



GLOUCESTER CITY COUNCIL
Budget & Finance Committee
Thursday, April 9, 2015 – **5:00 p.m.**
1st Fl. Council Committee Rm. – City Hall

(Items May be taken out of order at the discretion of the Committee)

1. *Supplemental Appropriation-Budgetary Request 2015-SA-26 from Mayor's Office*
2. *Special Budgetary Request 2015-SBT-41 from City Clerk/Registration Department*
3. *Memo from City Auditor regarding accounts having expenditures which exceed their authorization & Auditor's Report*

COMMITTEE
Councilor Melissa Cox, Chair
Councilor William Fonvielle, Vice Chair
Councilor Paul McGeary

CC: Mayor Theken
Jim Destino
Kenny Costa
John Dunn
Linda T. Lowe

The listing of matters is those reasonably anticipated by the Chair which may be discussed at the meeting. Not all items listed may in fact be discussed and other items not listed may also be brought up for discussion to the extent permitted by law.

**City of Gloucester
SUPPLEMENTAL APPROPRIATION - BUDGETARY REQUEST
Fiscal Year 2015**

****CITY COUNCIL APPROVAL- 6 VOTES NEEDED****

APPROPRIATION # 2015-SA- 26 Auditor's Use Only

DEPARTMENT REQUESTING TRANSFER: _____ Mayor's Office

APPROPRIATION AMOUNT: \$ 44,000.00

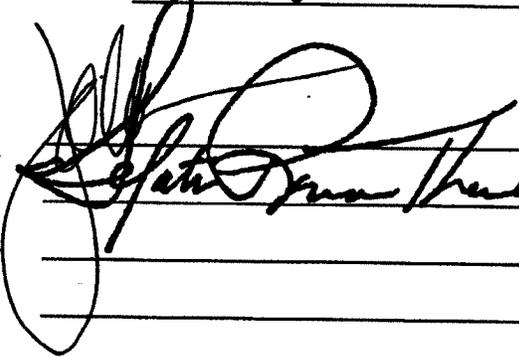
Account to appropriate from:	Unfund Account #	<u>101000.10.000.35900.0000.00.000.00.000</u>
	Account Description	<u>General Fund - F/B Undesignated</u>
Balance Before Appropriation	\$	<u>1,999,608.00</u>
Balance After Appropriation	\$	<u>1,955,608.00</u>

Account Receiving Appropriation:	Unfund Account #	<u>101000.10.499.52130.0000.00.000.00.052</u>
	Account Description	<u>DPW Other - Streetlights</u>
Balance Before Appropriation	\$	<u>52,312.00</u>
Balance After Appropriation	\$	<u>96,312.00</u>

DETAILED ANALYSIS OF NEED(S): To fund an Investment Grade Audit (IGA) by Siemens Industry, Inc. to determine the guaranteed savings to be derived from a conversion to LED streetlights.

APPROVALS:

DEPT. HEAD: _____ DATE: 3/17/15

ADMINISTRATION:  _____ DATE: _____

BUDGET & FINANCE: _____ DATE: _____

CITY COUNCIL: _____ DATE: _____

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CITY OF GLOUCESTER
COMMUNITY DEVELOPMENT DEPARTMENT

MEMORANDUM

To: Jim Destino
From: Tom Daniel
Matt Coogan
Date: February 25, 2015

RE: Streetlight LED Conversion

Background

As a state-designated Green Community, Gloucester is committed to environmental stewardship as well as reducing energy costs. The Community Development Department has secured funding for several projects that are reducing the City's energy consumption and related costs. The projects have been managed by the Department of Public Works and include lighting efficiency and energy management systems work at the High School, O'Maley School, and Sawyer Library; oil to gas boiler conversion at O'Maley School; and the leasing of three electric vehicles. As of June 30, 2014, the City's energy consumption has been reduced by nine percent.

The next energy saving project is the conversion of the City's streetlights to LED technology. The entire project would cut the City's electric bill for streetlights in half. The project would also reduce the City's energy consumption citywide by 2.3%. The project would greatly contribute to the City's goal of a 20% energy reduction. In addition, LED streetlights would improve the quality of light for both pedestrians and motorists and improve public safety. Because the light is designed to mimic natural moonlight, colors remain true under the lighting, and police will be able to more accurately identify vehicles. LED streetlights also normally have a 10 year warranty which would reduce the maintenance costs for the City.

In order to convert to LED technology, the City needed first to own the streetlights. This step was completed in October 2014 when the City purchased approximately 2,800 streetlights from National Grid for \$1.00. This purchase reduced the City's streetlight electric bill by about \$190,000 through savings in facility costs.

The City hired Peregrine Energy Group to facilitate the purchase. Peregrine provided the analysis of savings associated with streetlight ownership, prepared a bid document for the maintenance contract, and recommended that the City pursue a LED streetlight conversion. Peregrine's final report is included with this memo as Attachment A.

Procurement with Siemens

Gloucester participated in a LED streetlight group procurement conducted by the Metropolitan Area Planning Council (MAPC) this past fall. Through a very competitive RFQ process, Siemens was selected as the preferred contractor. The group procurement provides Gloucester with many advantages. Gloucester can contract with Siemens directly through the Chapter 25A procurement process, and Siemens will provide the City turnkey services. Siemens is required to guarantee the energy savings from the LED conversion.

Siemens' guarantee of the energy savings will be based on an Investment Grade Audit (IGA). The IGA analyzes the existing streetlight system, making sure that all the lights and locations provided by National Grid are accurate, and provides a web-based mapping system for the City. At the end of the IGA, the City will have final pricing for the entire project and can decide whether or not to proceed. Based on the estimates already provided by Peregrine and Siemens, we do not foresee any reasons for the City not to proceed. The cost of the IGA would be waived once the City proceeds with the conversion.

Siemens has committed to an "Open/Open" pricing approach. Gloucester should expect the entire LED conversion to cost between \$950,000 and \$1,050,000. The price range reflects the choices the City has in type of light fixture. Siemens has provided pricing from three of the best performing and most popular brands. LED fixtures vary slightly in color and light temperature, and Siemens can install sample lights as a demonstration for the City. The City would choose which fixture best fits for the community.

Siemens was also required to provide a Lease Purchase Financing option in which the City makes lease payments to Siemens over an agreed period of time. At the end of the payment period, Gloucester would officially own the LEDs. An advantage of this option is that the City could use the annual energy savings as payments to Siemens. These savings would come out of an operating budget and would not require the City to issue debt for the project. Siemens has provided additional information on the Lease Purchase option (see Attachment B).

Rebate and Grant Opportunities

As previously noted, the entire LED conversion will cost between \$950,000 and \$1,050,000; however, there are two means to reduce the cost to the City. First, National Grid provides an energy reduction rebate for converting streetlights to LED. For Gloucester, the rebate, at a rate of \$0.25 per kwh saved, is estimated to be \$173,000. Under the contract, Siemens would be responsible for working with National Grid to receive the rebate. Second, this project would qualify for up to \$250,000 in grant funds from the Green Communities program. With the rebate and grant combined, the project would cost the City a maximum of \$630,000. With the estimated annual savings of \$94,000, the simple payback would be 6.7 years.

Next Steps

1. **Execute Contracts.** Siemens has provided the City with two contracts, one for the IGA and the other for the conversion project. (The conversion project would not proceed until the IGA was completed and the City issued a notice to proceed.) Both contracts have been forwarded to the Legal Department for review. Only the IGA contract needs to be executed at this time.
2. **Secure IGA Funding.** The City would have to allocate funding for the IGA as an assurance. The cost of the IGA would be \$44,000. This fee would be waived if the City decided to proceed with the conversion project. John Dunn is looking at a "temporary" funding source in order to be able to execute the IGA contract before the Green Communities deadline. (The "temporary" source would

be a line item in an existing budget that would be replaced once a "permanent" free cash allocation could be finalized.)

3. **Notify National Grid.** Changing the City's lights to LED is technically a modification to the pole license agreement that was executed between the City and National Grid as part of the streetlight purchase. The City, through the Mayor, will have to put NGRID on notice that the City plans on changing the lights currently attached to each pole. This is done by filling out and sending the top half of form A-1 to National Grid (we have included the form as attachment C). National Grid fills out and signs the bottom half of the form. The City needs to sign and submit this form before we can proceed with the IGA.
4. **Complete Green Communities Grant Application.** The Green Communities Competitive Grant application is due March 20, 2015. Although there is no match required, because the grant application is greater than \$100,000, we will submit a memorandum to the Mayor about the grant for the Council's consideration.

In order to submit a strong application, we need to include Gloucester's proof of commitment. This proof of commitment can be demonstrated by the executed IGA contract with the \$44,000 IGA fee funded and the signed form A-2 sent to National Grid.

Project Timeline

The project timeline follows:

Dec 2014	Initial meeting with Siemens
Feb-March	Review, sign contract, allocate \$44,000 for IGA
March 20th	Green Communities Application deadline
April-May	Investment Grade Audit
May	Finalize scope and pricing
June	Scheduling installation, potential light testing, and outreach; Green Communities grants are awarded
July-Oct	LED installation

INVESTMENT GRADE AUDIT AGREEMENT

This Energy Audit Agreement (“Agreement”) is made and entered into as of _____, 2015 by and between **Siemens Industry, Inc. (“ESCO”) and the City of Gloucester (“Awarding Authority”)** for the purpose of an Investment Grade Energy Audit (“IGA”) and project development services to identify economically feasible energy conservation measures to conserve energy (“ECM”).

This Agreement is entered pursuant to a Request for Qualifications (“RFQ”) issued by the Awarding Authority dated July 30, 2014, and any changes thereto, and ESCO’s response to said RFQ and any revisions thereto (“Response”). A product of this Agreement shall be an energy audit and report, which, together with all related drawings, plans and revisions shall become the specifications for work to be performed by the ESCO under a separate energy management services contract (“Contract”) to be executed *after* the acceptance by the Awarding Authority of the final Energy Audit Report (“Energy Audit Report”).

This Agreement is coterminous with the Contract.

SECTION 1: SERVICES

ESCO agrees to provide an “IGA” for the projects at the facility in accordance with Exhibit A: Scope of Work. The services shall include a detailed energy audit report presenting the optimized project including long-term sustainable energy efficiency and infrastructure upgrades commercially acceptable to the Awarding Authority. In the determination of ECMs, ESCO agrees to assume full responsibility to identify all requirements to execute such ECMs.

The Awarding Authority agrees to assist ESCO in its performance of the IGA services and provide full and accurate information. ESCO will assess the validity of the information provided and confirm or correct the information as needed.

SECTION 2: PROVISIONS

2.1 Price

Within one hundred and twenty (120) days after submission of the Energy Audit Report, the Awarding Authority will compensate ESCO, as payment for the Energy Audit Report, the sum of **fourteen dollars and sixty cents (\$14.60) per light fixture audited (“Agreed Price”)**, subject to the following conditions:

- a) The Energy Audit Report is accepted by the Awarding Authority, and
- b) A Contract is not executed between ESCO and the Awarding Authority.

The compensation provided by this Agreement is subject to the continued availability of the Agreed Price and annual appropriations.

The Awarding Authority reserves the right to reject the Energy Audit Report, 1) if the energy savings cannot be attained or do not meet the Awarding Authority’s terms in the solicitation; 2) if the project does not contain a package of ECMs which, if implemented, will be able to provide the Awarding Authority with cash savings sufficient to fund payments of all annual costs and fees associated with the contract, including any annual fees to ESCOs (less any third-party rebates or incentives or cash payment the Awarding Authority may choose to contribute); or, 3) the Awarding Authority, upon

review of the Energy Audit Report, finds it deficient or unacceptable, provided ESCO shall have fifteen (15) business days to revise the Energy Audit Report to the satisfaction of the Awarding Authority.

Analysis will be based on ESCO or other third-party proposed financing terms over a period not to exceed twenty (20) years or less, with a fixed rate of interest actually available to the Awarding Authority.

2.2 Terms

- a) All recommended conservation measures shall meet all current codes including the State Sanitary Code, Plumbing and Fuel Gas Codes, Fire Prevention Regulations, Massachusetts Electrical Code, State Building Code and any other applicable requirements of federal, state, and local government. ESCO will not be expected to resolve any existing code violations but shall make a best effort to report to the Authority if any such violations are found.
- b) ESCO and its subcontractors, employees, and agents shall secure and maintain in force any permits and licenses required by law in furnishing the audit services.
- c) ESCO shall furnish competent personnel consistent with ESCO's Response to the RFP/RFQ to assure professional and technical accuracy and to obviate a detailed review by the Awarding Authority.
- d) ESCO shall not specify equipment that will require additional personnel to be hired by the Awarding Authority for operation or maintenance. ESCO, to the maximum extent feasible and consistent with the optimization of conservation measures, shall specify similar or comparable equipment of the same manufacturer at each building and property in order to achieve as much standardization of equipment as possible throughout the Awarding Authority.
- e) ESCO shall explore and report alternative utility rate options such as peak or master metering, commodity purchases or other more favorable rate possibilities and ascertain any needed capital improvements and costs and determine the economic and operating feasibility.
- f) The Awarding Authority may retain an energy consultant to assist in the technical, financial and commercial management of the audit service. ESCO will work collaboratively with the energy consultant as directed and shall provide all necessary documentation, in a form satisfactory to the consultant (such as MS Excel) in support of the review of the services.
- g) ESCO agrees that it will not engage in unlawful discrimination in employment of persons because of race, color, religious creed, national origin, ancestry, handicap, marital status, veteran status, age, sexual orientation, or sex.
- h) The laws of the Commonwealth of Massachusetts shall govern the terms and conditions of this Agreement. If any term, condition, or provision of the Agreement is held invalid, void, or unenforceable, the remaining provisions will continue in full force and effect.

2.3 Schedule

Within one (1) week of the date of execution of this Agreement, ESCO shall submit an audit project schedule with the following milestones:

- a) Pre-audit review kickoff meeting date;
- b) Site visit dates;
- c) Preliminary recommendations and optimization presentation; and,
- d) Final audit submittal date.

SECTION 3: PATENT AND COPYRIGHT RESPONSIBILITY

ESCO agrees that any material or design specified by ESCO or supplied by ESCO pursuant to this Agreement shall not knowingly infringe any patent or copyright, and ESCO shall be solely responsible for securing any necessary licenses required for patented or copyrighted material utilized by ESCO in the performance of the Energy Audit and preparation of the Final Energy Audit Report.

SECTION 4: OWNERSHIP AND REUSE OF DOCUMENTS

The original of all documents, drawings, calculations, test results, recommendations, technical specifications, renderings, exhibits, models, prints, photographs, or other materials prepared by ESCO shall be and remain the property of the customer, provided ESCO is compensated under this agreement, i.e. the cost of the audit is paid or an Energy Management Services (EMS) contract is reached.

To the extent that use of Intellectual Property is required for the Awarding Authority to receive the benefits of the audit services, ESCO will grant a perpetual, royalty-free and fully paid, irrevocable license to use such property. Any use by the Awarding Authority or its energy consultant without ESCO's involvement is prohibited.

SECTION 5: TERMINATION

The Awarding Authority may terminate this Agreement with or without cause upon ten (10) days written notice. In the event of such termination without cause the Awarding Authority shall pay ESCO, within thirty (30) days, the full reasonable value of its services (including direct and indirect cost, expenses, overhead, and profit) not to exceed the Agreed Price. Upon receipt of the notice, ESCO shall stop all work.

ESCO may terminate this Agreement with or without cause upon thirty (30) days written notice. The Awarding Authority will not compensate ESCO for any services and ESCO is not obligated to provide the Awarding Authority with any audit services.

If ESCO refuses or fails to perform any of the provisions of this Agreement in a timely manner and with such diligence as will ensure its completion within the time specified in this contract, the Awarding Authority shall notify ESCO in writing of the non-performance, and if not promptly corrected within fifteen (15) days, the Agreement will terminate.

If after notice of termination of ESCO's right to proceed under the provisions of this clause, it is determined for any reason that ESCO was not in default under the provisions of this clause, or that the

delay was excusable, the rights and obligations of the parties shall be the same as if the notice of termination had not been issued.

SECTION 6: LIABILITY AND INDEMNIFICATION

The Awarding Authority assumes all risk of loss of or damage to any item of equipment from any cause whatsoever except to the extent that such loss or damage was caused by the negligence or willful and wanton acts of ESCO. ESCO hereby assumes the entire responsibility and liability for injury to or death of any person and for third party tangible property damage directly caused by neglect on the part of ESCO or any of ESCO's subcontractors, consultants, agents or anyone directly or indirectly employed by any one of them whose negligent acts may be answerable. Such liability shall not extend to injuries or death caused by neglect on the part of the Awarding Authority. ESCO is responsible for any third party tangible property damage resulting from neglect, misconduct, non-execution of the work, defective work, or materials in the execution of the audit.

ESCO agrees to indemnify and hold harmless the Awarding Authority, including its agents, employees, and representatives against third party claims, damages, losses, and expenses (including reasonable attorney fees) directly caused by performance of ESCO's work. The indemnification shall not be limited on the amount or type of damages, compensation, or benefits payable by or for ESCO or subcontractor under the Worker's Compensation Acts, disability benefit acts or other employee benefit acts. ESCO SHALL NOT BE LIABLE, UNDER ANY THEORY OF LIABILITY WHETHER IN CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE OR STRICT LIABILITY), INDEMNITY, OR ANY OTHER LEGAL OR EQUITABLE THEORY FOR DAMAGE TO OR LOSS OF OTHER PROPERTY OR EQUIPMENT, BUSINESS INTERRUPTION OR LOST REVENUE, LOSS OF PROFITS OR SALES, COST OF CAPITAL, FOR ANY LOSS OF USE, FOR ANY LOSS OR CORRUPTION OF DATA OR FOR ANY SPECIAL, INCIDENTAL, PUNITIVE, INDIRECT OR CONSEQUENTIAL DAMAGES OR FOR ANY OTHER LOSS, COSTS OR EXPENSES OF A SIMILAR TYPE; EVEN IF IT HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OR EVEN IF THE REMEDY FAILS OF ITS ESSENTIAL PURPOSE. THE TOTAL LIABILITY OF ESCO AND ITS SUBCONTRACTORS FOR DAMAGES ARISING UNDER THIS AGREEMENT, INCLUDING LIQUIDATED DAMAGES, SHALL NOT EXCEED 50% OF THE VALUE OF THIS AGREEMENT.

ESCO shall, at all times during the agreement, maintain in full force and effect adequate commercial general liability insurance and property damage insurance, as well as workmen's compensation and employer's liability insurance pursuant to the State insurance requirements as defined below. Before commencing any work under this agreement, ESCO shall file with the Awarding Authority certificates of insurance evidencing the coverages as specified below. The certificates shall contain the following express obligation:

COVERAGE LIMITS OF LIABILITY

Standard Workers' Compensation:	Statutory
Employers' Liability:	\$500,000
Bodily Injury:	\$2,000,000 each occurrence (except automobile) \$4,000,000 aggregate
Property Damage:	\$2,000,000 each occurrence (except automobile)

	\$4,000,000 aggregate
Automobile Bodily Injury:	\$2,000,000 each person \$4,000,000 each occurrence
Automobile Property Damage	\$2,000,000 each occurrence
Excess Umbrella	\$2,000,000 each occurrence

The Awarding Authority shall be named as an additional insured under the liability and automobile insurance. The general liability insurance policy should contain a broad form general liability endorsement. The insurance shall include provisions preventing cancellation without thirty (30) calendar day prior written notice, by certified mail to the Principal Representative.

ESCO shall be responsible for all claims, damages, losses or expenses, including attorney's fees, arising out of or resulting from the performance of the services contemplated in this agreement, provided that any such claim, damage, loss or expense is caused by any negligent act, error or omission of ESCO, any ESCO or associate thereof, or anyone directly or indirectly employed by ESCO.

SECTION 7: CORI CLEARANCE REQUIREMENTS

In accordance with M.G.L. c.71, §38R, the Awarding Authority may request and obtain all available criminal offender information ("CORI") from the Criminal History Systems Board of any contractor, subcontractor, agent, employee, or consultant who may have direct contact with children. ESCO shall require all individuals involved in the provision of audit services to complete and sign a Request Form to obtain CORI.

SECTION 8: ENTIRE AGREEMENT

This Agreement, ESCO's proposal, and the exhibits listed below constitute the entire agreement among the parties and may be amended only by a written amendment executed by both parties. In the event of any conflict between this Agreement and any attachments or referenced documents, this Agreement shall control.

List all exhibits and attachments:

Exhibit A: Scope of Work

THIS AGREEMENT IS ENTERED INTO THIS _____, 2015

[ESCO]

[CITY OF GLOUCESTER]

By: _____

By: _____

Title: _____

Title: _____

Date: _____

Date: _____

EXHIBIT A: SCOPE OF WORK

The purpose of the Investment Grade Audit (“IGA”) is to provide an investment-grade audit that quantifies the size, scope, payback, and firm cost for each Energy Conservation Measure (“ECM”) that may be financed through the Contract. Execution and approval by the Awarding Authority of this Agreement shall serve as a Notice to Proceed.

The approved IGA Report will be used as Attachment 3: Scope of Work and the Project Proposal is the basis for the Proforma, which will be used in Attachment 4: Cost and Savings Schedule of the *Energy Management Services Contract*.

The deadline for an acceptable Energy Audit Report shall be no later than **ninety (90) days from contract execution**. After this date, the Awarding Authority may terminate this Agreement upon written notice to ESCO, and all drafts, plans, materials, calculations, specifications, and draft Energy Audits may be retained by the Authority as liquidated damages.

1. **GENERAL SCOPE**

ESCO will:

- a) Conduct and report on detailed site surveys of all property listed in RFP/RFQ Facility Profile, including all utilities identified for conservation measures and all energy systems and identify the size, scope, and payback of energy conservation measures by a documented analysis of various conservation opportunities.
- b) Examine all utility data to check for accuracy against actual bills and data printouts in order to confirm that baseline data is accurate and complete; document baseline and projected utility data for use in the performance guarantee of the Contract. The accuracy of the baseline consumption, savings projections, and capital budget are of the essence of this Agreement and the subsequent Contract.
- c) Present a thorough description of each recommended conservation measure including, but not limited to, conceptual summary, equipment and material specifications, plans, schematics or detail sketches as appropriate, cost, useful life, savings in utility consumption and expense, maintenance and operating expenses, assurances that the original design performance shall be maintained throughout the useful life of the equipment and systems installed, monitoring requirements, impact, if any, of each measure on the buildings, other building systems and occupants, and payback. This information shall be prepared consistent with the RFP/RFQ and with Facility Profile.
- d) Summarize any conservation measures that are rejected and state the reasons for rejection. ESCO shall be prepared to provide backup data, calculations, and other information as requested by the Authority but need not include this detail in the Energy Audit Report.
- e) Prepare a detailed operational plan showing the sequence of operations for the work to be performed.
- f) Prepare sufficient design, plans, equipment, material and other detail suitable as specifications for work to be performed under the subsequent Contract.

2. GUARANTEED SAVINGS CALCULATIONS

- a) Annual guaranteed energy and cost savings is required for the entire financing term. The guarantee is based on cost savings attributable to all energy saving measures, and must equal or exceed all project costs each year during the contract period. Annual project costs include debt service, ESCO fees, maintenance services, monitoring services, and other services.
- b) Excess savings or annual cost savings beyond the guaranteed minimum savings will be retained by Awarding Authority, and will not be allocated to shortfalls in other years.
- c) The annual savings for all measures must be estimated for each year during the contract period.

3. ALLOWABLE COST AND SAVINGS FACTORS

a) Allowable payment sources:

- 1) Energy cost savings.
- 2) Material/commodity savings, including scheduled replacement of parts.
- 3) Outside labor cost savings, including maintenance contracts. Any savings related to maintenance and operation of the facilities will be limited to those that can be thoroughly documented.

b) Negotiable payment sources:

- 1) Offset of Awarding Authority future capital cost.
- 2) Outside incentive funds (utility incentives, grants, etc.).
- 3) Escalation rates for electricity, and material/commodity cost savings. These are rates used in cash flow projections for project development purposes. *NOTE: Use historical data and/or federal government guidelines on utility escalation rates to ensure reasonableness.*
- 4) Interest rates (municipal tax-exempt rates for public institutions).
- 5) Awarding Authority cash outlay (at Awarding Authority's sole discretion).

4. EXISTING CONDITIONS

ESCO will document the existing conditions of the facilities. The Awarding Authority will allow ESCO reasonable access to facility staff to ensure understanding of existing systems and opportunities. ESCO will work diligently to assess validity of information provided and confirm or correct the information as needed.

a) ESTABLISH BASELINE CONSUMPTION

- 1) ESCO will establish base year consumption by examining utility bills for up to the past three years for electricity. Present base year consumption in terms of energy units (kWh), in terms of dollars. Describe the process used to determine the base year (averaging, selecting most representative contiguous 12 months, etc.).
- 2) ESCO will estimate loading, usage and/or hours of operation for all major end uses of total facility consumption including, but not limited to:
 - i. Lighting
- 3) ESCO will reconcile annual end-use estimated consumption with the annual base year consumption. This reconciliation will place reasonable “real-world” limits on potential savings.
- 4) ESCO will propose adjustments to the baseline for energy saving measures that will be implemented in the future.

b) CONDUCT COMPREHENSIVE DETAILED ENERGY AUDIT ANALYSIS

In analyzing the savings and costs for each energy, ESCO will:

- 1) Follow the engineering principle(s) and methodologies to calculate energy savings consistent with any nationally-recognized authority;
- 2) Consider technologies in a comprehensive approach;
- 3) Utilize assumptions, projections, and baselines that best represent the true value of future energy or operational savings, including: accurate marginal costs for each unit of savings at the time the audit is performed; documentation of material and labor cost savings; adjustments to the baseline to reflect current conditions at the facility; and, calculations that account for the interactive effects of the recommended measures;
- 4) Use best judgment regarding the employment of instrumentation and recording durations so as to achieve an accurate and faithful characterization of energy use; and,
- 5) Develop a preliminary measurement and verification plan for each measure based on the Awarding Authority’s preference.

c) PREPARE A DRAFT TECHNICAL ENERGY AUDIT REPORT

To provide an engineering and economic basis for negotiating a Contract between the Awarding Authority and ESCO, the report shall include:

- 1) Overview
 - i. Summary table of recommended energy saving measures, with itemization for each measure of total design and construction cost, annual maintenance costs, the first year cost avoidance (in dollars and energy units), simple payback and

equipment service life;

- ii. Summary of annual energy use by fuel type and costs of existing or base year condition;
- iii. Calculation of cost savings expected if all recommended measures are implemented, and total percentage savings of total facility energy cost;
- iv. Description of the existing facility;
- v. Summary description of measures, including estimated costs and savings for each;
- vi. Discussion of measures considered but not investigated in detail;
- vii. Discussion of utility rebates, school building aid, or other rebate and incentive options; and,
- viii. Conclusions and recommendations.

2) Facility profile

- i. Description of facilities.

3) Base year energy use

- i. Description and itemization of current billing rates, including:
 - a. Schedules;
 - b. Energy type;
 - c. Native units (kWh); and
 - d. Average price per unit.

4) Full description of each energy saving measure including:

- i. Existing conditions;
- ii. Recommended equipment and how it will function;
- iii. Operation and maintenance procedures affected by installation/implementation;
- iv. The plan for installing or implementing the recommendation; and
- v. Savings calculations:
 - a. Base year energy use and cost;
 - b. Post-retrofit energy use and cost;
 - c. Savings estimates including analysis methodology, supporting calculations and assumptions used;
 - d. Annual savings estimates (the cost savings for all energy saving measures must be estimated for each year during the contract period and savings must be achieved each year, not reported as average annual savings over the term of the contract);
 - e. Percent cost-avoidance projected;
 - f. Description and calculations for any proposed rate changes;
 - g. Explanation of how savings interactions between ECMs is calculated;

- h. Operation and maintenance savings, including detailed calculations and description;
- i. If using computer simulation, include a short description and state key input data. The Awarding Authority will require a hardcopy of printouts and electronic documentation of the analysis conducted; and,
- j. If using manual calculations, formulas, assumptions and key data shall be stated. The Awarding Authority will require a hardcopy of printouts and electronic documentation of the analysis conducted.

vi. Cost estimates and avoided costs

ESCO will provide a detailed scope of the construction work needed, suitable for cost estimating. Include all anticipated costs associated with installation and implementation. Provide specifications for major mechanical components as well as detailed lighting counts.

- a. Engineering/design costs;
- b. Contractor/vendor estimates for labor, materials, and equipment; include special provisions, overtime, etc., as needed to accomplish the work with minimum disruption to the operations of the facilities;
- c. Permit costs;
- d. Construction management fees;
- e. Environmental costs or benefits (disposal, avoided emissions, handling of hazardous materials, etc.);
- f. Financing costs; and,
- g. Avoided costs including utility or other rebates, subsidies, and or third-party aid.

vii. Other

- a. Estimate of average useful service life of equipment
- b. Preliminary commissioning plan
- c. Impacts that the facility would incur after contract ends. Consider operation and maintenance impacts, staffing impacts, budget impacts, etc.; and,
- d. Compatibility with existing systems.

viii. Rebates, subsidies, and Incentives

Provide a detailed discussion of ESCO's plan to secure on behalf of, or in conjunction with the Awarding Authority, all available rebates, subsidies and third-party aid for each ECM and the over project. Discuss which rebates, subsidies and/or third-party aid ESCO will guarantee and whether any additional rebates, subsidies and/or third-party aid will accrue to the benefit of the Awarding Authority.

ix. Measurement and Verification Plan

Provide a detailed description of the measurement and verification plan (following the Federal Energy Management Measurement and Verification Guidelines) and the approach employed for each ECM to demonstrate realized savings that are sustainable over the useful life of the ECM. The plan shall

include definitions of terminology and the methods and procedures for reconciling the verified saving to the guaranteed savings.

x. Financial Summary

Provide a cash flow analysis listing the annual energy and O&M savings, the annual lease payments, and the annual M&V, maintenance, and other costs, any rebates and/or third-party aid, and the net annual cash flow. List interest rate and applicable energy cost escalation rates.

xi. Appendices

Complete appendices that document the data used to prepare the analyses, including a description of how data were collected.

5) Optimize IGA

ESCO will meet with the Awarding Authority and present the technical and economic findings of the IGA. Such meeting will enable the Awarding Authority to collaborate on optimizing ECM selection based on its requirements and preferences. Upon completion of the optimization process, ESCO shall update and revise the IGA to reflect the optimized EMS project, including an updated financial summary as described above.

6) ECM Installation Schedule

For each ECM provide a proposed implementation schedule. Include the following milestones:

- i. Design completed;
- ii. Permits;
- iii. Submittals (plans and specifications);
- iv. Equipment/Material acquisition;
- v. Mobilization;
- vi. Installation;
- vii. Clean up;
- viii. Startup/Testing;
- ix. Final inspection
- x. Post installation submittals; and,
- xi. Training.

7) Prepare Contract Terms

Using the Department of Energy Resources Model Contract, ESCO will provide a listing of Contract terms necessary to facilitate Awarding Authority approval, including;

- i. A list of energy conservation measures including a list of services that will be provided as related to each cost;
- ii. Expected term of the Contract;
- iii. Analysis of annual cash flow for the Awarding Authority during the Contract term;
- iv. Description of how the project will be financed including available interest rates and financing terms, based on interest rates likely available to Institution at this time, and based on a 60-day and 90-day lock option;

- v. Explanation of how the savings will be calculated and adjusted due to weather (such as heating and cooling degree days), occupancy or other factors. Monitoring and verification methods must be consistent with the most recent version of the Federal Energy Management Program (FEMP) Measurement and Verification Guidelines.

Nothing herein obligates the Awarding Authority to enter into the Contract.

**City of Gloucester
Special Budgetary Transfer Request
Fiscal Year 2015**

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

TRANSFER # 2015-SBT- 41 Auditor's Use Only

DEPARTMENT REQUESTING TRANSFER: Registration

DATE: 3/17/2015 BALANCE IN ACCOUNT: \$1,100

(FROM) PERSONAL SERVICES ACCOUNT # Unifund Account #
(FROM) ORDINARY EXPENSE ACCOUNT # Unifund Account #
101000.1016352700.0000.00.000.00.052
Rental of Facilities
Account Description

DETAILED EXPLANATION OF SURPLUS:
Funds for off site storage of voting equipment no longer needed

(TO) PERSONAL SERVICES ACCOUNT # Unifund Account #
(TO) ORDINARY EXPENSE ACCOUNT # Unifund Account #
101000.10161.52550.0000.00.000.00.052
City Clerk Furnishings
Account Description

DETAILED ANALYSIS OF NEED(S):
This transfer will supplement 2015 SBT26. Additional funds are needed

TOTAL TRANSFER AMOUNT: \$1,000 NEW BALANCE IN ACCOUNTS AFTER TRANSFER
FROM ACCOUNT: \$ 100.00
TO ACCOUNT: \$2,500.00

APPROVALS: 
DEPT. HEAD: Linda D. Lopez
ADMINISTRATION: 
BUDGET & FINANCE: _____
CITY COUNCIL: _____

DATE: 3/17/2015
DATE: _____
DATE: _____
DATE: _____