursuing state permits and federal grants to pay for seawall installations to protect ten homes directly, and several hundred homes indirectly.



Chief Administrative Officer's Annual Report: **Engineering**

Other functions and changes

Street lighting:

- New Haven is the only UI municipality that owns its street lights, saving hundreds of thousands of dollars
- Engineering is responsible for fixing outages (please report the pole number on any report of an outage)
- Implementing replacement of current lights with longer-lasting, much more efficient and effective LED lights
- Working with UI and PURA (state regulatory body) to reduce UI charges

Other changes from previous years:

- FY11-12 was stripped down on capital as far as could go – streets, sidewalks, Parks, etc.
- FY12-13 more than doubled the sidewalk request – from \$650,000 to \$1.4 million – which is closer to sidewalk spending in previous years, though still below levels in the late 1990s and early 2000s.
- FY13-14 reduces local sidewalk funding to \$1 million, but plans on utilizing some state funds (LoCIP) that have been used for building repairs in past years to bring the total back to the \$1.4 million level of FY12-13.

Staff changes:

- City Engineer will be retiring in August. His replacement will be filled by the next Mayor after the election.
- In addition to the City Engineer's retirement, most of the rest of the department is eligible to retire and transition planning is a significant area of concern.
- A vacant GF engineering position has been moved to capital funding and revamped to require only an Engineering In Training certificate (EIT), and not a full P.E. certification to attract someone at the beginning of their career. This position will help in oversight of Small Contractor Development and the Complete Streets projects.