

# Indianapolis Power & Light Company

## Electric Service and Meter Manual

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INDIANAPOLIS POWER & LIGHT COMPANY

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If a correction is needed,  
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Section 102, cont.

- A Inspections are needed if (see comment below about the service disconnect position):
- 1 The service has been cut off for over 1 year (Indianapolis requires a self-certification tag and reconnect numbers)
  - 2 The building or structure has had a fire (Indianapolis requires a permit, self-certification tag, and authorization numbers if electrical construction is performed. Indianapolis requires a self-certification tag and reconnect numbers if no electrical construction is performed)
  - 3 The meter fitting has been relocated (Indianapolis requires a permit, self-certification tag, and authorization numbers)
  - 4 A mobile home lot has a new or replaced mobile home (Indianapolis requires a permit, self-certification tag, and authorization numbers)
  - 5 A new or altered service has been installed (Indianapolis requires a permit, self-certification tag, and authorization numbers)
  - 6 Any service wires, conduit, or the meter fitting have been replaced with the same size, type and configuration of equipment (Indianapolis requires a self-certification tag and authorization numbers. Other areas, contact the AHJ for their requirements)
  - 7 Any service equipment past the meter to the service panelboard have been replaced with the same size, type and configuration of equipment (Indianapolis requires a permit, self-certification tag, and authorization numbers. Other areas, contact the AHJ for their requirements)
  - 8 Any normal maintenance work has been performed without upgrading (Depending on the scope of the work, Indianapolis may require a permit, self-certification tag, and authorization numbers. Other areas, contact the AHJ for their requirements)

Indianapolis requirement: If emergency work is done after hours, the authorization number and electrical permit if required, shall be obtained the next business day.

- B Inspections may be needed if (see comment below about the service disconnect position):
- 1 IPL field personnel may require an inspection (regardless of the length of time), if in their opinion a hazardous or potentially hazardous condition exists

**Service Disconnect Position Requirement for this Section Only**

In all cases where a service has been disconnected, the main disconnect (circuit breaker or fuses) shall be in the open (off) position or the service will not be reconnected.

**103 RIGHT TO REFUSE OR DISCONTINUE SERVICE**

Since it is the Company's obligation to provide reasonably adequate service to all Customers, the Company reserves the right to refuse or discontinue service without notice if, in the opinion of the Company, the Customer's wiring, equipment or appliances are unsafe or unsuitable for receiving electric service or are harmful to the service of other Customers. The Company will make a reasonable effort to notify the Customer prior to disconnection and shall inform the Customer of the steps which must be taken to have service restored. This is reflected in the "[Rules and Regulations, Section 25.1](#)" that are approved by the Indiana Utility Regulatory Commission.

**125**     **HEIGHT OF SERVICE DROP**

The point of attachment of the service drop shall be a minimum of 13.5 feet and a maximum of 22 feet above ground, and in all cases be of such height as to provide at least the minimum clearances at any point for the service drop as required by the National Electrical Safety Code.

The clearance of the service drop shall be maintained in all cases of grade changes and/or the installation of swimming pools, decks, room additions, outbuilding, etc. Clearance requirements for swimming pools are much greater than for normal grade and in many cases the service drop must be converted to an underground service lateral (see Section 117) in order to meet the NESC requirements.

**127**     **UNDERGROUND SERVICE LATERAL WITHIN 5 FEET OF A POOL**

Where a service lateral is within 5 feet of a pool, the service lateral shall be relocated to be 5 feet or further from the pool and apron/deck. The customer will be charged for any modifications to their service laterals. Additionally, the customer will always be responsible for the replacement of the meter fitting, trenching, backfill, furnishing and installing any required conduit, and repair of the landscape.

Where 5 feet cannot be obtained, the customer may install Schedule 40 PVC conduit with a minimum of 18 inches of cover under the apron/deck of the pool but IPL prohibits the installation of the cable under any part of the pool itself. This conduit shall extend a minimum of 5 feet past the edge of the pool and 2 feet past the apron/deck.

**130**     **LENGTH OF SERVICE DROP**

The length of the service drop from pole to point of attachment on the building or other structures shall not exceed 125 feet, in many cases it may need to be considerably shorter.

**135**     **EXTENSION OF LINES**

Where there is a reasonable prospect that capital expenditure is warranted, the Company will extend its lines and service facilities in accordance with the conditions set forth in its Rules and Regulations. All applications for line extensions shall be referred to the appropriate Engineering Division. (See maps in front of book for jurisdiction.)

**140**     **EASEMENT - RIGHTS-OF-WAY - TREE TRIMMING**

Line extensions are contingent upon assistance by the applicant in securing the necessary easements, rights-of-way, and tree trimming permits. The Company shall be under no obligation to start construction until satisfactory easements, rights-of-way, and tree clearances have been obtained.

**145**     **AUTOMATIC RECLOSING EQUIPMENT**

The Company has equipment installed at its substations, which provide rapid opening and automatic reclosing of its distribution circuits to clear temporary faults that occur on the circuits. It is the responsibility of the customer to provide adequate protection for all electrical apparatus of the customer that might be adversely affected by the Company's reclosing equipment.

**147**     **SINGLE PHASE PROTECTION**

It is the customer's responsibility to provide and maintain protection for multi-phase equipment that may be adversely affected by a loss of phase condition. The Company assumes no liability for equipment damaged by a loss of phase condition.

**148**     **PHASE REVERSAL PROTECTION**

It is the customer's responsibility to provide and maintain protection for multi-phase equipment that may be adversely affected by a phase reversal condition. The Company assumes no liability for equipment damaged by a phase reversal condition.

## **PART V: METERING**

### **500 GENERAL INFORMATION**

Information on metering problems, available equipment, and general requirements can be obtained at the Meter Department Office, 3600 North Arlington Avenue, (317) 261-5262 or (317) 261-5227.

100, 200, and 320 ampere single phase self-contained meter fittings shall be furnished and installed by the customer. The company will continue to furnish 2, 3, and 4 gang meter fittings for multi-family homes. The customer is responsible for maintaining his wire and cable connections, see Section 555A.

Meter cabinets and three phase meter fittings will be furnished by the Company for installation by the customer. The Company retains ownership of these meter fittings and the cabinets. However, the customer is responsible for maintaining his wire and cable connections, see Section 555A.

The two categories of metering installations are residential and general service. The term general service includes both commercial and industrial applications of electric service. Following is a brief outline of the principal Company requirements relative to the metering installation for each of these categories. At the end of Part VII are drawings depicting typical installations covered in this manual.

### **505 EQUIPMENT FOR RESIDENTIAL INSTALLATION**

#### **A. 100 - 200 AMPERE OVERHEAD OR UNDERGROUND**

The Company will provide a 200 ampere meter fitting available in 2, 3, and 4 gang. See section 500 for single gang 200 ampere meter fittings.

#### **B. 400 AMPERE OVERHEAD OR UNDERGROUND**

See section 500 for 320 ampere meter fittings.

#### **C. 600-1600 AMPERE UNDERGROUND**

The Company will furnish a single enclosure containing current transformers and a meter fitting.

#### **D. LOCATION**

Metering facilities are to be located on the outside of the structure in an accessible location agreeable to the Company. See drawing GB5-010 for acceptable meter locations.

A clear working space of at least 4 feet shall be maintained in front of the metering facilities. Safe and ready access to this area shall be provided.

**510 MULTI-FAMILY DWELLINGS**

Metering shall be installed on the outside of all multi-family dwellings. Information relative to the location of metering facilities and the type of metering equipment to be installed should be obtained before any work is started on multiple meter installations. Only locations that are readily accessible and agreeable to the Company will be acceptable.

When ganged meter fittings are required, the customer shall notify the Meter Department in sufficient time to order and receive these fittings prior to installation time.

**515 METER CENTERS**

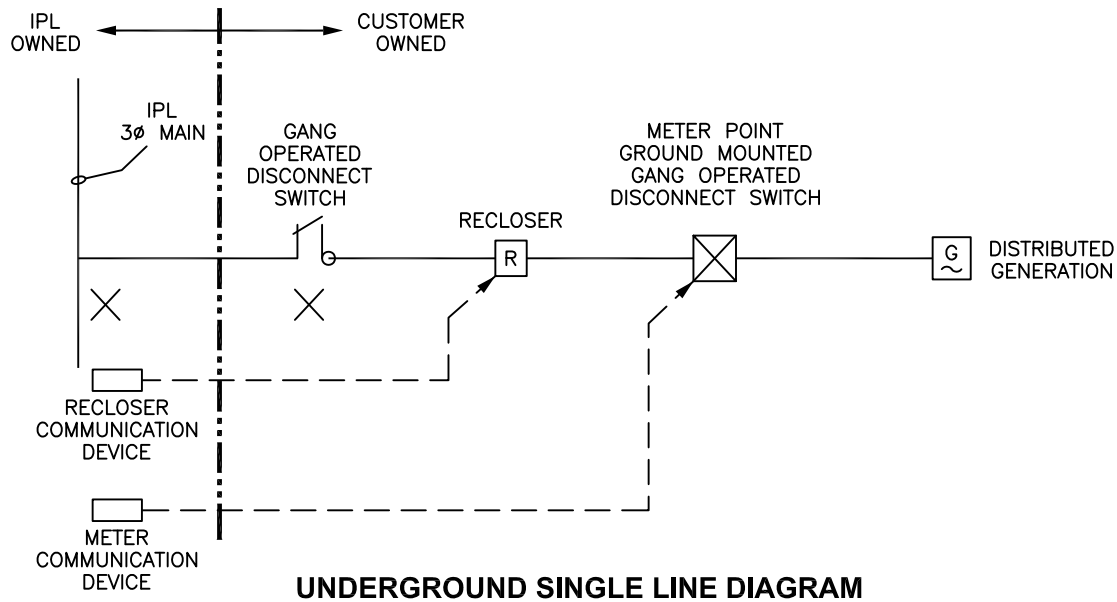
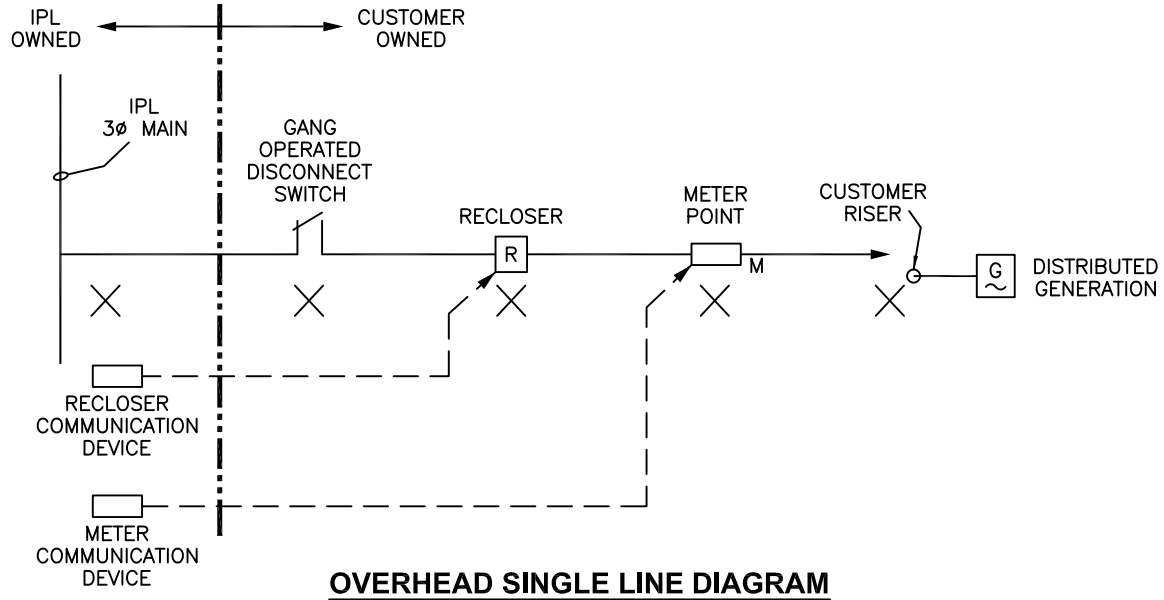
- A. With prior approval of the Meter Department, meter centers may be provided by the customer. All customer provided meter centers shall be UL listed or listed by another Nationally Recognized Testing Laboratory (NRTL).
- B. All single phase meter centers shall have ring type covers and horn bypasses. Three phase meter centers shall have ringless covers and bypass levers.
- C. Meter centers for single phase, 120/240 volt shall have a maximum rating of 800 amperes, 225A maximum per position.
- D. Meter centers for single phase 120/208 volt meters only, shall have three phase, four wire busing with the individual meters balanced across the three phases and neutral and 200A maximum per position. Single phase, 120/240 volt meter centers shall not be used to supply single phase, 120/208 volt services.
- E. A single phase combination meter fitting for 120/240 or 120/208 volt meter only and service equipment are permitted if provided, installed, and maintained by the customer. Unmetered service cable shall be separated from the customer's service equipment or overcurrent devices by a factory installed barrier.
- F. Meter centers for three phase 120/208 or 120/240 volt are limited to 225A maximum per position.
- G. Single phase and three phase services of the same voltage from the same meter center are permitted.
- H. Metering facilities are to be located on the outside of the structure in an accessible location, agreeable to the Meter Department. Metering shall be installed at the height of not more than 6 feet nor less than 5 feet above final grade, measured to the top of the metering equipment. Where the presence of metering equipment on the structure is objectionable, metering facilities may be located on a customer-owned and installed meter support, approved by the Meter Department.

A clear working space of at least 4 feet shall be maintained in front of the metering facilities. Safe and ready access to this area shall be provided.



ALL RENEWABLE ENERGY GENERATORS WITH 4.1KV OR 13.2KV INTERCONNECTIONS MUST HAVE A GANG OPERATED DISCONNECT SWITCH, RECLOSER, AND A 4.1KV OR 13.2KV METER POINT, BETWEEN THE IPL DISTRIBUTION CIRCUIT AND THE RENEWABLE GENERATION.

SEE ELECTRIC SERVICE AND METER MANUAL SECTION 175



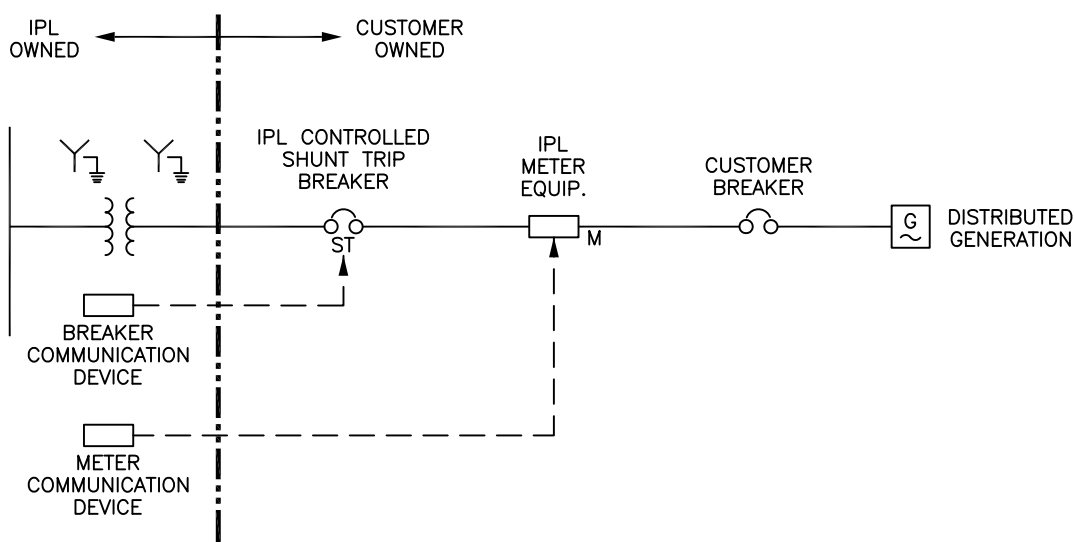
NOTES:

1. DISTRIBUTED GENERATION INTERCONNECTION GREATER THAN 1500KVA MUST BE CONNECTED AT PRIMARY VOLTAGE LEVEL.
2. DISTRIBUTED GENERATION INTERCONNECTION 500KVA OR GREATER MAY HAVE A FIBER COMMUNICATIONS TIE TO AN IPL SUBSTATION.

**4.1 KV OR 13.2 KV DISTRIBUTION  
INTERCONNECTION ONE-LINE**

ALL RENEWABLE ENERGY GENERATORS 500KVA TO 1500KVA WITH SECONDARY 208V Y OR 480V Y INTERCONNECTIONS MUST HAVE A REMOTELY OPERATED SHUNT TRIP BREAKER, METER POINT AND CUSTOMER CONTROLLED DISCONNECT BREAKER.

SEE ELECTRIC SERVICE AND METER MANUAL SECTION 175



### UNDERGROUND/OVERHEAD SINGLE LINE DIAGRAM

NOTES:

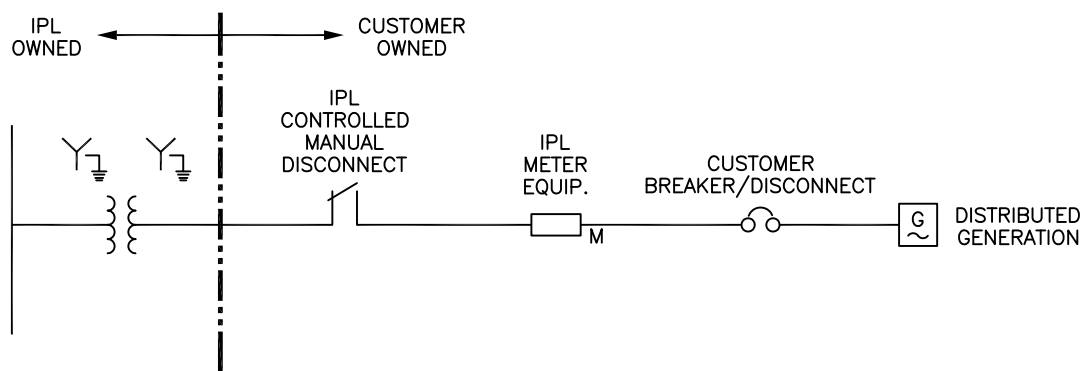
1. ANY DISTRIBUTED GENERATION INTERCONNECTION GREATER THAN 1500KVA MUST BE CONNECTED AT PRIMARY VOLTAGE LEVEL.
2. NO DISTRIBUTED GENERATION INTERCONNECTION SHALL BE MADE TO DELTA CONNECTED SECONDARY TRANSFORMER CONFIGURATIONS.
3. THE TRANSFORMER, ASSOCIATED LINES AND COMMUNICATIONS DEVICES, SPECIFICALLY FOR SOLAR GENERATION, WILL BE LEASED TO THE CUSTOMER.

## 208V OR 480V 3-PHASE SECONDARY DISTRIBUTION INTERCONNECTION ONE-LINE 500KVA TO 1500KVA



ALL RENEWABLE ENERGY GENERATORS LESS THAN 500KVA WITH SECONDARY 208V Y OR 480V Y INTERCONNECTIONS MUST HAVE AN IPL CONTROLLED MANUAL DISCONNECT, METER POINT AND CUSTOMER CONTROLLED DISCONNECT BREAKER.

SEE ELECTRIC SERVICE AND METER MANUAL SECTION 175



**UNDERGROUND/OVERHEAD SINGLE LINE DIAGRAM**

NOTES:

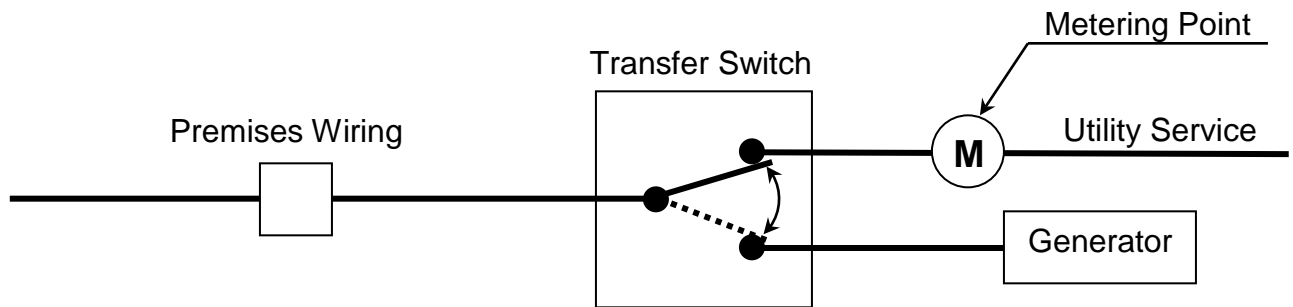
1. ANY DISTRIBUTED GENERATION INTERCONNECTION GREATER THAN 1500KVA MUST BE CONNECTED AT PRIMARY VOLTAGE LEVEL.
2. NO DISTRIBUTED GENERATION INTERCONNECTION SHALL BE MADE TO DELTA CONNECTED SECONDARY TRANSFORMER CONFIGURATIONS.
3. THE TRANSFORMER, ASSOCIATED LINES AND COMMUNICATIONS DEVICES, SPECIFICALLY FOR SOLAR GENERATION, WILL BE LEASED TO THE CUSTOMER.

**208V OR 480V 3-PHASE  
SECONDARY DISTRIBUTION  
INTERCONNECTION ONE-LINE  
LESS THAN 500KVA**



All systems that have a generator connection shall have a transfer switch to positively eliminate feedback into the source system. The switch shall not allow both sources to be connected together. However, Section 175B may be used for Auxiliary Power Installations for Interconnected Operation if the proper approval and agreements are obtained. This requirement is in accordance with the Indiana Electrical Code, Sections 700.6, 701.7, and 702.6.

See the Electric Service and Meter Manual Section 175

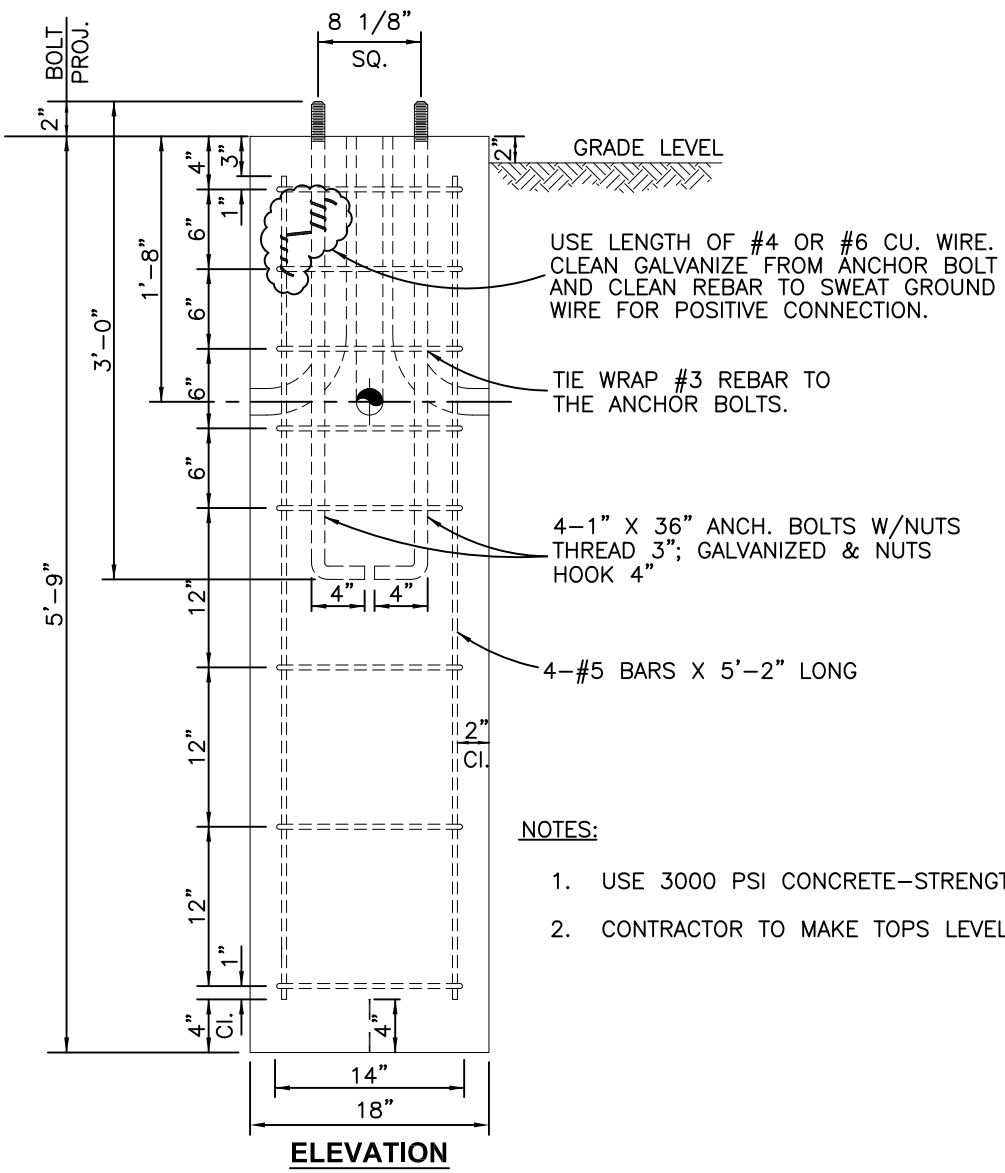
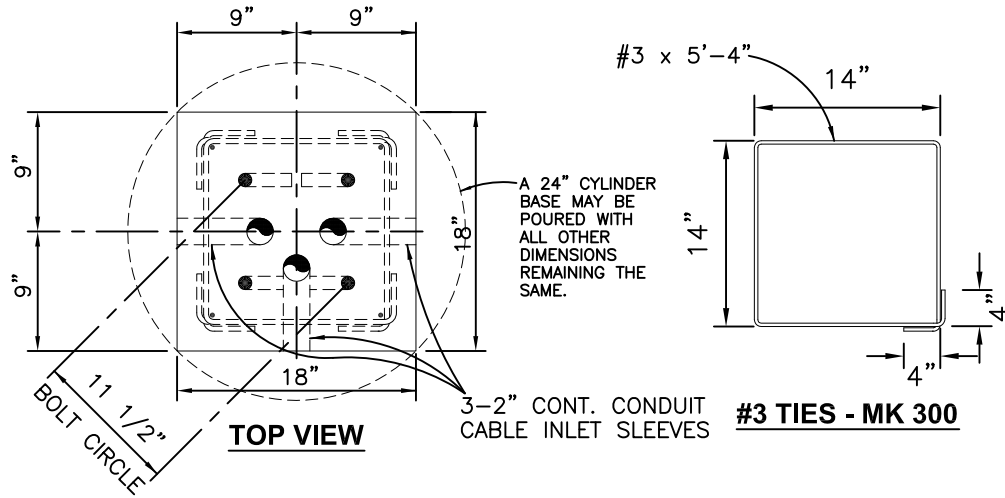


**Single Line Diagram**  
(This is for a typical installation)

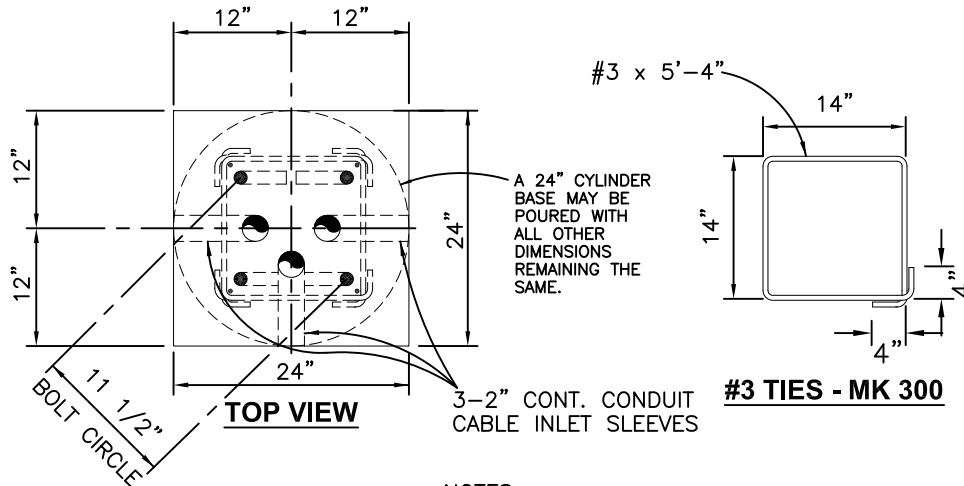
A sign shall be placed at the service-entrance equipment indicating the type and location of on-site standby power sources. Indiana Electrical Code, Sections 700.8, 701.9, and 702.8.

**TRANSFER SWITCH REQUIRED  
FOR BACKUP GENERATION**





**CONCRETE BASE INSTALLED  
BY CONTRACTOR  
40 FT. AL. COLUMN**



**NOTES:**

1. FOR INSTALLATIONS WHERE PULLBOXES ARE NOT BEING USED, INSTALL 2" CONDUIT CONTINUOUS FROM BASE TO BASE. USE COUPLINGS AND EXTEND CONDUIT TO TOP OF BASE. "ELLS" SHOULD BE POSITIONED TO ALLOW FOR STRAIGHT RUNS BETWEEN COLUMNS.
2. USE 3000 PSI CONCRETE-STRENGTH @ 28 DAYS
3. CONTRACTOR TO MAKE TOPS LEVEL.

USE LENGTH OF #4 OR #6 CU. WIRE. CLEAN GALVANIZE FROM ANCHOR BOLT AND CLEAN REBAR TO SWEAT GROUND WIRE FOR POSITIVE CONNECTION.

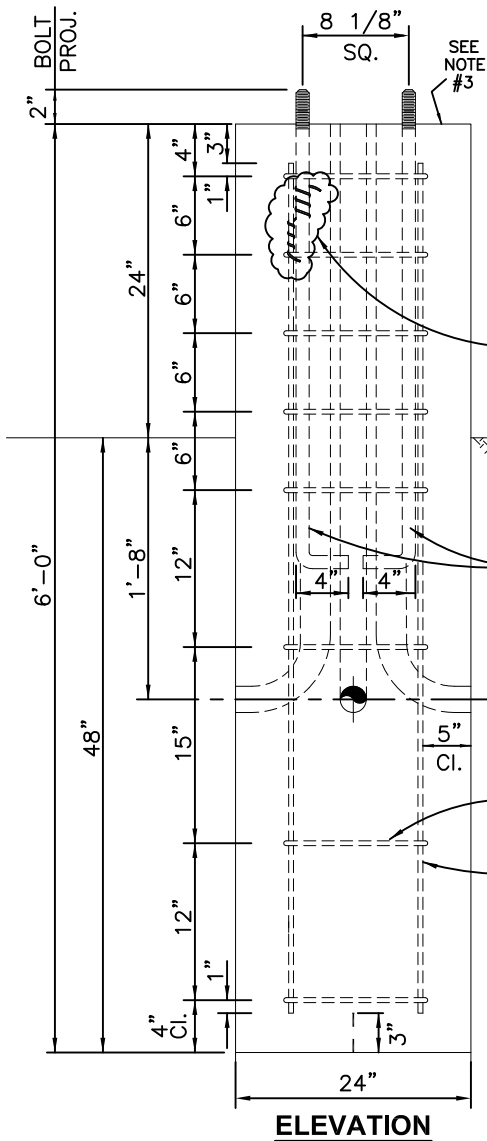
GRADE LEVEL

TAMP BACKFILL TO ORIGINAL COMPACTNESS

4-1" X 36" ANCH. BOLTS W/NUTS THREAD 3"; GALVANIZED & NUTS HOOK 4"

TIE WRAP #3 REBAR TO THE ANCHOR BOLTS.

4-#5 BARS X 5'-5" LONG



**CONCRETE BASE INSTALLED BY CONTRACTOR  
WASHINGTON COLUMN, SINGLE OR TWIN**