1. THIS DRAWING IS FOR ILLUSTRATIVE PURPOSES ONLY!
2. ALL TESTING SHALL BE PERFORMED BY QUALIFIED PERSONNEL, WITH PROPER PERSONAL PROTECTIVE EQUIPMENT
3. THE PRODUCTION METER AND AC DISCONNECT SHOULD BE LOCATED TOGETHER IN A READILY ACCESSIBLE LOCATION WITHIN 10' OF THE MAIN SERVICE METER
4. 24/7 UNESCORTED KEYLESS ACCESS SHALL BE PROVIDED FOR THE METERS AND AC DISCONNECT
5. UTILITY AC DISCONNECT SHOULD BE LOCATED WITHIN 10 FEET OF THE MAIN SERVICE METER
6. NOTE ALL THE APPLICABLE NEC CODES
7. SHOW ALL THE SYSTEMS INCLUDING STORAGE, EXISTING AND NEW (IF APPLICABLE)

PV SYSTEM:
ROOF SLOPE: 20°
AZIMUTH: 180°
PV MODULES: 320W
TOTAL: 14
MODULES PER STRING: 14

RACK CONFIGURATION:

INVERTER INFORMATION:
3.8 kW UL CERTIFIED INVERTER, (1) DC/AC RATIO: 1.179

ABBREVIATIONS:
1. FOH: FRONT OF HOUSE
2. FSB: FIRE SET BACKS
3. (E): EXISTING
4. (N): NEW
5. PV: PHOTOVOLTAIC
6. MAX: MAXIMUM
7. OCPD: OVERCURRENT PROTECTION DEVICE
8. PCC: POINT OF COMMON COUPLING
9. PoC: POINT OF DER CONNECTION
10. RPA: REFERENCE POINT OF APPLICABILITY

SYSTEM SIZE:
3.8kW AC/4.48kW DC
NOTES:
1. THIS DRAWING IS FOR ILLUSTRATIVE PURPOSES ONLY!
2. ALL TESTING SHALL BE PERFORMED BY QUALIFIED PERSONNEL, WITH PROPER PERSONAL PROTECTIVE EQUIPMENT
3. INSTALLATION SHALL COMPLY WITH NEC 690 AND ALL APPLICABLE LOCAL, STATE, AND NATIONAL CODES AND STANDARDS
4. EQUIPMENT LABELS SHALL BE IN ACCORDANCE WITH NEC 690 AND XCEL ENERGY STANDARDS
5. 24/7 UNESCORTED KEYLESS ACCESS SHALL BE PROVIDED FOR THE METERS AND AC DISCONNECT
6. EQUIPMENT PAD SHALL CONTAIN INVERTER, GROUNDING TRANSFORMER, AND STEP-UP TRANSFORMER PER PROJECT SINGLE LINE DIAGRAM
7. SHOW ALL THE SYSTEMS INCLUDING STORAGE, EXISTING AND NEW IF APPlicable
8. PROVIDE FUSED, VISIBLE, LOCKABLE DISCONNECT MOUNTED ON DISCONNECT POLE. CLEARLY LABEL DISCONNECT PER XCEL ENERGY GUIDELINES.

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10. RPA: REFERENCE POINT OF APPLICABILITY

SYSTEM SIZE: 1000kW AC
CUSTOMER NAME
JOHN DOE

SCALE

PROJECT EXAMPLE DRAWINGS FOR DEDICATED POWER PRODUCTION FACILITY
INTERCONNECTION (STAND ALONE DER)
INSTALLATION ADDRESS:
7726 COUNTY ROAD 19, COTTAGE GROVE, MN
GPS: 44.836166, -92.90365
INSTALLER NAME AND CONTACT

SITE PLAN
SUBMITTAL
EXAMPLE

OVERALL PROJECT PLAN

PROJECT VICINITY

TYPICAL PV MODULE

ACCESS ROAD AND GATE (12' MIN WIDTH)

AREA EPS METER AND DISCONNECT
CUSTOMER DISCONNECT
EQUIPMENT PAD, SEE NOTES.

UNDERGROUND MEDIUM VOLTAGE AC CIRCUIT FROM EQUIPMENT PAD TO CUSTOMER DISCONNECT SWITCH

SERVICE METER
UTILITY DISCONNECT
CUSTOMER DISCONNECT

Location:

Distance:
ONE LINE EXAMPLE A:
FOR SINGLE INVERTER SYSTEMS

PV MODULES 320W MODULES 14 MODULES 1 STRING OF 14 MODULES

PV SYSTEM:
- PV MODULES: 320W
- PV MODULES: 14
- STRING INVERTER: RATED POWER: 3800W

INVERTER INFORMATION:
- STRING INVERTER: RATED POWER: 3800W
- DC/AC RATIO: 1.179

BACK CONFIGURATION:
- PV SYSTEM: ROOM SLOPE: 20° AZIMUTH: 180°
- PV MODULES: 320W
- TOTAL: 14 MODULES PER STRING: 14

ABBREVIATIONS:
1. FOH: FRONT OF HOUSE
2. FSB: FIRE SET BACKS
3. (E): EXISTING
4. (N): NEW
5. PV: PHOTOVOLTAIC
6. MAX: MAXIMUM
7. OCPD: OVERCURRENT PROTECTION DEVICE
8. PCC: POINT OF COMMON COUPLING
9. PoC: POINT OF DER CONNECTION
10. RPA: REFERENCE POINT OF APPlicABILITY

NOTES:
1. THIS DRAWING IS FOR ILLUSTRATIVE PURPOSES ONLY!
2. ALL TESTING SHALL BE PERFORMED BY QUALIFIED PERSONNEL, WITH PROPER PERSONAL PROTECTIVE EQUIPMENT
3. THE PRODUCTION METER AND AC DISCONNECT SHOULD BE LOCATED TOGETHER IN A READILY ACCESSIBLE LOCATION WITHIN 10' OF THE MAIN SERVICE METER
4. AC UNISERATED KEYSLESS ACCESS SHALL BE PROVIDED FOR THE METERS AND AC DISCONNECT
5. UTILITY AC DISCONNECT SHOULD BE LOCATED WITHIN 10 FEET OF THE MAIN SERVICE METER
6. NOTE ALL THE APPLICABLE NEC CODES
7. SHOW ALL THE SYSTEMS INCLUDING STORAGE, EXISTING AND NEW
8. SERVICES <320A WILL USE SELF-CONTAINED MAIN SERVICE METERS. 320A SERVICES MUST INDICATE WHETHER THE METERING WILL BE SELF-CONTAINED OR TRANSFORMER METERED. ALL SERVICES 400A OR GREATER MUST BE TRANSFORMER METERED

INVERTER:
- DC/AC RATIO: 1.179
- RATED POWER: 3800W
- STRING INVERTER: RATED POWER: 3800W
- DC/AC RATIO: 1.179

UTILITY DISCONNECT:
- AC DISCONNECT: 240V, 100A FUSIBLE NEMA 3R
- UTILITY AC DISCONNECT: VISIBLE-BLADE VIA WINDOW, LOCKABLE, AND READILY ACCESSIBLE PANEL RATING 100A FUSIBLE NEMA 3R

PV PRODUCTION METER:
- 120V, 1-PHASE 3W XCEL ENERGY OWNED
- AN XCEL-OWNED PRODUCTION METER MAY NOT BE REQUIRED BY THE PROGRAM THE SYSTEM APPlIES UNDER. WHEN IT IS REQUIRED, IT MUST BE INSTALLED BETWEEN THE INVERTER AND ANY CUSTOMER LOADS/ METERING.

PV PRODUCTION METER:
- 120V, 1-PHASE 3W CUSTOMER OWNED
- (CUSTOMER OWNED PRODUCTION METERS ARE OPTIONAL)

200A MAIN SERVICE PANEL
- 200A/2P MAIN BREAKER
- MAIN SERVICE METER BI-DIRECTIONAL

TO EXISTING LOADS
- TO 120/240V SINGLE PHASE UTILITY SERVICE
- OVERHEAD OR UNDERGROUND FED

SYSTEM SIZE:
- 3.8kW AC
- 4.48kW DC

CUSTOMER NAME: JOHN DOE
SCALE: 1:100

PROJECT NUMBER: 2019-100.01
APPLICATION OID, SRC, OR CASE NUMBER
DATE: 6/17/2019
PROFESSIONAL CERTIFICATION

Make:
Model:
Rating:

DATE REVISION
1 12/1/2018 INITIAL SUBMITTAL
2 12/15/2018 UTILITY COMMENTS
3 6/17/2019 CORRECTED SUBMITTAL

EXAMPLE DRAWINGS FOR SMALL SOLAR INTERCONNECTIONS
INSTALLER NAME AND CONTACT
1. THIS DRAWING IS FOR ILLUSTRATIVE PURPOSES ONLY!
2. ALL TESTING SHALL BE PERFORMED BY QUALIFIED PERSONNEL, WITH PROPER PERSONAL PROTECTIVE EQUIPMENT.
3. THE PRODUCTION METER AND AC DISCONNECT SHOULD BE LOCATED TOGETHER IN A READILY ACCESSIBLE LOCATION WITHIN 10' OF THE MAIN SERVICE METER.
4. 24/7 UNESCORTED KEYLESS ACCESS SHALL BE PROVIDED FOR THE METERS AND AC DISCONNECT.
5. UTILITY AC DISCONNECT SHOULD BE LOCATED WITHIN 10 FEET OF THE MAIN SERVICE METER.
6. NOTE ALL THE APPLICABLE NEC CODES.
7. SHOW ALL THE SYSTEMS INCLUDING STORAGE, ExISTING AND NEW (IF APPLICABLE).
8. SERVICES <320A WILL USE SELF-CONTAINED MAIN SERVICE METERS. 320A SERVICES MUST INDICATE WHETHER THE METERING WILL BE SELF-CONTAINED OR TRANSFORMER METERED. ALL SERVICES 400A OR GREATER MUST BE TRANSFORMER METERED.

PV SYSTEM:
- STRING INVERTER
  - RATED POWER: 3800W
  - (240V) INVERTER (3)
  - MAX OUTPUT CURRENT 16A
  - MAX INPUT CURRENT 12A
- MAX ACPPD 40A
- UL741 CERTIFIED
- TOTAL INVERTERS: 3 TOTAL RATED POWER: 11,400W

INVERTER INFORMATION:
- 3.8KW UL CERTIFIED INVERTER, (3) DC/AC RATIO: 1.179

RACK CONFIGURATION:
- STRING 1: SAME AS THE FIRST STRING
- STRING 2: SAME AS THE FIRST STRING
- TO REMAINING INVERTERS (IF ALL INVERTERS ARE ALIKE, ADDITIONAL INVERTERS DO NOT HAVE TO BE SHOWN, BUT A NOTE SIMILAR TO THIS SHOULD BE MADE)

ABBREVIATIONS:
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  - FSB: FIRE SET BACKS
  - (N): NEW
  - PV: PHOTOVOLTAIC
  - MAX: MAXIMUM
  - OCPD: OVERCURRENT PROTECTION DEVICE
  - PCC: POINT OF COMMON COUPLING
  - PoC: POINT OF DER CONNECTION
  - RPA: REFERENCE POINT OF APPLICABILITY

CUSTOMER NAME: JOHN DOE

SYSTEM SIZE: 11.4kW AC/13.44kW DC
1. THIS DRAWING IS FOR ILLUSTRATIVE PURPOSES ONLY!
2. ALL TESTING SHALL BE PERFORMED BY QUALIFIED PERSONNEL, WITH PROPER PERSONAL PROTECTIVE EQUIPMENT
3. THE PRODUCTION METER AND AC DISCONNECT SHOULD BE LOCATED TOGETHER IN A READILY ACCESSIBLE LOCATION WITHIN 10' OF THE MAIN SERVICE METER
4. 24/7 UNESCORTED KEYLESS ACCESS SHALL BE PROVIDED FOR THE METERS AND AC DISCONNECT
5. UTILITY AC DISCONNECT SHOULD BE LOCATED WITHIN 10 FEET OF THE MAIN SERVICE METER
6. NOTE ALL THE APPLICABLE NEC CODES
7. SHOW ALL THE SYSTEMS INCLUDING STORAGE, EXISTING AND NEW (IF APPLICABLE)
8. SERVICES <320A WILL USE SELF-CONTAINED MAIN SERVICE METERS. 320A SERVICES MUST INDICATE WHETHER THE METERING WILL BE SELF-CONTAINED OR TRANSFORMER METERED. ALL SERVICES 400A OR GREATER MUST BE TRANSFORMER METERED

Make: 
Model: 
Rating: 
Total: 

PV SYSTEM:
ROOF SLOPE: 20°
AZIMUTH: 180°

PV MODULES: 320W
TOTAL: 32
MODULES PER STRING: 14

INVERTER:
RATED POWER
RATED VOLTAGE
AC & DC RATINGS
MAX OUTPUT CURRENT
MAX INPUT CURRENT
UL1741 CERTIFIED

GROUND REFERENCING: VARIOUS CONFIGURATIONS AVAILABLE, SHALL MEET XCEL ENERGY REQUIREMENTS

SERVICE PANEL:
RATED VOLTAGE
UL1741 CERTIFIED

PROTECTION:
SHALL MEET XCEL ENERGY REQUIREMENTS

TERMINAL BLOCK:
TRANSFORMER RATING
TRANSFORMER LOCATION FOR PRIMARY SERVICE SHOWN

PROFESSIONAL CERTIFICATION

ABBREVIATIONS:
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6. MAX: MAXIMUM
7. OCPD: OVERCURRENT PROTECTION DEVICE
8. PCC: POINT OF COMMON COUPLING
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10. RPA: REFERENCE POINT OF APPlicability

*AS DETERMINED BY IEEE 1547

SYSTEM SIZE:
1000 kW AC/1344.00kW DC
1. All plaques and signage required by 2014 NEC 690 will be installed as required.
2. Labels, warning(s), and markings(s) shall comply with ANSI Z535.4.
3. A permanent plaque or directory shall be installed providing the location of the service disconnecting means if not in the same location in compliance with NEC 690.56(B).
4. When energy storage systems (ESS) are present, labeling indicating this should be included. If additional disconnects are required, these should also be labeled for the ESS as well.

SYSTEM SIZE: 3.8kW AC/4.48kW DC

NOTES:
1. All plaques and signage required by 2014 NEC 690 will be installed as required.
2. Labels, warning(s), and markings(s) shall comply with ANSI Z535.4.
3. A permanent plaque or directory shall be installed providing the location of the service disconnecting means if not in the same location in compliance with NEC 690.56(B).
4. When energy storage systems (ESS) are present, labeling indicating this should be included. If additional disconnects are required, these should also be labeled for the ESS as well.