



CITY OF GLOUCESTER

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GLOUCESTER, MA

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CITY COUNCIL STANDING COMMITTEE
Budget & Finance Committee
Thursday, April 21, 2011 – 5:30 p.m.
1st Fl. Council Conference Rm. – City Hall
AGENDA

1. ***Continued Business:***
 - A) Discussion related to \$25,923.00 from free cash to be recommended for a purpose by the Gloucester City Council (Cont'd from 03/01/11)
2. ***Memorandum from DPW Director re: City Council approval to reprogram a portion of CIP06 CSO Surface Improvements in the amount of \$750,000 to be used in the 2011 spring resurfacing Program***
3. ***Memorandum from Community Development Director re: City Council acceptance of a Green Community Grant Award in the amount of \$198,200***
4. ***Memorandum from Community Development Director re: City Council acceptance of a Seaport Advisory Council Grant for an OAWRS study in the amount of \$200,000***
5. ***Memorandum from Grants Administrator re: Program year 2011 CDBG & HOME grants – City Council acceptance of the anticipated CDGB grant in the amount of \$805,289 and \$5,000 Of Program Income and anticipated allocation of the HOME Grant in the amount of \$138,848***
6. ***Special Budgetary Transfer Request (#2011-SBT-16) from Treasurer and Auditor Departments***
7. ***Special Budgetary Transfer Request (#2011-SBT-17 and #2011-SBT-18) from City Clerk's Office***
8. ***Special Budgetary Transfer Request (#2011-SBT-19) from Assessors Office***
9. ***Special Budgetary Transfer Request (#2011-SBT-20) from Treasurer's Office***
10. ***Special Budgetary Transfer Request (#2011-SBT-21) from Treasurer's Office***
11. ***Special Budgetary Transfer Request (#2011-SBT-22) from Treasurer's Office***
12. ***Memorandum from Community Development Director re: proposed amendment to GCO §12, Art. II "Wetlands"***
13. ***Communication from Gloucester Contributory Retirement System Board re: Cost of Living Adjustment***
14. ***Snow & Ice Deficit***
15. ***Ongoing City Financial Review***
16. ***Memo from City Auditor regarding accounts having expenditures which exceed their authorization And Auditor's Report***

COMMITTEE

Councilor Steven Curcuru, Chair
Councilor Paul McGeary, Vice Chair
Councilor Jacqueline Hardy

Committee members – Please bring relevant documentation

Back-up and Supporting Documentation all on file at the City Clerk's Office, City Hall

CC: Mayor Carolyn Kirk
Jim Duggan
Kenny Costa
Jeffrey Towne
Mike Hale
Sarah Garcia/Sharon DuBois

Public Works
28 Poplar Street
Gloucester, MA 01930



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mhale@gloucester-ma.gov

CITY OF GLOUCESTER
DEPARTMENT OF PUBLIC WORKS

MEMORANDUM

TO: Jim Duggan, Chief Administrative Officer
FROM: Michael Hale, Director of Public Works
DATE: 21 March 2011
SUBJECT: Paving Program Funding - Public Ways

The Department of Public Works has a resurfacing program to maintain the public and private roadway network; consisting of approximately 170 miles of roadway, of that approximately 80 miles are public. The goal is to have a reliable infrastructure to facilitate public safety, commerce and the public convenience. As you are aware, the City receives approximately \$500,000 annually from the State's Chapter 90 program. These funds are used for the maintenance of our public roadways and a host of other eligible expenses. The maintenance of private ways is not eligible under the Chapter 90 program. The City has limited funding for the maintenance of private roads.

In 2004, the Engineering Division of Public Works noted the cost of resurfacing the most needed public ways exceeded \$11 million. With the life expectancy of most asphalt surfaces around 10-12 years (less for major arterial roads), the city would need to pave approximately eight miles of public roadway per year to keep up with the life cycle of the asphalt. With only \$500,000 spent annually on our public ways, Public Works is addressing only the worse and most traveled ways.

The purpose of this memo is to request the Mayor's Office to forward to the City Council a request to reprogram a portion of CIP06 CSO Surface Improvements (58247), in the amount of \$750,000 to be used in the 2011 resurfacing program.

The selected roadways are all arterial ways and have surface conditions receiving a D grade and in many instances an F. Public Works will be advancing a number of traditional Chapter 90 projects as well. The complete list of proposed roadways for the 2011 resurfacing program will be submitted to the City Council at that time. The resurfacing program is the most aggressive program in many years and needs the support of additional funding.

In keeping with the Administration's financial philosophy of spending restraint and conservative planning, we are pleased to submit the following free cash savings and spending plan. NOTE: Transfers will be forthcoming.

AMOUNT	DEDICATED PURPOSE	EXPLANATION
\$750,000	Stabilization Fund	No significant deposit has been made to the city's slim stabilization fund in nine years. A financial goal of the city is to build a combination of fund balance and reserves of at least 5% of operating revenues. Balance of stabilization fund as of 6/30/10 is \$1,542,721. This deposit will bring the level up to \$2,292,721. See chart.
\$500,000	Fund Balance Retention	Fund balance is the reserve held for operating expenses. Fund balance is also very slim. 5% of fund balance and stabilization reserves is our target and approximately \$4.5 million which is still on the low side of healthy.
\$200,000	School Buildings	This represents a reimbursement to the snow and ice account which was tapped for emergency repairs of school buildings for the start of the school year.
\$150,000	School Buildings	This represents the anticipated additional repairs needed this year to school buildings according to the DPW Director.
\$130,000	Pension Payment Shortfall	This is a reimbursement to the Workmen's Comp. account which was tapped to make up a shortfall in the pension line item when an anticipated pension reform failed to deliver the savings that Gloucester was counting on when the FY11 budget was set.
\$200,000	Employee Contracts: \$150,000 City \$ 50,000 to add to School contract line item which was budgeted at \$100,000	Most employee contracts have expired. No funding was carried in the city budget to settle contracts, however, the school budget carries \$100,000. This brings the total amount to settle city and school contracts to \$150,000 each for FY11.
\$27,000	High School Locker Room	Per the Superintendent's request for a "clean start" for students, this represents the amount required to repair damage that has occurred over a dozen years to the boy's locker room at the High School.
\$10,000	O.P.E.B.	This is for the establishment of a stabilization fund as recommended by the CFO and City Auditor for the purpose of funding liabilities for Other Post-Employment Benefits (OPEB), e.g., health insurance.
\$25,293	Reserve for City Council Appropriation	The Administration recognizes the constraints under which all departments have been operating for the past few years. It is prudent to set aside a small amount for the Council to appropriate as it deems necessary.
\$1,992,293	TOTAL	CERTIFIED FREE CASH FOR FY10

CITY COUNCIL STANDING COMMITTEE
Budget & Finance
Tuesday, March 1, 2011 – 6:00 p.m.
1st Fl. Council Conference Room – City Hall
-Minutes-

Present: Chair, Councilor Steven Curcuru, Vice Chair, Councilor Paul McGeary; Councilor Jacqueline Hardy

Absent: None.

Also Present: Jim Duggan; Kenny Costa; Jeff Towne; Police Chief Michael Lane; Officer Jeremiah Nicastro, President, Gloucester Police Patrolmen's Association; David Bain

The meeting was called to order at 6:00 p.m. Items were taken out of order.

1. Continued Business:

A) Stormwater Utility Regulations (referred from 02/15/11 Special City Council Meeting)

Councilor Hardy asked who the permit-granting authority on the stormwater permit locally.

Mr. Duggan responded the permit-granting authority is the DEP, but locally he did not know.

Councilor Hardy asked if the permit fees had to be approved by the City Council as a part of the fee structure.

Councilor Curcuru believed they already had appropriated the money for it.

Mr. Duggan believed it was \$100,000.

Councilor Hardy clarified she was speaking of the landowner fees.

Mr. Towne stated the landowner fee would be based on the budget, just as it is for water and sewer. The budget the Council passes will dictate the fee which will be off the formula that you approve in the regulations. The rate is approved just like water and sewer rate during the budget process. That will also determine if there is any debt shift change over which will factor into this budget also.

MOTION: On motion by Councilor McGeary, seconded by Councilor Hardy, the Budget & Finance Committee voted 3 in favor 0 opposed to recommend to the City Council that the matter of the "Stormwater Utility Fee Structure and Regulations" be adopted as presented and pursuant to City Charter Sec. 7-16(b) dated February 15, 2011 and incorporated into these minutes.

2. City's submission to the EPA on the Public Comment: Tentative 301(h) Waiver Decision Document; Draft NPDES Permit (referred from City Council 02/08/11)

Mr. Duggan noted the City's position with the EPA (see file). There is a public meeting scheduled at 6:30 p.m. in Kyrouz Auditorium at City Hall and the public hearing at 7:15 p.m. on Thursday, March 24th. They are sharing with the State and Federal legislative delegations the City's position and looking for their support if they can't give testimony at the hearing to send representation with a letter. They are having different organizations including the Rotary Club, the Cape Ann Chamber of Commerce, etc., to educate people about the issue at hand. He expressed the Administration's being open to any suggestions the Council may have on how to educate the public and to get people there to the hearing to have a strong showing. He felt it was very important to have a strong showing at the meeting and hearing. He noted Mr. Towne's work on the project, and that it shows the lack of affordability on a \$60 million project, and what it would do to the City.

Councilor Curcuru asked if they were required to do the work where would it be levied; it would be on the ratepayers he believed.

Mr. Towne replied it would be on the ratepayers. It will show a dramatic increase in rates. He pointed out the Appendix A, Affordability Analysis. They'll end up for \$60 million, at 5% for 20 years is \$96

Fund Balance (“Free Cash”) for the purpose of reducing the City’s Snow & Ice deficit in Department 423 Snow & Ice Removal, Account # 101000.10.423.52970.0000.00.000.00.052 - DPW-Snow/Ice Removal, Snow/Ice-Contract.

Mr. Costa stated they’re planning for retired employees for their health benefits. They won’t have funds now to fund it; \$7 million is shown in the funding schedule. No one is doing that but this is a good start. This, he believed, is planning.

Mr. Towne agreed. They pay a portion of the cost each year.

Mr. Towne stated this includes the entire schools (an unfunded liability)

Councilor Hardy stated this is administered by the City rather than the Gloucester Contributory Retirement Board and therefore can vote it.

MOTION: On motion by Councilor Hardy, seconded by Councilor McGeary, the Budget & Finance Committee voted 3 in favor, 0 opposed to recommend to the City Council to accept Massachusetts General Law (MGL) Chapter 32B, Section 20, which authorizes a local option to establish an Other Post-Employment Benefits Liability Trust Fund and a funding schedule for the fund.

Councilor Hardy stated this is good planning.

Mr. Costa stated this was spoken about with Moody’s. Newton has just done this as well.

MOTION: On motion by Councilor Hardy, seconded by Councilor McGeary, the Budget & Finance Committee voted 3 in favor, 0 opposed to recommend to the City Council that \$10,000.00 (Ten Thousand Dollars) be appropriated the General Fund Unreserved Fund Balance (“Free Cash”) for the purpose to transfer to the Other Post-Employment Benefits Liability Trust Fund, Fund #830000.

Discussion related to \$25,923.00 from free cash to be recommended for a purpose by the Gloucester City Council will be continued to March 17, 2011.

The Committee recessed at 8:08 p.m.

The Committee reconvened at 8:10 p.m.

4. *Memo from Health Director re: reapplication process for a Drug Free Communities Support Grant*

This matter is tabled.

5. *Memo from Health Director re: Tobacco Control Mini-Grant*

This matter is tabled.

6. *Special Budgetary Transfer Request (#2011-SBT-14) from Assessors Department*

Mr. Towne explained this transfer ties into the last one the Committee did. A vacation day was taken and so the calculations changed and so they need to correct it. He wished to do this in whole numbers and asked for a rounding up of the total to \$116.00 he would appreciate it. He also noted with the budget preparation, he wished to do it with whole numbers.

MOTION: On motion by Councilor Hardy, seconded by Councilor McGeary, the Budget & Finance Committee voted 3 in favor, 0 opposed to recommend to the City Council to transfer (#2011-SBT-14) \$116.00 from Assessors In-state travel, Unifund Account

City Hall Annex
Three Pond Road
Gloucester, MA 01930



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sgarcia@gloucester-ma.gov

CITY OF GLOUCESTER
COMMUNITY DEVELOPMENT DEPARTMENT

MEMORANDUM

TO: Mayor Carolyn Kirk
FROM: Sarah Garcia, Community Development Director *Sarah Garcia*
CC: Michael Hale, DPW Director
James Hafey, Facilities Manager
RE: Green Communities Grant Award in the amount of \$198,200
DATE: April 4, 2011

We are very pleased to ask you to forward our request to the City Council to accept the Green Communities Grant award in the amount of \$198,200.

The money will pay for energy upgrades at the O'Maley School (tighten building envelope, improve ventilation) and at the Talbot Skating Rink. These upgrades are projected to save the city \$67,797/year in energy costs at these two facilities. These items were picked based on an Energy Audit conducted at the O'Maley School and Rink and that was done by B2Q Associates Inc. under a National Grid contract.

We especially thank the volunteer members of the Clean Energy Commission who worked tirelessly to ensure the city met the criteria of becoming a Green Community, and helped prepare a grant application that meets these long overdue needs. Members of the Commission are: Sam Cleaves (Chairman), John Moskal, Tom Balf, Candace Wheeler, Jill Buchanan, Linda Stout-Saunders, and Linda Brayton.

Attachments: Grant Application Checklist
Grant Award Letter
Grant Application
Contract – will be forwarded as soon as available



City of Gloucester
Grant Application and Check List

Granting Authority: State Federal _____ Other _____

Name of Grant: 2011 Green Communities Grant

Department Applying for Grant: Com Dev

Agency-Federal or State application is requested from: MA Dept. of Energy Resources

Object of the application: Energy Efficiency Upgrades

Any match requirements: no.

Mayor's approval to proceed: [Signature] 4/7/11
Signature Date

City Council's referral to Budget & Finance Standing Committee: _____
Vote Date

Budget & Finance Standing Committee: _____
Positive or Negative Recommendation Date

City Council's Approval or Rejection: _____
Vote Date

City Clerk's Certification of Vote to City Auditor: _____
Certification Date

City Auditor:
Assignment of account title and value of grant: _____
Title Amount

Auditor's distribution to managing department: _____
Department Date sent

NOTE: A copy of all grant paperwork must be submitted to the Auditor's Office



City of Gloucester
Grant Application and Check List (Continued)

The following are documents needed by the Auditing Office for grant account creation:

1. Grant Application
2. Grant Award Letter/Standard Contract Approval Form
3. Council Order Approval
4. Original Grant Account Budget as approved by Grantor
5. Amended Grant Account Budget as approved by Grantor (if applicable)
6. Any additional information as requested by the Auditing Department

Note: All documents must be complete signed copies.

Please attach the following documents with the Grant Application and Check List and send to the Auditors' Office.



COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF
ENERGY AND ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENERGY RESOURCES
100 CAMBRIDGE ST., SUITE 1020
BOSTON, MA 02114
Internet: www.Mass.Gov/DOER
Email: Energy@State.MA.US

Deval L. Patrick
Governor

Timothy P. Murray
Lieutenant Governor

Ian A. Bowles
Secretary, Executive Office of Energy
and Environmental Affairs

Philip Giudice
Commissioner

TELEPHONE
617-626-7300

FACSIMILE
617-727-0030
617-727-0093

December 16, 2010

Mayor Caroln A. Kirk
City of Gloucester
3 Pond Street
Gloucester, MA 01930

Dear Mayor Kirk:

Congratulations on the City of Gloucester's designation as a Green Community! This designation is quite an achievement and reflects the hard work and tireless efforts your community has exhibited in meeting the Green Community Grant Program's five criteria. Having met these criteria, the City of Gloucester is now an energy leader in Massachusetts, poised to reduce its energy costs, improve the local environment and implement energy efficiency and renewable energy projects with funding through the Green Communities Grant Program. The purpose of this letter is to confirm your Green Communities designation in writing and provide you with program information and activities that you should be aware of.

Along with this designation the City of Gloucester has been awarded a grant of \$198,200. A formulaic allocation was established due to the number of Green Communities designated and the total amount of grant funds that are available which is \$4,000,000. This formula consisted of a base grant per community of \$125,000, plus an amount adjusted for population/income with an additional \$10,000 for those designated communities that adopted as-of-right

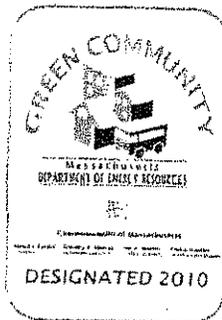
renewable generation. To receive this grant award, the City of Gloucester will be required to submit a project application proposing how these funds will be spent. The Green Communities Division ("Division") will begin accepting grant applications on December 17th and all grant applications must be received by 5pm on January 21, 2011. The Green Communities' Grant application with submission instructions is located [here](#).

SOLAR SOLID WASTE COMPACTORS

In addition to the grant funding, Green Communities will be receiving BigBelly solar solid waste compactors ("compactors"). Your Regional Coordinator, Joanne Bissetta, will be contacting you soon regarding the number you will receive as well as the type of model options available. Your preference regarding the particular model must be provided to your Regional Coordinator no later than 5pm on December 28, 2010.

SIGNS

Each designated Green Community will be receiving four (4) 12" x 18" aluminum signs to be displayed in your community. These signs are in the process of being printed and will be distributed at a future event.



Designated Green Communities that wish to purchase additional signs may do so by contacting any of the following MassCor service representatives listed below. The cost for each additional sign is \$22.94.

Cathleen Ayers
508-850-1072
caayers@doc.state.ma.us

Lynn Gilbode
508-850-1073
lmgilbode@doc.state.ma.us

Debbie Correia
508-850-1071
dacorreia@doc.state.ma.us

CERTIFICATES

Each Green Community will also receive an official certificate for display pronouncing the city or town's designation as a Green Community along with the designation date and the Governor, Lt. Governor, Secretary of Energy and Environmental Affairs and the Department of Energy Resources Commissioner's signatures. The certificates are in the process of being printed and will be distributed at a future event.

PRESS EVENTS

We anticipate requests for local public events to announce Green Communities designations and to announce grant awards. It is important that each community coordinate any public event with the Division and we recommend that public events be scheduled once signs, certificates, grant awards and solar compactors have been received. If the City of Gloucester would like to hold a Green Community designation event, we ask that you contact the Green Communities Deputy Director, Meg Lusardi at (617) 626-7364 or by email at meg.lusardi@state.ma.us.

Again, congratulations on becoming a Green Community. The Division looks forward to working with the City of Gloucester to meet the objectives of the Green Communities Grant Program and to support you in meeting your local energy goals. Thank you for your commitment to a greener energy future for Massachusetts.

Sincerely,



Mark D. Sylvia
Director Green Communities Division

Cc: Susan St. Pierre

City Hall
Nine Dale Avenue
Gloucester, MA 01930



CITY OF GLOUCESTER
OFFICE OF THE MAYOR

TEL 978-281-9700
FAX 978-281-9738
ckirk@gloucester-ma.gov

January 20, 2011

Department of Energy Resources
Green Communities Division
100 Cambridge Street, 10th Floor
Boston, MA 02114
ATTN: Jane Pfister

Dear Ms. Pfister,

The City of Gloucester is pleased to submit the enclosed Green Communities Grant Application. As required, one unbound hard copy (including attachments) and a compact disc is included in this application.

According to our designation letter of December 16, 2010, the City is eligible to apply for up to \$198,200.00. The City's Clean Energy Commission has been working very diligently over the past year identifying strategies to reduce energy consumption and provide opportunities for renewable energy. Our application includes capital project as well as design studies that will assist the community in achieving these goals.

We hope you provide a favorable review of our application and look forward to working with you in the future.

Should you have any questions, please feel free to contact Susan St. Pierre, Project Manager at 978-2781-9781 access # 7.

Sincerely,

Carolyn A. Kirk
Mayor



City of Gloucester

Green Communities Grant Application

Submitted to:

Massachusetts Department of Energy Resources
Green Communities Division
100 Cambridge Street, 10th Floor
Boston, MA 02114

Submitted by:

City of Gloucester
9 Dale Avenue
Gloucester, MA 01930

January 21, 2011

City of Gloucester, MA
Green Communities Grant Application
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Submittal Letter from Mayor Carolyn A. Kirk

Green Communities Grant Application Form

Supporting Documentation

Project Narrative (Appendix A)

Project Energy and Climate Impacts (Appendix B)

Projected Economic Development Benefit (Appendix C)

EXHIBIT 1

EXCERPT FROM 2002 PHYSICAL PLANT ANALYSIS OF GLOUCESTER SCHOOLS

Beeman Memorial School

I. SITE ANALYSIS

General Description:

The Beeman Elementary School is a 30,830 square foot building built in 1956 that sits on a 3.5-acre lot off of Cherry Street within a residential neighborhood. The front entrance of the building faces north. The site consists of an access drive, parking, a baseball field, paved play areas, an open grass play area, and play equipment.

Circulation and Parking

A long drive provides access to the site. Parking is located along this drive approx. 500 feet from the school. The drive terminates in a cul-de-sac adjacent to the front entrance. A few parking spaces are situated along this loop. The roadway continues to the west of the building, passing a service area and approaching a paved play area. A pedestrian pathway approaches the site from the west. Bituminous concrete pavement continues around the perimeter of the building though it never provides a complete loop around the building. Roadway pavement is of bituminous concrete, and is in fair condition, poor in places. Curbs are made of bituminous concrete with a small area of granite. Defined parking is minimal, though there appears to be plenty of stacking room along the access road. There are no defined drop-off areas.

Handicap Access

Handicap parking is designated and located along the cul-de-sac. An accessible route to the front entrance is indicated in blue paint, though the pavement is cracked, and the ramp itself is steep. There are no handrails. Most other entrances are accessible with bermed bituminous patching. These are typically marked with a handicap symbol. Playfields do not have walkways providing access.

Soils

The U.S. Department of Agriculture Soil Conservation Service Survey classifies the soils at the site as Udorthents (Ud). These soils have unpredictable characteristics, as they may contain some unsuitable fill material. Some exposed ledge is present on the site. Loam on playfields is minimal.

Topography

The topography of the site is gently sloping from south to north. The playfields to the east are considerably lower than the building. The fairly steep slope to the east is showing signs of erosion. The site appears to have positive drainage.

Utilities

Municipal water and sewer service the school. Hydrants, if present were not at readily discernible locations. The drainage of surface water is by sheet flow. No underground drainage structures were evident. Erosion is a problem at some locations. Pole mounted lights illuminate the entry drive. The lighting at the school is achieved by wall-mounted fixtures.

Athletic Fields

The athletic fields for the school are located at the eastern portion of the site. They consist of a baseball field with an aging backstop and old benches. The infield and grass are in poor condition. A lot-lot with some older and some new play structures is located between the school building and the baseball field. The lot-lot is edged with distressed pressure treated timbers and has a thin wood fiber safety surface. There is no irrigation. Paved play areas adjacent to the building are in need of new pavement and markings. An old play structure adjacent to the paved play area should be retired.

Recommended Site Improvements

The following are recommended site improvements based on an evaluation of the existing site conditions:

- Define parking as required to suit school needs.
- Provide road for continuous emergency access around building.
- Replace/repair paving and curbs as required along roadway, walks, and play areas.
- Improve handicap access walk to front door.
- Address drainage related erosion problems, consider some subsurface drainage.
- Add suitable lighting for school entrance.
- Upgrade athletic fields and amenities; add appropriate drainage and irrigation to fields.
- Supplement planting with shade, flowering and evergreen trees

Beeman Memorial School

II. BUILDING DESCRIPTION

A. GENERAL DESCRIPTION

The Beeman Memorial School is primarily of bearing CMU/Brick wall construction and wood board and batten over wood wall framing. The building is essentially one-story, with a partial basement for the Boiler Room, arranged in an "L" shaped configuration. The roofs are generally flat, and pitched to internal roof drains.

B. TECHNICAL DESCRIPTION

The building as described above essentially has one main entry point, which is off the main circular drive on the site. The core spaces (multi-purpose room, administrative offices) are accessed directly off the main lobby and are located at the corner of the "L". The legs of the "L" contain the academic wings and are organized off double-loaded corridors. One wing is accessed by stairs, one half level up from the entry level. The overall building dimensions are approximately 340'-6" north to south and approximately 197'-8" east to west at its widest points. The approximate gross building footprint is 29,427 s.f., and the approximate gross building area is 30,630, s.f., and is distributed as follows:

Main Floor	29,427 SF
Boiler Room	1,158 SF
Total Gross	30,630 SF

The building is divided into the following administrative and educational spaces:

Space	Square Feet
Teachers Room/Remedial CR	717 SF
Multi-Purpose	2,434 SF
Platform	572 SF
Kitchen	828 SF
Food Storage	117 SF
Administration	163 SF
Principal	249 SF
Nurse	279 SF
Office	98 SF
Classroom 1	917 SF
Classroom 2	930 SF
Classroom 3	919 SF
Classroom 4	915 SF
Classroom 5	912 SF
Classroom 6	918 SF
Classroom 7	889 SF
Classroom 8	885 SF
Classroom 9	885 SF
Classroom 10	893 SF
Classroom 11	883 SF
Classroom 12	885 SF
Classroom 13	885 SF
Classroom 14	877 SF
Classroom 15	889 SF
Classroom 16	889 SF
Outside Storage	80 SF
Boiler Room	1,158 SF
Total Net	20,304 SF
Total Gross	30,630 SF
Efficiency Factor (Gross Area/Net Area)	1.51

Note: For planning purposes, an efficiency factor of 1.50 or less is desirable.

III. CONDITIONS OF EXISTING CONSTRUCTION

The following is based upon detailed inspection by Mount Vernon Group, Inc., Architects & Planners, and their consulting engineers.

A. STRUCTURAL SYSTEMS

Existing Conditions:

The Beeman School is a single story Building with a partial Basement for the Boiler Room. The roof of the Classroom wings is constructed with solid wood decking supported on steel beams that span the corridor and open web joists that span the classroom areas. Steel beams along the corridor walls and exterior walls are supported on pipe columns. The Multi Purpose Room roof is constructed with wood deck supported on steel purlins spanning to steel girders. The roof over the Kitchen area was not exposed to view but we would assume construction is similar to the other roofs. The Ground Floor is constructed with a concrete slab on grade except for the Boiler Room ceiling, which is constructed with reinforced concrete beams, and slabs.

Analysis:

- The roof areas observed exhibited no defects in the framing that is a structural concern.
- The exposed concrete foundations have some vertical hairline cracks. *(These cracks are "shrinkage" cracks resulting from concrete drying and have no structural significance. They occurred early in the life of the Building and have no indications of being aggravated.)*
- The exterior façade has no structural defects. The exposed brick veneer has no significant cracks even though it lacks control joints.
- The Loading Platform on the north side at the Kitchen has spalled concrete and deteriorated guardrails. *(The damage to the concrete and rails at this location is simply the result of continuous use and impact from vehicles and hard trucks.)*

Recommendations

- The Beeman School has no major defects that compromise the integrity of the structure.
- The observed framing and foundations are conceptually correct and can safely support gravity loads. They have performed satisfactorily from exposure to past storms.
- The lateral load resisting system in the Building is not clearly defined. The Building is constructed with simple columns and beams in the Classroom wings. Only the corridor walls, which appear to be "stack" bonded masonry, can contribute some resistance to lateral loads. We doubt the walls are adequately tied to the steel frames to offer any lateral resistance.
- The walls of the Multi Purpose Room can also contribute some resistance to lateral loads but the east and west walls are broken with clerestory windows that reduce any effective means of transferring lateral loads through the roof. The north and south walls are continuous to the roof but are punctuated with numerous openings.
- The lack of a definitive lateral load system leaves the Building susceptible to damage from earthquake loads. The masonry wall systems have poor ductility.
- We can make no recommendations for repair on this Building because the existing structure is in acceptable condition.
- Only the loading Platform at the Kitchen should have the spalled concrete repaired and railings replaced to reduce the current hazards that exist.

B. BUILDING ENVELOPE

Exterior Walls

Existing Conditions:

The exterior wall system consists of CMU bearing walls with face brick, and an air space between. Windowed walls at classrooms consist of wood board and battens over an insulated wood stud framed wall. Some areas of the wood cladding have been replaced with "Texture 1-11" (T1-11) plywood siding. The frieze just below the roof overhang and above the exterior windows and doors is horizontal wood boards.

Analysis:

The building masonry façade is unchanged since original construction, and appears to be in good condition. The mortar joints also appear to be in good condition. The wood portions of the wall are in need of scraping and painting. The T1-11 siding should be replaced with a more durable material. There are many areas that have weathered severely.

Window / Door Systems

Existing Conditions:

The original window system appears to have been replaced with an extruded aluminum frame with insulating glass. It is probable that there are thermal breaks in the frame. The main exterior door systems consist of aluminum doors and frames, and insulated glazing, also new. Egress doors at classrooms appear to have been installed over an existing wood sub frame, however appear to be older than the window systems.

Analysis:

Aluminum windows and frames appear to be in good condition. However, the sealant at many locations has failed and opened, and should be replaced. Aluminum doors and frames are in fair to poor condition. Doors at secondary classroom exits appear mismatched with style and finish of aluminum windows. Further, wood sub frames and thresholds are badly weathered and need to be replaced with a threshold integral with the aluminum doorframe. Egress storefront units at the end of the academic corridors are in poor condition; glazing has been replaced with lexan panels that are clouded and scratched. The frames do not appear to be thermally broken. Exterior doors leading to utility spaces are H.M., with pressed metal frames and appear to be in fair condition. Unit ventilator vents need replacing, as many of the blades are bent.

Roof Systems

Existing Conditions:

The entire school is protected by flat roof sections of single-ply EPDM membrane, with a minor slope to internal roof drains. Parapet walls and roof edges are protected with continuous lead coated copper cap flashing and/or gravel stops.

Analysis:

It was determined through our review of the school department records that the roof replacement project was completed in August 1988, and carries a 10-year warranty. The continuous lead coated cap flashing is warped at isolated locations. The custodial staff informed us that there are still ongoing leaks occurring in the building, due to a problem with seagulls and birds feeding on the roof. Holes and deterioration of material are caused from the birds' droppings and pecking. A constant monitoring of the bird problem is required; damage must be attended to frequently. Lap joint failures are also monitored throughout all the City's schools on a regular basis.

C. INTERIORS

Interior Walls

Existing Conditions:

Typical classroom dividing walls consist of painted 8" CMU. The multi-purpose gymnasium is primarily wood over CMU, brick up to approximately 10'-0" AFF with painted CMU above on one wall. Kitchen is structural glazed block up to 7'-0" AFF and painted CMU to ceiling. Corridor walls are structural glazed block to approximately 54" and painted CMU above. Main lobby walls are a mixture of full height structural glazed block and wood paneling. Toilet rooms are glazed block to approximately 7'-6" and painted CMU above. Miscellaneous core rooms, such as the Nurse's Offices and some Administrative Offices, have steel or wood stud with gypsum board/plaster finishes.

Beeman Memorial School

Analysis:

In general, the walls appear to be in good condition, other than having a dated appearance. Overall, the walls require some minimal attention. Wood finishes need to be stripped and refinished. Classroom chalkboard surfaces are in fair condition.

Ceilings

Existing Conditions:

Typical corridor ceilings are suspended 2'x2" ACT, which appears to have been recently replaced. Classroom ceilings are original; plaster ceilings with 12"x12" perforated concealed spline tile 4'-0" about the perimeter. One classroom off the main lobby has old style 1'x2' perforated ACT, suspended. Ceiling in the kitchen is painted plaster. Multi-purpose room ceiling is exposed roof structure with 12X12 concealed spline adhered to roof deck within the structural members for acoustic treatment.

Analysis:

The ceilings in general are in good condition. Corridor ceilings require only minimal work and general maintenance. Classroom ceilings are dated and should be upgraded, as should the acoustical treatment in the multi-purpose room. Kitchen ceiling is in good condition.

Floors

Existing Conditions:

Corridor floors are 9"X9" VAT. Floors in classrooms are also VAT. Multi-purpose room floor is wood. Kitchen and toilet room floors are quarry tile. Boiler room and utility areas are sealed concrete.

Analysis:

Classroom and corridor floors are in fair condition; there are some areas in the main corridor where tiles have been patched and do not match original. Multi-purpose room floor is in fair condition, and needs to be stripped and refinished. Quarry tile finishes are in fair condition, grout joints need of cleaning. There doesn't appear to be any cracking of tiles or floor surfaces anywhere in the school. Floor finishes in general look okay, but dated.

Interior Doors

Existing Condition:

A vast majority of the doors are the original wood doors with original hardware, glass vision panel, and hollow metal frames. The doors appear to be 3'-0" wide.

Analysis:

A majority of the wood doors are in fair to poor condition and should either be refinished or replaced. Hardware will need to be upgraded to meet M.A.A.B. requirements. Modifications to many of the doors will be necessary to provide clearance required by M.A.A.B. for accessibility.

Stairs

Existing Condition:

There are only two areas that have stairs. One is located to the boiler room, which is located under the kitchen. The other area is the corridor, which accesses the academic wing a half a level up from the main floor.

Analysis:

The stairs to the boiler room are poured concrete treads and risers, very narrow and steep, and do not meet current codes. The stairs at the corridor are finished with a rubber covering at the treads and risers, with an abrasive strip at the raising. The stairs appear to be of acceptable construction and size. Handrails, however, do not meet current codes.

Miscellaneous Interior Finishes

Existing Condition:

Chalk & Tack: chalk and tack board surfaces are in fair condition, marker boards have been installed over existing chalkboards at some locations.

Casework: the existing wood casework is in fair to poor condition.

Window Treatments - window treatments exist mostly at classrooms and multipurpose rooms, and are a mixture of cloth shades and Venetian blinds.

Beeman Memorial School

Analysis:

Chalk & Tack: due to the incompatibility of chalk dust and technology equipment all chalkboards should be replaced with marker board surfaces.

Casework: the existing wood casework is aged and worn, and requires updating.

Window Treatments – all window treatments are also aged and worn, and should be replaced with newer treatments and consistent style. Possible treatments include fire retardant vinyl yarn fabric, or horizontal metal blinds.

D. KITCHEN

The Kitchen is located off the multi-purpose room and is equipped with a dishwashing area. The equipment is in fair to good condition. Selective equipment may need to be replaced due to age and condition. Several wood butcher-block counters will need to be replaced with non-porous surfaces.

E. CODE ISSUES

Building Summary

The Beeman Memorial School is a one-story building built on a slab-on-grade, with a partial basement for the boiler room, which has a gross footprint area of 29,427 square feet. The building construction is steel frame structure with wood framed walls and CMU/face brick exterior walls. The roof structure is a mix of wood decking on steel beams and open web steel joists. The building area, combined with the unprotected combustible /non-combustible structure, would classify the present construction type of this building as a conforming 3B building. The use group is E-Educational.

Height and Area Limitations

Any proposed additions or major renovations to the building would fall under the provisions of Chapter 34 of the Massachusetts State Building Code 3404.0 "Requirements for continuation of the same use group or change to a use group resulting in a change in hazard index to one or less".

The building in its current configuration, is conforming for allowable area and height limitations. Area and height limitations could be modified with the installation of an automatic sprinkler system in compliance with 780 CMR Section 906.2.1 of the Massachusetts Building Code. Further, any future additions would be separated by a firewall from the existing building, thus allowing more building area to be built.

Handicapped Accessibility

The building does not conform to the current M.A.A.B. (Massachusetts Architectural Access Board) or ADA (American Disabilities Act) standards. The following is a listing of required alterations required to gain compliance with ADA:

- None of the building entrances are accessible, at least 50% of the public entrances must comply
- Stairs & handrails must be modified to meet height, clearance & structural requirements
- All single user bathrooms must be reconfigured
- Plumbing fixtures, sinks, drinking fountains, toilets & urinals must be upgraded
- All hardware must be upgraded
- Directional & information signage throughout building needs to be added

Egress Issues

Egress from the existing building appears to be adequate for the current use and population.

Any proposed work within the building should address providing a 1 hour rated enclosure around all egress stairways. Modifications to the stair handrails, nosing, etc. will also need to be upgraded to meet egress and accessibility requirements. Chapter 3400.5 establishes the parameters for the designer in arranging proper egress for the building and chapt. 1009.00 provides direction on widths of exits to provide a safe and adequate means of egress.

Structural and Seismic Issues

As per latest Massachusetts Building Code, the existing building falls under Seismic Hazard Exposure Group II and Seismic Performance Category C.

Beeman Memorial School

Our site visit and review of existing drawings reveal that the building is constructed of steel frame and non-bearing wood/masonry wall construction. The lateral load-resisting system in the building is not clearly visible. Corridor masonry walls do not appear to be adequately tied to the steel frames to offer any lateral resistance.

The interior partitions must also be adequately braced against an Earthquake of Category 2. The interior partitions must also have a height-to-thickness ratio of 20 or less. If the interior walls do not meet this requirement then these interior walls will need to be reinforced or removed and replaced. The cost of this work has not been included in the estimate due to the destructive investigation required to verify these conditions.

The following conditions must also be addressed:

1. Masonry walls, both loading and non-load bearing walls, must be adequately attached to all floors and roofs.
2. Parapet walls that do not meet the Seismic Standards for new construction must be removed or braced.

In addition to the above, all architectural, mechanical & electrical components of the building will need to be reinforced to resist seismic forces.

Remediation

Any improvements to the existing building must address the following issues:

As per the latest edition of the Massachusetts State Building Code (Sixth Edition), this building needs to be reinforced to withstand Seismic Hazard Category 2 if the total cost of alterations exceeds 50% of the assessed valuation of the building. The existing building shall also be investigated and corrected for earthquake hazard.

All exit signs, exit lighting and fire detection and annunciation systems must be upgraded to current codes, replacing existing equipment with new 3404.7, 3404.8 and 3404.12 address exit signs and lighting, means of egress lighting and fire protection systems.

Energy Code Requirements: Chapter 3407.1 and 3407.2 of the Massachusetts State Building Code require that alterations to an existing building where the use group has not changed, must comply with the energy conservation values detailed in Table 3407 for any building elements (windows, doors, walls, roofs or mechanical systems) which are altered in the course of renovation.

Handicapped Accessibility: The Massachusetts Architectural Access Board 521 CMR 3 requires that any renovation of a building in which the cost amounts to 30% or more of the assessed valuation of the building, the entire building is required to comply with the latest provisions for accessibility as documented in 521 CMR and the American with Disabilities Act.

F. MECHANICAL

Existing Conditions

Boiler Room

- The boiler room is equipped with two-no.2 oil fuel oil fired Cleaver Brooks fire tube low-pressure steam boilers model C2523-050 installed in 1966. Each boiler is rated at 50 horsepower. Two fuel oil circulating pumps are providing the fuel to the boilers and the domestic water heater. The duplex condensate receiver is vented inside the room, which would cause excessive moisture within the boiler room. The combustion air louvers are damaged. The boilers and auxiliary equipment is in operating but poor condition due to its age.
- A steam to hot water heat exchanger located in the boiler room provides the heating hot water. The heat exchanger is not insulated. The hot water is re-circulated by four hot water pumps, each equipped with a bypass pressure-regulating valve. These pumps appear to be in poor condition and in need of replacement.
- A 10,000 gallon underground fuel oil tank services the boilers. Each burner takes suction from the fuel oil tank. The fuel oil tank is a single wall tank and is not equipped with leak prevention and monitoring. The tank fill has been upgraded with a spill manhole. No fuel oil tank gage was observed.

Beeman Memorial School

Classrooms

- The classrooms are heated and ventilated by Trane hot water unit ventilators. The unit ventilators have exceeded their useful life and need to be replaced.
- The corridors are heated by hot water baseboard, which appear to be in satisfactory conditions. Hot water cabinet heaters heat the lobby.
- The Toilets are heated by wall type baseboard radiation mounted under the windows. Exhaust air grilles are damaged in most cases

Administrative Offices

- Hot water baseboard radiation provides the heat for the offices and corridor. The radiation is the original equipment installed in 1965.

Gymnasium

- The space is heated and ventilated by air handling units. The heat is provided by wall type baseboard radiation mounted high under the windows. Each air-handling unit is equipped with outside air intake heating coil, and supply grille. The air is exhausted via exhaust fans. The air-handling system is the original equipment and needs to be replaced.

Controls

- The existing controls are a pneumatic and need to be upgraded. The instrument air compressors and air dryer are in poor condition.

Recommendations

- The existing mechanical systems are the original equipment. These systems have exceeded their useful life and need to be replaced.
- Replace boilers, and associated pumps, and appurtenances
- Replace underground fuel oil tanks
- Upgrade heating and ventilating system
- Upgrade the existing control system.

G. PLUMBING

Existing Conditions:

Sanitary Waste / Vent Systems

- The soil waste system consists of hub and no hub pipe throughout the building. The soil waste system is collected within the pipe chases or above finished ceilings, then extends to soil stacks, which exit the building with a 6-inch cast iron hub pipe, to the sanitary collection system.
- Currently, the existing waste from the grease trap system is functional, however due to age, frequent maintenance is required.
- The vent system consists of cast iron hub and no hub pipe throughout the building. The vent system is collected within pipe chases or above finished ceilings, extends to 4-inch vent stacks of which exit at the roof level.
- To date maintenance personal have not experienced major renovations or modifications to the vent or waste systems.

Storm System

- The existing storm system consists of a combination roof drains and downspouts. The roof drain system extend to vertical rain leaders of which collect at the basement level then exits the building and discharges to a rainwater collection system. The downspout system is functional however the downspouts are aged and require constant maintenance.

Domestic Water systems

- The 3-inch water service extends below grade from the street main, up through the Mechanical Room floor, and then provides domestic water throughout the building.
- The domestic hot water system consists of (1 oil-fired hot water heater including a re-circulation system, located in the Mechanical room. The hot water system extends throughout the entire building servicing lavatories, kitchen equipment and miscellaneous sinks. The plumbing fixtures consist of wall mounted water closets, wall and counter mounted lavatories, water fountains and cuspidors throughout the building. The existing plumbing fixtures contain cracks, leaks, chips, or do not function properly.

Recommendations

- Plumbing fixtures for male and female toilets to be modified in compliance with ADA codes, including fixture trim such as faucets, levers, etc.
- Drinking fountains to be replaced in compliance with ADA codes.
- Vertical downspouts and gutter replacement.
- Emergency eyewash stations to be installed at work shop areas.
- Grease trap replacement.
- Emergency shut-off valve for kitchen equipment
- Hot water heater is 5 plus years of age. Lifetime expectancy equal 3-5 years, replacement will be required in the near future.

H. FIRE PROTECTION

The existing building contains no fire suppression system, except fire extinguishers throughout the building.

Recommendations

Fire suppression to be installed in accordance with NFPA

I. ELECTRICAL

Electrical Distribution System

- This building was built in 1966 and consists of classrooms, a combination gymnasium/auditorium/Cafetorium, kitchen, offices, and utility spaces with a total area of approximately 28,800 sq. ft.
- The building is powered from an indoor utility transformer that is maintained by Massachusetts Electric Co. (MEC). The transformer is located in a transformer vault adjacent to the mechanical room where the 600 Amp main switch and a fused distribution panel board are located.
- The electrical service appears to be the original to the building and has exceeded its useful life of 25 years.
- Recessed panel boards are located in walls in various corridors throughout the building and are not locked. The panel boards, main switch, and distribution panel were manufactured by G.E. There are no dedicated rooms for electrical closets. Equipment appears to be in poor condition.

EXHIBIT 2 TABLE 3 FROM GREEN COMMUNITIES DESIGNATION APPLICATION

TABLE 3

Energy Conservation Opportunities and Five Year Energy Reduction Plan

Measure by Facility	Total Savings (kwh)	Total Savings (Therms)	Savings Estimate (\$)	Total Savings (mmBtu)	Source of Energy Savings Estimate	Cost Estimate (\$ 2009 data)	National Grid (\$ 2009 data)	Net Cost to City (\$)	Payback (years)	Implementation Year (FY)
City Hall	0	0	0	0		0	0	0		Post 5 Year Plan
Sawyer Free Library										Post 5 Year Plan
Senior Center										Post 5 Year Plan
Fire Department										Post 5 Year Plan
Police Department										Post 5 Year Plan
Total	0	0	0	0						
School Operational Conservation Measures				10190	School Department (a)					
High School										FY 2009-2014
BUS Upgrade	80,307	14855	532,643	33538	Audit (a)	\$74,994	\$71,244	\$3,750	0.1	FY 2014
Lighting Upgrades	333336				EMC Proposal (c)	\$299,239	\$169,875	\$129,364		
No/Lo Cost	16,061	900	\$3,796	185	Audit (a)	\$1,000	\$0	\$1,000	0.3	FY 2011-2013
Schedule setpoints, O&M	5,600	0	\$840	19	Audit (a)	\$1,260	\$300	\$930	1.1	Post 5 Year Plan
Washing Machine Controls	0	480	\$672	48	Audit (a)	\$80	\$80	\$0	0	Post 5 Year Plan
Spray Faucet	17,324	930	\$3,985	158	Audit (a)	\$1,000	\$0	\$1,000	0.3	Post 5 Year Plan
Education and Awareness	2,250	0	\$338	8	Audit (a)	\$500	\$0	\$500	1.5	Post 5 Year Plan
Walk in Weather Strips	51,169	0	\$7,675	125	Audit (a)	\$26,623	\$11,935	\$14,688	1.9	Post 5 Year Plan
Var. Speed Drive/ Pump Motor Retro	20,562	6338	\$11,927	703	Audit (a)	\$24,480	\$23,256	\$1,224	0.1	Post 5 Year Plan
Demand Controlled Ventilation										
Auditorium, Lecture Hall, Library										
Sym	0	3161	\$4,426	316	Audit (a)	\$8,160	\$4,080	\$4,080	0.9	Post 5 Year Plan
Micro Commits.	53,938	8903	\$23,895	1173	Audit (b)	\$39,200	\$17,640	\$21,560	1	Post 5 Year Plan
Wendtholz Bldg Envelope	5,954	980	\$2,198	117	Audit (a)	\$5,000	\$2,500	\$2,500	1.1	Post 5 Year Plan
Kitchen Hood Controls	398	1215	\$1,760	123	Audit (b)	\$10,000	\$3,645	\$6,355	3	Post 5 Year Plan
High Efficiency Air Filters	2,601	0	\$715	9	Audit (a)	\$0	\$0	\$0	0	Post 5 Year Plan
Insulation Hot Water Piping	0	201	\$192	20	Audit (b)	\$650	\$225	\$425	1.5	Post 5 Year Plan
Total High School 5 Year Savings	415,643	14,833	\$86,381	2,394		\$374,733	\$181,139	\$193,614		
Total High School 5 Years	0	174,655	\$90,511	\$2,014		\$117,953	\$63,711	\$54,242		

AUDITS PENDING

(a) Estimate of annual operational savings based on average energy savings realized since the School Department began participating in Energy Education, Inc. in April of 2005.

(b) High School (July 2009) and O'Malley School (July 2009) Whole Building Program Audits prepared by B2Q

(c) Energy Management Consultants Proposal For High School Lighting Analysis, September, 2010

TABLE 3 (continued)

Measure by Facility	Total Savings (kwh)	Total Savings (therms)	Savings Estimate (\$)	Total Savings (mmBtu)	Source of Energy Savings Estimate	Cost Estimate	National Grid (\$ 2009 data)	Net Cost to City (\$)	Payback	Implementation Year
Middle School Complex										
Retro Commissioning	59,254	4766	\$13,355	673	Audit (a)	\$40,500	\$28,067	\$12,433	0.8	FY2012
Air Seal Building Envelope	19,558	2824	\$6,974	349	Audit (a)	\$18,000	\$1,824	\$12,176	1.7	FY2011
Lighting Upgrades	207,870	[5,111]	\$20,229	118	Audit (a)	\$239,533	\$167,659	\$71,854	3.6	FY2010
MeLO Cost	6,250	0	\$875	31	Audit (a)	\$500	0	\$500	0.6	Post 5 Year Plan
Computer Power Management	35,963	1883	\$7,801	310	Audit (a)	\$1,500	0	\$1,500	0.3	Post 5 Year Plan
Schedule adjustments, O&M	8,900	0	\$1,120	27	Audit (a)	\$1,800	\$800	\$1,000	0.9	Post 5 Year Plan
Insulate Hot Water Pipes & Dues	13,038	1883	\$4,648	233	Audit (a)	\$25,000	\$1,883	\$23,117	5	Post 5 Year Plan
VSD, HW ChW Pumps	81,792	0	\$11,381	277	Audit (a)	\$47,133	\$25,300	\$12,823	1.6	Post 5 Year Plan
Premium Motors	6,752	0	\$945	23	Audit (a)	\$14,220	\$945	\$13,275	14	Post 5 Year Plan
Solar Hot Water	(1,400)	2002	\$2,807	195	Audit (a)	\$49,601	\$6,007	\$43,594	15/5	Post 5 Year Plan
O'Malley (School Bldg)										
Boiler Upgrade	0	18708	\$28,362	1891	Audit (a)	\$639,860	\$12,802	\$627,058	22.1	Post 5 Year Plan
BOS Upgrade	97,788	7580	\$24,985	1087	Audit (a)	\$149,817	\$44,580	\$105,237	4.2	FY2014
Kitchen Hood Controls	570	1397	\$3,076	202	Audit (a)	\$10,000	\$1,997	\$8,003	2.6	FY2012
Thermostat Upgrade	19,588	2824	\$6,974	349	Audit (a)	\$10,500	\$125	\$10,375	1.5	FY2012
DOO Awd. Lab	25,096	5181	\$11,145	600	Audit (a)	\$20,269	\$19,370	\$899	0.1	FY2012
PCV Gym	0	2793	\$4,186	279	Audit (a)	\$10,135	\$4,186	\$5,949	1.4	FY2012
Brine Chiller Replacement	208,353	0	\$29,169	711	Audit (a)	\$263,312	\$16,121	\$147,191	8.5	FY2012
Dehumidifier Install	79,975	(4,704)	\$4,140	-198	Audit (a)	\$110,000	\$0	\$110,000	26.6	
BAS Upgrade/Repair	42,663	903	\$7,383	240	Audit (a)	\$36,336	\$26,376	\$9,960	1.3	
VSD Brine Pumps	32,339	0	\$4,527	110	Audit (a)	\$8,382	\$5,100	\$3,282	0.7	
Low E Ceiling	136,123	0	\$19,057	464	Audit (a)	\$63,389	\$34,808	\$28,586	1.5	
Heat Exchanger Install	2000	2689	\$4,314	276	Audit (a)	\$12,900	\$2,689	\$10,211	3	
Total Middle School 5 Year Savings	628,674	40,850	\$17,286	5,548		\$1,135,594	\$281,610	\$853,984		
Total Savings Middle School Complex 5 years +	792,930	43025	\$176,896	7098		\$1,470,644	\$289,084	\$1,267,560		

TABLE 3 (continued)

Measure by Facility	Total Savings (kwh)	Total Savings Therms	Savings Estimate (\$)	Total Savings (mmBtu)	Source of Energy Savings Estimate	Cost Estimate	National Grid (\$ 2009 data)	Net Cost to City (\$)	Payback	Implementation Year
Beaman										
Replace Boiler	34,293			117	Manufacturer	\$94,995				FY 2011
East Gloucester								\$94,995		FY 2010
Replace Boiler	34,293			117	Manufacturer	\$94,995				
Plum										
TBD										
Veterans										
TBD										
West Parish										
TBD										
Total Elementary Schools 5 Year Plan	68586			234		\$189,990		\$189,990		
Total All Facilities 5 Year Plan	1,096,731	68,103	\$297,407	26,536		\$1,776,587	\$266,795	\$1,511,792		
Total All Facilities 5 Year Plan								\$1,237,588		

The City's 20% Energy Reduction Goal is 16,398.5 MMbtu's. The City's current energy use is 81,992.88 MMbtu's. A 20% reduction in that use is equivalent to 16,398.5 MMbtu's which would reduce energy consumption to 65,594.34 MMbtu's over the five year period ending in FY 2014.

EXHIBIT 3 CAPE ENERGY REPORT ON CITY HALL

Executive Summary

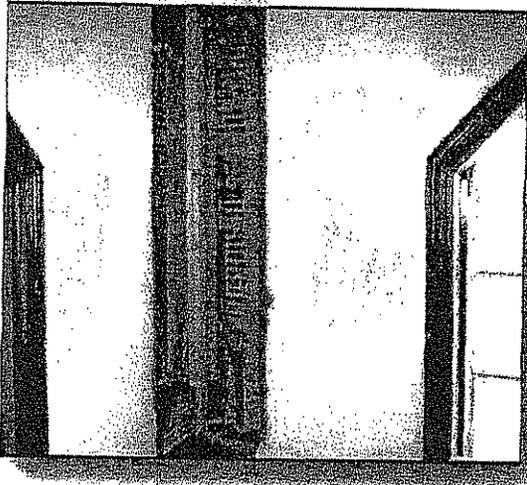
Cape Energy Solutions undertook an analysis of City Hall, Gloucester, MA. Our scope of work included analyzing the building enclosures, measuring the air leakage of the building, estimating a variety of improvements to the building shell and calculating potential energy savings based on proposed improvements and estimated air leakage reductions.

In general, estimating air leakage reduction measures in older buildings can be problematic. Unlike making R-value improvements or heating plant improvements whose pre and post improvement conditions can be readily predicted, air leaks require more 'seat of the pants' estimates, and post-improvement conditions, although measurable after the fact, can be hard to quantify in advance. To this end, we attempt to use a conservative approach to predicting air leakage reductions based upon our experience with similar conditions, and generally find that post improvement conditions usually exceed our estimates by plan.

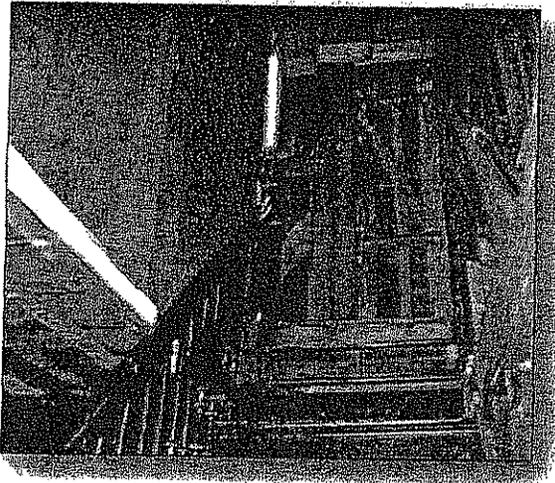
The air leakage factor at City Hall is extremely high. Due to recent structural repairs to the clock tower, the entire 20' x 20' clock tower stairwell is open to outside air via open wall cavities starting at the third floor-auditorium balcony level and above. This creates large stack pressures, much like a chimney. Warm, buoyant air rises through the clock tower stairway, creating low pressure in the lowest floors of City Hall which pulls cold, unconditioned air in through leakage points on lower floors. The blower door test results show that City Hall has 10 air changes per hour at negative 50 pascals of building pressure. This represents air leakage levels to be 3 to 5 times greater than newer building standards. As a percentage of the total heating load of the building, air leakage accounts for in excess of 65% of that load. Air leakage, aside from being a high energy load, also contributes to indoor air quality issues, promotes moisture migration into building components, degrades fire protection, and reduces comfort levels.

There appears to be little to no insulation in the building. Our focus is to calculate the costs of making insulation and air sealing improvements that will bring about the largest improvement for the amount invested. Thus, our focus is almost entirely on improving the building "cap" with air sealing and insulation improvements.

Clock Tower Stairwell

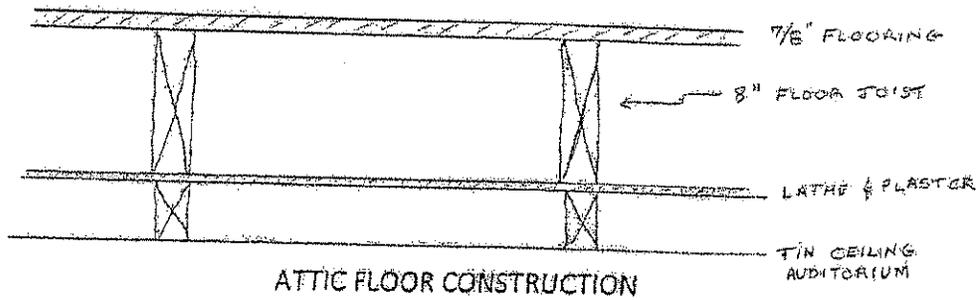


Due to the structural repairs to the clock tower, there are several large areas of wall surface missing. These open areas provide a direct path for inside air to exit upwards into the tower, which is ultimately open to the outside air through these wall cavities. These areas should be closed up to create an adequate air barrier within the conditioned space of the building. Even a relatively temporary repair, such as installing $\frac{1}{2}$ polystyrene foam board sealed into place would make the air barrier whole.

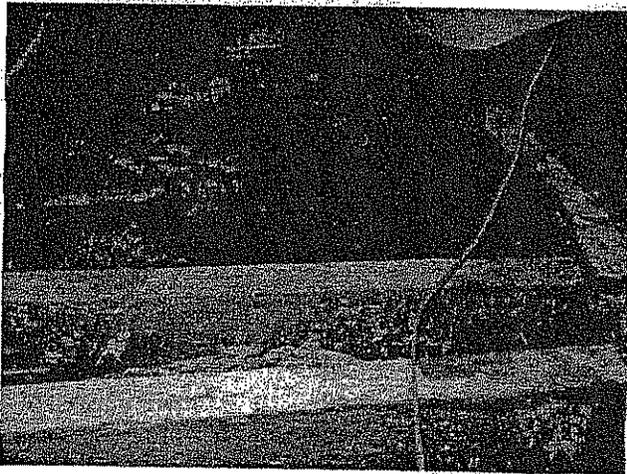


This stairway leading from the auditorium balcony level to the attic level is open at the top, into the attic and into the tower above. A thermally tight door should be installed at the top of these stairs in order to complete the most basic air sealing. This particular repair need not be expensive, it is neither exposed to the weather nor will it be accessible to the public. Its primary objective is stop air movement through the opening, and provide some R-value.

Attic Improvements

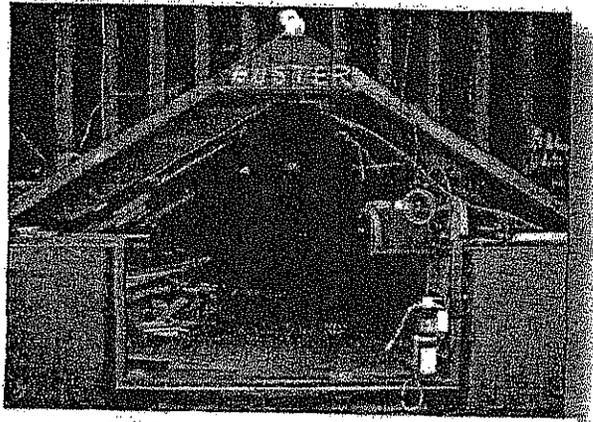


Making insulation improvements to the attic floor would typically be the most cost efficient way to improve the "cap" of the building's thermal shell. In this type of construction, drilling holes into the 7/8" attic flooring and blowing in cellulose would create an R-38 insulation layer. The problem with this approach at City Hall is that the tin ceiling in the auditorium is dropped below the attic floor frame. The lath and plaster layer between the attic flooring and the tin ceiling is broken in many places, and also drops off at the perimeter of the auditorium, creating huge cavities that would need to be sealed up prior to insulating. There are also many chases that appear to go down at least two floors. So prior to undertaking any insulation, there is a great deal of work involved in air-sealing the attic floor and creating a continuous surface to place the insulation against. These significant costs, aside from the difficulty of effectively air-sealing these areas of construction, make this approach less effective and more costly than other alternatives.



Attic Improvements

Taking a slightly unorthodox approach to the attic insulation layer will yield a better and more consistent insulation plane, as well as avoiding costly and difficult air sealing involved in other approaches. By framing a flat "ceiling" at 8' above the attic floor, then following the roof slope down to the intersection of roof rafter and exterior wall, an R-40 thermal barrier can be achieved. The framing will create a flat area of approximately 3,000 square feet. It can utilize the existing central framed out room, and tie into the existing roof rafters. Insul-web netting would be used to contain the insulation between the framing, as well as down the slopes. Using this approach will require installation of another thermal door at the entrance of the attic from the clock tower landing. Blocking at the intersection of roof rafter and exterior wall is required to prevent insulation from falling into the exterior wall cavities, and to air seal the large cavity of the exterior wall into the attic. There are approximately 164 bays to seal, using rigid foam blockers friction fit into place. This approach will also negate the affects of the various chases which terminate in the attic, as they will now be within the thermal shell, rather than penetrating it and creating thermal by-pass areas.



Entrance of attic from clock tower landing requiring a thermal door. The floor below the photographer would then be insulated

Another benefit of moving the thermal barrier to the "ceiling" of the attic is that the 8 mechanical devices used to change the light fixtures in the auditorium do not require thermal enclosures in the attic which are cumbersome and less effective than having the devices contained entirely within the thermal shell of the building. The sloped areas of roof are not currently ventilated to the outside, thus dense packing these cavities with cellulose will not require roof ventilation devices.

Summary of Project Expenses

These cost estimates are consistent with costs associated with Davis-Bacon wage laws relative to the weatherization industry. Wage categories of 'Weatherization Worker' and 'Door and Window Weatherization Worker' were used in creating these estimates.

1. Air seal roof rafter/interior wall junction 164 bays @ \$16/bay	\$ 2,624.00
2. Frame flat ceiling area 2 x 6 framing (3,000 s.f.)	\$ 2,800.00
3. Open blow R-40 into netted flat ceiling (3,000 s.f.)	\$ 7,500.00
4. Net and dense pack R-40 slopes in attic (3,058 s.f.)	\$ 7,855.00
5. Auditorium balcony level- close up open wall cavities (275 s.f.) with 1/2" polyiso foam board and one part foam sealant	\$ 550.00
6. Auditorium balcony level- close up wall cavities right side of stairs to attic level as well as top straight of stairs (400 s.f.)	\$ 800.00
7. Create thermal door at top of stairs to attic level	\$ 325.00
8. Create thermal door at entrance to attic from clock tower landing	\$ 490.00
9. Insulate stair wall from 3 rd floor clock tower to attic level clock tower	\$ 300.00
10. Net and dense pack clock tower floor between attic level and 3 rd (400 s.f. R-48)	\$ 1,200.00
Total	\$ 24,444.00

Based on this proposed scope of work, we estimate that measured air leakage would be reduced by 33%, probably quite a bit more. This change by itself would reduce the overall heating load of City Hall by slightly more than 20%. The addition of the insulation layer in the attic should account for an additional 10% reduction in heating load, making overall heating costs go down by 30%. We do not have any data regarding historical fuel usage during past heating seasons, but would estimate from experience that these improvements would pay for themselves in under 2 years.

ENCLOSURE 3

City Hall Annex
Three Pond Road
Gloucester, MA 01930



TEL 978-281-9781
FAX 978-281-9779
sgarcia@gloucester-ma.gov

CITY OF GLOUCESTER
COMMUNITY DEVELOPMENT DEPARTMENT

MEMORANDUM

TO: Mayor Carolyn Kirk
FROM: Sarah Garcia, Community Development Director
RE: Seaport Advisory Council grant for OAWRS study
DATE: April 4, 2011

Sarah Garcia

State Representative Ferrante has secured a \$200,000 grant that will allow researchers to test a new method of measuring fish stocks in the Gulf of Maine. The Seaport Advisory Council is funding this project with the City of Gloucester for the input and guidance of the Gloucester fishing community to the researchers who will be conducting the study.

Please convey this request to accept the grant funding to the City Council. Attached are the documents required for grant acceptance:

- The Grant Application Checklist
- Award letter from the Lt. Gov. to State Rep. Ferrante
- Award letter from Commonwealth of MA, EOEEA, DCR to City of Gloucester
- State of MA Standard Contract
- Research Proposal from the Northeastern/MIT collaborative

Thank you.



City of Gloucester
Grant Application and Check List

Granting Authority: State Federal Other

Name of Grant: P 11-2661-07 (3828) Determining Acoustic Resonance (OAWRS)

Department Applying for Grant: Com Dev

Agency-Federal or State application is requested from: Mayor's Advs Council

Object of the application: Testing of new technology for fish counting

Any match requirements: None

Mayor's approval to proceed: [Signature] 4/7/11
Signature Date

City Council's referral to Budget & Finance Standing Committee: _____
Vote Date

Budget & Finance Standing Committee: _____
Positive or Negative Recommendation Date

City Council's Approval or Rejection: _____
Vote Date

City Clerk's Certification of Vote to City Auditor: _____
Certification Date

City Auditor:
Assignment of account title and value of grant: _____
Title Amount

Auditor's distribution to managing department: _____
Department Date sent

NOTE: A copy of all grant paperwork must be submitted to the Auditor's Office

FORM: AUDIT GRANT CHECKLIST - V.1

OAWRS: Ocean Acoustic Waveguide Remote Sensing



City of Gloucester
Grant Application and Check List (Continued)

The following are documents needed by the Auditing Office for grant account creation:

1. Grant Application ²
2. Grant Award Letter/Standard Contract Approval Form ¹
3. Council Order Approval
4. Original Grant Account Budget as approved by Grantor
5. Amended Grant Account Budget as approved by Grantor (if applicable)
6. Any additional information as requested by the Auditing Department

Note: All documents must be complete signed copies.

Please attach the following documents with the Grant Application and Check List and send to the Auditors' Office.



OFFICE OF THE GOVERNOR
COMMONWEALTH OF MASSACHUSETTS
STATE HOUSE • BOSTON, MA 02133
(617) 725-4000

DEVAL L. PATRICK
GOVERNOR

TIMOTHY P. MURRAY
LIEUTENANT GOVERNOR

September 15, 2010

The Honorable Ann-Margaret Ferrante
Representative
5th Essex District
State House, Room 26
Boston, MA 02133

Dear Representative Ferrante

I have received your letter dated August 5, 2010 requesting \$200,000 for a fisheries sonar survey to help more accurately estimate the count of multiple species of fish off the Massachusetts coast.

As Chairman of the Seaport Advisory Council, I understand how important the fishing industry is to the economy of the Commonwealth overall, and to the local economies up and down our 1,500 miles of coastline. As you well know, Governor Patrick and I have advocated tirelessly at the federal level to ensure the accuracy of such critical species data.

I have instructed my staff at the Seaport Advisory Council to process your request and fund this study. Pending submission of a project review form and a formal vote at the October, 2010 meeting, we will be able to use funds from the Seaport Council's FY2011 budget to fully fund this \$200,000 survey.

If you have any questions regarding the process for applying for funding consideration, please do not hesitate to contact me or Louis Elisa, Executive Secretary of the Seaport Advisory Council.

Yours truly,

A handwritten signature in black ink that reads "Timothy P. Murray".

Timothy P. Murray
Lieutenant Governor
Chair, Seaport Advisory Council

dcr

Massachusetts



March 22, 2011

Sarah Garcia, CD Director
City of Gloucester
3 Pond Road
Gloucester, MA 01930

RE: P11-2661-G7 (3828) Determining the Acoustic Resonance Scattering Response of Groundfish in the Gulf of Maine. \$200,000.00 in FY 11

Dear Ms. Garcia:

Enclosed please find two (2) copies of the contract documents for the above referenced scope of work for the project. Please review this information carefully and closely and complete the shaded sections as well as filling out the Contractor Authorized Signature Listing form. Upon completion and affixing of the authorized signature, please resubmit these agreement documents with original signatures to this office. We will process the agreement and send you a copy of the fully executed agreement when finalized.

The Seaport Council has voted and is funding \$200,000.00 to the City of Gloucester for a Ground fish study in the Gulf of Maine being conducted by Northeastern University (NU) and Massachusetts Institute of Technology (MIT).

Once the agreement has been executed, City of Gloucester may request the full grant amount of \$200,000.00 and administer the funds as needed. The City of Gloucester will be responsible for detailing what the funds were used for in the project.

Please be advised that the enclosed Quarterly Report Forms are to be completed and submitted within fifteen (15) days after the close of the quarter. The final report shall include a copy of the canceled checks used for payment throughout this project.

Attached you will find the Rivers and Harbors Program Requirements to be signed and returned to this office with the signed contract. This information was compiled to identify the minimum requirements for the compliance with the grant as established with the Office of the State Comptroller and DCR policies. **If these requirements are not complied with, the**

COMMONWEALTH OF MASSACHUSETTS - EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS

Department of Conservation and Recreation
251 Causeway Street, Suite 600
Boston MA 02114-2119
617-626-1250, 617-626-1351 Fax
www.mass.gov/dcr



Deval L. Patrick
Governor

Timothy P. Murray
Lt. Governor

Richard K. Sullivan Jr., Secretary
Executive Office of Energy & Environmental Affairs

Edward M. Lambert Jr., Commissioner
Department of Conservation & Recreation

Grant Compliance Officer may not be allowed to issue future funds until compliance has been made.

The Grant Compliance Officer for this project is Mr. Michael Driscoll. He can be reached for any questions or concerns at (781) 740-1600 x 107 or his cell phone at (617) 719-2199.

Sincerely,

A handwritten signature in cursive script, appearing to read "Michael Driscoll".

Michael Driscoll
Grant Compliance Officer

Enclosures

CC: Louis Elisa, Seaport Council

COMMONWEALTH OF MASSACHUSETTS - STANDARD CONTRACT FORM



This form, to be used for New Contracts and Contract Amendments/Renewals, is jointly issued and published by the *Executive Office for Administration and Finance (EA&F)*, the *Office of the Comptroller (CTR)* and the *Operational Services Division (OSD)* for use by all Commonwealth Departments. Any changes to the official printed language of this form shall be void. Additional non-conflicting terms may be added by Attachment. Contractors should only complete sections marked with a "→". For Instructions and hyperlinks (italics), please view this form at: www.mass.gov/osc under *Guidance For Vendors - Forms* or at www.mass.gov/osc under *OSD Forms*.

→ Contractor Legal Name (and d/b/a): City of Gloucester		Department MMARS Alpha Code and Name: Office of Waterways, DGR	
→ Legal Address (from W-9): 3 Pond Road, Gloucester, MA 01930		Business Mailing Address: 349 Lincoln Street, Hingham, MA, 02043	
Payment Remittance Address (from W-9): Same		Billing Address (if different): Same	
→ Contract Manager: Sarah Garcia, CD Director		Contract Manager: Michael Driscoll CE IV	
→ E-Mail Address: sgarcia@gloucester-ma.gov	→ Phone: 978-281-9781	E-Mail Address: Michael.driscoll@state.ma.us	Phone: 781-741-1600
→ Fax: 978-281-9779	→ TTY:	Fax: 617-727-2950	TTY:
→ State of Incorporation (if a corporation) or "N/A":		MMARS Doc ID(s):	
→ Vendor Code:		RFR/Procurement or Other ID Number (if applicable):	
MMARS Object Code:		Account(s) Funding Contract: Ch 312 A2008 Environmental Bond Bill 2, Item 1100-2500	

<p align="center">X NEW CONTRACT</p> <p>COMPENSATION (Check only one):</p> <p><input checked="" type="checkbox"/> Total Maximum Obligation of this Contract \$ <u>200,000.00</u></p> <p><input type="checkbox"/> Rate Contract (Attach details of rate(s) units and any calculations):</p> <p>The following COMMONWEALTH TERMS AND CONDITIONS for this Contract has been executed and filed with CTR (Check only one):</p> <p><input checked="" type="checkbox"/> Commonwealth Terms And Conditions</p> <p><input type="checkbox"/> Commonwealth Terms And Conditions For Human And Social Services</p> <p>PROCUREMENT OR EXCEPTION TYPE (Check one option only):</p> <p><input type="checkbox"/> Single Department Procurement/Single Department User Contract</p> <p><input type="checkbox"/> Single Department Procurement/Multiple Department User Contract</p> <p><input type="checkbox"/> Multiple Department Procurement/Limited Department User Contract</p> <p><input type="checkbox"/> Statewide Contract (OSD or an OSD-designated Department)</p> <p><input checked="" type="checkbox"/> Grant (as defined by 815 CMR 2.00)</p> <p><input type="checkbox"/> Emergency Contract (attach justification)</p> <p><input type="checkbox"/> Contract Employee (Complete <i>Employment Status Form</i>)</p> <p><input type="checkbox"/> Collective Purchase (attach OSD approval)</p> <p><input type="checkbox"/> Legislative/Legal Exemption (attach authorizing language)</p> <p><input type="checkbox"/> Other (Specify and attach documentation):</p> <p>ANTICIPATED START DATE: <u>4/1/11</u> (Enter the Date Contract Obligations may begin. Review Certification for Effective Date Below prior to entry.)</p> <p>CONTRACT END DATE: <u>6/30/12</u></p>	<p align="center">CONTRACT AMENDMENT/RENEWAL</p> <p>ENTER CURRENT CONTRACT START and END DATES (prior to amendment)</p> <p>Current Start Date: _____ Current End Date: _____</p> <p>COMPENSATION: (Check Either, "No Compensation Change", "Maximum Obligation" or "Rate change". ATTACH Amended Scope and Budget to support Amendment.)</p> <p><input type="checkbox"/> NO Compensation Change (Skip to "OTHER" section below and select change)</p> <p><input type="checkbox"/> Redistribute Budget Line Items (No Maximum Obligation Change)</p> <p><input type="checkbox"/> Maximum Obligation Change.</p> <p>a) Current Total Contract Maximum Obligation: \$ _____ (Total Contract Maximum Obligation, including all prior amendments).</p> <p>b) Amendment Amount ("+" or "-"): \$ _____</p> <p>c) NEW TOTAL CONTRACT MAXIMUM OBLIGATION: \$ _____</p> <p><input type="checkbox"/> Rate Changes to Rate Contract</p> <p>OTHER: (Check option; explain under "Brief Description" below, and attach documentation.)</p> <p><input type="checkbox"/> Amend Duration Only (No Compensation or Performance Change)</p> <p><input type="checkbox"/> Amend Scope of Services/Performance Only (no budget impact.)</p> <p><input type="checkbox"/> Interim Contract (Temporary Extension to complete new Procurement)</p> <p><input type="checkbox"/> Other: (Describe Details and Attach documentation):</p> <p>ANTICIPATED START DATE: _____ (Enter the Date Amendment Obligations may begin. Review Certification for Effective Date Below prior to entry.)</p> <p>NEW CONTRACT END DATE: _____</p>
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→ **PROMPT PAYMENT DISCOUNTS.** Contractor has agreed to the following Prompt Pay Discounts for the listed Payment Issue Dates. See *Prompt Payment Discount Policy*.

% Within 10 Days % Within 15 Days % Within 20 Days % Within 30 Days OR, Check off the following if:

Contractor either claims hardship, or chooses not to provide PPD, or compensation is not subject to prompt pay discounts (grants, non-commodity or non-service compensation)

BRIEF DESCRIPTION OF CONTRACT PERFORMANCE OR REASON FOR AMENDMENT (Reference to attachments is insufficient): P11-2861-G7 (3828) Determining the Acoustic Resonance Scattering Response of Groundfish in the Gulf of Maine. \$200,000.00 in FY 11

CERTIFICATIONS: Notwithstanding verbal or other representations by the parties, or an earlier Start date listed above, the "Effective Date" of this Contract or Amendment shall be the latest date this Contract or Amendment has been executed by an authorized signatory of the Contractor, the Department, a later Contract or Amendment Start Date specified above, or the date of any required approvals. By executing this Contract/Amendment, the Contractor makes, under the pains and penalties of perjury, all certifications required under the attached *Contractor Certifications*, and has provided all required documentation noted with a "→", or shall provide any required documentation upon request, and the Contractor agrees that all terms governing performance of this Contract and doing business in Massachusetts are attached or incorporated by reference herein, including the terms of the applicable Commonwealth Terms and Conditions available at www.mass.gov/osc under *Guidance For Vendors - Forms* or at www.mass.gov/osc under *OSD Forms*, the terms of the attached *Instructions*, the Request for Response (RFR), solicitation (if applicable) or other authorization, the Contractor's response to the RFR or solicitation (if applicable), and any additional negotiated performance or budget provisions. The terms of this Contract shall survive its termination for the purpose of resolving any claim, dispute or other Contract action, or for effectuating any negotiated representations and warranties. **THE PARTIES HEREBY ALSO CERTIFY THAT** (Check one option only):

- the Contractor has NOT incurred any obligations triggering a payment obligation for dates prior to the Effective Date of this Contract or Amendment; OR
- any obligations incurred by the Contractor prior to the Effective Date of this Contract or Amendment (for which a payment obligation has been triggered) are intended to be part of this Contract/Amendment and shall be considered a final Settlement and Release of these obligations which are incorporated herein, and upon payment of these obligations, the Contractor forever releases the Commonwealth from any further claims related to these obligations.

<p>AUTHORIZING SIGNATURE FOR THE CONTRACTOR:</p> <p>→ X: <u>Carolyn A. Kirk</u> Date: <u>4/7/11</u></p> <p>(Signature and Date Must Be Handwritten At Time of Signature)</p> <p>→ Print Name: <u>Carolyn A. Kirk</u></p> <p>→ Print Title: <u>Mayor City of Gloucester</u></p>	<p>AUTHORIZING SIGNATURE FOR THE DEPARTMENT:</p> <p>X: _____ Date: _____</p> <p>(Signature and Date Must Be Handwritten At Time of Signature)</p> <p>Print Name: <u>Edward M. Lambert, Jr.</u></p> <p>Print Title: <u>Commissioner</u></p>
---	---

COMMONWEALTH OF MASSACHUSETTS - STANDARD CONTRACT FORM



INSTRUCTIONS

The following instructions to the *Standard Contract Form* are provided to assist both Contractors and Commonwealth Departments with the interpretation and completion of the *Standard Contract Form*. These instructions, including policies, procedures and legal references, are incorporated by reference into the *Standard Contract Form*. The *Standard Contract Form* is the boilerplate contract used by the Commonwealth for commodity and service Contracts, Grants and any other agreements for which another standard boilerplate is not already prescribed by statute, regulation or policy.

The *Standard Contract Form* is not a stand alone contract document but is used as the key document that incorporates the various documents that make up a Commonwealth Contract, which include in the hierarchy of precedence: (1) the applicable *Commonwealth Terms and Conditions* or the *Commonwealth Terms and Conditions for Human and Social Services (T&C)* (2) this *Standard Contract Form*, (3) a *Request for Response (RFR)*, other procurement solicitation document, or procurement exception supporting documentation, (4) the Contractor's response to the RFR or other solicitation, or scope of performance and budget for procurement exceptions, and (5) any other non-conflicting negotiated terms and conditions and attachments. Departments may not sign Vendor Contracts but may attach copies of the Contracts, with appropriate redaction of conflicting terms. A Contractor may not condition execution of the *Standard Contract Form* or the applicable T&C on the Department's signing the Contractor's contract or other contractual form, invoice, or other documents with additional or conflicting contractual terms. Any of these attached terms or documents shall be superseded by the documents in the order of precedence listed above.

Note: Any changes to the official printed language of this form shall be void. This form is designed to have data electronically added, rather than manually completed and table boxes will expand to accommodate text that is required to be added. Departments and Contractors may not alter the format or add fields to the form. The Department and a Contractor may negotiate by attachment, any additional language which clarifies their understanding of, but does not change, the language of the applicable *Commonwealth Terms and Conditions* and this *Standard Contract Form*. Clarifications may fill in the gaps and "spell-out" the understanding of the Department and the Contractor regarding their respective contract responsibilities. Clarifications may not be used to have the effect of negating, modifying, or replacing language in the applicable *Commonwealth Terms and Conditions* or this *Standard Contract Form*. For example, the following are acceptable additional terms: prior written notice periods, types of reports and timing of submission, details of delivery or acceptance of performance, records storage requirements, identifying what items are considered "deliverables" and what items are "contractor materials" that are already copyrighted or owned prior to the Contract, and are being used to complete performance. Ownership can not be conveyed after performance if the Commonwealth has paid for development of a deliverable with just compensation.

Contract Should be Sent and Reviewed Electronically. The *Standard Contract Form* is designed to be used electronically and should be reviewed by Contractors online to ensure access to hyperlinked references. Departments completing the *Standard Contract Form* for execution should enter the information electronically and send the form electronically to the Contractor to ensure timely completion and execution.

Links to policies, procedures and legal references. Text that appears italicized and underlined in the *Standard Contract Form* indicates a "hyperlink" that will link you to an internet or bookmarked site for the particular reference being cited. Pressing the "Alt" and "F9" keys while in the Microsoft® Word version of this document will display the full text of hyperlinks which can be copied and pasted or typed into your internet browser address field if you can not connect directly to the internet by clicking on a hyperlink. Hyperlinks to legal requirements such as statutes and regulations are links to unofficial versions of these documents. While reasonable efforts have been made to assure the accuracy of the data provided, Departments and Contractors should consult with their legal counsel to ensure compliance with all legal requirements. Using the Web Toolbar will make navigation between the form and the hyperlinks easier. Please note that not all applicable laws have been cited in this document. Instructions and hyperlinks may be added or changed without notice, so please periodically check this document at: www.mass.gov/osc under *Guidance For Vendors - Forms* or at www.mass.gov/osc under *QSD Forms* for updates.

A Department is NOT responsible for providing a paper copy of the *Standard Contract Form* instructions to Bidders or Contractors. The *Standard Contract Form* instructions are incorporated by reference into the *Standard Contract Form* and do not have to be filed with the completed Contract documents. Departments and Contractors are responsible for reviewing the *Standard Contract Form* electronically online including the instructions and hyperlinks.

Contractor Name (and d/b/a): Enter the full legal name of the Contractor's business as it appears on the Contractor's W-9 Form and the applicable Commonwealth Terms and Conditions. If Contractor also has a "doing business as" (d/b/a) name, both the legal name and the "d/b/a" name must appear in this section. Changes to the Contractor's Legal Name without a *major structural change* (such as a merger or consolidation) will require an updated W-9 and Commonwealth Terms and Conditions signed by an Authorized Signatory of the Contractor and filed with CTR. The Department should update the Contract and attachments either at the time of the name change, or when the Contract is next amended. The Department is required to make the necessary changes using a VCM for the VCUST table to update the Contractor's Vendor Code.

Contractor Legal Address: Enter the Legal Address of the Contractor which matches the W-9 filed for this Contractor where all tax reporting forms will be sent. This address must match the legal address the Contractor has on file with the Internal Revenue Service (IRS) and the Department of Revenue (DOR) and must match the 1099 information for the Vendor Code listed for this Contract. Updates to the Legal Address without a *major structural change* to the Contractor (such as a buyout, merger, or other change) requires an updated W-9 from an Authorized Signatory of the Contractor, but does not require other contract document changes. The Department is required to make the necessary changes using a VCM for the VCUST table to update the Master and Legal Addresses for the Contractor's Vendor Code.

Contractor Payment Remittance Address: Also enter the "Remittance Address" if payments are to be mailed to a separate mailing address, which must match the remittance address on the W-9 submitted by the Contractor. Unless otherwise specified in the Contract, legal notice sent or received by the Contractor's Contract Manager (with confirmation of actual receipt) through the listed address, fax number(s) or electronic mail address will meet any requirements for written notice under the Contract. Updates to the Remittance Addresses require an updated W-9 from an Authorized Signatory of the

COMMONWEALTH OF MASSACHUSETTS - STANDARD CONTRACT FORM



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→ Contractor Legal Name (and d/b/a): City of Gloucester		Department MMARS Alpha Code and Name: Office of Waterways, DCR	
→ Legal Address (from W-9): 3 Pond Road, Gloucester, MA 01930		Business Mailing Address: 349 Lincoln Street, Hingham, MA, 02043	
Payment Remittance Address (from W-9): Same		Billing Address (if different): Same	
→ Contract Manager: Sarah Garcia, CD Director		Contract Manager: Michael Driscoll CE IV	
→ E-Mail Address: sgarcia@gloucester-ma.gov	→ Phone: 978-281-9781	E-Mail Address: Michael.driscoll@state.ma.us	Phone: 781-741-1600
→ Fax: 978-281-9779	→ TTY:	Fax: 617-727-2950	TTY:
→ State of Incorporation (if a corporation) or "N/A":		MMARS Doc ID(s):	
→ Vendor Code:		RFR/Procurement or Other ID Number (if applicable):	
MMARS Object Code:		Account(s) Funding Contract: Ch 312 A2008 Environmental Bond Bill 2, Item 1100-2500	

X NEW CONTRACT

COMPENSATION (Check only one):
 Total **Maximum Obligation** of this Contract \$ 200,000.00
 Rate Contract (Attach details of rate(s) units and any calculations):

The following **COMMONWEALTH TERMS AND CONDITIONS** for this Contract has been executed and filed with CTR (Check only one):
 Commonwealth Terms And Conditions
 Commonwealth Terms And Conditions For Human And Social Services

PROCUREMENT OR EXCEPTION TYPE (Check one option only):
 Single Department Procurement/Single Department User Contract
 Single Department Procurement/Multiple Department User Contract
 Multiple Department Procurement/Limited Department User Contract
 Statewide Contract (OSD or an OSD-designated Department)
 Grant (as defined by 815 CMR 2.00)
 Emergency Contract (attach justification)
 Contract Employee (Complete *Employment Status Form*)
 Collective Purchase (attach OSD approval)
 Legislative/Legal Exemption (attach authorizing language)
 Other (Specify and attach documentation):

ANTICIPATED START DATE: 4/1/11 (Enter the Date Contract Obligations may begin. Review Certification for Effective Date Below prior to entry.)
CONTRACT END DATE: 6/30/12

CONTRACT AMENDMENT/RENEWAL

ENTER **CURRENT CONTRACT START** and **END DATES** (prior to amendment)
 Current Start Date: _____ Current End Date: _____

COMPENSATION: (Check Either, "No Compensation Change", "Maximum Obligation" or "Rate change". ATTACH Amended Scope and Budget to support Amendment.)
 NO Compensation Change (Skip to "OTHER" section below and select change)
 Redistribute Budget Line Items (No Maximum Obligation Change)
 Maximum Obligation Change
 a) **Current Total Contract Maximum Obligation:** \$ _____
 (Total Contract Maximum Obligation, including all prior amendments).
 b) **Amendment Amount ("+" or "-"):** \$ _____
 c) **NEW TOTAL CONTRACT MAXIMUM OBLIGATION:** \$ _____
 Rate Changes to Rate Contract

OTHER: (Check option, explain under "Brief Description" below, and attach documentation.)
 Amend Duration Only (No Compensation or Performance Change)
 Amend Scope of Services/Performance Only (no budget impact)
 Interim Contract (Temporary Extension to complete new Procurement)
 Other: (Describe Details and Attach documentation):

ANTICIPATED START DATE: _____ (Enter the Date Amendment Obligations may begin. Review Certification for Effective Date Below prior to entry.)
NEW CONTRACT END DATE: _____

→ **PROMPT PAYMENT DISCOUNTS.** Contractor has agreed to the following Prompt Pay Discounts for the listed Payment Issue Dates. See *Prompt Payment Discount Policy*.
 % Within 10 Days % Within 15 Days % Within 20 Days % Within 30 Days OR, Check off the following if:
 Contractor either claims hardship, or chooses not to provide PPD, or compensation is not subject to prompt pay discounts (grants, non-commodity or non-service compensation)

BRIEF DESCRIPTION OF CONTRACT PERFORMANCE OR REASON FOR AMENDMENT (Reference to attachments is insufficient): P 11-2661-67 (3626) Determining the Acoustic Resonance Scattering Response of Groundfish in the Gulf of Maine, \$200,000.00 in FY 11

CERTIFICATIONS: Notwithstanding verbal or other representations by the parties, or an earlier Start date listed above, the "Effective Date" of this Contract or Amendment shall be the latest date this Contract or Amendment has been executed by an authorized signatory of the Contractor, the Department, a later Contract or Amendment Start Date specified above, or the date of any required approvals. By executing this Contract/Amendment, the Contractor makes, under the pains and penalties of perjury, all certifications required under the attached *Contractor Certifications*, and has provided all required documentation noted with a "→", or shall provide any required documentation upon request, and the Contractor agrees that all terms governing performance of this Contract and doing business in Massachusetts are attached or incorporated by reference herein, including the terms of the applicable Commonwealth Terms and Conditions available at www.mass.gov/osc under *Guidance For Vendors - Forms* or at www.mass.gov/osc under *OSD Forms*, the terms of the attached *Instructions*, the Request for Response (RFR), solicitation (if applicable) or other authorization, the Contractor's response to the RFR or solicitation (if applicable), and any additional negotiated performance or budget provisions. The terms of this Contract shall survive its termination for the purpose of resolving any claim, dispute or other Contract action, or for effectuating any negotiated representations and warranties. **THE PARTIES HEREBY ALSO CERTIFY THAT (Check one option only):**
 1. the Contractor has NOT incurred any obligations triggering a payment obligation for dates prior to the Effective Date of this Contract or Amendment; OR
 2. any obligations incurred by the Contractor prior to the Effective Date of this Contract or Amendment (for which a payment obligation has been triggered) are intended to be part of this Contract/Amendment and shall be considered a final Settlement and Release of these obligations which are incorporated herein, and upon payment of these obligations, the Contractor forever releases the Commonwealth from any further claims related to these obligations.

AUTHORIZING SIGNATURE FOR THE CONTRACTOR:

→ X: [Signature] Date: 4/7/11
 (Signature and Date Must Be Handwritten At Time of Signature)

→ Print Name: Carolyn A. Kirk
 → Print Title: Mayor City of Gloucester

AUTHORIZING SIGNATURE FOR THE DEPARTMENT:

X: _____ Date: _____
 (Signature and Date Must Be Handwritten At Time of Signature)

Print Name: Edward M. Lambert, Jr.
 Print Title: Commissioner

COMMONWEALTH OF MASSACHUSETTS - STANDARD CONTRACT FORM



INSTRUCTIONS

The following instructions to the *Standard Contract Form* are provided to assist both Contractors and Commonwealth Departments with the interpretation and completion of the *Standard Contract Form*. These instructions, including policies, procedures and legal references, are incorporated by reference into the *Standard Contract Form*. The *Standard Contract Form* is the boilerplate contract used by the Commonwealth for commodity and service Contracts, Grants and any other agreements for which another standard boilerplate is not already prescribed by statute, regulation or policy.

The *Standard Contract Form* is not a stand alone contract document but is used as the key document that incorporates the various documents that make up a Commonwealth Contract, which include in the hierarchy of precedence: (1) the applicable *Commonwealth Terms and Conditions* or the *Commonwealth Terms and Conditions for Human and Social Services (T&C)* (2) this *Standard Contract Form*, (3) a Request for Response (RFR), other procurement solicitation document, or procurement exception supporting documentation, (4) the Contractor's response to the RFR or other solicitation, or scope of performance and budget for procurement exceptions, and (5) any other non-conflicting negotiated terms and conditions and attachments. Departments may not sign Vendor Contracts but may attach copies of the Contracts, with appropriate redaction of conflicting terms. A Contractor may not condition execution of the *Standard Contract Form* or the applicable T&C on the Department's signing the Contractor's contract or other contractual form, invoice, or other documents with additional or conflicting contractual terms. Any of these attached terms or documents shall be superseded by the documents in the order of precedence listed above.

Note: Any changes to the official printed language of this form shall be void. This form is designed to have data electronically added, rather than manually completed and table boxes will expand to accommodate text that is required to be added. Departments and Contractors may not alter the format or add fields to the form. The Department and a Contractor may negotiate by attachment, any additional language which clarifies their understanding of, but does not change, the language of the applicable *Commonwealth Terms and Conditions* and this *Standard Contract Form*. Clarifications may fill in the gaps and "spell-out" the understanding of the Department and the Contractor regarding their respective contract responsibilities. Clarifications may not be used to have the effect of negating, modifying, or replacing language in the applicable *Commonwealth Terms and Conditions* or this *Standard Contract Form*. For example, the following are acceptable additional terms: prior written notice periods, types of reports and timing of submission, details of delivery or acceptance of performance, records storage requirements, identifying what items are considered "deliverables" and what items are "contractor materials" that are already copyrighted or owned prior to the Contract, and are being used to complete performance. Ownership can not be conveyed after performance if the Commonwealth has paid for development of a deliverable with just compensation.

Contract Should be Sent and Reviewed Electronically. The *Standard Contract Form* is designed to be used electronically and should be reviewed by Contractors online to ensure access to hyperlinked references. Departments completing the *Standard Contract Form* for execution should enter the information electronically and send the form electronically to the Contractor to ensure timely completion and execution.

Links to policies, procedures and legal references. Text that appears italicized and underlined in the *Standard Contract Form* indicates a "hyperlink" that will link you to an internet or bookmarked site for the particular reference being cited. Pressing the "Alt" and "F9" keys while in the Microsoft® Word version of this document will display the full text of hyperlinks which can be copied and pasted or typed into your Internet browser address field if you can not connect directly to the internet by clicking on a hyperlink. Hyperlinks to legal requirements such as statutes and regulations are links to unofficial versions of these documents. While reasonable efforts have been made to assure the accuracy of the data provided, Departments and Contractors should consult with their legal counsel to ensure compliance with all legal requirements. Using the Web Toolbar will make navigation between the form and the hyperlinks easier. Please note that not all applicable laws have been cited in this document. Instructions and hyperlinks may be added or changed without notice, so please periodically check this document at: www.mass.gov/osc under *Guidance For Vendors - Forms* or at www.mass.gov/osd under *OSD Forms* for updates.

A Department is NOT responsible for providing a paper copy of the *Standard Contract Form* instructions to Bidders or Contractors. The *Standard Contract Form* Instructions are incorporated by reference into the *Standard Contract Form* and do not have to be filed with the completed Contract documents. Departments and Contractors are responsible for reviewing the *Standard Contract Form* electronically online including the Instructions and hyperlinks.

Contractor Name (and d/b/a): Enter the full legal name of the Contractor's business as it appears on the Contractor's W-9 Form and the applicable *Commonwealth Terms and Conditions*. If Contractor also has a "doing business as" (d/b/a) name, both the legal name and the "d/b/a" name must appear in this section. Changes to the Contractor's Legal Name without a *major structural change* (such as a merger or consolidation) will require an updated W-9 and *Commonwealth Terms and Conditions* signed by an Authorized Signatory of the Contractor and filed with CTR. The Department should update the Contract and attachments either at the time of the name change, or when the Contract is next amended. The Department is required to make the necessary changes using a VCM for the VCUST table to update the Contractor's Vendor Code.

Contractor Legal Address: Enter the Legal Address of the Contractor which matches the W-9 filed for this Contractor where all tax reporting forms will be sent. This address must match the legal address the Contractor has on file with the Internal Revenue Service (IRS) and the Department of Revenue (DOR) and must match the 1099 information for the Vendor Code listed for this Contract. Updates to the Legal Address without a *major structural change* to the Contractor (such as a buyout, merger, or other change) requires an updated W-9 from an Authorized Signatory of the Contractor, but does not require other contract document changes. The Department is required to make the necessary changes using a VCM for the VCUST table to update the Master and Legal Addresses for the Contractor's Vendor Code.

Contractor Payment Remittance Address: Also enter the "Remittance Address" if payments are to be mailed to a separate mailing address, which must match the remittance address on the W-9 submitted by the Contractor. Unless otherwise specified in the Contract, legal notice sent or received by the Contractor's Contract Manager (with confirmation of actual receipt) through the listed address, fax number(s) or electronic mail address will meet any requirements for written notice under the Contract. Updates to the Remittance Addresses require an updated W-9 from an Authorized Signatory of the

Proposal to Massachusetts Seaport Advisory Council

**Determining the Acoustic Resonance Scattering Response of Groundfish in the Gulf of
Maine**

Principle Investigator (PI):
Prof. Purnima Ratilal
Northeastern University
360 Huntington Ave, 409 Dana Research Center
Boston, MA 02115
Phone: (617) 373-8458
Email: purnima@ece.neu.edu

Co-PI:
Prof. Nicholas Makris
Massachusetts Institute of Technology
77 Massachusetts Ave, Room 5-212
Cambridge, MA 02139
Phone: (617) 258-6104
Email: makris@mit.edu

Administrative Contact:
Anne Magrath, Director, Finance and Research Contracts Administration Operations
Bernard M Gordon Center for Subsurface Sensing and Imaging Systems
Northeastern University, 302 Stearns Center,
360 Huntington Avenue, Boston, MA 02115
Phone: 617-373-5026
Fax: 617-373-8627
Email: a.magrath@neu.edu

Proposed Period of Performance: 1 Apr. 2011 - 28 Feb. 2012

Project Title

Determining the Acoustic Resonance Scattering Response of Groundfish in the Gulf of Maine

Project Description

Objective:

The objective of this proposal is to determine the acoustic resonant scattering response of groundfish such as cod, haddock and hake that inhabit the waters of the Gulf of Maine. This knowledge will be used to determine the feasibility of instantaneously imaging populations of groundfish distributed over wide areas of the Gulf of Maine environment using an ocean acoustic waveguide remote sensing system (OAWRS).

Background:

The OAWRS system [1-4] has been shown to be very effective and efficient at rapidly imaging and quantifying the behavior and abundance of vast populations of Atlantic herring in the US East coast [3,4], including the Gulf of Maine [1,2,4]. The OAWRS system has an instantaneous imaging diameter of 100 km that spans the full or seasonal ecosystem of many species of fish (including many migratory species) that are of commercial and ecological importance.

Many species of fish possess air-filled swimbladders that enable fish to regulate their depths in the water-column. The air-filled swimbladder is the dominant source of acoustic scattering for fish that have swimbladders. The swimbladder bearing groundfish, such as cod, haddock and hake, are expected to resonate at low acoustic frequencies, ranging from several hundred Hertz to about 1 to 2 kHz depending on fish size and depth, within the frequency range typically employed by an OAWRS system for instantaneous wide area sensing. By studying the resonant scattering response of groundfish, it is possible to determine the feasibility of using an OAWRS system to rapidly image groundfish over vast areas of the ocean environment.

Approach:

The research will combine experimental data collection and analysis with theoretical modelling. One or more experiments will be conducted to measure and verify the low frequency resonant scattering response of groundfish as a function of fish type, size and depth distributions. The experiment will be conducted using (1) one or more local direct-path low frequency acoustic systems, (2) a high frequency conventional fish-finding echosounder, and (3) biological sampling of important physical parameters of fish, such as fish length, swimbladder volume size and shape, etc. During the experiment, live fish will be captured in cages and redeployed at various depths while monitoring their low frequency scattering responses. The purpose of this measurement is to examine fish physiological behavior and their capacity to adjust their swimbladder volumes with depth changes. The resulting data set will provide crucial inputs to the waveguide propagation and scattering models to be used in designing a future full scale OAWRS experiment for instantaneously imaging groundfish over wide areas.

One or more local direct-path low frequency acoustic systems will be deployed. The first system consists of an MIT-owned acoustic projector transmitting signals in the audible frequency range from 200 Hz to 3 kHz, and with scattered signals received by an omnidirectional hydrophone. The second system is composed from two transducer elements of the OAWRS source array (full system has 8 elements for instantaneous wide area sensing) and a short receiving array to measure the locally scattered returns from groundfish. The acoustic scattered data will be filtered, conditioned and then digitally sampled and stored on a computer. Near real-time signal processing and analysis software will be developed to analyze the acoustic data to infer the scattering strength of fish as a function of the imaging frequency. These will be correlated with the biological-physical properties of fish, such as fish length, swimbladder volume size and shape, and fish depth.

Analytic and numerical models will be developed to study the scattering response of fish imaged using both the direct-path low frequency acoustic system and the full OAWRS system. Previous models developed [1,4-7] by the PI for resonant scattering from fish swimbladder will be modified and applied to model groundfish scattering. The model will incorporate fish biological-physical parameters, imaging frequency and measurement geometry as inputs. The fish resonant scattering model for groundfish will be calibrated with experimental data collected in this project. The calibrated fish resonant scattering model will then be combined with a full-field ocean acoustic waveguide propagation model [4-7] to determine the feasibility of using an OAWRS system to rapidly and instantaneously image and study groundfish distributed over wide areas in the Gulf of Maine. The modeled scattered returns from fish will be compared to scattering or reverberation [7-9] from the seafloor. Groundfish detectability will be quantified as a function of fish swimbladder size, fish horizontal and depth spatial distributions and locations, and properties of the environment.

Resources to be provided by the sponsor

It is expected that the following resources for conducting the experiment will be provided by the sponsors.

1. One or more ships for conducting the experiment.
2. Conventional high-frequency echosounder.
3. Groundfish trawl and biological sampling facility and expertise.
4. Permit or environmental assessment documentation for conducting an ocean acoustic experiment.

References

1. Z. Gong, M. Andrews, S. Jagannathan, R. Patel, N.C. Makris, and P. Ratilal, "Low-frequency target strength and abundance of shoaling Atlantic herring (*Clupea harengus*) in the Gulf of Maine during the Ocean Acoustic Waveguide Remote Sensing 2006 Experiment," *J. Acoust. Soc. Am.*, Vol. 127, 104-123 (2010).

2. N. Makris, P. Ratilal, S. Jagannathan, Z. Gong, M. Andrews, I. Bertsatos, O. Godo, R. Nero, M. Jech, "Critical Population Density Triggers Rapid Formation of Vast Oceanic Fish Shoals", *Science*, Vol. 323, No. 5922, 1734-1737 (March 27, 2009).
3. N.C. Makris, P. Ratilal, D.T. Symonds, S. Jagannathan, S. Lee, and R. Nero, "Fish Population and Behavior Revealed by Instantaneous Continental-Shelf-Scale Imaging," *Science*, Vol. 311, 660-663, (Feb. 3 2006).
4. Jagannathan, I. Bertsatos, D. Symonds, T. Chen, H. Nia, A. Jain, M. Andrews, Z. Gong, R. Nero, L. Ngor, M. Jech, O. Godo, S. Lee, P. Ratilal, and N. Makris, "Ocean acoustic waveguide remote sensing (OAWRS) of marine ecosystems," Invited paper, *Mar. Ecol. Prog. Ser.*, Vol. 395, 137-160 (2009).
5. M. Andrews, Z. Gong and P. Ratilal, "High-resolution population density imaging of random scatterers through cross-spectral coherence in matched filter variance," *J. Acoust. Soc. Am.*, Vol. 126, 1057-1068 (2009).
6. M. Andrews, Z. Gong and P. Ratilal, "Effects of multiple scattering, attenuation and dispersion on fish population density imaging with ocean acoustic waveguide remote sensing," under review, *J. Acoust. Soc. Am.* (submitted Jan 2010).
7. N. C. Makris and P. Ratilal, "A unified model for reverberation and submerged object scattering in a stratified ocean waveguide," *J. Acoust. Soc. Am.*, Vol. 108, 909-941 (2001).
8. A. Galinde, N. Donabed, M. Andrews, S. Lee, N. Makris and P. Ratilal, "Range-dependent waveguide scattering model calibrated for bottom reverberation in continental shelf environments," *J. Acoust. Soc. Am.*, Vol. 123, 1270-1281 (2008).
9. N. C. Makris, L. Avelino, R. Menis, "Deterministic reverberation from ocean ridges," *J. Acoust. Soc. Am.* 97, 3547-3574 (1995). (Also appears in full in a special volume commemorating ONR's 50th Anniversary.)

Timeline

The research will be conducted following the timeline given in table below.

Task	4/11	5/11	6/11	7/11	8/11	9/11	10/11	11/11	12/11	1/12	2/12
Equipment Mobilization	←————→										
Experiment Design	←————→										
Testing and Experiment	←————→					←————→					
Data Analysis		←————→									
Model Development	←————→										
Model Validation						←————→					

Budget and Justification

May 1, 2011 - April 30, 2012	
Graduate Student Support -Modeling & Experimental Data Analysis	18,777
Total Salaries	18,777
FB @26%	
FB @7.65%	1,436
Total Fringe Benefits	1,436
Equipment Mobilization and Engineering Support	159,238
Travel - Experiment	3,000
Experimental Materials & Supplies (expendable)	3,000
Total Direct Costs	185,451
OH @55.5%	14,548
Total	200,000

The budget will cover equipment mobilization and engineering support for one or more direct-path low frequency acoustic source and receiver systems. The systems will be comprised of the following components.

- 1) An acoustic transmit system comprising of two low frequency projectors (same transducer elements as in the full OAWRS source array) and cabling for deployment at variable depths up to 120 m, power amplifiers and input signal conditioning.
- 2) A battery powered receive and recording system deployed from either a ship or suspended below a drifting float. The receiver array can be configured for 6 up to 22 elements each with 100 Hz to 10 kHz reception, and programmable gain. The float receive system is RF controlled with data received by RF if the boat stays within 400 m of the float. The float also contains a hard drive for data storage.
- 3) MIT-owned low frequency acoustic projector (Benthos underwater talker) with battery power supply, and an omnidirectional hydrophone for signal reception.
- 4) Computer for data storage, processing and analysis. A/D converters, filters and signal conditioners.

Graduate student research assistants will assist the PI and co-PI in theoretical model development, equipment preparation, experimental design and conduct, and data processing and analysis. The budget will also cover travel expenses for the PI, co-PI and their graduate students for one or more experiments.

PURNIMA RATILAL

Dept. of Electrical and Computer Engineering, Northeastern University
360 Huntington Ave, 409 Dana Research Center, Boston, MA 02115
Email: purnima@ece.neu.edu, Tel: (617) 373-8458

PROFESSIONAL PREPARATION

Massachusetts Institute of Technology Ph.D. Acoustics, Ocean Eng. (Jun. 2002)
National University of Singapore B.Sc. with Honors, Physics (Apr. 1994)

APPOINTMENTS

2010-present Associate Professor, Department of Electrical and Computer Engineering,
Northeastern University
2004-2010 Assistant Professor, Department of Electrical and Computer Engineering,
Northeastern University
2002-2004 Postdoctoral Associate, Department of Ocean Engineering,
Massachusetts Institute of Technology
1998-2002 Research Assistant, Department of Ocean Engineering,
Massachusetts Institute of Technology
1994-1998 Research Engineer, Underwater Acoustics Laboratory
DSO National Laboratories, Singapore

AWARDS, FELLOWSHIPS AND HONORS

Presidential Early Career Award for Scientists and Engineers (PECASE), 2008
Office of Naval Research Young Investigator Award (ONR-YIP), 2007
R. Bruce Lindsay Award, The Acoustical Society of America, 2006
MIT T. Francis Ogilvie Young Investigator Lectureship in Ocean Eng., 2006
ONR Postdoctoral Award in Ocean Acoustics, 2002-2004
Young Investigator Keynote Address, Acoustical Society of America, 2004
DSO National Laboratories Graduate Scholarship, Singapore, 1998

TEACHING (NORTHEASTERN UNIVERSITY)

Wave Based Remote Sensing and Imaging/Acoustic Sensing (Graduate course EECB7394)
Complex Variables and Differential Equations (Graduate course EECE7203)
Probability, Noise and Stochastic Processes (Undergraduate Course EECE3468)
Matlab and C++ High Tech Tools and Toys Laboratory (Undergraduate course GEU111)

FIELD EXPERIMENTS

Co-designed, co-directed multi-million dollar, inter-disciplinary and multi-institutional offshore field experiments in the US East Coast.

- Gulf of Maine Experiment 2006, funded by NOPP, Sloan Foundation, ONR and NOAA
- Main Acoustic Experiment 2003, New Jersey Shelf, ONR Geoclutter Program
- Acoustic Reconnaissance Experiment 2001, New Jersey Shelf, ONR Geoclutter Program

DSO National Laboratories Offshore Field Experiments, Singapore

- Designed and directed series of 8 acoustic and oceanographic experiments off the coast of Singapore and Asian Seas in conjunction with the Singapore Navy.

SELECTED REFEREED JOURNAL PUBLICATIONS

1. Z. Gong, M. Andrews, S. Jagannathan, R. Patel, N.C. Makris, and P. Ratilal, "Low-frequency target strength and abundance of shoaling Atlantic herring (*Clupea harengus*) in the Gulf of Maine during the Ocean Acoustic Waveguide Remote Sensing 2006 Experiment," *J. Acoust. Soc. Am.*, Vol. 127, 104-123 (2010).
2. M. Andrews, Z. Gong and P. Ratilal, "High-resolution population density imaging of random scatterers through cross-spectral coherence in matched filter variance," *J. Acoust. Soc. Am.*, Vol. 126, 1057-1068 (2009).
3. M. Andrews, T. Chen and P. Ratilal, "Empirical dependence of acoustic transmission scintillation statistics on bandwidth, frequency and range in New Jersey continental shelf," *J. Acoust. Soc. Am.* Vol. 125, 111-124 (2009).
4. N. Makris, P. Ratilal, S. Jagannathan, Z. Gong, M. Andrews, I. Bertatos, O. Godo, R. Nero, M. Jech, "Critical Population Density Triggers Rapid Formation of Vast Oceanic Fish Shoals", *Science*, Vol. 323, No. 5922, 1734-1737 (March 27, 2009).
5. N.C. Makris, P. Ratilal, D.T. Symonds, S. Jagannathan, S. Lee, and R. Nero, "Fish Population and Behavior Revealed by Instantaneous Continental-Shelf-Scale Imaging," *Science*, Vol. 311, 660-663, (Feb. 3 2006).
6. P. Ratilal and N.C. Makris, "Mean and covariance of the forward field propagated through a stratified ocean waveguide with three-dimensional random inhomogeneities," *J. Acoust. Soc. Am.*, 118, 3532-3559 (2005).
7. P. Ratilal, M. Andrews, N. Donabed, A. Galinde, C. Rappaport, and D. Fenneman, "Performance of the Continuously Scanning Ultrasound Vibrometer for Sensing Displacements of Randomly Rough Vibrating Surfaces", *J. Acoust. Soc. Am.* 121, 863-878, (2007).
8. P. Ratilal and N. C. Makris, "Extinction theorem for object scattering in a stratified medium," *J. Acoust. Soc. Am.*, Vol. 110, 2924-2945 (2001).
9. N. C. Makris and P. Ratilal, "A unified model for reverberation and submerged object scattering in a stratified ocean waveguide," *J. Acoust. Soc. Am.*, Vol. 108, 909-941 (2001).
10. P. Ratilal, P. Gerstoft and J. T. Goh, "Subspace approach to inversion by genetic algorithms involving multiple frequencies," *J. Computational Acoust.*, Vol. 6, 99-115 (1998).

SYNERGISTIC ACTIVITIES

- Chairperson of various conference sessions at the Acoustical Society of America Meetings and the European Conference on Underwater Acoustics.
- Invited panel discussions and/or international science diplomacy for ONR Indo-US Workshop on Shallow Water Acoustics (Goa, 2010), Canada's Department of Fisheries and Oceans (DFO) symposium on OAWRS application to fisheries in their waters (Halifax, 2007), etc.
- Fisheries Biologist Faculty Hiring Committee, Graduate Student Affairs Committee, ECE Distinguish Lecture Series Organizing Committee at Northeastern University (NU).
- Conducted laboratory ultrasound demonstrations at NU to nurture scientific interests in high school students from various organizations including the Society for Black Engineers, Jamaica Plain English High School, NSF RET Program, etc.

COLLABORATORS AND OTHER AFFILIATIONS

- Collaborators: Nicholas Makris (MIT, Ph.D. and Postdoc. advisor), Carey Rappaport (NU), J. Michael Jech (NMFS-NEFSC), Sunwoong Lee (Exxon), Olav Rune Godo (IMR-Bergen), Redwood Nero (NMFS-SEFSC), Tianrun Chen (MIT), Josh Wilson (Applied Physical Sci.)
- Graduate Advising: Mark Andrews (Ph.D. 2010), Zheng Gong, Duong Tran, David Reed and Hari Chauhan (ongoing PhD), Ninos Donabed (M.S. 2006), Ameya Galinde (M.S. 2007)
- Postdoctoral Advising: Elizabeth Kusel (2007 - 2009), Mark Andrews (2010)

Biographical Sketch: Nicholas Constantine Makris

1. Professional Preparation

Massachusetts Institute of Technology	SB in Physics	1983
Massachusetts Institute of Technology	PhD in Ocean Engineering	1990
Massachusetts Institute of Technology	Postdoctoral Fellow	1990-1990

2. Appointments

2008-present	Professor, MIT Department of Mechanical Engineering
2005-2008	Associate Professor, MIT Department of Mechanical Engineering (OE Merged with ME)
2003-2005	Associate Professor (tenure in 2003), MIT Department of Ocean Engineering
2000-2003	Associate Professor (pre-tenure), MIT Department of Ocean Engineering
1999-2003	Secretary of the Navy, Chief of Naval Operations, Scholar of Oceanographic Sciences
1999	Doherty Professor of Ocean Utilization
1997-2000	Assistant Professor, MIT Department of Ocean Engineering
1991-1997	Research Physicist, Naval Research Laboratory
1990-1990	Postdoctoral Fellow, MIT Department of Ocean Engineering

3. Publications:

1. N. C. Makris, P. Ratilal, S. Jagannathan, Z. Gong, M. Andrews, I. Bertatos, O. R. Godoe, R. W. Nero, J. M. Jech, "Critical Population Density Triggers Rapid Formation of Vast Oceanic Fish Shoals", *Science*, Vol. 323, No. 5922, 1734-1737 (March 27, 2009).
2. N. C. Makris, P. Ratilal, D. Symonds, S. Jagannathan, S. Lee, R. Nero, "Fish population and behavior revealed by instantaneous continental-shelf-scale imaging," *Science*, 311, 660-663 (2006).
3. S. Jagannathan, I. Bertatos, D. Symonds, T. Chen, H. Nia, A. Jain, M. Andrews, Z. Gong, R. Nero, L. Ngor, M. Jech, O. Godø, S. Lee, P. Ratilal, N. C. Makris, "Ocean Acoustics Waveguide Remote Sensing (OAWRS) of marine ecosystems," *Marine Ecology Progress Series*, Vol. 395, 137-160 (2009)
4. Z. Gong, M. Andrews, S. Jagannathan, R. Patel, J. M. Jech, N. C. Makris, P. Ratilal, "Low-frequency target strength and abundance of shoaling Atlantic herring *Clupea harengus* in the Gulf of Maine during the Ocean Acoustic Waveguide Remote Sensing (OAWRS) 2006 Experiment" *J. Acoust. Soc. Am.* 127, 104-123 (2010)
5. S. Jagannathan, P. Ratilal, B. Horn, N. C. Makris, "Force estimation and prediction from time-varying density images" *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 30 Sept. 2010. *IEEE computer Society Digital Library* <http://www.computer.org/portal/web/csdl/doi/10.1109/TPAMI.2010.185>
6. N. C. Makris, L. Avelino, R. Menis, "Deterministic reverberation from ocean ridges," *J. Acoust. Soc. Am.* 97, 3547-3574 (1995). (Also appears in ONR 50th Anniversary Volume "ONR Investing in the Future.")
7. J. D. Wilson and N. C. Makris, "Quantifying hurricane destructive power, wind speed, and air-sea material exchange with natural undersea sound," *Geophysical Res. Letters* 35, L10603 1-5 (2008)
8. N. C. Makris, "A foundation for logarithmic measures of fluctuating intensity in pattern recognition," *Optics Letters* 20, 2012-2014 (1995).
9. P. Ratilal and N. C. Makris, "Mean and covariance of the forward field propagated through a stratified ocean waveguide with three-dimensional inhomogeneities," *J. Acoust. Soc. Am.* 118, 3560-3574 (2005).
10. S. Lee, M. Zanolin, A. Thode, R. Pappalardo, N. C. Makris, "Probing Europa's Interior with Natural Sound Sources," *Icarus* 165, 144-167 (2003)

4. Synergistic Activities

1. Developed method and system for instantaneously detecting, imaging and continuous monitoring fish populations over continental-shelf scales with OAWRS, and led international programs and multiple oceanographic field experiments to demonstrate the method as Chief Scientist of ONR Geoclutter Program 9/99–12/08, and Chief Scientist of NOPP OAWRS Program 4/05–12/08. Presented method to House on Capitol Hill during Capitol Hill Ocean's Week 2006. Prepared briefing for Chair of Senate Committee on Commerce, Science and Transportation on use of OAWRS in fisheries research, biological oceanography and marine ecology in 2006. Briefed Senator Kerry on use of OAWRS for sensing fish populations in August 2010.

2. Developed a safe and inexpensive method for quantifying hurricane destructive power with natural undersea sound and led international programs to demonstrate it as Chief Scientist of US-Mexico Ocean Acoustic Hurricane Quantification Program 1997-present.

3. Designed a practical seismo-acoustic method to probe Europa's interior ice, water and solid structure for a 1st lander and served on NASA Science Definition Teams, including Jupiter Icy Moons Orbiter, and NASA-ESA Science Definition Teams to implement it.

4. Developed the MIT course "Acoustics and Sensing" 2.065 (U), 2.066 (G), to provide a mathematically rigorous introduction to fundamental physical principles governing sensing with linear and nonlinear wave equations for future innovation in diverse areas such as ocean exploration, medical ultrasound, robot and machine sensing.

5. Developed the MIT course "Mechanical Systems, Signal Processing and Stochastics" 13.015 (U) to provide an introduction to linear systems and signal processing through mechanical phenomena and introduce concepts of over-determined and random systems.

5. Collaborators

1. Collaborators and Co-Editors in alphabetical order: M. Andrews (NEU), I. Bertsatos (MIT), K. Benoit-bird (OSU), T.R. Chen (MIT), D. Chu (WHOI), O. Diachock (NRL), N. Donabed (NEU), K. Foote (WHOI), A. Galinde (ASU), M.T. Garr (NUWC), R. Gauss (NRL), Z. Gong (NEU), M. Jech (NMFS), J. Jaffe (UCSD), D.V. Holliday (UMass), J. Home (UW), C.W. Holland (PSU), I. Ingram (Ingram Clockworks), S. Jagannathan (MIT), Y. Lai (BAE), S. Lee (Exxon Mobil), R. Nero (NOAA), J.R. Preston (PSU), P. Ratilal (NEU), T. Stanton (WHOI), D. Symonds (MIT), M. Trevorrow (DRDCA), G. O. Rune (IMR), A. Thode (UCSD), J.D. Wilson (Applied Physics), M. Zanolin (ERAU), B. Horn (MIT), S. Vitale (ERAU), R. Patel (IMR), M. Jech (NOAA), H. Nia (MIT), A. Jain (MIT), L. Ngor (UMASS)

2. Graduate Advisor and Postdoctoral Sponsor: I. Dyer (MIT, Emeritus)

3. Thesis Advisor and Postgraduate-Scholar Sponsor: 19 Graduate Students Supervised:

Past graduate students: C. Chia (DSO, Singapore), G. Xu, E. Naftali (Israeli Navy), I. Ingram (I. Clockworks), G. Ben-Joshua (Israeli Navy), P. Ratilal (NEU), J. Thierman (Harvard Med.), Y. Lai (BAE), S. Lee (Exxon), J. Wilson (Applied Phys.), T. Chen (MIT), D. Simmons (Trexenterprises), I. Bertsatos (Hellas) and H. Nia (MIT)

Current graduate students: S. Jagannathan, A. Jain, A. Ignisca, W. Zhang and D. Yi

Past postdoctoral scholars: P. Ratilal (NEU), A. Thode (UCSD) and M. Zanolin (ERAU)

3 Pond Road
Gloucester, MA 01930



Tel 978-282-3027
Fax 978-282-3035

CITY OF GLOUCESTER
COMMUNITY DEVELOPMENT DEPARTMENT
GRANTS OFFICE

Memorandum

To: Carolyn Kirk, Mayor

From: Sharon DuBois, Grants Administrator *SD*

CC: Sarah Garcia, Community Development Director

Date: April 4, 2011

Re: **Program Year 2011 CDBG & HOME Grants**

We are preparing Program Year 2011 (PY11) which starts July 1, 2011 to June 30, 2012 of our Community Development Block Grant (CDBG) and HOME Funding Annual Appropriations.

The Request for Proposals was issued in January 24, 2011, with applications being received March 4, 2011. Three public hearings were held: an pre-submittal informational meeting on December 9, 2010, in the Friend Room of the Sawyer Free Library; a pre-submittal informational meeting was held in the Friend Room of the Sawyer Free Library on February 17, 2011, and a third meeting on March 11, 2011, in the Friend Room, Sawyer Free Library, to hear the presentations of the submitted RFPs. The city's proposed allocation of funds is scheduled to be advertised for public comment on April 8, 2011. This ad will also, include instructions for any individual interested in examining the Draft 2011 Annual Action Plan to do so at the Grants Division, City Clerk's Office, the Sawyer Free Library or on the city website at www.gloucester-ma.gov. The final version of this plan will be submitted to the US Department of Housing and Urban Development (HUD) on or about May 11, 2011.

Please request that City Council accept the **anticipated** CDBG Grant in the amount of \$805,289 and \$5,000 of Program Income for a total of \$810,289 and the city's **anticipated** allocation of the HOME Grant from the North Shore HOME Consortium in the amount of \$138,848.

Attached is an itemization, including a brief description, of the proposed activities to be funded with HOME funds (\$138,848) and Community Development Block Grant funds (\$810,289) for PY11 beginning July 1, 2011 and ending June 30, 2012.

Economic Development:

- **Brownfields Redevelopment** – The city has a loan agreement with Cape Ann Forge Trust for \$295,000.00, a Brownfields Cleanup Revolving Loan. Repayment of this loan has begun. This loan will benefit remediation at the Cape Ann Forge property. In its current unbuildable state, the property is assessed well below a normalized market value. By providing the Brownfields Loan, the city's loan fund program plays a significant, if not pivotal role in re-engaging this long underperforming parcel as a viable and productive piece of Gloucester. The chance that the Annisquam River, a direct abutter to the parcel, would be the recipient of any escape of contaminant is always a possibility. Through approval of this loan the city has ensured that the absolute best efforts of a public-private partnership are brought forth to make certain risk to the environment and its components are minimized to the fullest. Re-development on the parcel will employ the latest in environmentally sensitive design, engineered to leave the site in a better, more functional state than the one it was found. After the successful Brownfields Loan outcome of "Station Place", one of the principals continues to develop sites within Gloucester that will increase the tax base, provide jobs, and housing at abandoned or decayed industrial sites.
- **Ocean Alliance** – Brownfield Cleanup Revolving Loan (BCRLF) for \$350,000. The Grants Division has provided Ocean Alliance, an international whale research institute, with a Brownfields Cleanup Revolving Loan (BCRLF) in the amount of \$150,000 and a grant for \$200,000 for clean up activities at the Tarr & Wonson Paint Factory. Ocean Alliance is responsible for the 20% cost share.

Loan and grant funds are being used for pre-approved Brownfields work tasks. A lien has been placed on Ocean Alliance's property, to ensure repayment of the loan funds. Interest rates will be 2% per annum. Repayment terms are not later than ten (10) years, with no penalty for prepayment. The City of Gloucester Grants Division requested first position in the event of subordination of this loan. Payment in lieu of taxes will be based on the property's assessed value ten (10) years from the date of Ocean Alliance's signed loan contract.

- **Cape Ann Business Incubator** – Micro business Enterprise will use \$15,000 to offer small business start-up training programs for micro businesses. These classes will assist entrepreneurial residents to build small business enterprises.

Economic Development Program funded for \$105,000 financial assistance for small businesses is available through Gloucester's **Maritime Business Development Fund**. An eligible business must create or retain jobs that benefit at least 51% low-to-moderate income Gloucester residents. The program is designed to compliment investor equity and bank financing. The average amount received is \$35,000 to \$50,000.

The City's Grants Division and a Review Committee are responsible for administration of funds. One full-time job or an aggregate amount of part-time jobs must be created or retained for each \$35,000 borrowed. The business must create or retain, within established guidelines, at least 51% of the jobs to low to moderate income Gloucester residents.

Funds from this program must be consistent and in accordance with the Federal Housing and Urban Development (HUD) Statutes; Massachusetts General Statutes dealing with community development; and policies established by the Grants Division.

First-time Housing Opportunities:

HOME Funds - The city will allocate \$131,939 to support the First-time Homebuyers Program. The First-time Homebuyers Program expands access to homeownership for low and moderate-income persons, with a long-term benefit from a relatively small investment by the city (a maximum of \$10,000). With HOME funds, the city will provide down payment and closing cost assistance to approximately 13 low and moderate-income households.

Housing Rehabilitation Programs:

- The Housing Rehabilitation Program will have four different levels of assistance, depending on the income of the qualifying household, the structure (single-family vs. multi-family) and the ownership (homeowner vs. rental or investment property). The city will allocate \$203,871 for these programs. With these different initiatives within the Housing Rehabilitation Program, Gloucester will better be able to achieve comprehensive rehabilitation services with a positive impact on housing quality, affordability and neighborhood improvements. The Housing Rehabilitation Program goal is to assist approximately 12 units of housing.
- The **Low-Income Homeowner Rehabilitation Program** - The program will make deferred, 0% loans to low-income homeowners to address health and safety code violation in their homes. The loan will be due upon the transfer or sale of the property or if the property is no longer the principle place of residence of the original applicant.
- The **Moderate-Income Homeowner Rehabilitation Program** will assist moderate income homeowners with home repairs through a 3% loan for up to 15 years.
- The **Multifamily Rehabilitation Program** is targeted for housing which has one unit occupied by the homeowner. This program will preserve the availability of fair market rental by placing long-term affordability restrictions on each unit assisted. The homeowner/landlord must preserve this affordability of any unit assisted for a minimum of 15 years. Rent increases are restricted to 10% a year. The loan is for 3%-5% for up to 15 years.

- The **Investor Owner Rehabilitation Program** will assist investor owned property with a 5% loan for home repairs. The program will preserve the availability of fair market rental by placing long-term affordability restriction on each unit assisted. The landlord must preserve the affordability of any unit assisted for a minimum of 15 years. Rent increases are restricted to 10% a year.

Public Services:

CDBG provides both a safety net for unmet needs in the community, as well as a leveraging tool for state, federal, and private funding of the strong nonprofit agencies that provide so many services in the community. CDBG intends to fund the following programs and projects: \$10,000 for Project Delivery

Family, Special Needs and Elderly

- \$5,000 is awarded to Cape Ann Interfaith Commission (CAIC) to support their Rental Assistance Program. CAIC's goal is to assist 10 households/individuals with CDBG support.
- \$5,000 is awarded to Northeast Arc for an employment assistance program for Gloucester teens with disabilities. This program plans to serve 30 Gloucester youths.
- \$6,000 is awarded to HAWC for services in Gloucester for the Domestic Violence Crisis Intervention and Prevention Program. They assist in domestic violence issues and serve approximately 175 clients in crises.
- \$5,000 is awarded to North Shore Health Project for their "Living with Hepatitis C" program. Offers case management services, housing services, health services, etc. for approximately 45 clients in Gloucester.

Youth and Young Adult Employment

- \$40,000 is awarded to the YMCA to employ approximately 150 mature young adults as the Downtown Clean Team. This effort will not only coach the teens on how to be responsible ambassadors to our community, but provide employment opportunities and ensure that our residents and tourists will not encounter any litter as they travel through the downtown.
- \$10,000 is awarded to the YMCA "ACCESS" program to provide scholarships for children and families to participate in YMCA through a variety of free memberships and programs opportunities for youth, and their families that include, but not limited to, summer camp, swimming lessons, instructional classes and more.
- \$5,000 is awarded to Chill Zone which offers youth at-risk a safe environment with proper supervision, structure, and a developmental program. They serve approximately 40 at-risk youths.

- \$5,000 is awarded to Action, Inc. for the COMPASS Youth Program to support the full time Academic and Vocational Guidance Counselor who not only guides the students through the academic avenues of re-engaging with their high school education, but also the position is pivotal for the students' entry into the job market. The COMPASS program assists between 20-25 students.
- \$10,000 is awarded for Cape Ann Art Haven to provide scholarships for children and young adults to participate in art lessons and to fund the studio manager. Cape Ann Art Haven hopes to serve 300 new youths.
- \$5,000 is awarded to the Open Door to support their Mobile Market program. Their goal is to provide nutritious, fresh, produce and other foods to low income individuals, families and their children at their schools, community centers and public housing neighborhoods.
- \$7360 is awarded to the Gloucester Maritime Heritage Center for a Science Enrichment Program for approximately 80 third and fourth graders.

Employment and Educational Training:

- \$10,000 is awarded to The Wellspring House, Inc. for their Adult Learning Initiative Program to provide adults with a range of programs including, GED, education and job training, and career development. This program plans to serve 40-48 adults.
- \$10,000 is awarded to Action, Inc. for Pathway to Careers in Allied Health (PCAH) program. This certificate program trains adults in Home Health Aide care and serves about 18 adults.

Public Facilities:

- \$25,000 will be utilized to continue to assist the satellite health center for North Shore Community Health, Inc. Their goal is to assist 1,900 individuals with CDBG support.
- \$15,000 is awarded to assist The Open Door food pantry for the purchase and installation of a generator at 28 Emerson Avenue. This facility provides food resources to approximately 4114 Gloucester residents each year.
- \$152,000 has been allocated to the City to improve its public parks and streets/sidewalks. The City plans to improve its ADA accessibility, refresh surfaces at playgrounds, improve lighting, and replace damaged facilities at qualified recreational facilities.

Planning and Administration:

- \$161,058 allocated to the planning and administration of the CDBG grant. The city plans to use both staff and contract support to further the goals of Economic Development, Brownsfield Remediation and Housing.

**City of Gloucester
Special Budgetary Transfer Request
Fiscal Year 2011**

INTER-departmental requiring City Council approval - 6 Votes Required
 INTRA-departmental requiring City Council approval - Majority Vote Required

TRANSFER # 2011-SBT- 16 Auditor's Use Only

DEPARTMENT REQUESTING TRANSFER: Treasurer & Auditor Department

DATE: 3/29/2011 BALANCE IN ACCOUNT: \$ 38,150.00

(FROM) PERSONAL SERVICES ACCOUNT # Unifund Account #
 (FROM) ORDINARY EXPENSE ACCOUNT # Unifund Account #
101000.10.145.53170.0000.00.000.00.052
Treasurer/Collector, Fin Serv-Bond Council
Account Description

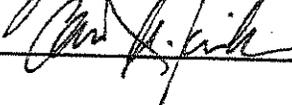
DETAILED EXPLANATION OF SURPLUS: Surplus was result of receiving premium, also less debt going long term

(TO) PERSONAL SERVICES ACCOUNT # Unifund Account #
 (TO) ORDINARY EXPENSE ACCOUNT # Unifund Account #
101000.10.135.52000.0000.00.000.00.052
Auditor, Contractual Services
Account Description

DETAILED ANALYSIS OF NEED(S): To fund OPEB Actuarial Study

TOTAL TRANSFER AMOUNT: \$ 15,000.00 NEW BALANCE IN ACCOUNTS AFTER TRANSFER
 FROM ACCOUNT: \$ 23,150.00
 TO ACCOUNT: \$ 15,000.00

APPROVALS:

DEPT. HEAD:  DATE: 3/31/11
 ADMINISTRATION:  DATE: 4/9/11
 BUDGET & FINANCE: _____ DATE: _____
 CITY COUNCIL: _____ DATE: _____

**City of Gloucester
Special Budgetary Transfer Request
Fiscal Year 2011**

INTER-departmental requiring City Council approval - 6 Votes Required
 INTRA-departmental requiring City Council approval - Majority Vote Required

TRANSFER # 2011-SBT- 18 Auditor's Use Only

DEPARTMENT REQUESTING TRANSFER: City Clerk's Office

DATE: 03/31/11 BALANCE IN ACCOUNT: \$ 1,285 - 68

(FROM) PERSONAL SERVICES ACCOUNT # 101000.10.163.51300.0000.00.000.00.051
Unifund Account #

(FROM) ORDINARY EXPENSE ACCOUNT # Registration, Sal/Wage Overtime
Unifund Account #
Account Description

DETAILED EXPLANATION OF SURPLUS: Surplus after overtime paid to city clerk's staff for State Primary Election and State Election

(TO) PERSONAL SERVICES ACCOUNT # 101000.10.161.51200.0000.00.000.00.051
Unifund Account #

(TO) ORDINARY EXPENSE ACCOUNT # City Clerk, Sal/Wage - Temp Pos
Unifund Account #
Account Description

DETAILED ANALYSIS OF NEED(S): Substitute recorder for budget meetings and/or any other special meetings which Clerk of Committees may not be available to record and transcribe minutes

TOTAL TRANSFER AMOUNT: \$ 1,285 - 68 NEW BALANCE IN ACCOUNTS AFTER TRANSFER
 FROM ACCOUNT: \$ 0 - 00
 TO ACCOUNT: \$ 7,991 - 67

APPROVALS:

DEPT. HEAD: Tom A. P. Bone DATE: 3/31/11
 ADMINISTRATION: [Signature] DATE: 4/7/11
 BUDGET & FINANCE: _____ DATE: _____
 CITY COUNCIL: _____ DATE: _____

**City of Gloucester
Special Budgetary Transfer Request
Fiscal Year 2011**

INTER-departmental requiring City Council approval - 6 Votes Required
 INTRA-departmental requiring City Council approval - Majority Vote Required

TRANSFER # 2011-SBT- 19 *Auditor's Use Only*

DEPARTMENT REQUESTING TRANSFER: Assessors

DATE: 4/6/2011 BALANCE IN ACCOUNT: \$ 10,900.00

(FROM) PERSONAL SERVICES ACCOUNT # Unifund Account #
(FROM) ORDINARY EXPENSE ACCOUNT # Unifund Account #
101000.10.141.57840.0000.00.000.00.057
Assessors, Re-valuation Program
Account Description

DETAILED EXPLANATION OF SURPLUS: Interim services were not needed in the year of the revaluation.

(TO) PERSONAL SERVICES ACCOUNT # Unifund Account #
(TO) ORDINARY EXPENSE ACCOUNT # Unifund Account #
101000.10.543.57740.0000.00.000.00.057
Veterans Services, Fuel
Account Description

DETAILED ANALYSIS OF NEED(S): More benefits provided than budgeted for. Increased case load in FY11 beyond budget.

TOTAL TRANSFER AMOUNT: \$ 10,900.00 NEW BALANCE IN ACCOUNTS AFTER TRANSFER
FROM ACCOUNT: \$ -
TO ACCOUNT: \$ 449.83

APPROVALS:
DEPT. HEAD: *Nancy A. Pepone* DATE: 4-6-11
ADMINISTRATION: *Chris Smith* DATE: 4/7/11
BUDGET & FINANCE: _____ DATE: _____
CITY COUNCIL: _____ DATE: _____

**City of Gloucester
Special Budgetary Transfer Request
Fiscal Year 2011**

INTER-departmental requiring City Council approval - 6 Votes Required
 INTRA-departmental requiring City Council approval - Majority Vote Required

TRANSFER # 2011-SBT- 20 Auditor's Use Only

DEPARTMENT REQUESTING TRANSFER: _____ Treasurer's

DATE: 4/6/2011 BALANCE IN ACCOUNT: \$ 227,449.17

(FROM) PERSONAL SERVICES ACCOUNT # _____ *Unifund Account #*
 (FROM) ORDINARY EXPENSE ACCOUNT # _____ *Unifund Account #*
101000.10.145.59250.0000.00.000.00.059
Treas/Collector, Debt Service, Interest Temp
Account Description

DETAILED EXPLANATION OF SURPLUS: Rates low and did not borrow as much as planned.

(TO) PERSONAL SERVICES ACCOUNT # _____ *Unifund Account #*
 (TO) ORDINARY EXPENSE ACCOUNT # _____ *Unifund Account #*
101000.10.543.57720.0000.00.000.00.057
Veterans Services, Medical
Account Description

DETAILED ANALYSIS OF NEED(S): Increased case load paying increased benefits over what was budgeted for in FY11

TOTAL TRANSFER AMOUNT: \$ 6,706.85 NEW BALANCE IN ACCOUNTS AFTER TRANSFER
 FROM ACCOUNT: \$ 220,742.32
 TO ACCOUNT: \$ _____

APPROVALS:
 DEPT. HEAD: *Jeff C. Towne* DATE: 4/6/11
 ADMINISTRATION: *Carolyn...* DATE: 4/7/11
 BUDGET & FINANCE: _____ DATE: _____
 CITY COUNCIL: _____ DATE: _____

**City of Gloucester
Special Budgetary Transfer Request
Fiscal Year 2011**

INTER-departmental requiring City Council approval - 6 Votes Required
 INTRA-departmental requiring City Council approval - Majority Vote Required

TRANSFER # 2011-SBT- 21 Auditor's Use Only

DEPARTMENT REQUESTING TRANSFER: _____ Treasurer's

DATE: 4/6/2011 BALANCE IN ACCOUNT: \$ 248,671.55

(FROM) PERSONAL SERVICES ACCOUNT # _____ *Unfund Account #*
 (FROM) ORDINARY EXPENSE ACCOUNT # _____ *Unfund Account #*
101000.10.145.59250.0000.00.000.00.059
Treas/Collector, Debt Service, Interest Temp
Account Description

DETAILED EXPLANATION OF SURPLUS: Rates low and did not borrow as much as planned.

(TO) PERSONAL SERVICES ACCOUNT # _____ *Unfund Account #*
 (TO) ORDINARY EXPENSE ACCOUNT # _____ *Unfund Account #*
101000.10.543.57710.0000.00.000.00.057
Veterans Services, OB
Account Description

DETAILED ANALYSIS OF NEED(S): Increased case load paying increased benefits over what was budgeted for in FY11

TOTAL TRANSFER AMOUNT: \$ 21,222.38 NEW BALANCE IN ACCOUNTS AFTER TRANSFER
 FROM ACCOUNT: \$ 227,449.17
 TO ACCOUNT: \$ _____

APPROVALS:

DEPT. HEAD: _____ *[Signature]* DATE: 4/6/11
 ADMINISTRATION: _____ *[Signature]* DATE: 4/7/11
 BUDGET & FINANCE: _____ DATE: _____
 CITY COUNCIL: _____ DATE: _____

**City of Gloucester
Special Budgetary Transfer Request
Fiscal Year 2011**

INTER-departmental requiring City Council approval - 6 Votes Required
 INTRA-departmental requiring City Council approval - Majority Vote Required

TRANSFER # 2011-SBT- 22 Auditor's Use Only

DEPARTMENT REQUESTING TRANSFER: _____ Treasurer's _____

DATE: 4/6/2011 BALANCE IN ACCOUNT: \$ 15,920.92

(FROM) PERSONAL SERVICES ACCOUNT # _____ Unifund Account # _____
 (FROM) ORDINARY EXPENSE ACCOUNT # _____ Unifund Account # 101000.10.145.51200.0000.00.000.00.051
 _____ Treas/Collector, Salary Wages Temporary
 _____ Account Description

DETAILED EXPLANATION OF SURPLUS: Filing clerk not hired due to hiring freeze.

(TO) PERSONAL SERVICES ACCOUNT # _____ Unifund Account # _____
 (TO) ORDINARY EXPENSE ACCOUNT # _____ Unifund Account # 101000.10.151.51100.0000.00.000.00.051
 _____ City Legal Dept, Sal/Wage-Perm Position
 _____ Account Description

DETAILED ANALYSIS OF NEED(S): To fix budgeting issue once and for all.

TOTAL TRANSFER AMOUNT: \$ 265.24 NEW BALANCE IN ACCOUNTS AFTER TRANSFER
 FROM ACCOUNT: \$ 15,655.68
 TO ACCOUNT: \$ _____

APPROVALS:
 DEPT. HEAD: _____ DATE: 4/6/11
 ADMINISTRATION: _____ DATE: 4/7/11
 BUDGET & FINANCE: _____ DATE: _____
 CITY COUNCIL: _____ DATE: _____

GLOUCESTER CONTRIBUTORY RETIREMENT SYSTEM BOARD

P. O. Box 114

GLOUCESTER, MA 01931-0114

Patricia Ivas, Administrator
E-Mail: pivas@ci.gloucester.ma.us

Tel: (978) 281-9744 Fax: (978) 281-9817

Chairman Douglas A. MacArthur
Board Members: David Bain
Edward Hardy
Kenny Costa
Melissa Hobbs

Susan Walsh, Asst. Administrator
E-Mail: swalsh@ci.gloucester.ma.us

March 30 2011

Jackie Hardy
Council President
Gloucester City Council
City Hall, 9 Dale Avenue
Gloucester, MA 01930

Dear President Hardy:

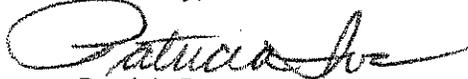
The Social Security Administration has announced that latest Cost of living Adjustment (COLA) is 0.0% (no increase).

Pursuant to Chapter 32, section 103 (c) the Gloucester Contributory Retirement Board may elect to grant the retiree no increase effective July 1 2010 or pursuant to Section 103 (i) may elect to increase the percentage up to 3% on the first \$ 14,000.00

In accordance with M.G.L. Chapter 32, section 103 (i), the Gloucester Contributory Retirement System Board hereby notifies the Gloucester City Council that the Board will hold a public meeting to decide whether or not to grant a COLA and the amount of that increase.

The public meeting will be held at the Retirement Office on Wednesday, May 25th 2011 at 3 p.m. at 127 Eastern Avenue, Cape Ann Marketplace, Lower Level.

Sincerely,



Patricia Ivas
Administrator

cc: Mayor Carolyn Kirk



Gloucester City Council
CERTIFICATE OF VOTE
Certificate Number: 2011-032

The Gloucester City Council, at a meeting held on **Tuesday, February 8, 2011** at 7:00 p.m. in the Kyrouz Auditorium, City Hall, voted to approve the following actions:

IN CITY COUNCIL:

MOTION: On motion by Councilor Curcuru, seconded by Councilor Ciolino, the City Council voted **BY ROLL CALL** 9 in favor, 0 opposed to accept the provisions of M.G.L. Chapter 44, §31D snow and ice removal, emergency expenditures not to exceed an additional \$900,000.



Linda T. Lowe, City Clerk

Date: FEB 10 2011

APPROVED BY THE MAYOR



Carolyn A. Kirk, Mayor

VETOED BY THE MAYOR

Carolyn A. Kirk, Mayor

SIGNED THIS 10 DAY OF Feb, 2011

All Ordinances shall become effective 31 days after passage except:
Emergency Orders and Zoning Amendments shall become Effective Next Day

A TRUE COPY ATTEST



City Clerk