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CONTRACT AWARD FOR SOLAR PHOTOVOLTAIC RENEWABLE ENERGY PROJECT

The Finance and Administration Committee recommends the adoption of the recommendations contained in the following report dated September 25, 2012, from the Commissioner of Corporate Services, subject to recommendation 1 being amended to read as follows:

1. **Council authorize awards for Request for Proposal P-12-06 for the design, supply and installation of grid tied solar photovoltaic systems to Bondfield Construction Company Limited at a cost of $3,426,283 for two sites (YRT Bus Maintenance Centre at 8300 Keele Street, Vaughan and the Transportation and Works Operations Centre at 90 Bales Drive, East Gwillimbury) and to Ainsworth Inc. at a cost of $2,247,522 for two sites (North Markham Reservoir at 12157 McCowan Road, Whitchurch-Stouffville and Georgina Water Treatment Plant at 27135 Kennedy Road, Georgina), excluding taxes. Award of these contracts is subject to approval by the Ontario Power Authority in the form of a Feed-in Tariff contract *at the rate in effect as of September 25, 2012 and subject to confirmation of support from the affected municipalities.***

1. RECOMMENDATIONS

It is recommended that:

1. Council authorize awards for Request for Proposal P-12-06 for the design, supply and installation of grid tied solar photovoltaic systems to Bondfield Construction Company Limited at a cost of $3,426,283 for two sites (YRT Bus Maintenance Centre at 8300 Keele Street, Vaughan and the Transportation and Works Operations Centre at 90 Bales Drive, East Gwillimbury) and to Ainsworth Inc. at a cost of $2,247,522 for two sites (North Markham Reservoir at 12157 McCowan Road, Whitchurch-Stouffville and Georgina Water Treatment Plant at 27135 Kennedy Road, Georgina), excluding taxes. Award of these contracts is subject to approval by the Ontario Power Authority in the form of a Feed-in Tariff contract.

2. The Chief Administrative Officer (CAO) be authorized to execute the Feed-in Tariff contracts subject to the approval of Legal Services as to form and content and provided the projects are approved by the Ontario Power Authority.

3. The Region seeks endorsement of these projects from the four host municipalities, namely, the City of Vaughan and the Towns of East Gwillimbury, Georgina, and Whitchurch-Stouffville.

2. PURPOSE

The Region is developing four rooftop solar photovoltaic projects. A contract award is required at this stage so the Region will be in a position to proceed with the project in the 20-day window allowed by the Ontario Power Authority (OPA) once the Feed-in Tariff contract has been offered. If the OPA rejects the application for any or all of the four sites then the contracts with the two successful proponents will be revised accordingly.

The Purchasing Bylaw requires Council authorization for contracts in excess of $500,000 when a Request for Proposals has been issued.

3. BACKGROUND

Feasibility study identified four sites that were most suitable technically and financially

The Region conducted a feasibility study in 2010 at ten of the most promising Regional sites for medium-size solar photovoltaic arrays (100 kW to 500 kW) under the Province of Ontario’s Feed-in Tariff (FIT) program. The program is administered by the Ontario Power Authority and requires a 20-year contract with the OPA whereby the Region will receive revenue for generating solar energy that is fed back into the electricity grid.

The most suitable sites and system sizes are as follows:

- 500 kW at YRT Bus Maintenance facility at 8300 Keele Street, Vaughan
- 250 kW at North Markham Reservoir at 12157 McCowan Road, Whitchurch-Stouffville
- 90 kW at Transportation & Works Operations Centre at 90 Bales Drive, East Gwillimbury
- 75 kW at Georgina Water Treatment Plant at 27135 Kennedy Road, Georgina

The four systems in aggregate will generate enough emission-free energy to meet the electricity needs of 120 average-sized homes.

Preliminary roof structural analysis was carried out by a structural engineer to confirm there is sufficient structural capacity in the existing roof for solar PV at each site. The Region also contacted the Local Distribution Companies (Hydro One and Powerstream) to confirm that there is sufficient capacity on the grid for the proposed solar PV systems to be connected.

New Feed-in Tariff rules means the Region must re-apply to the Ontario Power Authority

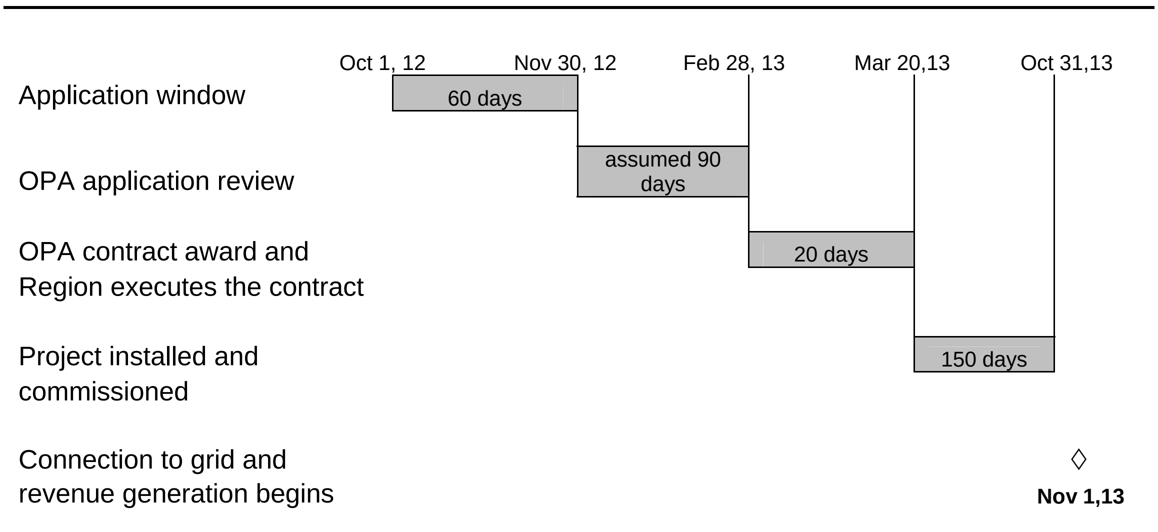
The Region submitted FIT applications to the OPA for the four sites in late 2011, but they were not approved before the OPA announced a FIT review. The new program rules were released on August 10, 2012.

The new FIT rules require that the Region re-apply to the program during a window from October 1, 2012 to November 30, 2012. The OPA will be reviewing applications after the November 30, 2012 deadline. Once the OPA has approved the applications and a Contract is issued, the Region will have 20 days to sign back the contract.

Project completion and connection to the grid is expected in November 2013, subject to approvals from the Ontario Power Authority

There are some firm dates associated with the FIT process but there is still uncertainty as to how long the OPA will take to review and approve applications after the November 30, 2012 deadline. The Region has estimated project timelines in Chart 1 on the assumption that the OPA review process will take three months.

Chart 1
Project Timeline



Given the time constraint of 20 days to sign back the OPA contract once it is received, staff is requesting that Council gives authority to the CAO to award the contracts to the two successful proponents provided the projects are approved by the Ontario Power Authority.

Four bid submissions were received and evaluated with two firms passing the technical evaluation

The Region closed a Request for Proposal on May 31, 2012 for the design-build of the four short-listed solar PV systems. There were four bids submitted and evaluated by the technical review committee. Two firms, Carmanah Solar Power Corporation and Resco Energy Inc. were eliminated at the technical review stage. The Region is now in a position to award contracts to the remaining two proponents (two sites each), subject to a contract offer from the OPA. The two proponents are Bondfield Construction Company Limited and Ainsworth Inc. Table 1 below shows a summary of the cost by site.

Table 1
Summary of Costs by Site

Location	Cost	
	Bondfield Construction	**Ainsworth Inc.**
500 kW at YRT Bus Maintenance facility, 8300 Keele Street, Vaughan	**$ 2,776,702**	$3,305,100
250 kW at North Markham Reservoir, 12157 McCowan Road, Whitchurch-Stouffville	$ 1,572,177	**$1,526,676**
90 kW at Transportation & Works Operations Centre at 90 Bales Drive, East Gwillimbury	**$ 649,581**	$ 1,080,595
75 kW at Georgina Water Treatment Plant at 27135 Kennedy Road, Georgina	$ 697,876	**$ 675,345**

Figures in **bold** is the recommended contract award cost

Firms that did not pass the technical evaluation were Carmanah Solar Power Corporation and Resco Energy Inc.

4. ANALYSIS AND OPTIONS

The project has an aggregate 10.9-year simple payback which is relatively short compared to other renewable energy options

Upon entering into a contract with the OPA the Region will be paid a fixed per-kilowatt-hour rate for 20 years based on the revised FIT rules. Table 2 below shows a summary of the business case including cost and revenue for purchasing solar PV systems at each of the four sites.

Table 2
Business Case for Solar PV Project at Four Regional Facilities

Location	Cost	Annual Revenue
500 kW at YRT Bus Maintenance facility, 8300 Keele Street, Vaughan	$ 2,776,702	$290,000
250 kW at North Markham Reservoir, 12157 McCowan Road, Whitchurch-Stouffville	$ 1,572,177	$140,000
90 kW at Transportation & Works Operations Centre at 90 Bales Drive, East Gwillimbury	$ 649,581	$ 50,000
75 kW at Georgina Water Treatment Plant at 27135 Kennedy Road, Georgina	$ 675,345	$ 40,000
Total	**$5,673,805**	**$520,000**
Simple Payback in years	**10.9**	
Net Present Value (over 20 years at 5% discount rate)	**$856,000**	

Note: The annual revenue values include an allowance for annual Operation & Maintenance costs of 7% of the annual revenue

Outright purchase has a superior return compared to leasing

Two options investigated for solar PV implementation were leasing and outright purchasing of the systems. Leasing of the solar PV system involves leasing the roof tops of the four identified sites to a private firm so that they can install the systems and pay the Region for the use of the roof tops over a 20-year contract period. While this approach would mean zero initial capital expenditure to the Region it would also mean significantly less revenue. Under the new FIT rates, the revenue generated by purchasing instead of leasing is at least six times greater. There is also counter-party risk associated with entering into a 20-year lease with a private firm. For these reasons, outright purchase was the preferred option.

Link to Key Council - approved Plans

York Region Sustainability Strategy
Priority Area - Sustainable Natural Environment
Expand on energy efficiency initiatives and pursue other forms of renewable energy (i.e. solar, wind).

Vision 2051
Priority Area - Living Sustainably
Reduce dependency on non-renewable, carbon-based energy sources by diversifying local energy, prioritizing local energy generation and distribution and using renewable and alternative energy sources.

Under the Feed-in Tariff rules, the OPA will retain the environmental attributes associated with the projects during the 20-year contract term. There will be a net environmental benefit from reduced greenhouse gas emissions, but the Region will not be able to sell the credits.

5. FINANCIAL IMPLICATIONS

The draft 2013 Property Services capital budget includes the solar photovoltaic projects

The four solar PV systems have an aggregate simple payback of 10.9 years. Accounting for the time-value of money over the 20-year FIT contract term, the net present value is $856,000. The PV systems are expected to continue generating valuable green energy beyond the 20-year FIT contract term.

A budget of $5,525,000 was approved for solar implementation in 2012. The budget used debt financing such that there should be no added cost to the Region’s taxpayers, i.e. the cost of debt has been more than offset by forecasted FIT revenues.

The changes to the OPA rules have delayed the Region’s plan to implement solar PV in 2012. As a result the budget allocated to solar PV implementation for 2012 will not be spent this year. Instead the Region has included the project in the 2013 budget.

There is a financial commitment at the application stage; a non-refundable application fee of $500 per site or $2,000 total, and an application security of $20 per kW or $18,300 total. The application security will be refunded when the OPA approves or rejects any of the applications therefore eliminating any risk of losing this money.

6. LOCAL MUNICIPAL IMPACT

Endorsement of the project by the local host municipalities improves the likelihood of the Region's FIT applications receiving approval

A new feature of the OPA application process is a priority points system that awards points for applicants who secure resolutions supporting the projects from local municipal Councils, in this case the City of Vaughan, Town of East Gwillimbury, Town of Georgina and Town of Whitchurch-Stouffville. The more points an application can accumulate the greater the chance of an OPA approval for the project to proceed. The Region is contacting each of the four local municipal Councils to seek their support for this project in the form of a Municipal Council Support Resolution.

7. CONCLUSION

Council approval of the recommendations in this report is required to ensure the Region can execute the OPA FIT contracts within the allowed 20-day window

Based on the results of the Request for Proposal and the process involved in the OPA FIT program, the Region is requesting the award of two contracts so as to be positioned to proceed expeditiously with the OPA FIT contracts if and when the applications are approved.

There is an $18,300 security deposit payable with the application but this money will be refunded when the application is approved or rejected by the OPA.

Once the OPA contract has been received and the two contract awards have been made the Region will proceed with installing the systems with a likelihood of generating revenue as early as November 2013.

For more information on this report, please contact Barry Crowe, Director, Property Services Branch at Ext. 1684.

The Senior Management Group has reviewed this report.