



**2218 East High Street
Jackson, Michigan 49203**

Proposal / Purchase Agreement

Date of Proposal:	July 26, 2019
Customer Name:	City of Ann Arbor
Customer Contact:	Mr. Josh MacDonald
Customer Address:	301 East Huron Street, Fifth Floor
City, State, Zip:	Ann Arbor, MI 48104
Customer Phone #:	734.794.6430 x43724
Customer Email:	jmacdonald@a2gov.org

At Harvest Energy Solutions, We Have a Vision

Harvest Energy's vision is to assist in the advancement of a clean energy distributed base throughout the country, thereby reducing our dependence on both foreign and domestic fossil fuels, while enabling the agribusiness community to work toward developing their own form of energy independence.

As we continue to grow, the Harvest Energy brand is fast becoming one of the most recognizable renewable energy options for farmers and ranchers in the Midwest. We set out to be the best in providing turn-key energy solutions, and we believe we're doing just that. It's our goal to create an understanding of, and a belief in efficient energy independence that future generations can embrace, while at the same time incorporating the essential balance of environmental, social and economic elements of development.

At Harvest Energy, we have more than 100 years of collective commercial equipment installation experience insuring professional quality workmanship at your site. Our premium line of products provide best-in-class performance and allows us the flexibility to offer customized renewable resources that best fulfill your current requirements while keeping options open for future expansion. But, there are challenges. We have found at times the process of getting a renewable energy system on-line can be very tedious and frustrating. At Harvest Energy we assure you that from the first introductory conversation through project commissioning, we will manage and oversee the complete process. We become deeply involved with the local municipalities and utility companies. We are there to assist in overcoming all of the bureaucratic hurdles. In addition, Harvest Energy will pursue USDA and other federal, state and local agencies in search of grants and incentives specific to your renewable energy investment. We stay involved from start to finish.

Harvest Energy has a specific plan for growth; an ambitious plan that we are proud of and one which we truly believe in. We are committed to providing only the highest quality products and services in the renewable and energy saving sector; focused on the farmers and ranchers and rural businesses throughout the Midwest. The idea of making the world a better, safer and healthier place to live has always made sense to us. That vision has now turned into our business.

I personally want to thank you for allowing us to serve you.

Mark Olinyk

CEO





The North American Board of Certified Energy Practitioners (NABCEP) is the gold standard for Solar PV sales and installation for North America. NABCEP is committed to providing a certification program of quality and integrity for the professionals and consumer/public it is designed to serve. Professionals who choose to become certified demonstrate their competence in the field and their commitment to upholding high standards of ethical and professional practice. NABCEP’s goal is to develop voluntary national certification programs that will promote renewable energy, provide value to solar installation and sales professionals, promote worker safety and skill, and promote consumer confidence. NABCEP holds all certified professionals to the highest standards.

Harvest Energy employees hold both the NABCEP Solar PV Installation Professional Certificate and PV Technical Sales Certificate. This gives us an edge against the competition and ensures that Harvest Energy’s customers are receiving a Solar PV installation of the highest quality. Harvest Energy is proud of its NABCEP certified employees and is proud to provide our customers with the highest standard of customer service, quality, and value.

Agreement

This Agreement is between Harvest Energy Solutions, LLC (Harvest Energy), 2218 East High Street, Jackson, Michigan, a Michigan limited liability company and the purchaser listed below. This agreement, together with any properly executed change orders and attached exhibits, constitutes the entire agreement between the parties and supersedes any prior written or oral agreements.

The system is described as follows:

Purchaser Name:	City of Ann Arbor
Type of Entity: (e.g., government agency, corporation, individual)	Municipality
Site Name:	City of Ann Arbor - Fire Station 6
Site Address:	1881 Briarwood Circle
City, State, Zip:	Ann Arbor, MI 48108
Township:	City of Ann Arbor
County:	Washtenaw
System Type:	Ballast Roof Mount
System Cost:	Seventy Three Thousand Seven Hundred Ten Dollars (\$73,710.00)
System Rating:	52,650 kW (DC) solar photovoltaic (PV) system
Estimated Output:	63,980 kWh (AC) annually
Maximum Wire Run:	50 ft

Scope of Work

Harvest Energy will provide all labor, materials, equipment and services necessary to install the photovoltaic (PV) system described in the exhibits below. System components are subject to selection, price and availability at time of order. Final system components may differ from those described in this proposal, but will represent a product of equal or better value and quality.

In addition to the equipment described in Exhibits B and D, the PV system installation includes Balance-of-System (BOS) components made up of mounting hardware, wiring, conduit, fittings, junction boxes, switches, disconnects, enclosures and signage necessary for a complete operating grid-tied PV system as required by the local electricity distributor and applicable codes and regulations.

Harvest is responsible for up to the maximum number of feet of underground trenching, wiring and conduit specified above. Any requirements over this maximum will be at the Customer's expense.

It is understood that this construction job will have many volunteers and will be a community effort. Harvest holds no liability for injuries involving volunteers or any non-Harvest employee on the job site. Harvest will not be providing insurance, liability, wages, or any kind of responsibility for any volunteer assistance with the project other than Harvest employees.

Harvest is not responsible for providing any special equipment to access the roof such as a crane, scissor lift, or telehandler. This will be the responsibility of the customer if the installation team requires it.

Harvest will use its best skill and judgment in the installation of the PV system by Harvest Energy employees and subcontractors under the direct supervision of licensed electricians.

System Performance Estimates

The PV system performance estimate calculated in Exhibit E is based on the system size requested and on our evaluation of the best size and placement for the proposed site. The estimated amount of electrical energy produced by the PV system is based on data from the National Renewable Energy Lab (NREL). Based on several site and system specific factors, your proposed PV system is estimated to generate the amount of electricity listed above. This is only an estimate. Harvest Energy does not warrant the energy production of any PV system, as weather and other environmental conditions are beyond our control.

Limited Warranties from Harvest Energy and Manufacturers

Harvest Energy warrants that the installation services performed under this agreement will be performed with accuracy, care and skill and shall be free from defects in design, engineering and workmanship. Harvest Energy further warrants that all equipment and materials will be new, safe and suitable for the proposed installation.

Installation labor and workmanship are warranted to be free from in design, engineering and workmanship defect for five years from the completion date. If any of Harvest Energy’s work is defective and Customer gives Harvest Energy notice within the warranty period, then Harvest Energy will, at its expense, promptly remedy the defect by repair or replacement as appropriate to restore system productivity. This warranty does not include the repair of cracks in concrete footings. Harvest Energy workmanship warranty does not cover damages caused by deterioration or failure of Customer’s preexisting facilities.

Harvest Energy hereby assigns to Customer, without recourse, all manufacturer’s warranties on equipment and components. Inverters carry a twelve year manufacturer’s warranty. Power Optimizers carry a twenty-five year manufacturer’s warranty. The solar modules typically carry a ten year manufacturer’s workmanship warranty and a twenty-five year performance warranty. Racking components typically carry a ten year manufacturer’s warranty. If any of the solar array components are defective, and Customer gives Harvest Energy notice within the warranty period, then Harvest Energy will pursue manufacturer replacement or repair on Customer’s behalf, and will install replacement or repair items for an hourly charge. All claims under this agreement are expressly limited to the repair or replacement of the system parts determined to be defective during the specified warranty period.

Harvest Energy will keep the installation site free from accumulations of waste materials, rubbish and other debris during the progress of the installation and on the completion date will leave the installation site in a neat, clean and orderly condition.

Harvest Energy will maintain Workers Compensation Insurance required by the jurisdiction in which the solar PV system is being installed. Harvest Energy will also maintain Commercial General Liability insurance to a limit of not less than \$1,000,000 per occurrence.

Harvest Energy does not warrant any equipment, materials or work furnished by Customer.

Customer’s sole warranty rights and remedies are expressed in this section. EXCEPT FOR THE LIMITED WARRANTY PROVIDED HEREIN, HARVEST ENERGY MAKES NO WARRANTY REGARDING ITS GOODS OR SERVICES, INCLUDING WITHOUT LIMITATION WARRANTY OF MERCHANTABILITY, OF FITNESS FOR A PARTICULAR PURPOSE, OR OF NONINFRINGEMENT.

Customer Requirements

Customer will provide safe, unobstructed access to the installation site during daylight hours Monday through Friday. If Harvest Energy requires access to the installation site on weekends, nights or holidays, we will coordinate with Customer in advance. Customer will ensure that the installation site is free from hazardous materials or conditions which could endanger the safety of Harvest Energy employees or subcontractors.

Customer is responsible for identifying any Customer-owned underground objects in the location of the solar array and the trenching path. Any object not identified or identified incorrectly that is damaged during the install will be at Customer’s cost. These objects include but are not limited to water lines, gas lines, electrical lines and concrete footings. If Customer wishes to have Harvest Energy repair the damage to the underground Customer-owned utilities, Customer will be invoiced at a ‘time and material’ rate from Harvest Energy to repair these damages or Customer may repair at Customer’s cost.

Once system components have been delivered to site, Customer is responsible for protection of the components including prevention of theft, vandalism, wind, falling trees, other damage caused by natural causes, and other miscellaneous accidents. Customer will not hold Harvest Energy responsible for delays or inability to complete installation of the PV System due to unforeseen circumstance or events beyond Harvest Energy’s reasonable control such as severe weather events, government actions, equipment and materials shortages, vandalism or disruption of access to the installation site.

Costs of required township, city, and/or county permits, studies, reports and inspections (including electrical permits, geotechnical reports and Professional Engineering stamps) are not included in Harvest Energy’s Scope of Work as described in this agreement and are the responsibility of Customer. Additionally, Harvest Energy is not financially or physically responsible for any upgrades to existing electrical service that may be required.

Initials _____

System Cost per Watt Breakdown

Fire Station 6 - Solar Costs	
Panels	\$ 0.52
Inverters	\$ 0.22
Racking	\$ 0.21
Balance of System	\$ 0.29
Labor	\$ 0.16
Total	\$ 1.40

System Cost

As full compensation for installation of the proposed PV system, Customer agrees to pay Harvest Energy the fixed price listed above as "System Cost" according to the payment schedule below. Any changes or additions requested by Customer requires an authorized change order and will result in additional costs. Customer use of a credit card for any of the progress payments will be charged a fee of 3%. This price is valid for a period of fourteen days from the date on the cover of this proposal.

Progress Payments

- There is no deposit required with signed Agreement. It is understood that Customer may have applied for one or more grants and if the grant applications are unsuccessful, the Agreement may be cancelled by Customer.
- A 35% payment is required before Harvest Energy will order equipment and place the project in the installation schedule. Once Harvest Energy receives payment, this Agreement becomes binding on Customer. If payment is not received within sixty (60) days after the date Customer signed this Agreement, the Agreement may be cancelled by Harvest Energy.
- A 55% payment is required to commence installation either payable before or upon delivery of system array components to the installation site and/or the arrival of Harvest Energy installation crew. Delivery of system array components averages approximately six to eight weeks after ordering.
- The final 10% balance is due immediately upon commissioning of the PV system. Commissioning is defined as the successful final inspection by permitting authorities and proof of satisfactory connection to the utility grid by the energy provider or local Electrical Co-op.

Failure to make any of the scheduled progress payments by Customer will result in a delay of the installation. Customer agrees to pay interest at the lesser of the maximum interest rate allowed by law, or 18% per annum, on all past due balances. If Customer terminates this Agreement without cause, Harvest Energy is entitled to promptly receive payment for all work performed, all materials and equipment purchased including any ordered or in transit and any costs incurred as a result of such termination. Harvest may accept restrictively endorsed partial payments, without satisfying the debt in full.

Customer hereby grants to Harvest Energy a security interest and lien upon the PV system described in this Agreement and all components thereof which will continue until the purchase price for the PV system is paid in full. Harvest Energy has the right to file a UCC-1 financing statement evidencing such security interest. Title to the installation will pass to Customer, free and clear of all liens (other than liens arising from actions by the Customer), upon payment of final balance. Harvest Energy reserves the right to pursue reasonable legal remedies in the event of non-payment.

Incentives

Various financial and tax incentives may be available to offset the cost of your PV system. Included in the cost of your system, Harvest Energy will provide reasonable assistance in completing the forms necessary to pursue these incentives. However, Harvest Energy makes no representations or guarantees about the availability of any incentives. **Harvest Energy highly recommends that you contact your CPA for accounting advice.**

Disputes

If any term or provision of this Agreement should be determined to be invalid or unenforceable by a court or other body, the remaining terms and provisions shall not be affected and shall remain valid and enforceable.

Any dispute not resolved within thirty days of notice shall be submitted to arbitration pursuant to the Rules of the American Arbitration Association for Commercial Arbitration. The site of the arbitration shall be Jackson, Michigan and the arbitrators shall decide the dispute in accordance with the laws of the State of Michigan.

Exhibits

Exhibit A – Environmental Impact

Exhibit B – Site Diagram

Exhibit C – One Line Drawing

Exhibit D – System Specifications

Exhibit E – Performance Estimate PV Watts

Acceptance

Harvest Energy looks forward to providing you with a high-quality solar PV system.

This Agreement accepted as of _____, 2019.

Respectfully,

_____ Date: _____

Ken Zebarah
Territory Manager
Harvest Energy Solutions

_____ Date: _____

Customer Acceptance
Josh MacDonald
City of Ann Arbor

Exhibit A – Environmental Impact

According to the U.S. Energy Information Administration, energy-related carbon dioxide emissions account for an overwhelming 98% of all U.S. carbon dioxide emissions. Solar power is a clean and increasingly efficient alternative to power fueled by fossil fuels. By supporting photovoltaic technologies, you are reducing greenhouse gases, eliminating many poisonous air pollutants, and conserving the Earth’s natural resources. Below is a visualization of the environmental impact of the system:

<u>This annual production is equivalent to:</u>		
Annual greenhouse gas emissions from:	9.4	passenger vehicles
CO2 Emissions from:	5061	Gallons of gas consumed
	105	Barrels of oil
CO2 emissions from the electricity use of:	6.8	Homes for one year
Carbon sequestered by:	1157	Tree seedlings grown for 10 years
Carbon sequestered annually by:	37.0	Acres of pine forest
Greenhouse gas emissions avoided by recycling:	16.9	Tons of waste instead of sending it to a landfill

Source: <http://epa.gov/cleanenergy/energy-resources/calculator.html>

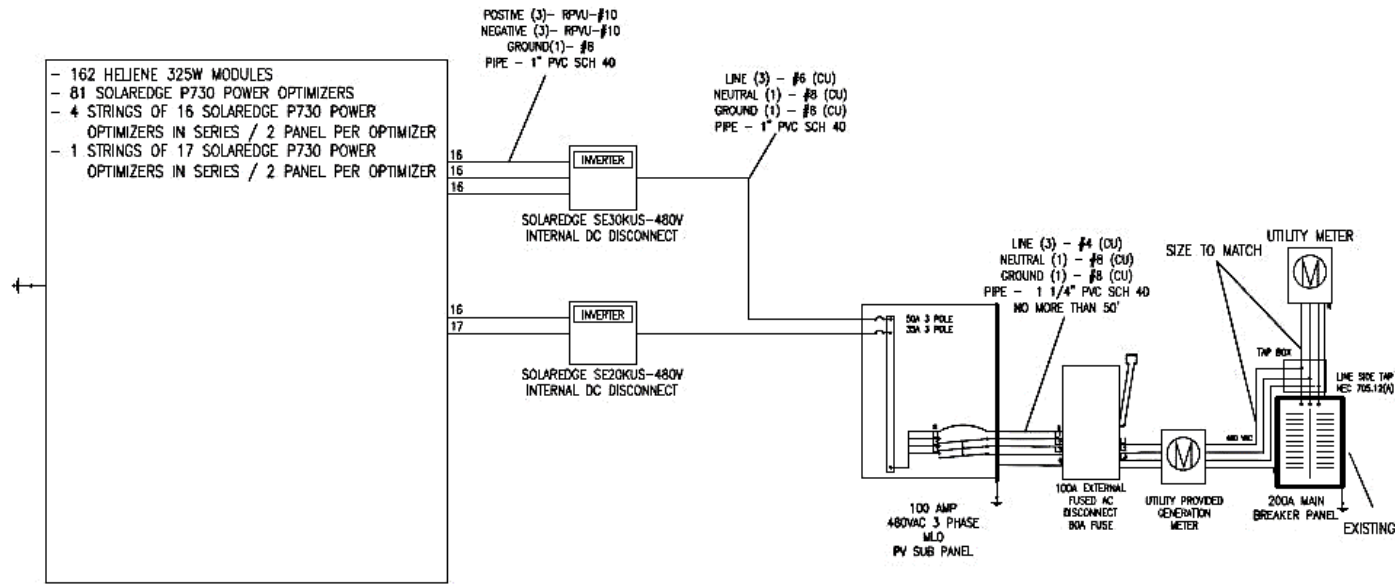
Exhibit B – System Site Plan



Equipment placement and dimensions are approximate and subject to change

Exhibit C – One Line Drawing

52.65 KW DC SOLAR GENERATOR ONE-LINE DIAGRAM



- 162 HELIENE 325W MODULES
- 81 SOLAREEDGE P730 POWER OPTIMIZERS
- 4 STRINGS OF 16 SOLAREEDGE P730 POWER OPTIMIZERS IN SERIES / 2 PANEL PER OPTIMIZER
- 1 STRINGS OF 17 SOLAREEDGE P730 POWER OPTIMIZERS IN SERIES / 2 PANEL PER OPTIMIZER

- SYSTEM SPECS :**
 480 VAC 3 PHASE WYE 4 WIRE
 52,650 W DC
 60.5 MAXIMUM CONTINUOUS AMPS
 162 - HELIENE 325 MODULES
 81 - SOLAREEDGE P730 POWER OPTIMIZERS
 1 - SOLAREEDGE SE20KUS-480 INVERTER
 1 - SOLAREEDGE SE20KUS-480 INVERTER

1. EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH NEC ARTICLE 705.
2. PROVIDE WARNING SIGN PER NEC 690-17 READING "WARNING-ELECTRIC SHOCK HAZARD-DO NOT TOUCH TERMINALS - TERMINALS ON BOTH THE LINE AND LOAD MAY BE ENERGIZED IN THE OFF POSITION".
3. LABEL "SOLAR POWER SYSTEM DEDICATED MW-HR METER", OPTIONAL.
4. LABEL SWITCH AS "PV GENERATOR SAFETY DISCONNECT SWITCH".
5. USE APPROPRIATE WIRE GAUGE IF RUN FROM DISCONNECT TO INVERTER TO HOME IS > 200FT.
6. THIS DRAWING IS FOR REFERENCE.
7. VARIATIONS MAY BE MADE IN ACCORDANCE WITH NEC GUIDELINES.

WIRE COLOR CODING*		* WIRE RATINGS *		DESCRIPTION	
UNLESS OTHERWISE SPECIFIED:		WIRE MUST BE SIZED ACCORDING TO CURRENT LIMITING DEVICE OR COMPONENT CURRENT RATING		HARVEST ENERGY SOLUTIONS	
BLACK	HIGH VOLTAGE LINE AND LOAD	NOTICE: THIS DRAWING MAY INCLUDE UNPUBLISHED PRE-PRODUCTION MATERIAL. COPIES BY HARVEST ENERGY AND AS SUCH IS NOT TO BE COPIED, REPRODUCED, DISCLOSED OR USED IN ANY WAY OR FORM WITHOUT PRIOR WRITTEN AUTHORIZATION FROM HARVEST ENERGY SOLUTIONS	RATINGS FOR COPPER THHN OR MTW WIRE	DATE: 07/23/2019	ORDER: CITY OF ANN ARBOR
RED	HIGH VOLTAGE LINE AND LOAD		3/0 AWG - 200 AMPS #12 AWG - 20 AMPS	DESIGNED BY: RTS	PROJECT: FIRESTATION #6 SOLAR PROJECT
WHITE	A.C. NEUTRAL		1/0 AWG - 100 AMPS #14 AWG - 20 AMPS	APPROVED BY: LPO	TITLE: 52.65 KW SOLAR POWER ONE-LINE DIAGRAM
YELLOW	HIGH VOLTAGE LINE AND LOAD		25 AWG - 100 AMPS #16 AWG - 15 AMPS		DATE: 07/23/2019
GREEN #/YELLOW	EARTH GROUND		25 AWG - 65 AMPS #18 AWG - 9 AMPS		REV: 1
BLUE	D.C. VOLTAGE		25 AWG - 50 AMPS #20 AWG - 8 AMPS		REV: 1
BLUE W/WHITE	D.C. RETURN		#10 AWG - 35 AMPS #24 AWG - 2 AMPS		REV: 1
GRAY	SHIELDED CABLES				REV: 1
JUMPERS	ORANGE				REV: 1
ALL W/LOW SIGNALS TO BE RUN IN SHIELDED CABLES					REV: 1

Exhibit D – System Specifications

Photovoltaic System Specification Sheet	
City of Ann Arbor - Fire Station 6	
1881 Briarwood Circle	
Ann Arbor, MI 48108	
Latitude	42.2429°N
Longitude	83.7512°W
Array Azimuth	180° True South
Magnetic Declination	West 6°
System Type	Ballast Roof Mount
System Footprint	60' x 63' and 40' x 94'
Roof Dimensions	120' x 120'
Roof Low-Edge Eave Height	18'
Roof Substrate	EPDM membrane
Array Orientation	Landscape
Tilt (Degrees)	10° from Horizontal
System Size (DC)	52.65 kW
System Losses	14.49%
Inverter Efficiency	96.00%
Racking System	Ecolibrium Solar
Module Type	Heliene 325W
Power Optimizer	SolarEdge P730
Inverter	SolarEdge SE20K-US and SE30K-US
Number of Sub-Arrays	2
Number of Modules per Sub-Array	78, 84
Total Number of Modules	162
Number of Modules per String	See One Line
Phase	480VAC 3 Phase Wye 4 Wire
Maximum Continuous System Current	60.50 Amps

System Design By:
Harvest Energy Solutions

Exhibit E – Performance Estimate

RESULTS

63,980 kWh/Year*

System output may range from 61,293 to 66,168 kWh per year near this location.

Month	Solar Radiation (kWh / m ² / day)	AC Energy (kWh)	Value (\$)
January	2.16	3,015	225
February	3.06	3,781	283
March	4.32	5,731	429
April	5.22	6,541	489
May	5.78	7,241	541
June	6.43	7,580	567
July	6.65	7,903	591
August	5.87	7,050	527
September	4.97	5,853	438
October	3.28	4,124	308
November	2.33	2,981	223
December	1.59	2,179	163
Annual	4.31	63,979	\$ 4,784

Location and Station Identification

Requested Location	1881 Briarwood Circle, Ann Arbor, MI 48108
Weather Data Source	Lat, Lon: 42.25, -83.74 0.7 mi
Latitude	42.25° N
Longitude	83.74° W

PV System Specifications (Residential)

DC System Size	52.65 kW
Module Type	Standard
Array Type	Fixed (roof mount)
Array Tilt	10°
Array Azimuth	180°
System Losses	14.48%
Inverter Efficiency	96%