



## CITY COUNCIL AGENDA ITEM

Date: February 25, 2013

To: Brian Kischnick, City Manager

From: Mark F. Miller, Director of Economic and Community Development  
Tim Richnak, Public Works Director  
Brent Savidant, Planning Director  
Glenn Lapin, Economic Development Specialist

Subject: DTE Energy Solar Currents Proposal

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Solar Project Developers, GenPoint Energy and Inovateus, approached the City of Troy in an effort to identify potential sites for inclusion in a response to a Request For Proposal (RFP) issued by DTE Energy for DTE's Solar Currents program. The RFP sought project developers to build and transfer solar systems for DTE. DTE is seeking to build approximately a 1 Megawatt solar panel system in Troy. DTE is also reviewing other potential sites in Michigan. DTE would generate power from this and other statewide sites as a part of its commitment to have at least 10% of its power originate from renewable energy sources.

DTE has targeted the site adjacent to northbound I-75 (east of I-75) and south of Long Lake Road (map attached) for this project. This City owned property was acquired several years ago for a proposed, but never built, off ramp from northbound I-75. The Michigan Department of Transportation (MDOT) has deleted the interchange ramp project from its 2035 Regional Transportation Plan for Southeast Michigan.

DTE is proposing to use approximately four acres of the target site for the solar panel system. A 20-year lease of the site is being proposed by DTE which would generate annual lease payments to the City in an amount to be negotiated. All project expenses, including maintenance, would be borne by DTE Energy. In addition to annual lease payments, consideration will be given by DTE to providing a public amenity on the site, such as a small public park.

Some factors to consider include the following:

- The City of Troy, as reflected in the 2008 Master Plan, is interested in initiatives that advance green technology and renewable energy solutions.
- This is expected to be Michigan's largest solar field installation to date.
- The City of Troy would generate annual lease revenues for a non-income generating property. However, lease payments may not necessarily be at a level



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considered to be adequate for this particular parcel. An acceptable lease payment would need to be negotiated as a part of the Lease Agreement.

- The approximately four-acre property would be obligated for the 20-year lease period.
- Potential for park development by DTE Energy at the site.
- Unlike wind turbines, cell towers or other electrical power installations, these solar panels would be ground mounted (about 3 feet in height) and relatively unobtrusive.
- At the end of the lease period, DTE Energy would be responsible for system removal and restoration of the site.
- DTE Energy would own all the solar equipment, related systems and all energy generated from the system.

Representatives from GenPoint Energy and Inovateus are scheduled to make a presentation to City Council at its March 4, 2013 meeting. They will be available to answer any questions as well.

If there is interest in moving forward with this proposed project, a negotiated Lease Agreement would need to be executed by April 17<sup>th</sup>. The Solar Project Developers would need to follow normal local government approval processes, including site plan review and any special use approval from the Planning Commission.

### Recommendation

City Council to determine whether or not there is interest to proceed with the next step of this proposed project which is for the City Attorney and City Manager to negotiate a Lease Agreement between the City of Troy and DTE Energy to present to City Council at a future meeting.

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City Attorney's Review as to Form and Legality

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Date

### Attachments

1. GenPoint Energy and Inovateus PowerPoint presentation.
2. Map of proposed site.
3. Frequently Asked Questions.



### Legend

Description:  
Proposed Property for DTE  
Solar Currents Project

Map Scale: 1=686

Created: February 28, 2013



Note: The information provided by this application has been compiled from recorded deeds, plats, tax maps, surveys, and other public records and data. It is not a legally recorded map survey. Users of this data are hereby notified that the source information represented should be consulted for verification.

# DTE SolarCurrents 2012 Program Solar Site Host Opportunity





# DTE SolarCurrents – Site Host Opportunity

- On September 28, 2012, DTE issued an RFP for bids from project developers to build and transfer solar systems under the DTE-owned portion of its SolarCurrents program
- As a solar developer/contractor team, GenPoint Energy and Inovateus Solar worked with Troy city officials to submit various Troy sites for Phase I consideration on 12/21/2012.
- Of more than 90 sites proposed in Phase I, the Troy I-75/Long Lake Road site is one of less than ten sites short-listed for Phase II consideration.
- Phase II timing : Detailed proposals are due 4/17/2013
- Project awards/construction: DTE expects final awards by June 2013, with permitting and construction to commence and be completed by 12/31/2013

# Benefits to Troy as Site Host

- No expenses or capital costs – the developer/contractor will develop the project at its expense; DTE will buy the project assets from the developer/contractor and own/maintain the system over its 20 year life
- The project will generate an annual lease payment to City of Troy for the site easement
- City of Troy will have full rights to publicize the project as part of its green initiatives
- Educational benefits – DTE to provide informational kiosk

# Project Overview

## Project Description

- This site was proposed to DTE as a host location for DTE's SolarCurrents program.
- The proposed 1 MW solar array will be located on approximately 5 acres of undeveloped city-owned land at the southeast corner of I-75 and Long Lake Road.
- DTE believes this is a high quality site based on physical characteristics and visibility from I-75.
- If approved by the City of Troy and selected by DTE, this site will host one of the largest solar arrays in Michigan.
- The solar PV array will be fully paid for, constructed, and operated by DTE.
- To satisfy Phase II requirements, the site host (Troy) will need to approve and execute a 20-year site easement agreement.
- Phase II submissions are due April 17, 2013.



# Ground Mount Solar Installations

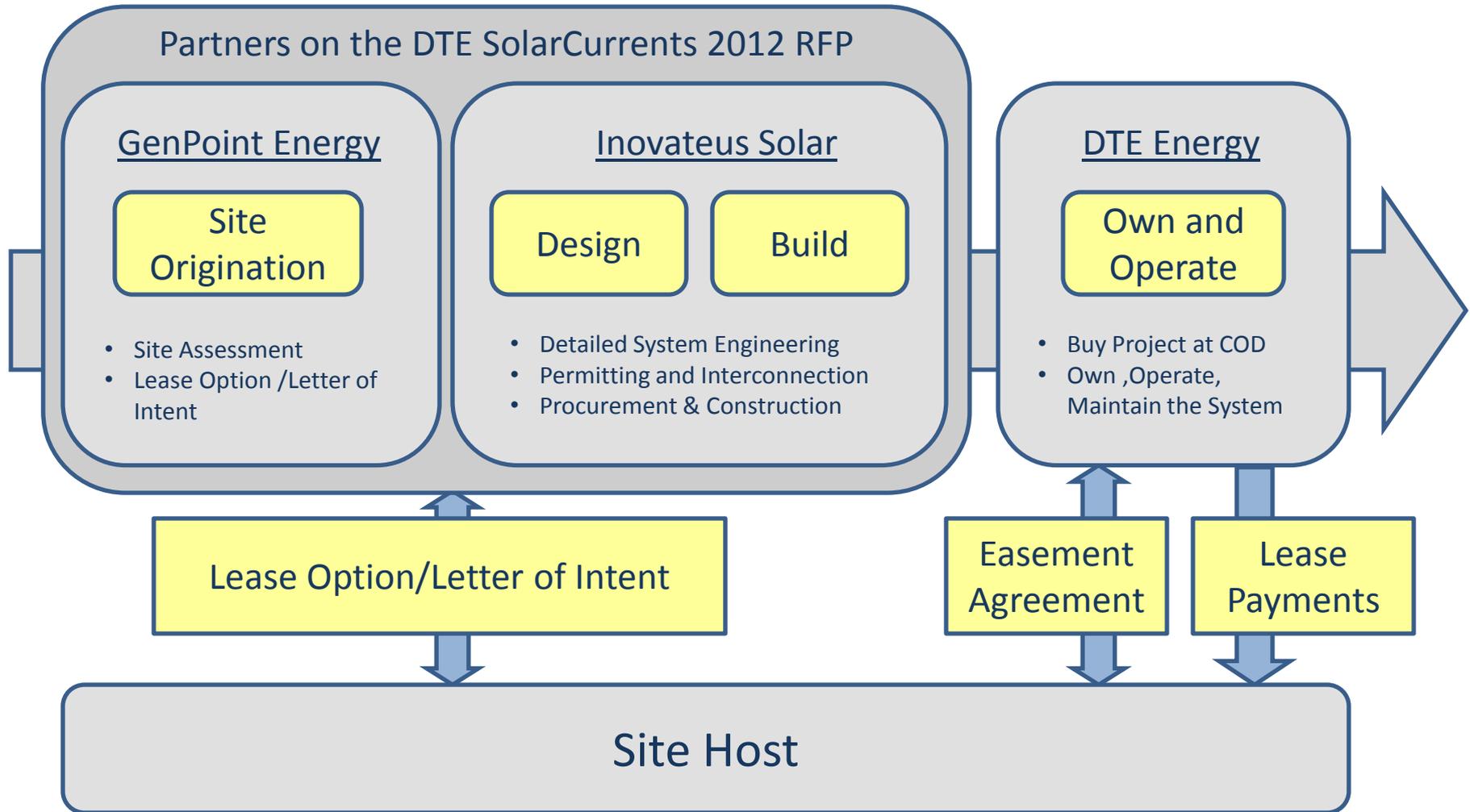


## Next Steps

- Contingent approval of the easement agreement
  - Subject to legal review and approval
  - Subject to negotiation of acceptable financial terms
- Planning Commission review and approval

# Appendix

# Roles of The Development Team and DTE Energy



# About Inovateus Solar and GenPoint Energy

## Inovateus Solar:

- Started in 2003 with the mission of promoting the solution to our country's growing energy problems; experience in many large-scale photovoltaic installations worldwide.
- Inovateus Solar, LLC has put together a strong portfolio of projects that we have constructed and supplied materials for.
- We are capable of constructing the highest quality solar rooftop, ground mount, or carport system at the most competitive price.
- By partnering with several of the world's largest electrical contractors and roofing companies, Inovateus Solar has been successful in working with large organizations all across the country.

## GenPoint Energy:

- Started in 2012 by solar industry veterans to focus on project development in Michigan
- Project resume includes commercial rooftop, ground mount, and solar landfill covers

# Clients / Past Projects

Collectively, we have developed and constructed solar projects both with local Michigan clients, as well as throughout North America:

- Detroit Edison Company
- Dayton Power & Light
- Consolidated Edison
- City of Greenville, MI
- General Motors
- Marathon Oil
- University of Notre Dame
- Toronto Renewable Energy Cooperative
- General Electric
- IKEA
- Hubert Corporation
- Schneider Electric
- Sears Corporation
- United Parcel Service
- Hartz Mountain
- Toys R Us
- Republic Services

# Examples of Inovateus Projects



Ford Motor – Wayne, MI – 500kW Ballasted Ground Mount



City Airport - Greenville, MI – 180kW Metal Roof Installation



GE Carports – Plainfield, CT– 100kW Integrated Carports

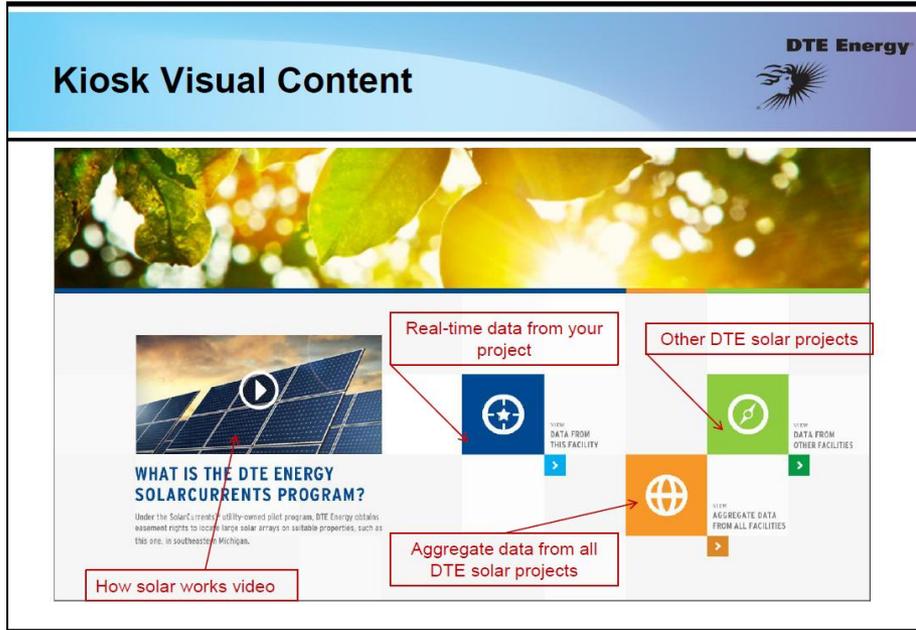


Kari-Out Corp – Totowa, NJ – 1.29 MW Ballasted Rooftop

Additional project references can be found at:

<http://inovateussolar.com/project-profiles>

# DTE Educational Kiosk



## **QUESTIONS/ANSWERS FOR PROPOSED GROUND-MOUNTED SOLAR PHOTOVOLTAIC SYSTEM IN TROY**

### ***What is the proposed project?***

DTE has proposed to construct a solar photovoltaic (PV) installation on approximately four acres of city-owned property located at the southeast corner of I-75 and Long Lake Road. If approved, the City of Troy will enter into a long term lease of the city-owned property to DTE. The property otherwise is expected to be undeveloped. DTE will pay for all costs of the installation and will be responsible for maintaining the site and the solar PV system during the 20-year term of the lease. The site of the solar installation will be fenced for safety and security.

### ***What are the benefits to the city?***

The city will be paid rent during the lease term. The rent amount is a negotiated amount comparable to lease rates paid by DTE at other sites in Michigan but adjusted for market conditions following negotiations with city managers. If constructed, Troy will be host to one of the largest solar PV installations in the state. The construction of solar installations in Troy is consistent with the goals of the 2008 Master Plan to increase alternative energy supply in Troy.

### ***What impact will it have on adjacent property?***

The impact on adjacent property is considered negligible. There may be some minor increased traffic or noise during construction, which is estimated to take 3-4 months. The nearest residential neighborhoods are separated from the location by an existing berm that shields the residential areas from I-75. To make the site suitable for locating a solar installation, ground cover and trees that could impair visibility and performance of the system will be removed.

### ***How much energy will be generated from the PV installation?***

The proposed 1 megawatt installation will produce an estimated 1,114,000 kWh hours of electricity annually. The clean solar energy produced by the system will be equivalent to the energy used by approximately 75 homes over one year and will reduce annual greenhouse gas emissions equivalent to operating 150 passenger vehicles.

### ***What, if any, health risks do chemicals used in solar panels and other devices used in solar PV arrays pose if they are released into the environment?***

Because PV panel materials are enclosed and do not mix with water or vaporize into the air, there is negligible risk of chemical releases to the environment during normal use. The most common type of PV panels are made of strong tempered glass and conform to state and federal fire safety, electrical, and building codes. Transformers used at PV installations are similar to the ones used throughout the electricity distribution system in Troy already. Modern electrical transformers typically use non-toxic coolants which if released are not expected to present a risk to human health. Any releases of toxic materials from solid state inverters installed at a solar PV installation are unlikely provided appropriate electrical and installation requirements are followed.

### ***What, if any, health risks do the electric and magnetic fields (EMF) from solar panels and other components of solar PV arrays pose?***

Solar PV panels, inverters, and other components that make up solar PV installations produce extremely low frequency EMF when generating and transmitting electricity. The extremely low frequency EMF from PV arrays is about the same that people are exposed to from household electrical appliances, wiring in buildings, and power transmission lines (all at the power frequency of 60 hertz). In industry studies, the

magnetic field levels at the boundary areas of comparable solar PV site were in a very low range, below the typical levels experienced by most people at home. A concise summary of issues regarding solar PV and electromagnetic fields was prepared by the State of Oregon in connection with a large proposed PV installation, and can be found here: [www.oregon.gov/odot/hwy/oipp/docs/emfconcerns.pdf](http://www.oregon.gov/odot/hwy/oipp/docs/emfconcerns.pdf).

***How do ground-mounted solar PV arrays adjacent to residential neighborhoods influence the property values in those neighborhoods?***

There is little evidence that ground-mounted solar arrays influence nearby property values. Some research concludes that residential solar PV installations increase the home property values on the houses on which they are installed.

***What public safety issues arise from people's (including children) access areas where the solar arrays are installed? Can electrical and other equipment associated with solar projects cause electrical fires?***

This site, like most ground-mounted solar PV arrays, will be enclosed by fencing. This prevents children and the general public from coming into contact with the installations, thus preventing unsafe situations. The National Electric Code has mandatory requirements to promote the electrical safety of solar PV arrays. The solar industry and firefighters provide training and education for emergency personnel to ensure that the proper safety precautions are taken. Leading solar PV modules are certified to Underwriters Laboratories (UL) safety standards for electrical devices.

***Do the inverters, transformers or other equipment used as part of ground-mounted solar PV create noise that will impact the surrounding neighborhood?***

Ground-mounted solar PV array inverters and transformers make a humming noise during daytime, when the array generates electricity. At 50 to 150 feet from the boundary of the arrays, any sound from the inverters is typically inaudible. Sound levels along the fenced boundary of the planned PV system are expected to be at background levels.

***How significant is glare and potential visual impacts from solar projects?***

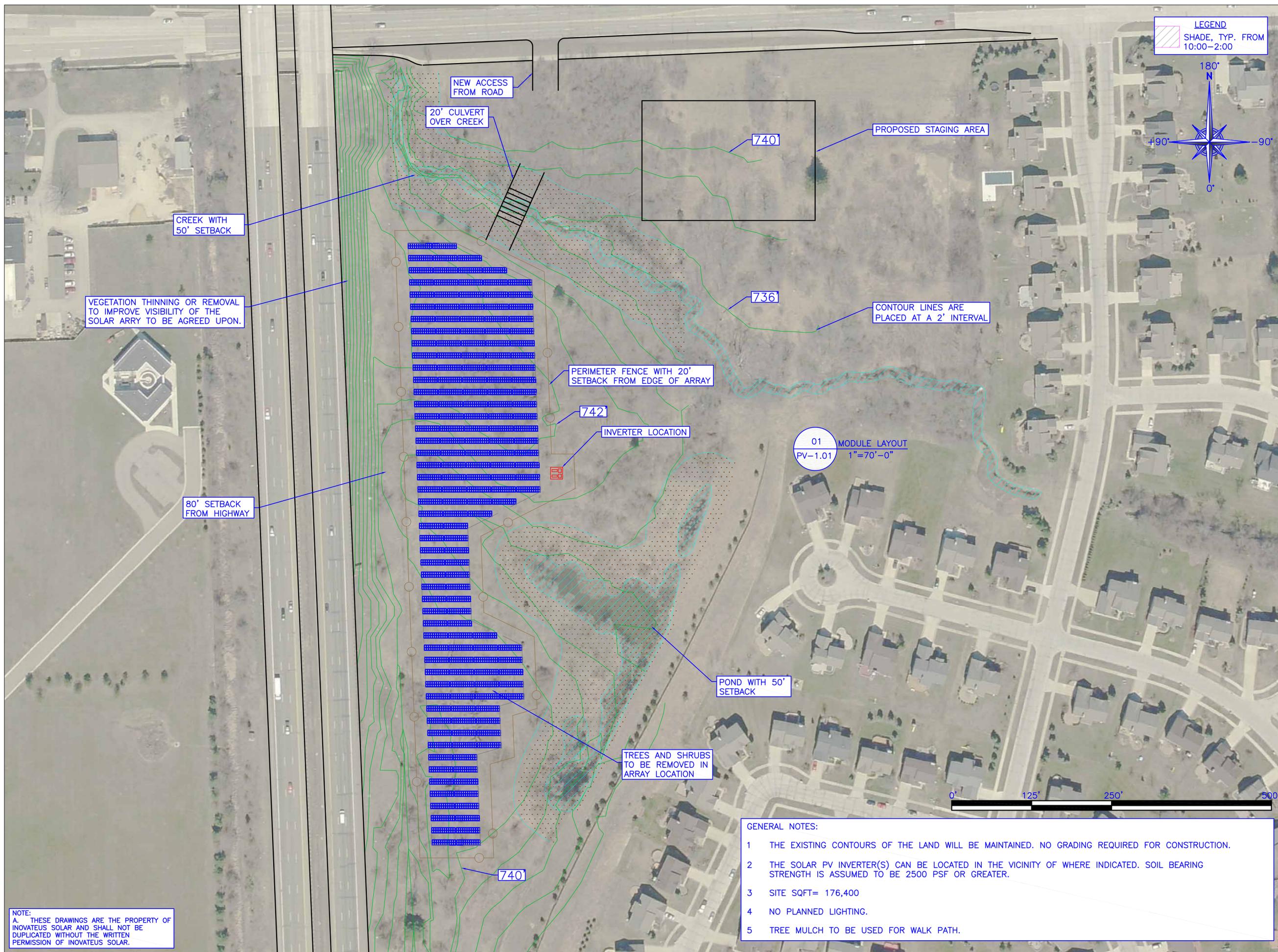
Solar panels are designed to absorb solar energy and convert it into electricity. Any reflective light therefore represents a loss in the amount of energy that is created. Most new PV panels are designed with anti-reflective coatings on the front glass surface that improves the ability of the PV module to absorb light and therefore increase solar energy production. These anti-reflective coatings minimize the amount of reflection and, therefore, glare. Many projects throughout the U.S. and the world have been installed near airports with no impact on flight operations. Also, design of the array, including the proper utilization of trees and berms, can minimize any potential glare to surrounding areas.

***Will the solar PV site attract birds or small animals?***

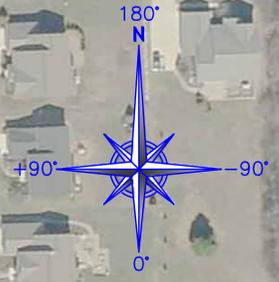
As with other structures in open areas, birds or small animals may tend to seek out the small cracks and crevices of the solar array frame to take residence. The frame structures are designed with caps of any openings that might be attractive to animals. DTE will be responsible for operating and maintaining the system on a routine basis and will clean the site and the array to minimize opportunities for small animals or birds to settle.

***Will signs be located at the site of the solar installation?***

As part of its solar program, DTE requires that signage be installed identifying the solar array as constructed and owned by DTE. Any signage will comply with the City of Troy sign ordinance requirements.



LEGEND  
SHADE, TYP. FROM  
10:00-2:00



19890 State Line Rd  
South Bend, IN 46637  
877-876-SOLAR

PROJECT  
DTE TROY  
#10110059

CLIENT  
DETROIT EDISON ELECTRIC

PROJECT ADDRESS  
I-75 AND LONG LAKE RD  
TROY, MI

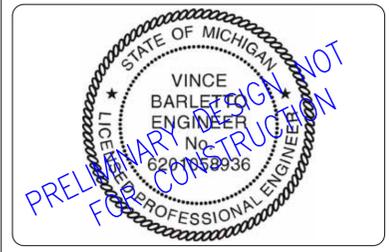
PROJECT SIZE  
1 MWp  
PHOTOVOLTAIC SYSTEM

SYSTEM INFORMATION  
MODULES: ISOFOTON ISFT-260W  
QUANTITY: 3,850  
STRING SIZE: 22 PANELS 1000V SYSTEM  
INVERTERS: AE SOLARON 500 1000V  
QUANTITY: 2  
MOUNTING SYSTEM: AET  
MODULE TILT: 25°  
ROOF SLOPE: 0°  
SYSTEM AZIMUTH: 0°

VINCE BARLETTO  
PROFESSIONAL ENGINEER  
CERTIFICATION #: 6201058936  
DESIGNER: J.R. APPROVED BY: A.P.

REVISIONS  
A 1/31/13 PRELIMINARY DESIGN  
B 2/19/13 LAYOUT ADJUST

LAYOUT  
PLAN  
PV-1



NOTE:  
A. THESE DRAWINGS ARE THE PROPERTY OF  
INOVATEUS SOLAR AND SHALL NOT BE  
DUPLICATED WITHOUT THE WRITTEN  
PERMISSION OF INOVATEUS SOLAR.

- GENERAL NOTES:
- 1 THE EXISTING CONTOURS OF THE LAND WILL BE MAINTAINED. NO GRADING REQUIRED FOR CONSTRUCTION.
  - 2 THE SOLAR PV INVERTER(S) CAN BE LOCATED IN THE VICINITY OF WHERE INDICATED. SOIL BEARING STRENGTH IS ASSUMED TO BE 2500 PSF OR GREATER.
  - 3 SITE SQFT= 176,400
  - 4 NO PLANNED LIGHTING.
  - 5 TREE MULCH TO BE USED FOR WALK PATH.