

Proposed Roof Replacement and Solar Panels

St. Mark's Anglican Church, 1606 Fisher Ave, Ottawa, ON

ROOF

We last replaced the roof at St. Mark's with cedar shakes in 1992 and we should have been good for another 20 years. But the nails started rusting out and the shingles started drifting out. Replacement of single shingles has been done for the last five years, but it is a losing situation. In 2010 the roof leaked on the altar. After a review of the situation, the Corporation of St. Mark's decided to propose the replacement of the roof in 2011. It was further decided that the most suitable replacement would be the new technology metal roofs which are guaranteed for fifty years.

Quotes were obtained from local roofing contractors for the installation of different metal roofs. The three lowest bids were on steel Wakefield Bridge shingles from Ideal Roofing of Ottawa, ON, steel London Eco-Roof panels of London, ON, and aluminium Interlock shingles/slate of Delta, BC.

The details of the various quotes are attached as a table on Page 4.

Our recommendation is to accept the bid of \$37,500 plus tax for Wakefield Bridge shingles from Lucas Roofing of Ottawa. This roof would have all the fasteners hidden which is an advantage over the lowest price of \$35,000 which has all the fasteners and solar supports exposed to the weather. As well Lucas has the lowest bid for the solar panels and there is great advantage to having one company doing both jobs to avoid split responsibility. He has a good record with the Better Business Bureau with a rating of A-.

The cross on the roof was installed directly in 1954 into the west roof and nailed to the east roof, as shown in the photo on the right. Because this will cause future problems with a metal roof, St. Mark's Property Team plan to build a mounting base to attach to the west roof, and build a cross out of Trex composite plastic material. This mounting base would be covered with the steel shingles, and then the base and cross would be put in place by the roofers. This will provide a 50 year solution to the roof cross installation. The proposal details are attached on page 6. We estimate the cost at \$500.



SOLAR PANELS

The Corporation of St. Mark's decided to take opportunity of proposing the installation solar panels at the same time as the new roof. For a metal roof, the best and most waterproof installation would be to install the panel supports at the same time as the roof is installed.

The Government of Ontario has a program which guarantees a price of 80.2 cents per kilowatt hour for generated electricity for 20 years, called a Micro-FIT (Feed-In-Tariff). St. Mark's has an ideal roof for a 10 kiloWatt Micro-FIT installation. The electricity generated is fed back into the electrical grid rather than being used on-site. This means that batteries or electrical conversion are not needed. It uses well established electrical and mechanical technology. It should provide about \$10,000 per year of guaranteed income for the

next 20 years. The capital cost would have a payback period of about 8 years. Five other churches in Ontario have installed solar panels under this program and are they are very happy with the results. A contract request has been submitted to the Ontario Power Authority and installation is contingent on receiving a suitable contract offer with the concurrence of Hydro Ottawa. We expect a contract offer about mid-April.

Quotes for the proposed installation were requested from five different suppliers. All were requested to bid on a 10 kiloWatts (KW) installation, the maximum that can be generated at any time. There was a wide range of responses that were difficult to evaluate. Some would only produce 10KW for a short period just before and after noon; others could produce the maximum from mid-morning to mid-afternoon. Bids were requested again from the two lowest bidders for a standardized 52 panels array which would maximize the power production to 9.88KW over the longest period of time during the day. The lowest bids were from Lucas NRG in Ottawa, ON, and Grasshopper Solar in Toronto, ON. The details of the bids are attached as a table on page 5.

As a further enhancement, it was decided to also request a quote on a cross of seven panels in a contrasting solar panel colour – black on blue or blue on black. This gives eye catching appeal to the installation.

Our recommendation is to accept the lowest bid of \$75,000 plus tax for the 52 panels with a contrasting cross from Lucas NRG, subject to receiving a contract offer from the Ontario Power Authority (OPA) and an offer to connect from Hydro Ottawa. Lucas NRG is a division of the same firm that had the lowest bid on the roof. We think there is considerable advantage to have the roofing installer also install the solar panels.

We further recommend that a sum not exceeding \$4,000 be approved to cover the estimated cost of moving the electrical meter from the basement to an outside wall to bring the electrical service entrance up to the present electrical code. The exact cost cannot be determined until Hydro Ottawa complete a review of a new service entrance most likely after we receive a contract offer from OPA.

The total requested for the solar project is \$75,000 + \$4000 plus HST for a total of 89,270



FUNDING

It is proposed to provide most of the funding by withdrawing funds from two of St. Mark's CTF accounts. For the roof, the Gladys O'Ray bequest (CTF 2654) for about \$51,000 could be used. For the solar panel installation, the Erma Earle bequest (CTF 2623) for about \$92,000 could be used.

There has been some interest from parishioners in helping to fund both projects and we would like to accommodate them. The amount of donated money at the moment is uncertain and it is not our intention to push this hard because a financial campaign is planned for 2012. Only sufficient funds would be withdrawn from the CTF to cover the difference between the donated funds and the project cost.

MOTIONS PASSED BY VESTRY, FEBRUARY 20, 2011

It is moved by Les Cundell, People's Warden, and seconded by Janis Perkin, Rector's Warden, that a metal roof be installed on the Church for an amount not to exceed \$55,000, subject to final contract details to be presented to and approved by Parish Council.

It is moved by Les Cundell, People's Warden, and seconded by Janis Perkin, Rector's Warden, that conditional on receiving a 10 kiloWatt 20 year Micro-FIT contract offer from the Ontario Power Authority, St. Mark's install a solar panel installation on the Church roof for an amount not to exceed \$90,000, subject to final solar installation contract details to be presented to and approved by parish council. In the event that the contract with Micro FIT proposes remuneration less than \$0.50 per kW, the corporation shall recall Vestry to reconsider this decision.

It is moved by Les Cundell, People's Warden, and seconded by Janis Perkin, Rector's Warden, that the Corporation of St. Mark's be authorized to pay for the solar installation and the roof by withdrawing funds from St. Mark's shares in the Consolidated Trust Fund of the Diocese, and that provision be made to accept donations from any who wish to contribute to these two projects.

Roof Installation Quotes - St. Mark's Anglican Church, Ottawa, ON

Product	Installer	Cost	HST	Total Cost	Remarks
London Eco-Roof Bravo 4'x16' steel sheet	West End, Ottawa	\$35,506.90	\$4,615.90	\$40,122.80	Exposed screws every 14" in and between rows. Plenum insulated and sealed. Standard fascia and mounting roof cross included. Installed over old shingles.
Decra steel Shake 21"x52"	Lucas, Ottawa	\$52,000.00	\$6,760.00	\$58,760.00	Rock particles glued to surface - hidden fasteners. Fascia and mounting roof cross included. Installed over old shingles.
Diamond Steel 16"x16" diamond pattern	Lucas, Ottawa	\$62,000.00	\$8,060.00	\$70,060.00	Interlocking shingle - hidden fasteners - 100% ice shield. Plenum insulated and sealed. Fascia and mounting roof cross included. Old shingles removed.
Interlock aluminium Slate 9"x18"	Interlock, Ontario Division	\$38,060.00	\$4,947.80	\$43,007.80	Interlocking shingle hidden fasteners. Ice shield on eaves and next to wall, membrane of the rest. Plenum not insulated and sealed. Fascia and mounting roof cross not included. Old shingles removed.
Ideal Roofing Wakefield Bridge steel shingle 12"x38"	Cossette, Ottawa	\$60,000.00	\$7,800.00	\$67,800.00	Interlocking shingle hidden fasteners. 100% ice shield. Plenum insulated and sealed. Fascia and mounting roof cross included. Old shingles removed.
Ideal Roofing Wakefield Bridge steel shingle 12"x38"	Lucas, Ottawa	\$37,500.00	\$4,875.00	\$42,375.00	Interlocking shingle hidden fasteners - Ice shield on the eaves and next to wall. New matching fascia and mounting roof cross included. Plenum insulated and sealed. Old shingles removed and will go to firewood.

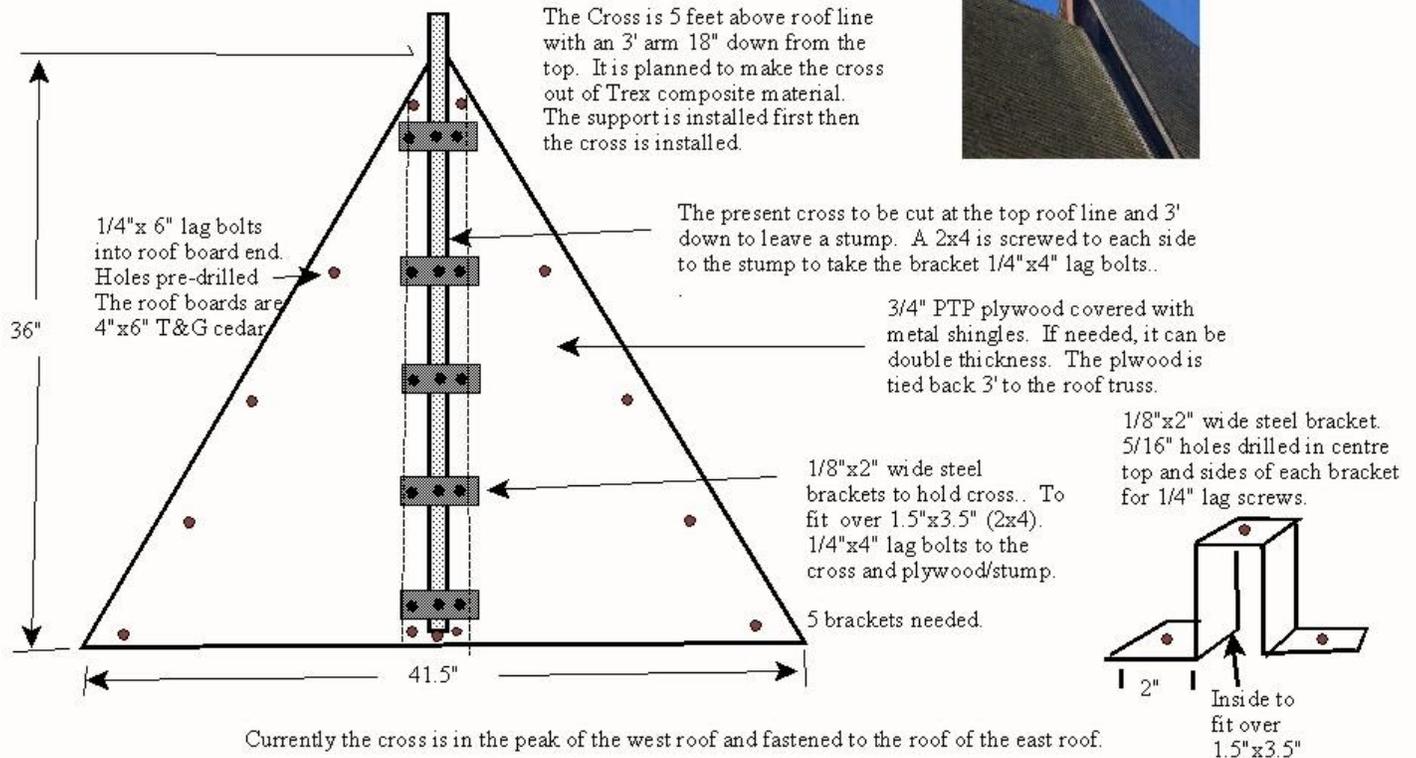
Material for Roof Work by Property Team - St. Mark's Anglican Church, Ottawa, ON

Product	Amount	Cost	HST	Total Cost	Remarks
Marine plywood	2 sheets 4'x8'	\$200.00	\$26.00	\$226.00	Base and truss supports for roof cross
Wakefield Bridge shingles	1 package	\$40.00	\$5.20	\$45.20	Cladding for plywood roof cross base
Metal brackets for cross	5	\$75.00	\$9.75	\$84.75	Custom made
Mounting lag screws	assorted	\$25.00	\$3.25	\$28.25	Stainless steel
Trex 2x4 plastic lumber	12' length	\$100.00	\$13.00	\$113.00	50 year life material. Brown colour
				\$497.20	

Solar Installation Quote Comparison, St. Mark's Anglican Church, Ottawa, ON

Company	Location	Size of System	# of Panels	Cost	HST	Total Cost	Remarks
Capital Solar	Ottawa, ON	11.04 KW	42	\$82,681.28	\$10,748.57	\$93,429.85	Did not visit site.
Grasshopper	Toronto, ON	11.27 KW	46	\$68,588.79	\$8,919.54	\$77,508.33	Did not visit site.
Solarlogix	Ottawa, ON		52	Budget Estimate Only		\$85,000.00	Wanted \$400 fee to submit quote.
Lucas NRG	Nepean, ON	11.50 KW	50	\$72,000.00	\$9,360.00	\$81,360.00	Inverters are twins in one package
Jazz Solar	Ottawa, ON	10.12 KW	44 with Cross	\$70,738.80	\$9,196.04	\$79,934.84	Low output minimum system. Cross of different colour
Jazz Solar	Ottawa, ON	11.96 KW	52 with Cross	\$89,580.40	\$11,645.45	\$101,225.85	Cross of different colour
Grasshopper	Toronto, ON	12.74 KW	52	\$75,907.57	\$9,867.98	\$85,775.55	Did not visit site.
Lucas NRG	Ottawa, ON	12. KW	52	\$74,000.00	\$9,620.00	\$83,620.00	Inverters are twins in one package
Grasshopper	Toronto, ON	12.74 KW	52 with Cross	\$75,907.57	\$9,867.98	\$85,775.55	Cross of different colour
Lucas NRG	Ottawa, ON	12. KW	52 with Cross	\$75,000.00	\$9,620.00	\$84,620.00	Cross of different colour

Roof Cross 3/4" Shingled Plywood Support to hold a 2x4 cross mounted on end face of west roof.



St. Mark's Anglican Church, 1606 Fisher Ave, Ottawa ON K2C 1X6
613-224-7431 or Lorne Bowerman 613-225-7904 February 2011