

Appendix 2.3.7.1.2 (a) Approved Meter Sockets and Cabinets

Single Unit Residential Guide 1 PHASE, 120/240 VOLT SERVICES

SERVICE CAPACITY	PROVISION FOR UTILITY OWNED METERING (Metering sockets and cabinets are supplied by Customer.) Outdoor meter mounting height is 1730 mm (5'8") to center of meter ± 100 mm (4")	PROVISION FOR UTILITY OWNED OVERHEAD SERVICE CONDUCTORS.	PROVISION FOR UTILITY OWNED UNDERGROUND SERVICE CONDUCTORS.
* 60 – 100 amp (3 wire only)	<p style="text-align: center;"><u>60 – 100 amp</u></p> <p>Overhead services require a minimum 100 Amp rated standard 4 jaw meter socket installed outdoors.</p> <p>Underground services require a minimum 200 amp rated, heavy duty, stud style 4 jaw meter socket with provision for sealing ring installed outdoors.</p>	<p>Secondary clevis or rack required.</p> <p>Aerial services supplied by EnWin Powerlines will have maximum tensions as follows:</p> <p>Triplex service – 400 kg (900 lbs.)</p> <p>Open wire secondary services up to 400 amp – 272 kg (600 lbs.) / cond.</p>	<p>Customer may request that EnWin Powerlines install an underground service from EnWin's designated point of supply from either an overhead or underground system to the customer's first point of connection.</p> <p>Up to 200 amp</p> <p>EnWin will install, own and maintain secondary cables to neutral and line side studs of outdoor metering socket.</p> <p><u>201 – 400 amp</u></p> <p>EnWin will install, own and maintain parallel secondary cables to neutral and line side lugs of indoor main disconnect.</p>
101 – 200 amp	<p style="text-align: center;"><u>101 – 200 amp</u></p> <p>Overhead services require a minimum 200 amp rates standard 4 jaw meter socket installed outdoors.</p> <p>Underground services require a minimum 200 amp rated heavy duty stud style, 4 jaw meter socket with sealing ring installed outdoors.</p>		
201 – 400 amp Maximum allowable service is 400 amperes	<p style="text-align: center;"><u>201 – 400 amp</u></p> <p>910 mm x 910 mm x 250 mm (36" x 36" x 10") CT cabinet installed indoors on load side of main service switch. Socket installed outdoors.</p> <p>32 mm (1 ¼") rigid steel conduit installed between CT cabinet and socket. ** See Note below</p>		

* Note: Minimum 60 amp services are only permitted at the discretion of the service spotter with respect to load and living areas as outlined in Rule 8.200 of the Ontario Hydro Electrical Code.

** Note: Cabinet height 1980 mm ± 152 mm (78" ± 6") from the finished floor to the top of the meter cabinet. For acceptable line/load cabinet connections refer to Appendix II. Metering cabinet must have manufactured fixed backplate mounting studs.

Appendix 2.3.7.1.2 (a) Approved Meter Sockets and Cabinets

**Multi Unit Residential, Guide (Bulk Metering)
1 PHASE, 120/240 VOLT SERVICES**

INDIVIDUAL SERVICE CAPACITY	PROVISION FOR UTILITY OWNED METERING (Metering sockets and cabinets are supplied by Customer on load side of main disconnect.) Outdoor meter mounting height is 1730 mm (5’8”) to center of meter ± 100 mm (4”)	PROVISION FOR UTILITY OWNED OVERHEAD SERVICE CONDUCTORS.	PROVISION FOR UTILITY OWNED UNDERGROUND SERVICE CONDUCTORS.
100 – 200 amp Minimum 100 amp (3 wire only)	<u>100 – 200 amp</u> Meter socket (4 jaw) installed outdoors suitable for either overhead or underground supply.	Secondary clevis or rack required. Aerial services supplied by EnWin Powerlines will have maximum tensions as follows:	Customer may request that EnWin Powerlines install an underground service from EnWin’s designated point of supply from either an overhead or underground system to the customer’s first point of connection.
201 – 400 amp	<u>201 – 400 amp</u> 910 mm x 910 mm x 250 mm (36” x 36” x 10”) CT cabinet installed indoors on load side of main service switch. An “A” base meter will be installed inside CT cabinet. * See Note below.	Triplex service – 400 kg (900 lbs.) Open wire secondary services up to 400 amp – 275 kg (600 lbs.) / cond. Open wire secondary services over 400 amp – 450 kg (1000 lbs.) / cond.	<u>100 – 200 amp</u> EnWin will install, own and maintain secondary cables to neutral and line side studs of outdoor metering socket.
Over 400 amp (Maximum load provided at this voltage is 100 KVA)	<u>Over 400 amp</u> 1220 mm x 1220 mm x 300 mm (48” x 48” x 12”) CT cabinet installed indoors on load side of main service switch. An “A” base meter will be installed inside the CT cabinet. * See Note below		<u>201 – 400 amp</u> EnWin will install, own and maintain parallel secondary cables to neutral and line side lugs of indoor main disconnect. <u>Over 400 amp</u> EnWin will install, own and maintain underground secondary cables up to demarcation point. ** See Note below

IMPORTANT: For billing purposes, all multi-unit residential buildings with bulk meter are classified as General Services under the respective owner / landlord.

* Note: Cabinet height 1980 mm ± 150 mm (78” ± 6”) from the finished floor to the top of the meter cabinet. For acceptable line/load cabinet connections refer to Appendix II. Metering cabinet must have manufactured fixed backplate mounting studs.

** Note: Connection of Commission conductors to customer owned cables at the property line will be made in a suitable handhole (Supplied and installed by EnWin Powerlines). EnWin will determine most feasible connection with respect to distribution and location.

Appendix 2.3.7.1.2 (a) Approved Meter Sockets and Cabinets

Residential Guide for Multi-Metering Not Exceeding 4 Units 1 PHASE, 120/240 VOLT SERVICES

NUMBER OF INDIVIDUALLY METERED UNITS AND INDIVIDUAL SERVICE CAPACITY	PROVISION FOR METERING (Metering sockets are supplied by Customer)	PROVISION FOR UTILITY OWNED OVERHEAD SERVICE CONDUCTORS.	PROVISION FOR UTILITY OWNED UNDERGROUND SERVICE CONDUCTORS.
ALL NEW INSTALLATIONS			
<p>2 – 4 DWELLING UNITS</p> <p>Minimum service capacity is 60 amperes per unit</p> <p>* See Note below</p> <p>Maximum service allowable is 400 amperes.</p>	<p style="text-align: center;"><u>Multiple Services Up to 200 amp Per Service</u></p> <p>Individual 4 jaw sockets grouped outdoors suitable for either overhead or underground supply. Outdoor mounting height is 1730 mm (5'8") to center of meter \pm 100 mm (4"). All disconnecting devices require a locking hasp to effectively lock the device in the off position</p> <p style="text-align: center;"><u>201 to 400 amp Service Using Indoor Main Disconnect</u></p> <p>Individual 4 jaw sockets grouped indoors, installed on lineside of individual unit service switches – normally off splitter. Indoor meter mounting height is Minimum 1370mm (4'6") to center of meter. Maximum 1830mm (6'0") to center of meter.</p>	<p>Secondary clevis or rack required.</p> <p>Aerial services supplied by EnWin Powerlines will have maximum tensions as follows:</p> <p>Triplex service – 400 kg (900 lbs.)</p> <p>Open wire secondary services up to 400 amp – 275 kg (600 lbs.) / cond.</p>	<p>Customer may request that EnWin Powerlines install an underground service from EnWin's designated point of supply from either an overhead or underground system to the customer's first point of connection.</p> <p style="text-align: center;"><u>Multiple Services up to 200 amp per service</u></p> <p>EnWin will install, own and maintain secondary cables to neutral and line side studs of outdoor metering socket.</p> <p style="text-align: center;"><u>201 – 400 amp Services Using Indoor Main Disconnect</u></p> <p>EnWin will install, own and maintain parallel secondary cables to neutral and line side lugs of indoor main disconnect.</p>
ALL EXISTING CONDITIONS.			
<p>Number of existing units may vary</p> <p>Existing services may vary from 60, 100, 200, 400 or 600 amp (bulk metered services) or any combination of either.</p>	<p>All additional individual 4 jaw sockets suitable for either overhead or underground supply, will be grouped next to existing sockets. – outdoor location is preferred where feasible.</p> <p>** See Note below.</p> <p>Indoor meter mounting height is minimum 1370mm (4'6") to center of meter. Maximum 1830mm (6'0") to center of meter. Outdoor meter mounting height is 1730mm (5'8") to center of meter \pm 100 mm (4").</p> <p>*** Note:</p>		

* Note: Minimum 60 amp services are only permitted at the discretion of the Service Spotter with respect to load and living areas as outlined in Rule 8.200 of the Electrical Safety Code.

** Note: Meter and service location must be confirmed by the Service Spotter prior to installation.

*** Note: When converting from an existing bulk metered service to individual metering, all meters will be grouped indoors off splitter.

Appendix 2.3.7.1.2 (a) Approved Meter Sockets and Cabinets

**Multi Unit Residential Guide - Multi-Metering to 5 or more Units
1 PHASE, 120/240 VOLT SERVICES**

NUMBER OF INDIVIDUALLY METERED UNITS AND INDIVIDUAL SERVICE CAPACITY	PROVISION FOR METERING (Metering sockets are supplied by Customer)	PROVISION FOR UTILITY OWNED OVERHEAD SERVICE CONDUCTORS.	PROVISION FOR UTILITY OWNED UNDERGROUND SERVICE CONDUCTORS.
ALL NEW INSTALLATIONS			
<p>5 OR MORE DWELLING UNITS</p> <p>Minimum 400 amp 3 wire service</p> <p>Over 400 amp (maximum load provided at this voltage is 100 kVA).</p>	<p>Individual 4 jaw sockets grouped indoors, installed on line side of individual unit service switches – normally off splitter. Indoor meter mounting height is Minimum 1370mm (4’6”) to center of meter. Maximum 1830mm (6’0”) to center of meter.</p> <p>The owner(s) of a premise installing individual residential metering exceeding four (4) may be required to enter into Multi-Metering Agreement with EnWin.</p>	<p>Secondary clevis or rack required.</p> <p>Aerial services supplied by EnWin Powerlines will have maximum tensions as follows:</p> <p>Triplex service – 400 kg (900 lbs.)</p> <p>Open wire secondary services up to 400 amp – 275 kg (600 lbs.) / cond.</p> <p>Open wire secondary services over 400 amp – 450 kg (1000 lbs.) / cond.</p>	<p>Customer may request that EnWin Powerlines install an underground service from EnWin’s designated point of supply from either an overhead or underground system to the customer’s first point of connection.</p> <p><u>Multiple Services up to 200 amp per service (Existing Conditions Only)</u> EnWin will install, own and maintain secondary cables to neutral and line side studs of outdoor metering socket.</p> <p><u>400 amp Services Using Indoor Main Disconnect</u> EnWin will install, own and maintain parallel secondary cables to neutral and line side lugs of indoor main disconnect.</p> <p><u>Over 400 amp</u> EnWin will install, own and maintain underground secondary cables up to demarcation point.</p> <p>** See Note below.</p>
ALL EXISTING CONDITIONS.			
<p>Number of existing units may vary</p> <p>Existing services may vary from 60, 100, 200, 400 or 600 amp (bulk metered services) or any combination of either.</p>	<p>All additional individual 4 jaw sockets suitable for either overhead or underground supply, will be grouped next to existing sockets.</p> <p>* See Note below.</p> <p>Indoor meter mounting height is minimum 1370 mm (4’6”) to center of meter. Maximum 1830 mm (6’0”) to center of meter. Outdoor meter mounting height is 1730 mm (5’8”) to center of meter ± 100 mm (4”).</p> <p>All disconnecting devices require a locking hasp to effectively lock the device in the off position.</p>		

* Note: Meter and service location must be confirmed by the Service Spotter prior to installation.

** Note: Connection of EnWin conductors to customer owned cables at the property line will be made in a suitable handhole (supplied and installed by EnWin). EnWin will determine most feasible connection with respect to distribution and location.

Appendix 2.3.7.1.2 (a) Approved Meter Sockets and Cabinets

**Single Phase, Single & Multi-Unit Commercial Guide
1 PHASE, 120/240 VOLT SERVICES**

INDIVIDUAL SERVICE CAPACITY	PROVISION FOR UTILITY OWNED METERING (Metering sockets and cabinets are supplied by Customer on load side of main disconnect.)	PROVISION FOR UTILITY OWNED OVERHEAD SERVICE CONDUCTORS.	PROVISION FOR UTILITY OWNED UNDERGROUND SERVICE CONDUCTORS.
<p><u>0 – 200 amp</u></p> <p>3 wire</p> <p>Services for traffic signals, telephone booths, bus shelters and other small services not metered.</p>	<p align="center"><u>0 – 200 amp</u></p> <p>4 jaw socket suitable for either overhead or underground supply. All disconnecting devices require a locking hasp to effectively lock the device in the off position. Indoors in Commercial Areas minimum 1370mm (4’6”) to center of meter. Maximum 1830mm (6’0”) to center of meter.</p> <p>Outdoors in Residential Areas or where indoor location not accessible. ** See Note below. Outdoor height is 1730mm (5’8”) to center of meter ± 100mm (4”).</p>	<p>Secondary clevis or rack required.</p> <p>Aerial services supplied by EnWin Powerlines will have maximum tensions as follows:</p> <p>Triplex service – 400 kg (900 lbs.)</p> <p>Open wire secondary services up to 400 amp – 275 kg (600 lbs.) / cond.</p> <p>Open wire secondary services over 400 amp – 450 kg (1000 lbs.) / cond.</p>	<p>Customer – owned underground services are normally terminated on poles owned and installed by the customer. The location of these poles must be satisfactory to the Utility.</p> <p>Where the customer requests to terminate on a Utility pole permission must be obtained from EnWin. (Not exceeding 200 amps). Corflex (or similar) cable will not be accepted.</p>
<p><u>201 – 400 amp</u></p>	<p align="center"><u>201 – 400 amp</u></p> <p>910 mm x 910 mm x 250 mm (36” x 36” x 10”) CT cabinet installed indoors on load side of main service switch. An “A” base meter will be installed inside CT cabinet.</p> <p>* See Note below.</p>		<p>In areas of underground distribution, EnWin will install, own and maintain underground secondary cables up to the demarcation point.</p>
<p><u>Over 400 amp</u> (Maximum load provided at this voltage is 100 KVA)</p>	<p align="center"><u>Over 400 amp</u></p> <p>1220 mm x 1220 mm x 300 mm (48” x 48” x 12”) CT cabinet installed indoors on load side of main service switch. An “A” base meter will be installed inside the CT cabinet.</p> <p>* See Note below</p>		

Switchgear – metering with switchgear – refer to Subsection 2.3.7.2

Metered services for billboards and commercial signs – refer to Subsection 8.6.4

Unmetered traffic signals, telephone booths, bus shelters and others – refer to Subsection 3.8

* Note: For acceptable line/load cabinet connections refer to Appendix II. Metering cabinet must have manufactured fixed backplate mounting studs. Cabinet height 1980 mm ± 150 mm (78” ± 6”) from the finished floor to the top of the meter cabinet.

** Note: Meter location at the discretion of the Service Spotter.

Appendix 2.3.7.1.2 (a) Approved Meter Sockets and Cabinets

Three Phase, 4 Wire 120/208 Volt Guide

3 PHASE, 120/208 VOLT SERVICES

INDIVIDUAL SERVICE CAPACITY	PROVISION FOR UTILITY OWNED METERING (Metering sockets and cabinets are supplied by Customer on load side of main disconnect.) Minimum 1370mm (4'6") to center of meter. Maximum 1830mm (6'0") to center of meter	PROVISION FOR UTILITY OWNED OVERHEAD SERVICE CONDUCTORS.	PROVISION FOR UTILITY OWNED UNDERGROUND SERVICE CONDUCTORS.
0 – 200 amps	7 – jaw socket	Secondary clevis or rack required.	Customer – owned underground services are normally terminated on poles owned and installed by the customer. The location of these poles must be satisfactory to the Utility. Where the customer requests to terminate on a Utility pole permission must be obtained from EnWin. (Not exceeding 200 amps). Corflex (or similar) cable will not be accepted. In areas of underground distribution, EnWin will install, own and maintain underground secondary cables up to the demarcation point.
201 – 400 amps	1220 mm x 1220 mm x 300 mm (48" x 48" x 12") CT cabinet * See Note below	Aerial services supplied by EnWin Powerlines will have maximum tensions as follows:	
401 – 800 amps	1220 mm x 1220 mm x 300 mm (48" x 48" x 12") CT cabinet * See Note below	Triplex service – 400 kg (900 lbs.)	
Over 800 amps	Switchgear -Consult Utility.	Open wire secondary services up to 400 amp – 275 kg (600 lbs.) / cond. Open wire secondary services over 400 amp – 450 kg (1000 lbs.) / cond.	

Switchgear: Metering with switchgear – refer to Subsection 2.3.7.2
5 jaw socket required when using only 2 line (hot) conductors and 1 neutral conductor for service from a 3 phase, 4 wire system. (ie. multi-metered apartment building)

* Note: For acceptable line/load cabinet connections refer to Subsection 8.5.11 a, b, c and d. Metering cabinet must have manufactured fixed backplate mounting studs. Cabinet height 1980 mm ± 150 mm (78" ± 6") from the finished floor to the top of the meter cabinet.

Appendix 2.3.7.1.2 (a) Approved Meter Sockets and Cabinets

**Three Phase, 4 Wire 347/600 Volt Guide
3 PHASE, 347/600 VOLT SERVICES**

INDIVIDUAL SERVICE CAPACITY	PROVISION FOR UTILITY OWNED METERING (Metering sockets and cabinets are supplied by Customer on load side of main disconnect.) Minimum 1370mm (4'6") to center of meter. Maximum 1830mm (6'0") to center of meter	PROVISION FOR UTILITY OWNED OVERHEAD SERVICE CONDUCTORS.	PROVISION FOR UTILITY OWNED UNDERGROUND SERVICE CONDUCTORS.
0 – 200 amps	7 – jaw socket	Secondary clevis or rack required.	Customer – owned underground services are normally terminated on poles owned and installed by the customer. The location of these poles must be satisfactory to the Utility. Where the customer requests to terminate on a Utility pole permission must be obtained from EnWin. (Not exceeding 200 amps). Corflex (or similar) cable will not be accepted. In areas of underground distribution, EnWin will install, own and maintain underground secondary cables up to the demarcation point.
201 – 400 amps	1220 mm x 1220 mm x 300 mm (48" x 48" x 12") CT cabinet * See Note below	Aerial services supplied by EnWin Powerlines will have maximum tensions as follows:	
401 – 800 amps	1220 mm x 1220 mm x 300 mm (48" x 48" x 12") CT cabinet * See Note below	Triplex service – 400 kg (900 lbs.)	
Over 800 amps	Switchgear -Consult Utility.	Open wire secondary services up to 400 amp – 275 kg (600 lbs.) / cond. Open wire secondary services over 400 amp – 450 kg (1000 lbs.) / cond.	

Switch gear: Metering with switch gear – refer to subsection 2.3.7
5 jaw socket required when using only 2 line (hot) conductors and 1 neutral conductor for service from a 3 phase, 4 wire system. (ie. multi-metered apartment building)

* Note: For acceptable line/load cabinet connections refer to Appendix II Metering cabinet must have manufactured fixed back plate mounting studs. Cabinet height 1980 mm ± 150 mm (78" ± 6") from the finished floor to the top of the meter cabinet.

Appendix 2.3.7.1.2 (a) Approved Meter Sockets and Cabinets

Three Phase, 3 Wire 600 Volt Guide 3 PHASE, 600 VOLT SERVICES

INDIVIDUAL SERVICE CAPACITY	PROVISION FOR UTILITY OWNED METERING	PROVISION FOR UTILITY OWNED OVERHEAD SERVICE CONDUCTORS.	PROVISION FOR UTILITY OWNED UNDERGROUND SERVICE CONDUCTORS.
	(Metering sockets and cabinets are supplied by Customer on load side of main disconnect.) Minimum 1370mm (4'6") to center of meter. Maximum 1830mm (6'0") to center of meter.		
0 – 200 amps	5 – jaw socket	Secondary clevis or rack required.	Customer – owned underground services are normally terminated on poles owned and installed by the customer. The location of these poles must be satisfactory to the Utility. Where the customer requests to terminate on a Utility pole permission must be obtained from EnWin. (Not exceeding 200 amps). Corflex (or similar) cable will not be accepted. In areas of underground distribution, EnWin will install, own and maintain underground secondary cables up to the demarcation point.
201 – 400 amps	910 mm x 910 mm x 300 mm (36" x 36" x 12") CT cabinet * See Note below	Aerial services supplied by EnWin Powerlines will have maximum tensions as follows:	
401 – 800 amps	1220 mm x 1220 mm x 300 mm (48" x 48" x 12") CT cabinet * See Note below	Triplex service – 400 kg (900 lbs.)	
Over 800 amps	Switchgear -Consult Utility.	Open wire secondary services up to 400 amp – 275 kg (600 lbs.) / cond. Open wire secondary services over 400 amp – 450 kg (1000 lbs.) / cond.	

Switch gear: Metering with switch gear – refer to Subsection 2.3.7.2
5 jaw socket required when using only 2 line (hot) conductors and 1 neutral conductor for service from a 3 phase, 4 wire system. (ie. multi-metered apartment building)

* Note: For acceptable line/load cabinet connections refer to Appendix II. Metering cabinet must have manufactured fixed back plate mounting studs. Cabinet height 1980 mm ± 150 mm (78" ± 6") from the finished floor to the top of the meter cabinet.

* Note A neutral conductor must be installed in the stack for future 4 wire conversions

Appendix 2.3.7.1.2 (a) Approved Meter Sockets and Cabinets

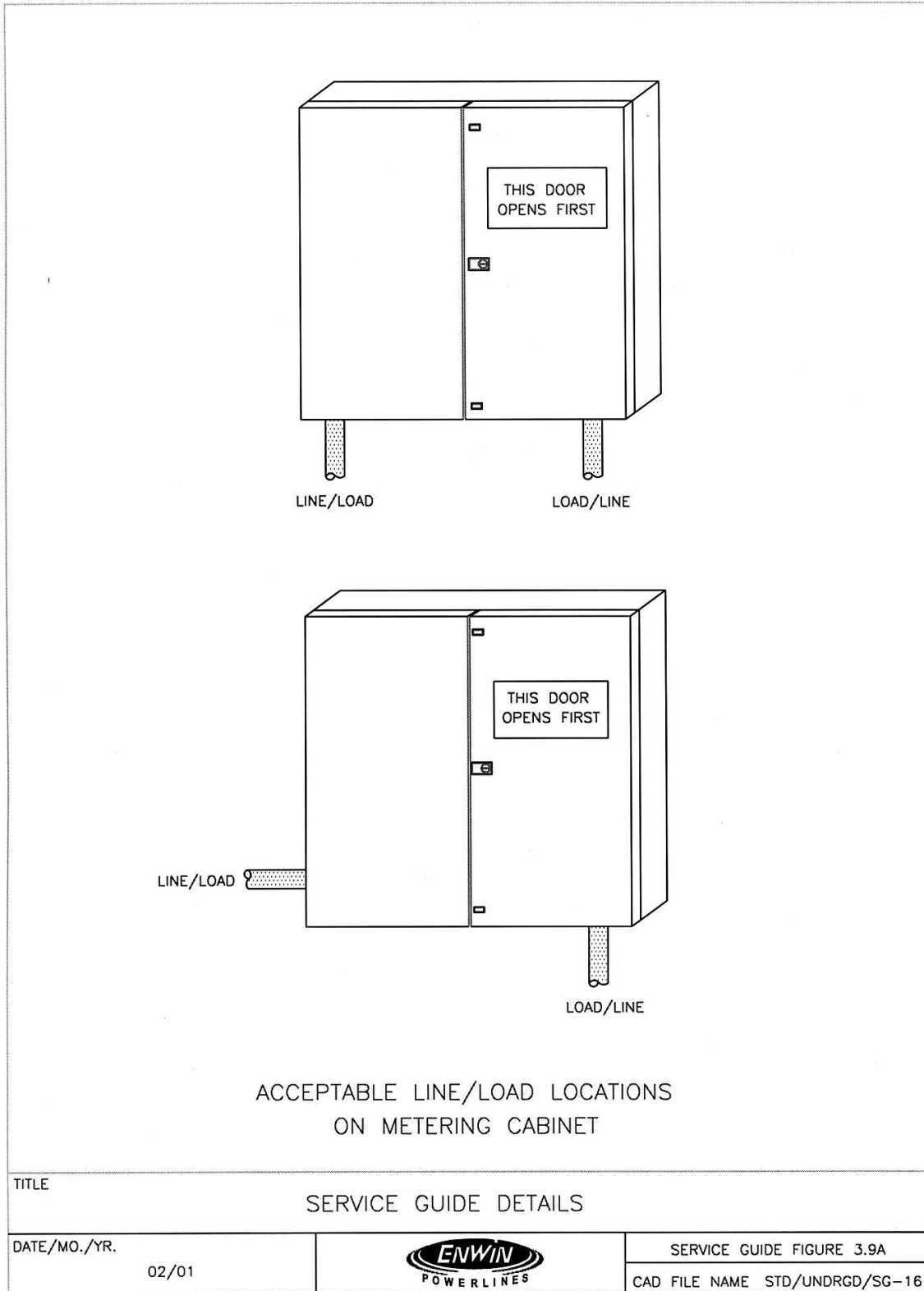
Three Phase, 27.6 kVolt Guide

3 PHASE, 27.6 KILO VOLT SERVICES

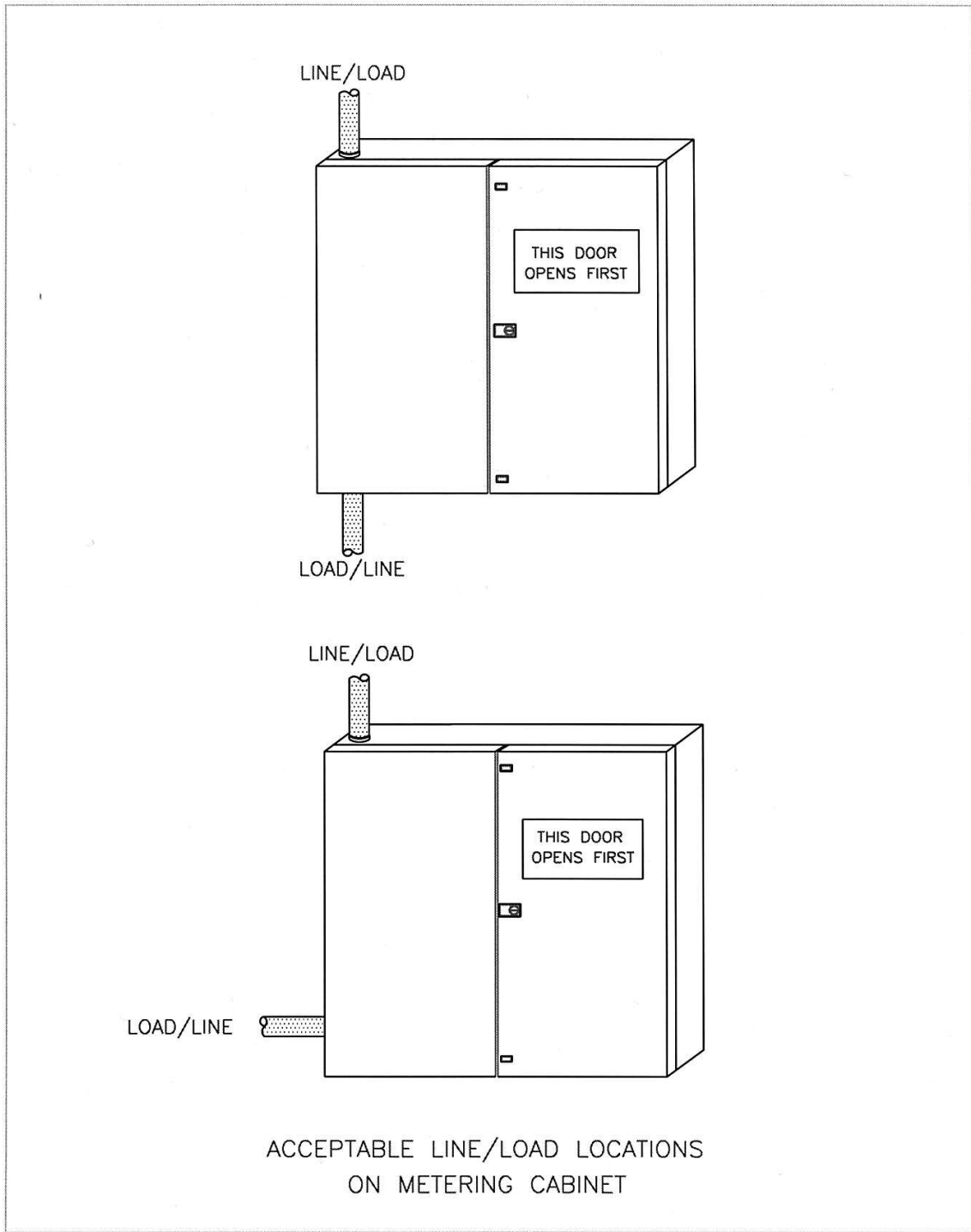
PROVISION FOR UTILITY OWNED AERIAL SERVICE CONDUCTORS	PROVISION FOR CUSTOMER OWNED UNDERGROUND SERVICE CONDUCTORS	PROVISION FOR METERING		MAXIMUM AVAILABLE FAULT KVA.
<p>Termination hardware as provided by utility, installed to withstand a tension of 900 kg (2000 lbs) per conductor.</p> <p>Utility owned overhead services originate from a utility pole and normally extend no more than 30 meters (100 feet) over private property to the customer's structure.</p>	<p>Minimum conductor size as per Electrical Safety Code.</p> <p>Customer owned underground services are normally terminated on poles owned and installed by the customer. The location of these poles must be satisfactory to the Utility.</p>	<p><u>PRIMARY</u></p> <p>Provisions for installation of instrument transformers in customer owned high voltage switch gear on load side of main disconnect.</p> <p>Provisions for indoor remote metering cabinet</p>	<p><u>SECONDARY</u></p> <p>Refer to appropriate Secondary Voltage section of Appendix II</p> <p>2.3.7.2</p>	<p>835,000 KVA symmetrical (17,000 A)</p> <p>Actual available fault current varies with respect to location and time.</p> <p>All customer switch gear must be rated for the 835 MVA maximum in any case.</p>


Note: Primary winding configuration must be Delta

Appendix 2.3.7.1.2 (b) Approved Meter Sockets and Cabinets

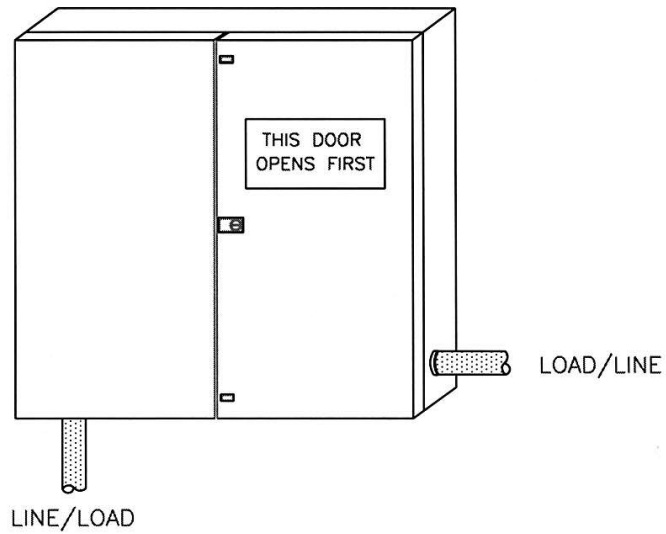
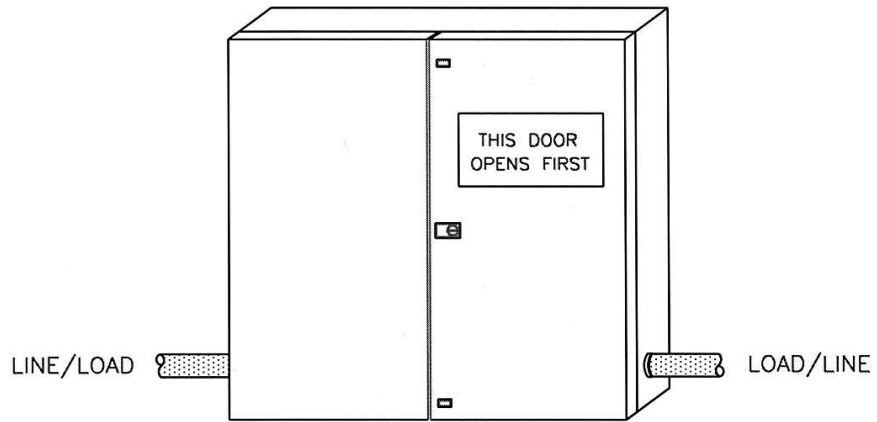


Appendix 2.3.7.1.2 (b) Approved Meter Sockets and Cabinets




TITLE			SERVICE GUIDE DETAILS		
DATE/MO./YR.			SERVICE GUIDE FIGURE 3.9B		
02/01			CAD FILE NAME STD/UNDRGD/SG-17		

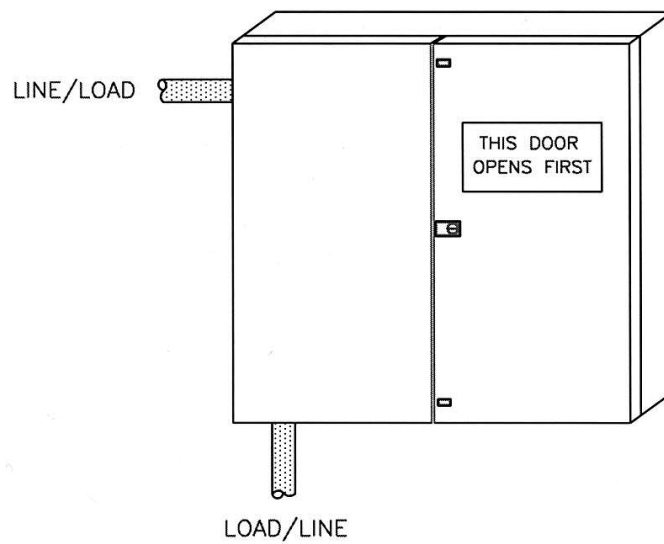
Appendix 2.3.7.1.2 (b) Approved Meter Sockets and Cabinets



ACCEPTABLE LINE/LOAD LOCATIONS
ON METERING CABINET

TITLE		
SERVICE GUIDE DETAILS		
DATE/MO./YR.		SERVICE GUIDE FIGURE 3.9C
02/01		CAD FILE NAME STD/UNDRGD/SG-18

Appendix 2.3.7.1.2 (b) Approved Meter Sockets and Cabinets



ACCEPTABLE LINE/LOAD LOCATIONS
ON METERING CABINET

TITLE

SERVICE GUIDE DETAILS

DATE/MO./YR.

02/01



SERVICE GUIDE FIGURE 3.9D

CAD FILE NAME STD/UNDRGD/SG-19