RESOLUTION NO. 2381

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BONNEY LAKE, PIERCE COUNTY, WASHINGTON, AUTHORIZING THE MAYOR TO SIGN AN INTERAGENCY AGREEMENT WITH THE DEPARTMENT OF ENTERPRISE SERVICES FOR CONSERVATION SERVICES.

WHEREAS, the Public Safety Building boiler and controls are nearing the end of their useful lives; and

WHEREAS, the heat pumps at the Senior Center are also nearing the end of their useful lives; and

WHEREAS, there is potential to reduce energy costs by using LED lights in street light lamps; and

WHEREAS, the Department of Commerce is offering competitive energy assistance grants for measures that reduce energy usage, provided an Investment Grade Audit is performed; and

WHEREAS, a preliminary audit performed by Schneider Electric indicates the City has a good chance to receive a Department of Commerce grant that would supplement future energy bill savings and reduced maintenance costs;

NOW THEREFORE, BE IT RESOLVED; that the City Council of the City of Bonney Lake, Washington, does hereby authorize the Mayor to sign an Interagency Agreement with the Department of Enterprise Services and accompanying Funding Approval to hire Schneider Electric to complete an Investment Grade Audit attached hereto as Exhibit “A.”

PASSED by the City Council this 27th day of May, 2014.

Neil Johnson, Jr., Mayor

ATTEST:

Harwood T. Edvalson, MMC, City Clerk

APPROVED AS TO FORM:

Kathleen Haggard, City Attorney
Interagency Agreement Between the
Department of Enterprise Services
and the
City of Bonney Lake

This Agreement, pursuant to Chapter 39.34 RCW, is made and entered into by and between the Department of Enterprise Services, Facilities Division, Engineering & Architectural Services, hereinafter referred to as “DES”, and the City of Bonney Lake, hereinafter referred to as the “CITY”.

The purpose of this Agreement is to establish a vehicle for DES to provide future Energy/Utility Conservation Project Management and Monitoring Services to the CITY and to authorize the development of the energy services proposal.

Now therefore, in consideration of the terms and conditions contained herein, or attached and incorporated by reference and made a part hereof, the above-named parties mutually agree as follows:

1. Statement of Work

DES shall furnish the necessary personnel and services and otherwise do all things necessary for or incidental to the performance of the work set forth in Attachment “A” and Attachment “C”, attached hereto and incorporated herein by reference. Unless otherwise specified, DES shall be responsible for performing all fiscal and program responsibilities as set forth in Attachment “A” and Attachment “C”.

Energy/Utility Conservation projects shall be authorized by Amendment to this Agreement.

2. Terms and Conditions

All rights and obligations of the parties to this Agreement shall be subject to and governed by the terms and conditions contained in the text of this Agreement.

The CITY shall provide the Energy Services Company (ESCO) with any additional contract language necessary to comply with the requirements established under federal grants, the American Recovery & Reinvestment Act of 2009 (ARRA) and the Energy Efficiency and Conservation Block Grant (EECBG). The ESCO and their subcontractors are required to comply with all applicable federal regulations and reporting procedures.
3. **Period of Performance**

Subject to its other provisions, the period of performance of this master Agreement shall commence when this Agreement is properly signed, and be completed on **December 31, 2016**, unless altered or amended as provided herein.

4. **Consideration**

Compensation under this Agreement shall be by Amendment to this Agreement for each authorized project. Each Amendment will include a payment schedule for the specific project.

For Project Management Services provided by DES under Attachment “A” of this Agreement, the CITY will pay DES a Project Management Fee for services based on the total project value per Project Management Fees Schedule set forth in Attachment “B”.

If the CITY decides not to proceed with an Energy/Utility Conservation project that meets CITY’s cost effective criteria, then the CITY will be charged a Termination Fee per Attachment “B”. The Termination Fee will be based on the estimated Total Project Value outlined in the Energy Audit and Energy Services Proposal prepared by the ESCO.

If monitoring and verification services are requested by the CITY and provided by DES under Attachment “C” of this Agreement, the CITY will pay DES $2,000.00 annually for each year of monitoring and verification services requested.

Compensation for services provided by the ESCO shall be paid directly to the ESCO by the CITY, after DES has reviewed, approved and sent the invoices to the CITY for payment.

5. **Billing Procedure**

DES shall submit a single invoice to the CITY upon substantial completion of each authorized project, unless a project specified a Special Billing Condition in the Amendment. Substantial completion of the project will include the delivery and acceptance of closeout documents and commencement of energy savings notification. Each invoice will clearly indicate that it is for the services rendered in performance under this Agreement and shall reflect this Agreement and Amendment number.

DES will invoice for any remaining services within 60 days of the termination of this Agreement.

6. **Payment Procedure**

The CITY shall pay all invoices received from DES within 90 days of receipt of properly executed invoice vouchers. The CITY shall notify DES in writing if the CITY cannot pay an invoice within 90 days.
7. Non-Discrimination

In the performance of this Agreement, DES shall comply with the provisions of Title VI of the Civil Rights Act of 1964 (42 USC 200d), Section 504 of the Rehabilitation Act of 1973 (29 USC 794), and Chapter 49.60 RCW, as now or hereafter amended. DES shall not discriminate on the grounds of race, color, national origin, sex, religion, marital status, age, creed, Vietnam-Era and Disabled Veterans status, or the presence of any sensory, mental, or physical disability in:

a) Any terms or conditions of employment to include taking affirmative action necessary to accomplish the objectives of this part and

b) Denying an individual the opportunity to participate in any program provided by this Agreement through the provision of services, or otherwise afforded others.

In the event of DES’s non-compliance or refusal to comply with the above provisions, this Agreement may be rescinded, canceled, or terminated in whole or in part, and DES declared ineligible for further Agreement with the CITY. DES shall, however, be given a reasonable time in which to cure this noncompliance. Any dispute may be resolved in accordance with the “Disputes” procedure set forth therein.

8. Records Maintenance

The CITY and DES shall each maintain books, records, documents, and other evidence that sufficiently and properly reflect all direct and indirect costs expended by either party in the performance of the services described herein. These records shall be subject to inspection, review, or audit by personnel of both parties, other personnel duly authorized by either party, the Office of the State Auditor, and federal officials so authorized by law. DES will retain all books, records, documents, and other material relevant to this agreement for six years after expiration; and the Office of the State Auditor, federal auditors, and any persons duly authorized by the parties shall have full access and the right to examine any of these materials during this period.

9. Contract Management

a. The CITY Representative on this Agreement shall be:

Gary Leaf
City of Bonney Lake
PO Box 7380
Bonney Lake, WA 98391
Telephone (253) 447-3282
leafg@ci.bonney-lake.wa.us

The Representative shall be responsible for working with DES, approving billings and expenses submitted by DES, and accepting any reports from DES.
b. The DES Project Manager on this Agreement shall be:
Joseph Sullivan
Department of Enterprise Services
Facilities Division
Engineering and Architectural Services
PO Box 41476
Olympia, WA 98504-1476
Telephone (360) 407-9377

Joe Sullivan will be the contact person for all communications regarding the conduct of work under this Agreement.

10. Hold Harmless

Each party to this Agreement shall be responsible for its own acts and/or omissions and those of its officers, employees and agents. No party to this Agreement shall be responsible for the acts and/or omissions of entities or individuals not a party to this Agreement.

11. Agreement Alterations and Amendments

The CITY and DES may mutually amend this Agreement. Such Amendments shall not be binding unless they are in writing and signed by personnel authorized to bind the CITY and DES or their respective delegates.

12. Termination

Except as otherwise provided in this Agreement, either party may terminate this Agreement upon thirty (30) days written notification. If this Agreement is so terminated, the terminating party shall be liable only for performance in accordance with the terms of this Agreement for performance rendered prior to the effective date of termination.

13. Disputes

If a dispute arises under this Agreement, it shall be determined in the following manner: The CITY shall appoint a member to the Dispute Board. The Director of DES shall appoint a member to the Dispute Board. The CITY and DES shall jointly appoint a third member to the Dispute Board. The Dispute Board shall evaluate the dispute and make a determination of the dispute. The determination of the Dispute Board shall be final and binding on the parties hereto.

14. Order of Precedence

In the event of an inconsistency in this Agreement, unless otherwise provided herein, the inconsistency shall be resolved by giving precedence in the following order:
a) Applicable Federal and State Statutes and Regulations
b) Terms and Conditions
c) Attachment “A”, Project Management Scope of Work; Attachments “B”, Project Management Fees; and Attachment “C”, Monitoring Services Scope of Work, and
d) Any other provisions of the Agreement incorporated by reference.

All Writings Contained Herein

This Agreement contains all the terms and conditions agreed upon by the parties. No other understandings, oral or otherwise, regarding the subject matter of this Agreement shall be deemed to exist or to bind any of the parties hereto.

AUTHORIZATION TO PROCEED

Agreed to and signed by:

City of Bonney Lake

Signature
Neil Johnson, Jr.
Name
Mayor
Title
Date

Department of Enterprise Services
Facilities Division
Engineering & Architectural Services

Signature
Bill Phillips, P.E.
Name
E&AS Program Manager
Title
Date

The Department of Enterprise Services provides equal access for all people without regard to race, creed, color, religion, national origin, age, gender, sex, marital status, or disability. Contract information is available in alternative formats. For more information, please call Andrea Faust at (360) 407-9365.
ATTACHMENT A

Scope of Work
Energy/Utility Conservation Projects
Management Services

Statewide Energy Performance Contracting Program
Master Energy Services Agreement No. 2011-169

DES will provide the following project management services for each specific project for the CITY. Each individual project shall be authorized by Amendment to this Agreement.

1. Assist the CITY in the selection of an Energy Service Company (ESCO) consistent with the requirements of RCW 39.35A for local governments; or 39.35C for state agencies and school districts.

2. Assist in identifying potential energy/utility conservation measures and estimated cost savings.

3. Negotiate scope of work and fee for ESCO audit of the facility(s).

4. Assist in identifying appropriate project funding sources and assist with obtaining project funding.

5. Assist in negotiating the technical, financial and legal issues associated with the ESCO’s Energy Services Proposal.

6. Review and recommend approval of ESCO energy/utility audits and Energy Services Proposals.

7. Provide assistance during the design, construction and commissioning processes.

8. Review and approve the ESCO invoice vouchers for payment.

9. Assist with final project acceptance.

10. Provide other services as required to complete a successful energy performance contract.

Interagency Agreement No. K1557
**ATTACHMENT B**

**Fee Schedule**

2011-13 Interagency Reimbursement Costs for Project Management Fees to Administer Energy/Utility Conservation Projects

<table>
<thead>
<tr>
<th>TOTAL PROJECT VALUE</th>
<th>PROJECT MANAGEMENT FEE</th>
<th>TERMINATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>5,000,001-6,000,000</td>
<td>$66,000</td>
<td>25,700</td>
</tr>
<tr>
<td>4,000,001-5,000,000</td>
<td>65,000</td>
<td>25,400</td>
</tr>
<tr>
<td>3,000,001-4,000,000</td>
<td>64,000</td>
<td>25,000</td>
</tr>
<tr>
<td>2,000,001-3,000,000</td>
<td>60,000</td>
<td>23,400</td>
</tr>
<tr>
<td>1,500,001-2,000,000</td>
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<td>21,800</td>
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<td>1,000,001-1,500,000</td>
<td>49,500</td>
<td>19,300</td>
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<td>900,001-1,000,000</td>
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<td>16,400</td>
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<td>15,400</td>
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<td>14,400</td>
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</tr>
<tr>
<td>0-20,000</td>
<td>2,000</td>
<td>1,000</td>
</tr>
</tbody>
</table>

The project management fee on projects over $6,000,000 is 1.1% of the project cost. The maximum DES termination fee is $25,700.

1. These fees cover project management services for energy/utility conservation projects managed by DES's Energy Program.

2. Termination fees cover the selection and project management costs associated with managing the ESCO's investment grade audit and proposal that identifies cost effective conservation measures if the CITY decides not to proceed with the project through DES.

3. If the project meets the CITY's cost effectiveness criteria and the CITY decides not to move forward with a project, then the CITY will be invoiced per Attachment B Termination or $25,700 whichever is less. If the CITY decides to proceed with the project then the Agreement will be amended per Attachment B for Project Management Fee.

4. If the audit fails to produce a project that meets the CITY's established Cost Effectiveness Criteria, then there is no cost to the CITY and no further obligation by the CITY.

Interagency Agreement No. K1557

Revised 3/12/2012
ATTACHMENT C

Scope of Work
Energy/Utility Conservation Projects
Monitoring Services

Statewide Energy Performance Contracting Program
Master Energy Services Agreement No. 2011-169

If requested DES will provide the following monitoring services for each specific project for the CITY.

1. Monitor actual energy use and dollar costs, compare with the ESCO’s annual Measurement and Verification (M&V) report and any ESCO guarantee, resolve differences, if needed, and approve any vouchers for payment.

2. Monitor facility operations including any changes in operating hours, changes in square footage, additional energy consuming equipment and negotiate changes in baseline energy use which may impact energy savings.

3. Provide annual letter report describing the ESCO’s performance, equipment performance and operation, energy savings and additional opportunities, if any, to reduce energy costs.
May 1, 2014

TO: Gary Leaf, City of Bonney Lake

FROM: Terrie Glave, Contracts Specialist, (360) 407-9330

RE: Agreement No. 2014-958 A (1) Detailed Investment Grade Energy Audit and Energy Services Proposal Schneider Electric

SUBJECT: Funding Approval

The Department of Enterprise Services, E&AS, requires funding approval for the above referenced contract document(s). The amount required is as follows:

| Energy Audit and Energy Services Proposal | $22,000.00 |

In accordance with the provisions of RCW 43.88, the signature affixed below certifies to the Facilities Division, Engineering & Architectural Services that the above identified funds are appropriated, allotted or that funding will be obtained from other sources available to the using client/agency. The using/client agency bears the liability for any issues related to the funding for this project.

By [Signature] [Name/Title] Neil Johnson, Jr., Mayor

Date 5/6/14

Please sign and return this form to E&AS. If you have any questions, please call me.
ENERGY SERVICES AUTHORIZATION NO. 2014-958 A (1)
Detailed Investment Grade Energy Audit & Energy Services Proposal
City of Bonney Lake
May 1, 2014
MASTER ENERGY SERVICES AGREEMENT NO. 2013-133 J (10)

The Owner and the Energy Services Company (ESCO) named below do hereby enter into this Authorization under terms described in the following sections:

Authorization to Proceed
Compensation for Energy Services

I. AUTHORIZATION TO PROCEED:

Energy Services Company:
Schneider Electric Buildings America Inc.
95 South Jackson Street, Suite 300
Seattle, WA 98104
Telephone No. (206) 583-0200
Fax No. (206) 582-8826
E-Mail Jordan.lerner@schneider-electric.com

By
Name ____________________________
Title ____________________________
Date ____________________________

Owner:
City of Bonney Lake
acting through the
Dept. of Enterprise Services, Facilities Division
Engineering and Architectural Services
PO Box 41476
Olympia, WA 98504
Telephone No. (360) 902-7272

By
Name Roger A. Wigfield, P.E.
Title Energy Program Manager
Date ____________________________

State of Washington Contractor’s License No. SCHNEEB919QT
State of Washington Revenue Registration No. 601 749 949
Federal Tax Identification No. 75-2066352

II. COMPENSATION FOR ENERGY SERVICES:

<table>
<thead>
<tr>
<th>Name of Facility</th>
<th>COMPENSATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy Audit and Energy Services Proposal</td>
<td>$ 22,000.00</td>
</tr>
<tr>
<td>Design</td>
<td>$ 0.00</td>
</tr>
<tr>
<td>Construction Management</td>
<td>$ 0.00</td>
</tr>
<tr>
<td>Overhead and Profit</td>
<td>$ 0.00</td>
</tr>
<tr>
<td>Measurement and Verification – Year 1</td>
<td>$ 0.00</td>
</tr>
<tr>
<td>Grand Total (plus WSST as applicable)</td>
<td>$ 22,000.00</td>
</tr>
</tbody>
</table>

Authorization No. 2014-958 A (1)
III. PROJECT CONDITIONS:

The Project Conditions contained in the Master Energy Services Agreement will be used unless specifically changed herein.

IV. SCOPE OF WORK:

Per the fee proposal dated April 4, 2014 conduct a Detailed Investment Grade Energy Audit of the City of Bonney Lake to identify cost effective energy conservation measures and present a written Energy Services Proposal, including all energy audit documentation. The ESCO shall prepare the final Energy Services Proposal, detailing the actual energy services and ESCO equipment to be provided, energy savings and cost guarantees, measurement and verification plans, and commissioning plans for the proposed measures. Measures will include items that save energy, water and other resources. The Cost Effectiveness Criteria for this project shall be as established in the Master Energy Services Agreement or as modified in Section III above.

V. SCHEDULE FOR COMPLETION

Final completion of the Energy Audit and Energy Services Proposal within 90 calendar days after Authorization to Proceed.
April 4, 2014

Joe Sullivan
Washington State Department of Enterprise Services
1500 Jefferson Street SE
Olympia, Washington, Olympia 98501
PO Box 41476, Olympia WA 98504

CC: City of Bonney Lake staff

SUBJECT: City of Bonney Lake Investment Grade Audit Proposal
REFERENCE: A) State of Washington, Department of Enterprise Services, Agreement No 2013-133, dated June 24, 2013

Dear Mr. Sullivan,

Schneider Electric is pleased to provide this proposal to execute an Investment Grade Audit for the City of Bonney Lake, WA to determine the scope of work, guaranteed savings amount, energy efficiency measures, and project price for a comprehensive facility improvement project. This information will ultimately be presented in a final Energy Services Proposal that will include the following:

- A list of energy efficiency measures planned for each facility
- A description of how the energy efficiency measures would interact with the existing equipment in the facilities
- Financial analysis of the effect on annual cash flow by the energy efficiency measures
- Guaranteed energy savings for the facilities
- Utility analysis demonstrating effect of installed energy efficiency measures
- Performance Assurance Support Services (PASS) Plan for the facilities
- Project pricing for a turnkey installation of the proposed project scope that shall be firm for 90 days.

This Investment Grade Audit will consist of analyzing the existing use of energy in the City of Bonney Lake's buildings, identifying needs and desires for the facilities long term, and conceptualizing value-added energy measures. Additionally, Schneider Electric will assist the district in applying for available utility incentives and energy grants as they are available.

Cost effective criteria is determined to be Energy Conservation Measures that have a payback of no greater than 20 years unless approved by the city. If Schneider Electric is unable to find an ECM that meets cost effective criteria and the city of Bonney Lake decides not to proceed with an ESPC, then the City of Bonney Lake is under no payment obligation; otherwise the fee of $22,000 would be due to Schneider Electric.

However, if a guaranteed performance-based contract with Schneider Electric is executed within ninety (90) days after receiving the Investment Grade Audit report, the IGA fee will be part of the overall turn-key project cost under "professional service" fees.
The City of Bonney Lake agrees to provide the following:

A) Complete access to city facilities for ESCO’s staff for the purpose of performing the energy efficiency analysis, measuring actual energy use, taking equipment inventory, determining operating schedules, identifying known operational deficiencies, building modeling, etc.;

B) Access to key personnel to discuss operating requirements; and

C) The loan of building plans, utility bills, and any other applicable data Schneider Electric requests for the purpose of facilitating understanding of the facility characteristics and the current sequences of operation.

The City of Bonney Lake agrees that, until the audit is paid for or the City of Bonney Lake executes a guaranteed performance-based contract with Schneider Electric, the engineering, data, and recommendations developed are the intellectual property of Schneider Electric and may not be shared with any third parties (WA Dept of DES Staff are not considered third parties) without the written permission of Schneider Electric.

The following is the list of facilities and systems to be audited:

- Public Safety Building
- Bonney Lake Senior Center
- Bonney Lake City Wide Street Lighting

Attached to this proposal is a description of energy efficiency measures to be investigated during the Investment Grade Audit, including but not limited to: HVAC equipment upgrades, building control (EMS) upgrades, and Interior and Exterior Lighting Upgrades. Schneider Electric is allowed to investigate other opportunities during the IGA meeting cost effective criteria with permission from the DES and the city.

In finding this proposal acceptable, please provide Schneider Electric with an Energy Services Agreement followed by a notice to proceed. On behalf of our project team, we look forward to this opportunity to work with you and the City of Bonney Lake to provide lasting improvements to the city’s facilities and infrastructure.

Respectfully,

[Signature]

Jordan Lerner
Western Regional Director
ATTACHMENT A: ENERGY SUMMARY AND ENERGY CONSERVATION MEASURES (ECMS)

The following is a snapshot of energy expenditures at the City of Bonney Lake and initial energy saving results. These results are non-binding; final energy savings and scope shall be determined in the Investment Grade Audit.

### Annual Energy Savings - Per Site

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Area (sq ft)</th>
<th>Energy Use, kWh</th>
<th>kW</th>
<th>Thers</th>
<th>Total Cost</th>
<th>Savings</th>
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<tbody>
<tr>
<td>Public Safety</td>
<td>31,000</td>
<td>497,400</td>
<td>168</td>
<td>12,133</td>
<td>$57,280</td>
<td>$12,221</td>
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<tr>
<td>Senior Center</td>
<td>5,426</td>
<td>112,604</td>
<td>45</td>
<td>1,805</td>
<td>$13,224</td>
<td>$2,013</td>
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<td></td>
<td>36,426</td>
<td>610,004</td>
<td>213</td>
<td>13,938</td>
<td>$70,504</td>
<td>$14,234</td>
</tr>
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</table>

### Opportunity Summary

<table>
<thead>
<tr>
<th>ID</th>
<th>Opportunity</th>
<th>Public Safety</th>
<th>Senior Center</th>
<th>Street Lighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Lighting Retrofit</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>1.2</td>
<td>Lighting Controls</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>2.0</td>
<td>HVAC Upgrades</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>4.0</td>
<td>BAS Controls</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>5.0</td>
<td>IT Infrastructure</td>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

### ECM Descriptions

Upon surveying the building and discussions with district staff, several opportunities were identified and chosen as energy conservation measures (ECMs) that could be pursued for the City of Bonney Lake. These ECMs are non-binding, and their individual project feasibility will be determined in the Investment Grade Audit after ongoing discussions with district staff.

### Energy Conservation Measures

**1.1 AND 1.2 LIGHTING RETROFIT / REPLACEMENT AND CONTROLS**

**BACKGROUND**  
Lighting is a significant portion of a facility’s energy consumption. Lighting technologies continue to evolve and upgrading represents a relatively simple strategy to conserve resources.

**ENERGY CONSERVATION OPPORTUNITIES**  
Frequently interior spaces are over illuminated and are viable candidates for conversion from 32W lamps to more efficient 28W lamps.

Through the use of occupancy sensors, lighting in unoccupied areas is automatically controlled preventing unintended burn hours when the space does not have activity. In areas where there is natural

Schneider Electric
Energy and Sustainability Services
99 South Jackson St. – Suite 300
Seattle, WA 98104
light, daylighting controls automatically dim or turn off lights when the natural light is sufficient for that space, reducing energy cost.

The use of LEDs in exterior areas offers a reduction in energy consumption. Additional control strategies such as bi-level switching are also possible using the LED technology. Although not considered as part of the ECM, the facility also can realize a significant maintenance savings due to the extremely long life of LED technologies.

**IMPACT**

Energy conservation as well as increased visual comfort in interior spaces and security in exterior areas.

### 2.0 HVAC Upgrades

**BACKGROUND**

HVAC plays a key component in occupant comfort and can have a great effect on a person's productivity and satisfaction in the workplace.

**ENERGY CONSERVATION OPPORTUNITIES**

The Public Safety building has the most pressing need for a HVAC upgrade, which could include complete system replacement. Other buildings surveyed also have needs, including heat pump replacements and system reconfiguration. Although not considered as part of the ECM, the facility also can realize a significant maintenance savings due to the amount of outsourced maintenance on the system.

**IMPACT**

Impacts include energy conservation as well as increased comfort. Maintenance and operational costs will be significantly lowered.

### 4.0 Building Automation System

**BACKGROUND**

Based on initial walkthroughs and conversations, the control system in the Public Safety building is currently obsolete and is not fully functional.

**ENERGY CONSERVATION OPPORTUNITIES**

The purpose of most buildings is to provide an environment for its occupants which is suitable to the tasks those occupants are performing. This environment can only be provided economically if the building's systems are properly integrated with the needs and schedules of the people in it. This, along with tracking system performance, is the key function of an effective building automation system (BAS).

**SCHEDULING**

The most effective way to save energy is to turn off what is not needed. For this reason, the scheduling feature of an EMS system is its most powerful energy conservation feature.

**WEEKLY**

Daily building operations usually fall into a predictable pattern that may vary with the day of the week or with the seasons. A flexible Weekly Scheduling feature enables a building's equipment to start and stop in a pattern. Energy is thus consumed only when it is needed.

**HOLIDAY**

Schneider Electric
Energy and Sustainability Services
95 South Jackson St., Suite 300
Seattle, WA 98104
A holiday scheduling feature allows special schedules to be implemented on regularly occurring holidays. These days can usually be scheduled up to a year in advance. This feature prevents un-needed energy consumption by shutting down the buildings when unoccupied.

**SPECIAL**

Exceptions to normal operations are a frequent occurrence. An EMS that can easily respond to these exceptions allows for maximum energy conservation. If special occasions can be quickly and easily addressed, then aggressive regular schedules can be implemented with the confidence that comfort can still be maintained when changes occur.

**NIGHT SETBACK/SETUP**

During extremes of hot or cold weather, HVAC systems are frequently allowed to operate "around-the-clock" to prevent damage to the building. The night setback and setup features provide substantial savings by only operating heating or cooling equipment when it is actually needed to prevent damage. Temperature sensors monitor indoor temperatures and the EMS starts the needed equipment when these temperatures reach the low or high limits. After the building temperatures have returned within normal parameters, the EMS will shut down the equipment.

**OPTIMAL START/STOP**

Equipment start times are normally set earlier than necessary to ensure proper comfort is maintained even during hot or cold weather. The Optimal Start feature automatically compensates building start times for changes in weather. If weather is extreme, then equipment is started early enough to properly condition the building before it is occupied. During mild weather, equipment start times can be delayed to obtain more energy savings. A complementary feature, Optimal Stop, is used to save energy at the end of the day. This feature takes advantage of a building's "flywheel" effect. In mild weather, equipment can be stopped earlier than usual without adversely effecting indoor temperatures.

**SET POINT OPTIMIZATION**

Optimum comfort is usually best achieved by maintaining uniform temperatures throughout a facility. This reduces the occurrence of adjacent hot and cold spots that exaggerate sensations of discomfort. It also reduces the energy wasted when adjacent systems "fight" because they are in different operating modes (heating versus cooling). Temperature uniformity is achieved by calibrating all thermostats to the same set point. Realizing that differences in rooms, systems and personal preference may not make this practical, some variation in set points is desirable. Our recommendation is to establish a minimum summer set point (74°) and a maximum winter set point (70°) with a 1 or 2 degree deviation up in the summer and down in the winter.

**DEMAND CONTROLLED VENTILATION**

Common areas have a highly variable occupancy schedule. Outside air ventilation can be reduced during periods of low occupancy. When areas are unoccupied, outside air to the space is not required. This strategy involves measuring the CO2 in the spaces and adjusting the outside air dampers on the air systems to only ventilate as necessary. Minimizing the ventilation air into the buildings reduces the heat and cooling energy required to condition the air.

**HEAT AND COOLING MODE SELECTION**

By utilizing computer technology to accumulate large amounts of data instantaneously and with the constant vigilance of digital processing, a BAS can make up-to-the-minute decisions about the heating and cooling needs of a facility. The Heating/Cooling Mode Selection feature uses this process to decide whether heating, cooling or both are needed to condition a building. This results in a more comfortable building since the plant is always in the proper mode, and it saves energy by keeping systems which are not needed from running.

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**HOT WATER RESET**

This feature adjusts hot water temperature so that the water is just hot enough to provide sufficient heat for the zone or coil with the most demand. Hot water reset saves energy even though its effect on boiler efficiency is actually quite negligible. This is accomplished through reduced radiation losses in system piping and elimination of waste resulting from water that is too hot to be controlled at low load conditions.

**SUPPLY AIR RESET**

Air systems are designed to provide the air temperature needed to cool or heat a zone at worst-case conditions. Many systems can properly condition their area with tempered air when conditions are less extreme. Supply air reset works to adjust the air set point to its optimum value to satisfy the worst-case zone. This feature is particularly effective on constant volume reheat, double-duct, and multi-zone systems.

**IMPACT**

The increased control of operation results in increased comfort during occupied hours while utilizing the system in the most effective manner possible during unoccupied periods.

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**5.0 IT Infrastructure**

**Information Technology (IT) Enterprise Management**

**BACKGROUND**

IT systems are growing with the introduction of new technologies and are becoming a foundation in the work environment. Since these systems are becoming larger and more demanding on existing building infrastructure, the potential for upgrades that provide utility savings and improve infrastructure is increasing. Our preliminary observations show that city does not have any city-wide policies in place to schedule and monitor the power consumption and performance of computers and other peripheral devices.

**ENERGY CONSERVATION OPPORTUNITIES**

**IT ENTERPRISE MANAGEMENT**

Most cities are not equipped with enterprise energy management systems for their computers and other networked peripherals. By using a computer energy management program, the City of Bonney Lake can ensure workstations are available when they are required, while conserving power during productivity downtimes. This platform is non-disruptive and integrates seamlessly with existing IT maintenance routines while providing the city with centralized PC power management and savings reporting.

The program is completely customizable. It separately controls the monitor and the computer allowing each to move to different power states as appropriate. A computer can be moved to the on, off, hibernate, or standby power state and a monitor can be on, off, or in sleep mode. A major added benefit to this system is the Asset Management component. During the audit, the city will be able to see and explore devices across the entire network from a central location. Devices will be identified and removed that are no longer on the system. This added benefit is part of the base package and included in the project.

The new system is expandable to control anything with an IP address. Through the audit process, the team will deploy the Joulex Enterprise Management software. The audit process is limited based on the access provided in this stage of the project. During formal installation, the engineering team will likely identify additional opportunities that will provide more savings and even better performance.
IMPACT
Implementing an automatic shut down system for the computer systems at each facility will reduce energy consumption and run hours of all networked computers.

DATA CENTER

BACKGROUND
A data center is a facility used to house computer systems and associated components, such as telecommunications and storage systems. It generally includes redundant or backup power supplies, redundant data communications connections, environmental controls (e.g., air conditioning, fire suppression) and security devices.

ENERGY CONSERVATION OPPORTUNITIES
Schneider Electric recommends a holistic approach to address the current needs of the IT department as well as consider future needs. In a matter of only ten years, energy consumption costs can total the original data center construction capital expense! However, minimal attention is given to energy efficiency and full life cycle costs in data center design. Energy costs can average as much as 42% of a data center’s annual operating costs. The need for energy efficiency is higher than ever to reduce operating costs, as well as address the cooling, capacity and availability issues at the forefront of our customer’s minds. Energy consumption can be allocated into three major categories within the data center including: IT equipment, cooling and air distribution, and power transformation equipment. Other miscellaneous loads such as lighting, security and other functions have a minimal impact in comparison. Today, a typical data center with perimeter cooling units and minimal focus on energy efficiency could be expected to have an energy breakdown as shown in the graphic. With today’s energy efficiency best practices, it is possible to achieve 25% to 50% energy savings in existing data centers.

IMPACT
The informational insights gained from the building analytics will:
- Maximize HVAC equipment uptime
- Improve power quality and preserve equipment
- Reduce costs through proactive maintenance and repair/replacement of equipment

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• Allow for fine-tuning of equipment operation based on actual system operations, changes in building use, and seasonal changes
• Allow for active management of energy usage, cost, and performance by site personnel through integration of existing Schneider Electric utility monitoring systems with building automation and analytics
• Drive deeper energy savings. These analytics typically help achieve an additional 10% in energy savings and 15%-20% in O&M savings beyond traditional BAS upgrades.
**City of Bonney Lake, Washington**

**City Council Agenda Bill (AB)**

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<tr>
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<th>Meeting/Workshop Date: 27 May 2014</th>
<th>Agenda Bill Number: AB14-63</th>
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<tr>
<td>Agenda Item Type: Resolution</td>
<td>Ordinance/Resolution Number: 2381</td>
<td>Councilmember Sponsor: Deputy Mayor Swatman</td>
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**Agenda Subject:** Intergovernmental Agreement with Department of Enterprise Services for an Investment Grade Audit

**Full Title/Motion:** A Resolution Of The City Council Of The City Of Bonney Lake, Pierce County, Washington, Authorizing The Mayor To Sign An Interagency Agreement With The Department Of Enterprise Services For Conservation Services.

**Administrative Recommendation:** Approve

**Background Summary:** Staff proposes applying for a Department of Commerce grant to help replace the Public Safety Building boiler and controls and other energy efficiency items. Securing a grant (typically 20% to 50%) requires an Investment Grade Audit. The City will apply for a larger grant in September, and if that fails apply for a smaller grant in 2015. The first step is to sign an Interagency Agreement with the (state) Department of Enterprise Services who will subcontract with Schneider Electric (IGA proposal is included in Attachment C). If the City does not pursue the full Audit the project may be terminated with a fee of $22,000. Proceeding with the full grant project will incur larger project management fees which will be covered by the grant and likely an interfund loan.

**Attachments:** Yes

**BUDGET INFORMATION**

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<th>Budget Amount</th>
<th>Current Balance</th>
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**Budget Explanation:** This Interagency Agreement fee assumes the City gets a grant and proceeds with the full conservation project.

**COMMITTEE, BOARD & COMMISSION REVIEW**

| Council Committee Review: Finance Committee | Approvals: | Chair/Councilmember | Dan Swatman  
|---|---|---|---|
| Date: 13 May 2014 |  | Councilmember | Donn Lewis  
|  |  | Councilmember | Katrina Minton-Davis  
|  |  |  |  
|

**Forward to:**  

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**Commission/Board Review:**

**Hearing Examiner Review:**

**COUNCIL ACTION**

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**APPROVALS**

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<th>Date Reviewed by City Attorney:</th>
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*Version Oct. 2010*