



**DANE COUNTY DEPT. OF  
PUBLIC WORKS, HIGHWAY &  
TRANSPORTATION**

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Madison, Wisconsin 53713  
Office: 608/266-4018 ♦ Fax: 608/267-1533  
Public Works Engineering Division

# ADDENDUM 1

May 28, 2020

**ATTENTION ALL REQUEST FOR BID (RFB) HOLDERS**

**RFB NO. 320010 - ADDENDUM NO. 1**

**PHOTOVOLTAIC SYSTEMS - LUSSIER FAMILY HERITAGE CENTER & LAKE FARM PARK**

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**BIDS DUE: TUESDAY, JUNE 2, 2020, 2:00 PM. DUE DATE AND  
TIME ARE NOT CHANGED BY THIS ADDENDUM.**

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This Addendum is issued to modify, explain or clarify the original Request for Bid (RFB) and is hereby made a part of the RFB. Please attach this Addendum to the RFB.

**1. Sheet E201**

Delete current Sheet E201; replace with new Sheet E201, issued with this Addendum

**2. Sheet E402**

Delete current Sheet E402; replace with new Sheet E402, issued with this Addendum

**PLEASE NOTE THE FOLLOWING CONTRACTOR SUBMITTED QUESTIONS:**

1. We can provide rapid shutdown compliant optimizers on the Heritage Center and Campground Shower roof – would this negate the need for the Midnight solar combiners on the roof systems?

**Response: For the shelters the intent is to minimize the equipment mounted on the structure and not have additional power optimizers installed. For the building power optimizers are an option to provide the module level shutdown. However, the inverters used on the project must be from the same manufacturer.**

2. The electrical tapping as show on pages E401 and E402 violate the 10' proximity tap rule. Is it possible to tap out of the building CT cabinet? This would allow electricians to work entirely outside the building.

**Response: The disconnect can be move closer to the main CT cabinet. Taping inside would need final approval from MG&E.**

3. The conductors shown on E401 and E402 between the string combiner and the DC disconnect is listed as #8. On the array drawings, these conductors are listed as #6. Please clarify.

**Response: On detail 1/E201, the conductors after the dc combiner shall be #3 as indicated on 1/E401. On detail 1/E402 the conductors after the dc combiner shall be #6 as indicated on 1/E202. On detail 1/E402 the conductors indicated as #12 AWG to be (2)#10 SWG, #10 GND.**

4. DC disconnects are shown separate from the inverters – can DC disconnects be integrated into inverters?  
**Response: Disconnects can be integrated with the inverters.**
5. Inverters as shown will be in the open? Will they be protected/locked/secured?  
**Response: The county will be constructing a fence around the inverters at the end of the project.**
6. Inverters on Heritage Center are drawn on the roof (E201), is it allowable to install these inverters elsewhere?  
**Response: Bids should be based upon the drawings. Changes to the location can be discussed as a VE item at a later time.**
7. Can a specification be provided for the standing seam metal roof? This can affect cost depending on which type of attachment clip is needed.  
**Response: The reroof project plans and specifications are available on the Dane County Public Works bids page under the “Archived” tab**
8. Piping is listed as sch. 80? Can schedule 40 be used? Or, can sch 40 be used for directional boring?  
**Response: Schedule 40 is acceptable**
9. Is it allowable to directional bore the entire site, rather than dig and trench some areas? If so, warning tape cannot be placed with a bored pipe, but a tracer line can – is this acceptable?  
**Response: Yes. Directional boring route will need to be approved by the county. Directional boring will not be allowed to be routed directly under trees which could result in damage to tree roots.**
10. Under driveways a 5’ concrete buffer is specified above and below the pipe crossing. Could this be eliminated by boring 4-5’ deep in those places? This would avoid site disruption.  
**Response: Yes**
11. In RFB 320010,2.2, H.1 single vehicle charger is mentioned. RFB 320010, 2.3, I state pedestal mount capable of 2 chargers. Please clarify.  
**Response: There will be two (2) single chargers mounted on a pedestal capable of holding two (2) chargers. Refer to schedule on sheet E001 for additional information.**
12. Lumos LSX 305 watt panels are not yet available. Can LSX 300s, be used?  
**Response: Yes**
13. When can we see subsurface ground conditions? This will affect the directional boring price.  
**Response: A geotechnical report was not generated for this project.**
14. We didn’t see erosion control on the drawings so we have to assume county is handling.  
**Response: Correct**
15. The steel for the structures not clearly showing being galvanized.. We think it should be. Comment?  
**Response: The steel is specified as coreten weathering steel. Galvanized steel is not acceptable.**

16. The shelters that use Lumos modules are not showing module level shutdown. Technically it may not be required because it is not an occupied structure. It may depend on AHJ. Since it's not on the plans we're not including it.

**Response: The shelters are not an occupiable building and there is no roof.**

17. Lumos is indicating they don't have 305 W modules available and may not until much later in the year. 300W Modules are what we can get from Lumos.

**Response: The 300W modules are acceptable**

18. We think the SolarEdge Inverters with Solar Edge Optimizers are better system than the Fronius... From a module level shutdown perspective.. on the buildings... Is this acceptable.

**Response: For the shelters the intent is to minimize the equipment mounted on the structure and not have additional power optimizers installed. For the building power optimizers are an option to provide the module level shutdown. However, the inverters used on the project must be from the same manufacturer.**

If any additional information about this Addendum is needed, please call Ryan Shore at 608/445-0109, [shore@countyofdane.com](mailto:shore@countyofdane.com) .

Sincerely,  
*Ryan Shore*  
Project Manager

Enclosures:

Sheet E201  
Sheet E402

CONSULTANTS

ISSUED

12/20/2019 SD DOCUMENTS

3/16/2020 CD DOCUMENTS

REVISIONS / ADDENDA

1 - ADD #1 05-28-2020

PROJECT # : 320010

DRAWN : —

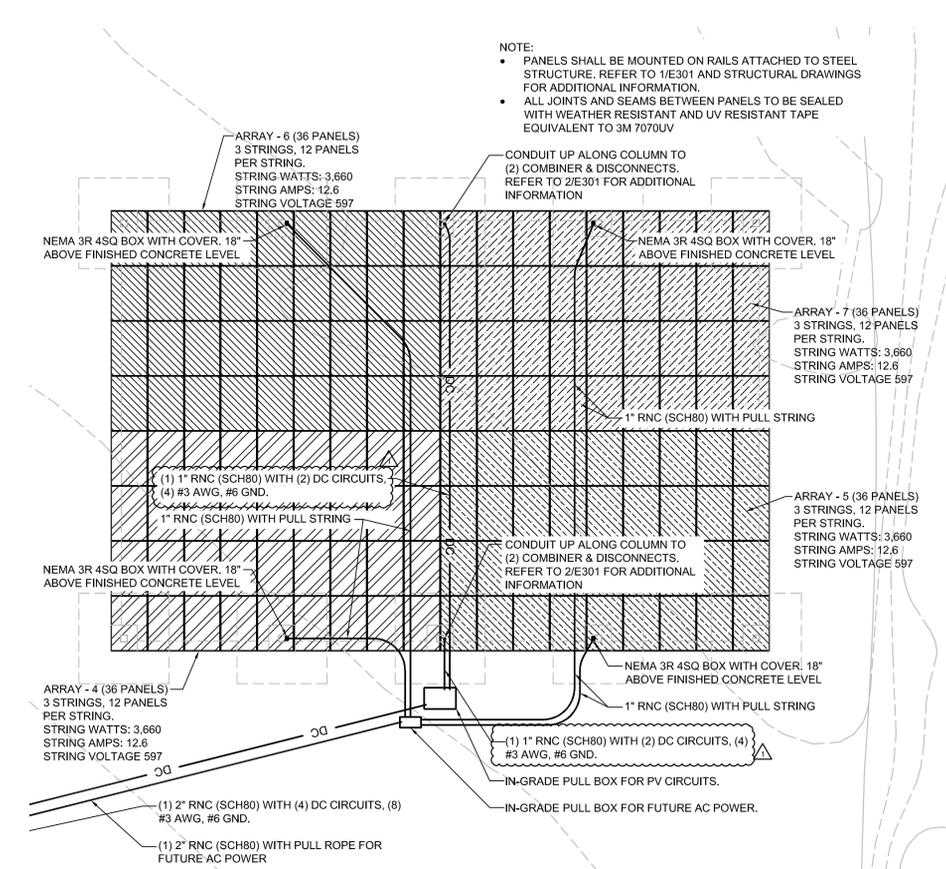
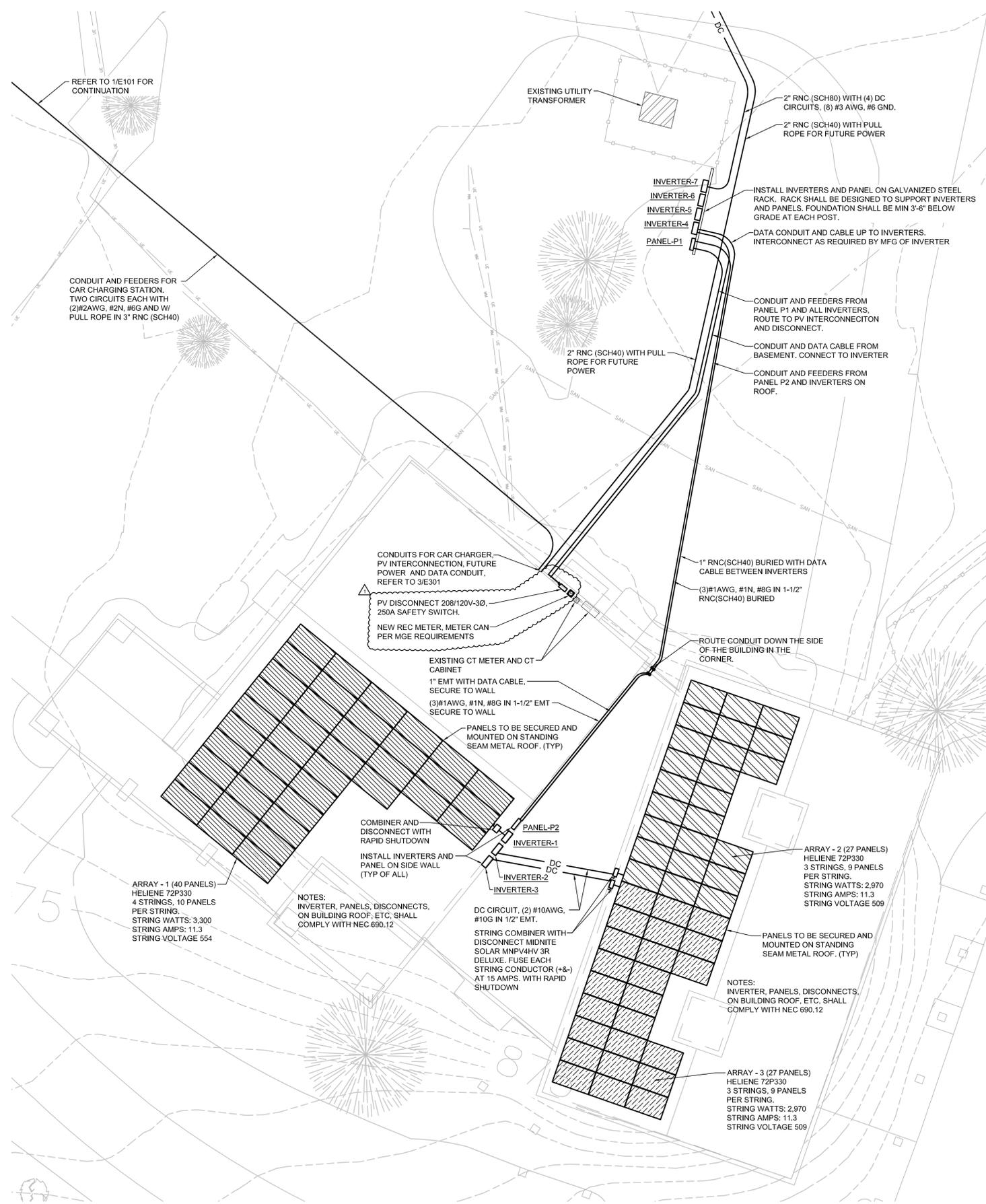
CHECKED : —

DATE : 16 March, 2020

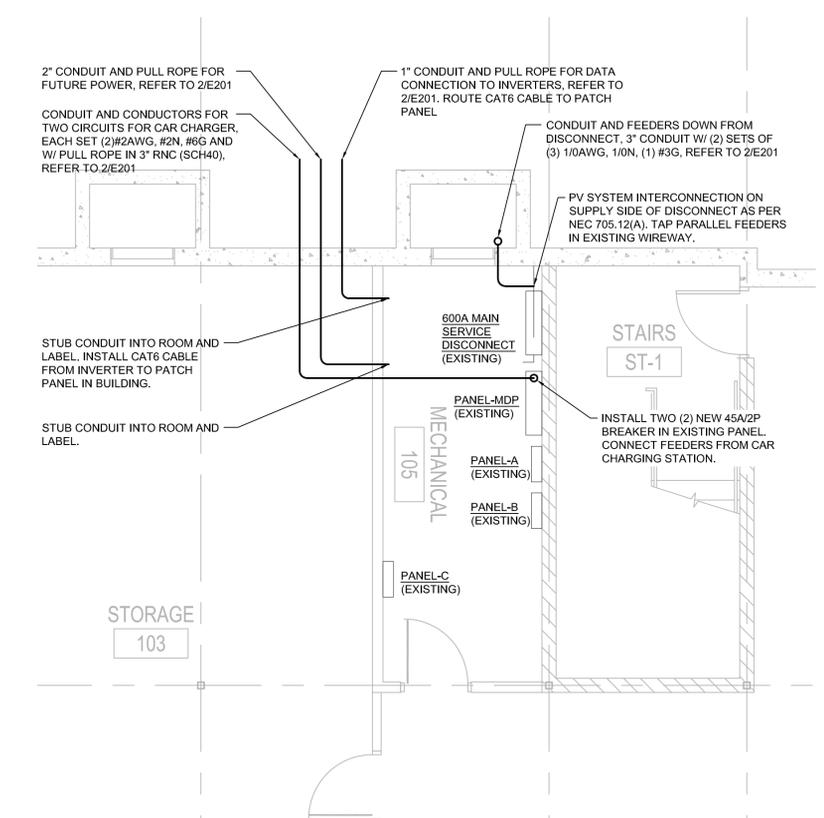
PHASE : CD

PROJECT  
PV INSTALLATION AND DESIGN  
LUSSIER FAMILY HERITAGE  
CENTER AND LAKE  
FARM CAMPGROUND  
3101 LAKE FARM ROAD  
MADISON, WISCONSIN

HERITAGE CENTER  
ELECTRICAL PLANS



1 SHELTER ARRAY - ELECTRICAL PLAN  
SCALE: 1/8" = 1'-0"



3 BASEMENT MECHANICAL AND ELECTRICAL ROOM  
SCALE: 1/4" = 1'-0"

2 HERITAGE CENTER - ELECTRICAL PLAN  
SCALE: 1/8" = 1'-0"



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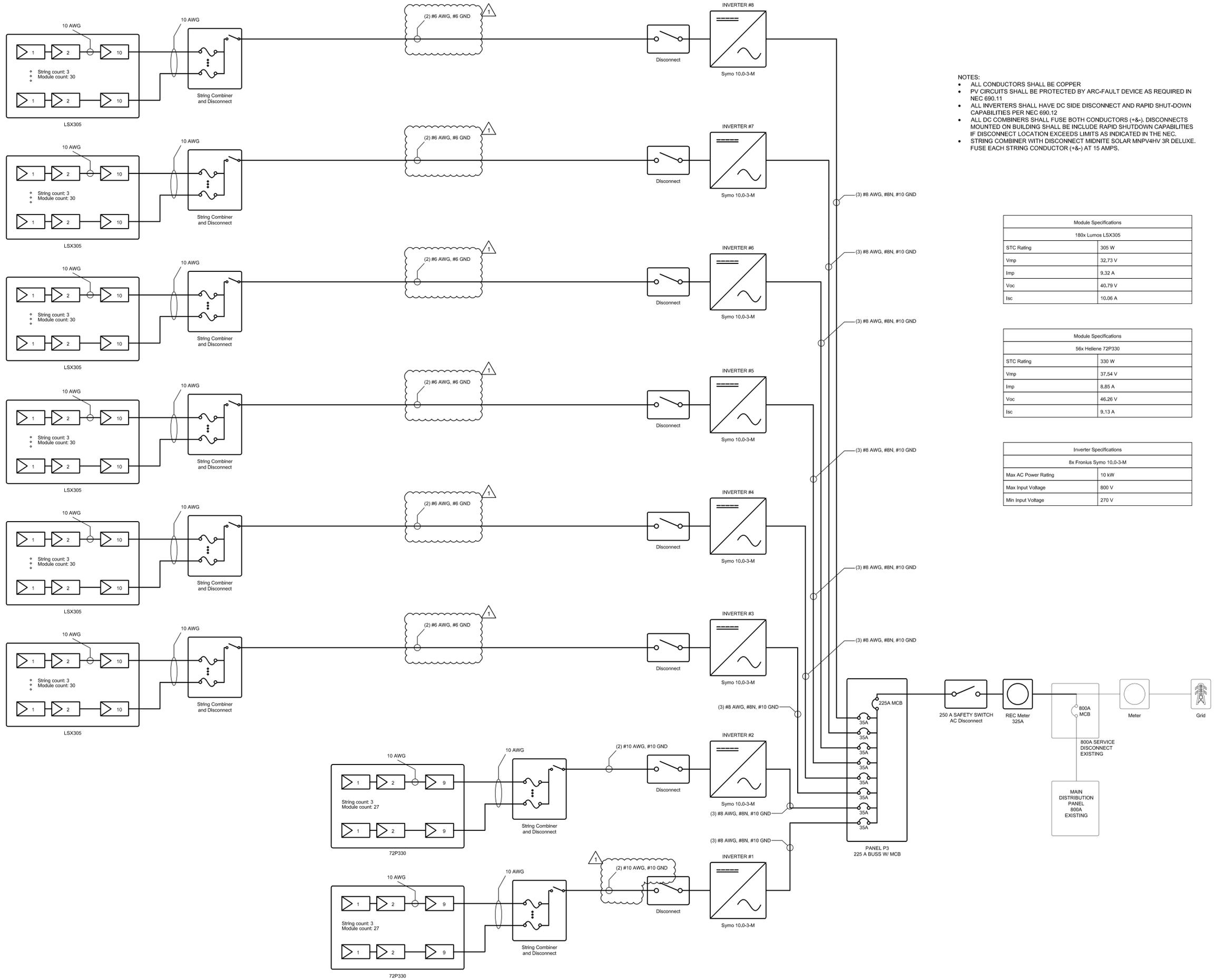
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PROJECT  
PV INSTALLATION AND DESIGN  
LUSSIER FAMILY HERITAGE  
CENTER AND LAKE  
FARM CAMPGROUND  
3101 LAKE FARM ROAD  
MADISON, WISCONSIN

LAKE FARM  
CAMPGROUND -  
ELECTRICAL ONE-LINE  
DIAGRAM



- NOTES:
- ALL CONDUCTORS SHALL BE COPPER
  - PV CIRCUITS SHALL BE PROTECTED BY ARC-FAULT DEVICE AS REQUIRED IN NEC 690.11
  - ALL INVERTERS SHALL HAVE DC SIDE DISCONNECT AND RAPID SHUT-DOWN CAPABILITIES PER NEC 690.12
  - ALL DC COMBINERS SHALL FUSE BOTH CONDUCTORS (+&-), DISCONNECTS MOUNTED ON BUILDING SHALL INCLUDE RAPID SHUTDOWN CAPABILITIES IF DISCONNECT LOCATION EXCEEDS LIMITS AS INDICATED IN THE NEC.
  - STRING COMBINER WITH DISCONNECT MIDNITE SOLAR MNPV4HV 3R DELUXE. FUSE EACH STRING CONDUCTOR (+&-) AT 15 AMPS.

Module Specifications	
180x Lumos LSX305	
STC Rating	305 W
Vmp	32.73 V
Imp	9.32 A
Voc	40.79 V
Isc	10.06 A

Module Specifications	
56x Hellene 72P330	
STC Rating	330 W
Vmp	37.54 V
Imp	8.85 A
Voc	46.26 V
Isc	9.13 A

Inverter Specifications	
8x Fronius Symo 10.0-3-M	
Max AC Power Rating	10 kW
Max Input Voltage	800 V
Min Input Voltage	270 V