

MEMORANDUM

To: CRA Board
From: Erica Schwarz
Date: March 17, 2021
Re: Solar Installation Project for 99 Bishop Allen Drive

INTRODUCTION

CRA staff and our project team are now advancing the construction phase of the major renovation of the CRA's property at 99 Bishop Allen Drive*, which houses nonprofit organizations. The project design has prioritized environmental sustainability, ADA compliance, historic preservation, aesthetics, and ensures that the property will provide affordable, functional nonprofit office and program space for decades.

The process to develop the project scope included studying and developing schematic designs for a solar array on the roof of the building, and considering if a solar project should be part of the larger renovation project. It was determined that the installation of a solar array could happen independently, and would be more cost effective as a separate project, to be completed after the renovation project.

However, the major renovation project does include improvements to the roof structure, replacement of the roofing, and upgrades to the electrical system to allow for solar energy.

SOLAR PROJECT SCOPE AND STRUCTURE

The schematic design for a solar array at 99 Bishop Allen Drive shows that the roof may hold 93 panels, which are estimated to support over 40% of the building's electrical usage.

CRA staff have weighed the options for financing and installing the solar array, which include:

- **Power Purchase:** The CRA provides its roof to another party who would install and own the solar panels. The CRA would receive a reduced energy rate for the life of the system, which is considered to be 25 years.
- **Hybrid Ownership:** A financier pays for 10% of the cost to purchase and install the solar array, in exchange for a federal tax break. The CRA receives all of the electric output and state incentives (from the SMART Program) directly.

The Hybrid Ownership model results in a much greater net financial benefit. The model shows a break-even point after 7 years. Cumulative savings from the Hybrid Ownership Model, including factoring in the cost of purchasing and installing the panels, are estimated to be \$56,957 after 15 years and \$136,696 after 25 years. By comparison, under the Power Purchase Model the cumulative savings are estimated to be \$23,520 after 15 years and \$55,660 after 25 years.

The Hybrid Ownership structure means the CRA will need to select both a financier and an installer for the project.

SELECTING THE SOLAR PROJECT TEAM

CRA staff have selected Resonant Energy to help in advancing the solar installation project. Resonant is a mission driven B-Corp that was recently selected by The City of Cambridge to carry out a new program for expanding solar energy in the City. Resonant also has a deep history in helping nonprofit and faith based organizations benefit from solar energy.

Resonant Energy will work with CRA staff to see the solar project through to completion. This includes finalizing the solar array design, securing all permits and utility interconnection, selecting an investor and ensuring that the CRA receives the financial benefits provided by the Hybrid Ownership model, selecting an installer, and overseeing the completion of the installation and the operation of the system.

NEXT STEPS

After signing a Letter of Intent, CRA staff will work with Resonant Energy to advance selection processes for the financier and installer. CRA staff will then come to the board with requests for votes on contracts for those selections; those contracts will commit the CRA to the full expense of the project, estimated to be approximately \$85,000.

It is expected that the solar array will be installed and fully operational by December 31, 2021.

EXHIBITS

Exhibit A: Letter of Intent from Resonant Energy

** The CRA has changed the address of 93-99 Bishop Allen Drive to 99 Bishop Allen Drive with help from the Cambridge Department of Public Works. Future documents will use the new 99 address.*



Resonant Energy Solar Development Proposal

Prepared For:

Name: Cambridge Redevelopment Authority

Project Site: 99 Bishop Allen Drive, Cambridge, MA 02139

Date: February 10, 2021

Purpose

This Letter of Intent evidences the intention of Resonant Energy, a Company whose place of business is located at 60 Clayton Street, Suite #201, Boston, MA 02122, to develop a solar photovoltaic system at 99 Bishop Allen Drive (called "Project Site"). This Proposal details the scope of work and cost of project commitments. Resonant Energy and Cambridge Redevelopment Authority (called "CRA"), each defined as a "party" and collectively as the "parties."

SCOPE OF WORK

Resonant Energy's commitments include:

1. Phase I: Design
 - a. Resonant will defer to Solar Design Associates' completed design that outlines 31.2 kW design;
 - b. Resonant will defer to Solar Design Associates' placement of equipment on the side of the building and the roof;
 - c. Resonant will work with CRA to address items that may change the existing design including, but not limited to, roof work, placement of equipment, meter location, and interconnection strategy;
 - d. Resonant will coordinate with CRA's point of contact to be responsive to timelines and foreseen and unforeseen requirements related to the building renovation;
 - e. Resonant will provide a recommended timeline to optimize incentives, competitive bids, and financing.
2. Phase II: Competitive Bidding
 - a. Resonant will provide Request for Proposals in alignment with CRA's required procurement laws and regulations;
 - b. Resonant will keep the bid open for a minimum of fourteen days in order to solicit competitive bids for the project;
 - c. Resonant will assist CRA in inviting responses from top installers in the Greater Boston area;
 - d. Resonant will review the proposals, call references, and conduct interviews as necessary with the top candidates;
 - e. Resonant will create a cost comparison analysis with detailed equipment specifications, warranties, and project information;
 - f. Resonant will provide a recommendation to CRA based on experience and industry knowledge;
 - g. CRA will have the opportunity to review all the materials, recommendations, and make the final decision on the selected installer.
3. Phase III: Financing
 - a. Resonant will secure financing to allow CRA to monetize the Federal Investment Tax Credit

- through “Hybrid Ownership” structure;
 - b. Resonant will connect CRA to a trusted and vetted third party financier;
 - c. Financing arrangement will allow CRA to benefit from 100% of the electricity revenue and the Solar Massachusetts Renewable Target (SMART) incentive, see Diagram B;
 - d. Resonant will provide technical support during contract review.
4. Phase IV: Permitting and Construction Management
 - a. Resonant Energy will ensure that permitting, interconnection, and regulatory documents are submitted accurately;
 - b. Resonant will ensure that there is effective communication with CRA’s point of contact for solar installation;
 - c. Resonant will ensure that materials are delivered at specified times and location;
 - d. Resonant will ensure the solar installation has all necessary inspections and approvals.
 5. Phase V: Commissioning
 - a. Resonant will oversee the submission of required commissioning documents;
 - b. Resonant will oversee that the solar array is functional;
 - c. Resonant will take appropriate measures to keep all parties on appropriate timelines to hit required milestones.

APPROXIMATE TIMELINE- Diagram A

	TASK	PARTY RESPONSIBLE	START DATE	END DATE
Competitive Bidding				
1	Authorize Project by signing agreement and making down payment	CRA	February 2021	March 2021
2	Prepare the RFP	Resonant	March 1, 2021	March 15, 2021
3	Issue RPF	Resonant	March 16, 2021	April 7, 2021
4	Respond to questions from bidders and prepare relevant updates	Resonant	March 21, 2021	March 31, 2021
5	Review proposals and prepare analysis	Resonant	April 8, 2021	April 21, 2021
6	Make recommendation to CRA	Resonant	April 21, 2021	April 21, 2021
7	Discuss and make selection	CRA	April 21, 2021	May 1, 2021
Project Development				
8	Contract Review	CRA	May 1, 2021	June 1, 2021
9	Permit Application Submitted	Resonant	June 1, 2021	June 15, 2021
10	Equipment Ordered	Resonant	July 15, 2021	August 1, 2021
11	Installation Scheduled	Resonant	Fall 2021	

* Project Timeline may change based on CRA’s preferences, delays in site renovation, utility requirements, or other site-specific information.

EXPECTED COSTS - Diagram B

The chart below indicates expected costs for the solar installation. The costs will change after Resonant completes a competitive Request for Proposals. CRA may have access to invoices and project details throughout the process. All the fees, with the exception of Resonant Energy's fees are subject to change based on competitive bid. CRA understands that Resonant Energy will work to deliver the best pricing to the CRA and will pass along both the added costs and the added savings that come from the competitive bidding process. It's possible the range of equipment and labor costs will be up to 15% in either direction.

Item	Expected Cost Range (\$/watt)	Total Cost for 32.1 kW (\$)	Milestone Paid
RFP Upfront Fee			
Resonant Energy RFP fee to prepare RFP materials	na	\$5,000	100% Upon signing this MOU
Project Direct Installation Cost			
EPC overhead, labor & permitting	\$1.00 - \$1.20/watt	\$32,100- \$38,520	Installation Milestones
Equipment	\$1.05 - \$1.25/watt	\$33,705 - \$40,125	Installation Milestones
Resonant Energy Construction Management fee	\$0.50/watt	\$16,050	Installation Milestones

Financing and Savings		
Item Name	Expected Year 1 Value (\$/kwh)	Expected Year 1 Value (\$) based on production
Hybrid Ownership Discount to CRA	12% of total project install costs	~\$10,593
Electricity Value	\$0.153/kWh	\$5,429
SMART Incentive	\$0.147/kWh	\$5,209

DURATION

This LOI shall terminate upon the earlier of:

- i. The failure of any Party to this Letter of Intent to complete any commitment described; or
- ii. Any Party acting in bad faith; or
- iii. A joint agreement of the Parties; or
- iv. February 10, 2022

SIGNATURES AND DATES

Customer and Resonant Energy indicate agreement with this Proposal by their signatures.

By: _____

By: _____

Name: _____

Name: _____

Title (If Applicable): _____

Title: _____

Date: _____

Date: _____

Organization (If Applicable):

Address:

Resonant Energy
60 Clayton Street
Boston, MA 02122