

TOWN OF ESSEX CONNECTICUT
BUILDING COMMITTEE
CAPITAL PLANNING
REPORT
November 2014



ESSEX BUILDING COMMITTEE

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Presented by
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TABLE OF CONTENTS

EXECUTIVE SUMMARY

SUMMARY OF CAPITAL IMPROVEMENT COSTS

INFRASTRUCTURE

Walnut Street Bridge

Ivory Street Bridges

ESSEX ELEMENTARY SCHOOL

Roof Replacement

Air Quality

Paving Renovation

Media Center Upgrades

TOWN HALL

Roof Replacement

Window Replacement

Fire Alarm System and Vault Fire Suppression System

Land Use Office Improvements

Air Quality

Toilet Room Improvements

PUBLIC WORKS DEPARTMENT

Town Garage Roof Replacement

Heating System Replacement

Two Bay Garage and Covered Storage

FIRE DEPARTMENT

Fire Truck

EXECUTIVE SUMMARY

As in most communities, the town administration is the guardian of publicly owned properties which are diverse and complex. Recognizing the need for a comprehensive plan that would serve as a guide for future capital expenditures at public facilities in Essex, the Capital Projects Committee, appointed by First Selectman Norman Needleman in 2012, reviewed all town assets and prioritized needed improvements. Based on the needs identified in this study, the Honorable Mr. Needleman appointed a Building Committee tasked with determining the cost of these improvements and reviewing funding options. Members of the Committee included the following:

Bruce Glowac, Chair

Kelly Sterner

Leigh Ann Rankin

The Building Committee called upon CME Associates, Inc. of East Hartford and Woodstock, CT, currently serving as consultant planner, to provide architectural and engineering services to assess various building projects and develop an estimate of construction costs. Additionally, Salamone & Associates, PC provided input with regard to heating, cooling and plumbing issues at several sites. Reports from other experts served to inform and confirm project costs.

The following report summarizes the cost of improvements and expands upon the need for each proposed project in narrative form and photographic documentation, consultant recommendations and cost estimates.

SUMMARY OF CAPITAL IMPROVEMENT COSTS

November 2014

Project	Estimated Cost
<i>Infrastructure Projects</i>	
Walnut Street Bridge	2,100,000*
Ivory Street Bridges	450,000
Contingency and Debt Admin.	<u>295,000</u>
Subtotal	\$2,845,000
<i>Essex Elementary School Projects</i>	
Roof replacement	\$1,400,000*
Air quality improvements	600,000
Paving renovations	225,000
Media Center upgrades	185,000
Fuel conversion	110,000
Contingency and Debt Admin.	<u>295,000</u>
Subtotal	\$2,815,000
<i>Town Hall Projects</i>	
Roof replacement	\$200,000
Window replacement	115,000
Fire alarm system & vault suppression system	30,000
Land Use office improvements	500,000
Air quality improvements	200,000
Toilet Room improvements	120,000
Contingency and Debt Admin.	<u>135,000</u>
Subtotal	\$1,300,000
<i>Public Works Department Projects</i>	
Town Garage roof replacement	\$109,000
Heating system replacement	97,000
Two bay garage and covered equipment storage	264,000
Contingency and Debt Admin.	<u>55,000</u>
Subtotal	\$525,000
<i>Fire Department Projects</i>	
Pumper Engine	<u>600,000</u>
Subtotal	\$600,000
 Total Estimated Capital Improvement Costs	 \$8,085,000

* Anticipate a total of \$2,055,000 reimbursement from grant funding

Infrastructure Improvements

WALNUT STREET BRIDGE

Existing Conditions

Bridge No. 04660, which carries Walnut Street over Falls River, was constructed in 1968 and consists of four asphalt-coated corrugated steel pipe arches. The most recent Connecticut Department of Transportation (ConnDOT) Routine and Special Inspection was performed on July 16, 2013. The report from this inspection indicates a Structure Evaluation Appraisal of 2, which is described as “Basically intolerable requiring high priority of replacement”. The bridge has been posted for a load limit of 10 Tons.



Recommendations

An application for funding under the ConnDOT Federal Local Bridge Program has been prepared based upon full replacement of the existing bridge with a new bridge meeting all current design standards.

Cost Estimate

A cost estimate has been prepared using the ConnDOT 2013 Cost Estimating Guidelines where appropriate. The estimated total project cost is \$2,100,000 in 2016 dollars, when construction is estimated to begin, with a reimbursement rate of 80%.

IVORY STREET BRIDGES

Existing Conditions

The Ivory Street bridges were built in 1940 and carry Ivory Street over separate branches of the Falls River. Both bridges are experiencing severe deterioration at the fascia of the deck slabs. This deterioration is also continuing up the integrally cast parapets. Additionally, the bridges are narrower than the approach roadway and have inadequate traffic protection.



Recommendations

The existing bridges will be removed and replaced with pre-cast three-sided box culverts. Wing walls and parapet wall will be replaced in the same location and footprint as existing components and will contain the gravel and pavement. Existing spans will be retained and no work in the existing channel will be needed. Boxes will be wide enough to span the existing river bottom. Railings will be installed atop the parapet walls and extended beyond the bridge length to protect pedestrians. Road and sidewalk restoration will take place post-replacement. No utility relocation is needed as part of the project.

Cost Estimate

The total bridge replacement cost for both spans is estimated at \$450,000 including fees for design, permitting and construction.

Essex Elementary School Projects

ESSEX ELEMENTARY SCHOOL ROOF REPLACEMENT

Existing Conditions

The Essex Elementary School roofing system consists of variety of roofing materials including ballasted EPDM and PVC membrane. The ballasted roofs were installed in 1992 and have exceeded their life expectancy but not without failures of the flashings and seams which have a 12 to 15 year life expectancy. The PVC membrane roofs were installed on the 2008 additions and are in good condition with a few isolated exceptions. A roof inspection by The Moriarty Corporation in September 2011 identified deficiencies in the existing roofing systems and recommended budgeting for roof replacement of the ballasted roofs within 3 years.

Recommendations

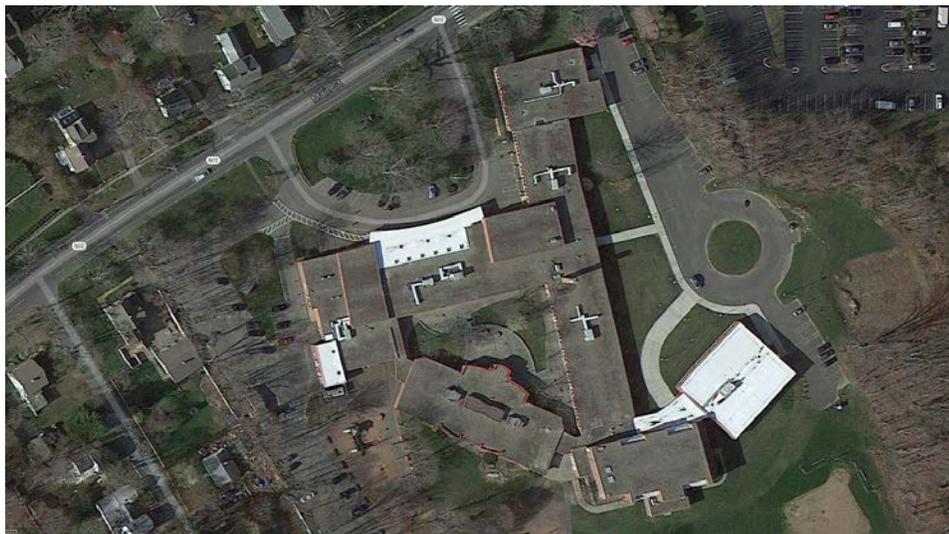
At this time, the ballasted roofs are in critical need of replacement. The PVC roofs should be repaired as necessary. New roof work should be coordinated with any expected modifications to rooftop HVAC equipment and energy efficiency measures such as day lighting and solar systems. The scope of work will include the following:

- Removal of the existing ballast, EPDM roof membrane and insulation;
- Installation of day lighting devices;
- Installation of new metal copings and flexible flashings at rooftop equipment;
- Installation of rigid insulation sloped ½” per foot to existing roof drains;
- Installation of new white PVC roof membrane;
- Repair of 2008 PVC roof flashings as necessary.

Cost Estimate

The cost estimate for roof replacement and repairs is \$1,400,000.

Funding for a portion of the roof replacement cost is eligible for reimbursement by the State Department of Education, Bureau of School Facilities. The reimbursement amount is projected to be \$300,000.



ESSEX ELEMENTARY SCHOOL AIR QUALITY IMPROVEMENTS

Existing Conditions

With the exception of the Administrative offices and the Media Center, the Elementary School is not air conditioned. Removing moisture from the air is critical to arresting the growth of mold that contributes to respiratory illness among the school occupants.

Recommendations

One means of conditioning the air is the installation of ductless split units. These units could be installed in each classroom and groups of six tied to one rooftop mounted condensing unit. Each individual unit is capable of acting as a zone providing for energy efficiency as building orientation creates differing demands. This type of system will assist in removing moisture laden air and prevent the growth of mold in currently unconditioned spaces.

Cost Estimate

A cost estimate for implementation of a split duct system at Essex Elementary School is estimated at \$600,000.

ESSEX ELEMENTARY SCHOOL PAVING RENOVATION

Existing Conditions

Existing parking areas have been expanded utilizing temporary measures including gravel. These areas are not compliant with Universal Accessibility standards and are prone to washout and further breakdown during the freeze / thaw cycle. Expanded on-site parking is warranted to address parking needs. Due to the deteriorated condition of the tennis courts and their adjacency to existing parking, this area has been identified as a potential expansion site.

Construction of a concrete sidewalk along the west side of the building is also proposed to eliminate conflict between food service delivery vehicles and pedestrians.

Recommendations

Remove and replace the existing and proposed paved areas with a two coat asphalt surface on a renovated base layer. The existing surface will be removed and pulverized, replaced and compacted, and a new 2 inch base coat installed with a 1 1/2" top coat.

Cost Estimate

The cost for the recommended improvements is estimated to be \$225,000.



Parking surfaces in the main entrance circle demonstrate the range of materials and conditions that are common in the areas where parking has been expanded.

ESSEX ELEMENTARY SCHOOL MEDIA CENTER

Existing Conditions

The Media Center floor system includes carpet installed over old mastic, containing hazardous materials, on a concrete slab. As the Elementary School prepares to renovate the Media Center, there is an opportunity to remove these hazardous materials.



Recommendations

During the course of demolition of the existing raised floor system and partitions, and in conjunction with the replacement of the existing carpeting, the mastic remaining from past floor finish systems should be removed by stripping and shot blasting the concrete slab.

Cost Estimate

The estimate of costs to renovate the Media Center, including the removal of hazardous materials is \$185,000.

Essex Town Hall Projects

TOWN HALL ROOF REPLACEMENT PROJECT

Existing Conditions

The Town Hall complex consists of four connected structures each with separate roof systems. The roof of the main 1922 building and of the Resident State Trooper building consists of a built up tar and felt roof membrane which has exceeded its expected useful life of 20 years. Additionally, there are active roof leaks which are affecting interior structure, finishes and indoor air quality.

Recommendations

The Main Building roof and the roof of the Resident Trooper Building should be completely removed down to the roof sheathing and replaced with a sloped, single ply TPO (thermoplastic polyolefin) roof system including rigid insulation and new aluminum coping. All work should be coordinated with anticipated upgrades to mechanical systems.

Cost Estimate

It is anticipated that the roof replacement project for the main roof of the Town Hall and the Resident Trooper Building roof will cost approximately \$200,000 in the year 2014 including hazardous materials abatement.



Main roof looking north along the East wing.

ESSEX TOWN HALL WINDOW REPLACEMENT

Existing Conditions

CME Associates, Inc. reviewed and documented the condition of existing windows throughout the Town Hall building. Single pane window sash with triple track aluminum storm / screen panels are predominant throughout the building, although in 2012, fourteen single pane, double hung windows on the north side of the building were removed and replaced with energy efficient Kolbe wood replacement sash with insulated glass.

Recommendations

Approximately 47 windows remain to be made energy efficient after the Phase One replacements. The remaining windows should be replaced with aluminum clad wood windows to match the 2012 windows and finalize the project.

Cost Estimate

The total budget cost of the window replacement project is \$115,000.

TOWN HALL FIRE ALARM SYSTEM and VAULT FIRE SUPPRESSION SYSTEM

Existing Conditions

Currently the Town Hall building is served by a fire detection system consisting of smoke detectors with fire suppression provided by wall mounted fire extinguishers. The vault containing town records does not have a fire suppression system.

The International Building Code and the International Fire Code specify that a building of Type B occupancy with an occupant load of 100 persons above and below the level of exit discharge, such as the Town Hall, is required to have a manual fire alarm system.

Recommendations

Install a Fire Alarm system throughout the Town Hall building that includes upgraded smoke and heat detectors, alarm initiating devices, alarm notification appliances, fire alarm control panel, battery backup, and annunciator.

Install four, 10 lb, wall mounted, portable, gaseous agent system fire extinguishers in the vault.

Cost Estimate

The estimate of cost for the installation of a fire alarm system within the Town Hall and a fire suppression system in the Vault is \$30,000.

TOWN HALL LAND USE OFFICES IMPROVEMENTS

Existing Conditions

This study of the Land Use Offices and the Selectmen's Suite built upon an earlier report of space utilization of the entire Town Hall carried out in 2004 by Arbonies King Vlock, PC, Architects and Planners. Over the course of the past ten years, many of the recommendations have been implemented. The Land Use Offices are one of the major final upgrades suggested by the report that has yet to be accomplished.

Interviews with Town Hall personnel in Land Use positions including the Board of Health, Zoning Enforcement/Wetlands Officer, Building Official, Fire Marshal, Consultant Town Planner as well as the adjacent Selectmen's Offices and supporting personnel resulted in the development of a Space Program and Space Planning concept diagrams.

Recommendations

Several plan options that met the needs of the Land Use Offices were considered. The attached concept is recommended by the Building Committee as being the most cost effective in that it utilizes existing space rather than adding on to the Town Hall building and it accommodates existing and future needs with reasonable confidence.

Cost Estimate

The cost estimate for the recommended plan option is \$500,000.

AIR QUALITY IMPROVEMENTS

Existing Conditions

The existing building has undergone multiple renovations and improvements since it was repurposed as the Town Hall yet a cooling system has not been installed with the exception of inefficient window unit air conditioners. The building is without code compliant ventilation and recommended conditioned air that will provide for healthy air quality.

Recommendations

The purpose of this study was to explore the possible configurations of cooling and ventilating the building. Building structure does not allow for a central system, but rather a variety of systems as required for individual space needs and code requirements. The recommended approach consists of a several zones with ventilation and cooling systems appropriate for the occupancy loads.

Cost Estimate

The Building Committee approves of the consultant's recommendation acknowledging that additional architectural features will need to be incorporated into the design of the system within the building envelope. The estimate of construction cost for air quality improvements in the building is \$200,000.

ESSEX TOWN HALL TOILET ROOM IMPROVEMENTS

Existing Conditions

CME Associates, Inc. and Salamone & Associates, PC documented existing conditions and found the multiple code deficiencies including lack of Universal Accessibility and noncompliance with energy codes.

Recommendations

Renovations to the Toilet Room facilities should include compliance with Universal Accessibility and energy efficiency to the maximum extent possible within the existing building envelope. It may be technically infeasible to provide full compliance.

Cost Estimate

The estimated cost of renovating each of six toilet rooms located adjacent to the elevator core is \$120,000.

Public Works Department Projects

PUBLIC WORKS DEPARTMENT GARAGE ROOF

Existing Conditions

The 3,500 square foot single ply membrane roof of the garage building has outlived its useful life expectancy and is in need of replacement.



The circled roof over the repair and storage garages requires replacement.

Recommendations

Remove the existing membrane roof and install a new 60 mil insulated, white TPO single ply membrane roof and associated flashings and trim.

Cost Estimate

The estimate of project cost including design fees and contingency is \$109,000.

PUBLIC WORKS DEPARTMENT HEATING SYSTEM

Existing Conditions

The existing boiler that serves the repair garage is inefficient equipment that has been renovated with a new burner but has overall reached the end of its service life.



Recommendations

Install a new high efficiency oil fired hot water boiler and associated breeching, piping to three zones, hydronic horizontal unit heaters and associated thermostats and controls to will provide energy efficiencies and cost savings.

Cost Estimate

The estimate of cost for replacing the existing heating system and controls is \$97,000.

PUBLIC WORKS DEPARTMENT MATERIALS AND EQUIPMENT STORAGE

Existing Conditions

Covered storage for both materials and equipment is a necessity at the Public Works Department facility on Dump Road. Large equipment such as the Over the Rail Mower and the VACALL catch basin cleaner are currently stored inadequately. Sanders and plows are currently stored out in the open

Recommendations

Storage for equipment such as the Over the Rail Mower and the VACALL catch basin cleaner is required to protect the town's investment in this machinery. Sanders and plows which are currently stored out in the open should be protected from the elements in order to increase their useful life. A two bay garage addition to the right side of the salt shed will accommodate the equipment and minimize the impact of additional buildings on the small site. Open shed roof additions off both sides of the modified salt shed / garage building will provide needed storage for the sanders and plows. The existing site built open storage shed should be relocated and installed on full frost walls to insure its stability into the future.

Cost Estimate

The estimate of cost for the two bay garage, shed roof additions and relocation of the open storage bay on a frost wall foundation is \$264,000 including design fees.



The existing salt / sand shed could be expanded to include a two bay storage garage for large equipment such as the VACALL shown. Open shed roof structures could house other equipment that is currently stored in the open.

Fire Department Project

Existing Conditions

The Essex Fire Department has developed a 10 year plan that addresses the ongoing needs of the department for equipment and apparatus. The immediate need is for the replacement of the 1994 Pierce Dash pumper engine which was purchased new and is now thirty years old.

Recommendations

As per the National Fire Protection Association recommendations, fire apparatus over 20 years old should only be used as back up equipment. The pumper truck should be replaced with a suitably designed truck that can be accommodated within the space limitations of the Ivoryton Fire Station.

Cost Estimate

The cost estimate for a replacement pumper truck is \$600,000.



Engine 2: 1994 Pierce Dash pumper.