



Contact Information

New Accounts/Account Inquiries

(306) 975-2400

Connects/Disconnects

(306) 975-2400

Power Outages

(306) 975-2621

Street Light Maintenance

(306) 975-2414

<http://saskpower.streetlightoutages.com>

Underground Locates

Sask1stCall

1-866-828-4888

Tree Trimming Near Power Lines

(306) 975-2414

saskatoon.light.power@saskatoon.ca

Customer Connection Information

(306) 975-7768

Meter Shop

(306) 975-2417

SaskPower Electrical Inspections

1-888-757-6937

Customer Generation Application

(306) 975-3045

Note:

- For service disconnects, in case of a demolition, the contractor will have to get the appropriate demolition permits in place which can be obtained by contacting Building Standards at 306-975-2645 or building.standards@saskatoon.ca. An online form can be found on the City of Saskatoon Website → Services for Residents → Building, Plumbing & Demolition Permits → Request for Demolition Application. They will also have to initiate a line removal request which is forwarded to Saskatoon Light & Power and the overhead lines shall be removed along with the meter.
- For service drops, Saskatoon Light & Power requires at least 72 hours advance notice. Customers/Electrical Contractors are not permitted to perform their own service disconnects.
- Saskatoon Light & Power does not allow customer gas line and Saskatoon Light & Power service line to be installed in the same trench until the demark point. Saskatoon Light & Power requires a minimum of 600 mm separation between the power line and the gas line.
- Prior to servicing, the construction site shall have to be to final grade and clear of obstructions.
- For overhead connections, the attachment point should face the alley. It should not be on the side of the house. The hook and the weather-head should be on the same side of the house.
- The Customer Connection Information number (306) 975-7768 is an automated voicemail that is checked periodically.

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1. General Information

Mission

The mandate of Saskatoon Light & Power is to provide safe, reliable, and cost effective electricity in an environmentally responsible way to our customers. We build, operate, and maintain an electric distribution system to sell electricity to customers.

The information in this guide is intended to help existing and future customers to connect with our system in a safe, responsible and professional manner when planning upgrades or new construction.

Values

Service and system design standards used by Saskatoon Light & Power are intended to provide a high level of service to customers, minimizing the number and duration of power outages. Consideration needs to be made for an electrical installation to not only serve the load in a safe, efficient, and convenient manner now, but to provide capacity for future load growth. Installations with adequate capacity and convenient arrangement are essential to secure the full benefits of electrical service. This is important for commercial and industrial customers where an inadequate installation could result in production

limitations, power losses, and excessive maintenance costs. Every effort will be made to comply with a customer's service request, but Saskatoon Light & Power reserves the right to determine the supply voltage and load limitations, depending on available system capacity. Each request for service is reviewed with a view of the whole system. On behalf of the Utility and its customers, Saskatoon Light & Power will not make uneconomical investments for connecting customers.

Customers should apply for service early in their planning stage to help ensure that Saskatoon Light & Power can meet the customer's project time schedule and to ensure the installation will be satisfactory.

Disclaimer

The information in this manual provides guidelines necessary to expedite the connection of electric service. Where details are shown, they are provided to assure the safety of individuals in the immediate vicinity of the electric service entrance. It is the responsibility of the customer, his engineers, and his contractors to assure that the installation meets all applicable codes. Saskatoon Light & Power does not assume this responsibility.



A) Core Services

Power

Saskatoon Light & Power provides electrical service to customers within its franchise area, defined roughly by the 1958 City limits. Power is purchased in bulk from SaskPower and distributed through a system of transmission lines, substations, and distribution lines. Power is delivered to our customers at a variety of voltage levels and configurations. Metering of the power is provided by our Measurement Canada accredited Metering Services.

More details regarding electrical services can be found in Section 3 – Power.

More details regarding franchise boundaries can be found in Part B – Service Area.

Street Lighting

Roadway lighting is the responsibility of the municipality as it is the owner of the roadway. Typically, the municipality hires the local electrical utility to provide the roadway lighting service. In this case Saskatoon Light & Power and SaskPower provide this service.

a. Transportation & Utilities Department – Infrastructure Services Division

Infrastructure Services, as the owner and operator of the roadway is responsible for all aspects of the roadway including street lighting. Infrastructure

Services is responsible for ensuring that there is sufficient funding for the installation of the lighting system for new roadways and for alterations to existing roadways.

b. Community Services Department – Parks Division

Park and pathway lighting is the responsibility of the Parks Division, who is the owner of the parks. Parks Division has chosen to hire Saskatoon Light & Power to provide the pathway lighting service.

c. Transportation & Utilities Department – Saskatoon Light & Power

Saskatoon Light & Power provides lighting service in the following areas:

- Within its franchise area
- For all City parks and pathways
- In all new neighbourhoods since 2003

In addition to providing the lighting service, Saskatoon Light & Power is responsible for administering the street lighting system and acts as an agent for the City of Saskatoon.

d. Other Lighting Owners

Lighting services outside the jurisdiction of Saskatoon Light & Power are provided by SaskPower or the Saskatchewan Ministry of Highways and Infrastructure. Each owner is responsible for the operation and maintenance of the street lights in

their respective areas. There are also some privately owned streets with privately owned lighting.

e. Saskatoon Light & Power Lighting Exclusions

Saskatoon Light & Power does not provide specialty lighting such as in-ground or bollard lights. Saskatoon Light & Power also does not provide lighting for city owned parking lots or city owned property (such as leisure facilities). This service is provided by City of Saskatoon – Facilities Division.

b. Shared Underground Installations

The installation of telecommunication equipment in Saskatoon Light & Power underground facilities must be performed by Saskatoon Light & Power staff.

c. Communication Infrastructure

Saskatoon Light & Power owns and operates various communication systems for the operation and control of its power system as well as for other City of Saskatoon departments.

Telecommunication

Saskatoon Light & Power is not a public telecommunications provider. Telecommunication companies may lease space on Saskatoon Light & Power's facilities provided an agreement is reached prior to installation of any equipment. Ongoing rental and lease payments will be charged for use of the Saskatoon Light & Power infrastructure.

a. Shared Overhead Installations

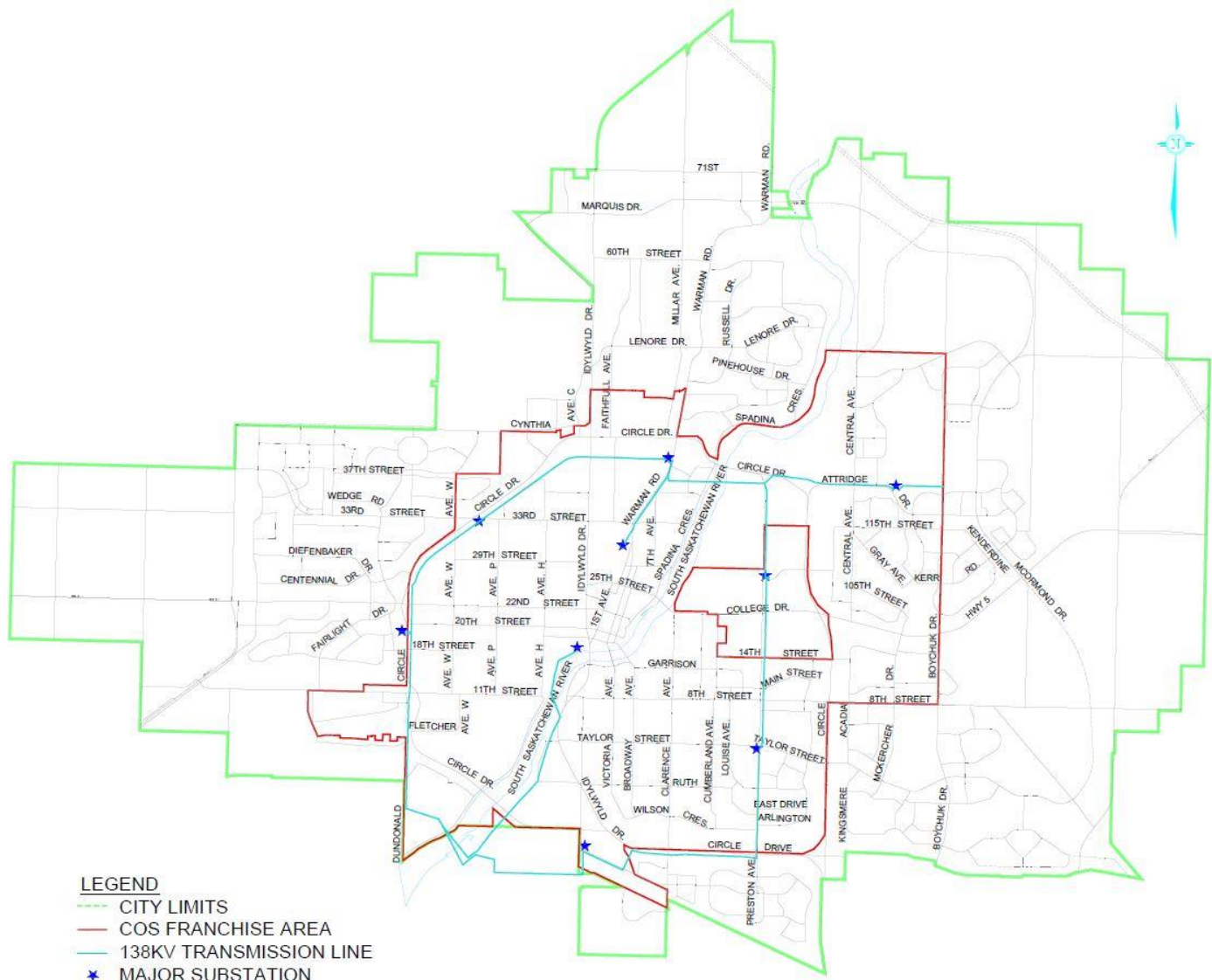
Qualified telecommunication companies can install and maintain their overhead systems and equipment on Saskatoon Light & Power poles. Installation of antenna structures is considered separately on a case-by-case basis.

B) Service Area

The City of Saskatoon operates an electric utility, Saskatoon Light & Power, providing electrical service to the area of Saskatoon, which lies generally within the 1958 City boundary. **This does not include the area belonging to the University of Saskatchewan.**

A more detailed map of the franchise area can be found on the City of Saskatoon website → Services for Residents → Power & Water → Saskatoon Light & Power.

**Saskatoon Light & Power
Utility Service Area Map
Figure 1**



2. Safety Information

A) Clearance from Electrical Lines

Overhead Lines

The following table shows the safe limit of approach distance for persons, equipment, and permanent structures to energized lines in the Saskatoon Light & Power system.

**Safe Limit of Approach
Table 1**

Phase to Phase Voltage of Overhead Power Lines (KV)	Safe Limit of Approach Distance	
	For Persons and Equipment	Permanent Structures
0.75 (insulated conductors)	0.3 m (1 ft.)	0.3 m (1ft.)
4.16	3.0 m (10 ft.)	3.0 m (10 ft.)
15	3.0 m (10 ft.)	3.0 m (10 ft.)
25	3.0 m (10 ft.)	4.6 m (15 ft.)
138	4.6 m (15 ft.)	6.1 m (20 ft.)

Any structures built in proximity to a Saskatoon Light & Power overhead line with voltages as shown in Table 1 – Safe Limit of Approach must be located so that the structure and any worker on the structure can maintain the clearance as shown from any conductor on the line.

The owners of the structure must:

- comply with the Saskatchewan Occupational Health and Safety Act and Regulations to ensure worker safety during construction and maintenance of structures.
- consult with Saskatoon Light & Power prior to any installation or maintenance of structures near overhead lines.
- cover all costs of either de-energizing Saskatoon Light & Power's overhead line or installing cover-ups on the line if required for any installation or maintenance of structures.
- accept all responsibility and liability should any mishap occur related to the presence of their structures.

Underground Lines

Saskatoon Light & Power is a member of Sask1stCall, a local one-call centre for underground facility locates.

Saskatoon Light & Power will locate **city owned** underground cables free of charge. Underground cable locates can be arranged through Sask1stCall (call 1-866-828-4888, go online, or the mobile app).

Be advised that there may be **customer owned** underground cables on the property. Saskatoon Light & Power does not locate customer owned underground cables.

B) Excavation Near Underground Electrical Cables

Saskatoon Light & Power requires Contractors and Homeowners to contact the Utility before work is performed in proximity to the Utility's underground cables and duct banks.

1. Contact Sask1stCall at 1-866-828-4888 to request a cable locate and to receive a clearance for underground cables and duct banks within the Saskatoon Light & Power franchise area. Requests should be made at least two (2) days in advance.
2. Once located, hand expose or hydro-vac cables and duct banks

if excavating within 1.0 m (3 feet) of markings.

3. If conductors need to be de-energized, contact Saskatoon Light & Power at (306) 975-2414. A **notice of three (3) working days** is required.
4. Contact Saskatoon Light & Power at (306) 975-2414 before backfilling to allow for inspection of cables and duct banks.

Note:

Do not handle conductors under any circumstances.

C) Tree Trimming

Tree trimming will be done for service lines only. The homeowner can make an appointment by calling (306) 975-2414 and discuss the amount of trimming that needs to be done.

Keep in mind the safe limits of approach and use caution when working near overhead lines.

D) Swimming Pools

Overhead service lines of less than 750 V must have a minimum of 5 m (16 feet) horizontal separation from the water's edge of swimming pools. The minimum separation of underground (direct buried or in raceways) is 1.5 m (5 feet).

3. Power

A) Connections

Saskatoon Light & Power offers the following secondary service voltages:

- Single phase 3 wire 120/240 V
- Single phase 3 wire 120/208 V (network)
- 3 phase 4 wire 120/208 V
- 3 phase 4 wire 347/600 V
- 14,400 V or 25,000 V – considered as Primary Customers

Note:

- 347/600 V service meters must be inside the building or in a suitable meter enclosure.
- 3 phase 3 wire 240 V Delta will not be offered as an upgrade.
- Saskatoon Light & Power will provide one point of service per civic address. Please contact Saskatoon Light & Power if you require more information on this.

For an overhead service, the demarcation point between the customer and the Utility is the connection at the meter stack. Saskatoon Light & Power requires a clear line of sight from the mast to the power line connection point. The connections at the mast are completed by the Utility. The meters installed in the customer installed meter socket are Utility Meters. Internal wiring shall be up to the Canadian Electrical Code Standards. For both overhead service and underground service, the service conductors on the customer's end are to be colour coded as per the Code requirements.

Saskatoon Light & Power has the right to refuse energizing the service if there are concerns regarding safety, and the customer may or may not be notified of the deficiencies. It is the duty of the customer to call Saskatoon Light & Power to gather all the information.

B) Residential Connections

Overhead

The **electric meter socket** shall be located at the nearest corner of the building to the power pole in the alley. The minimum size of meter socket shall be **450 mm x 300 mm x 125 mm** (18" x 12" x 5") for all single phase overhead services up to and including 200 Amps.

Do not locate the meter on the wall of a garage that faces the lane.

The **point of attachment** should not be more than 6 m (20 feet) above finished grade.

Minimum Vertical Line Clearances
Table 2

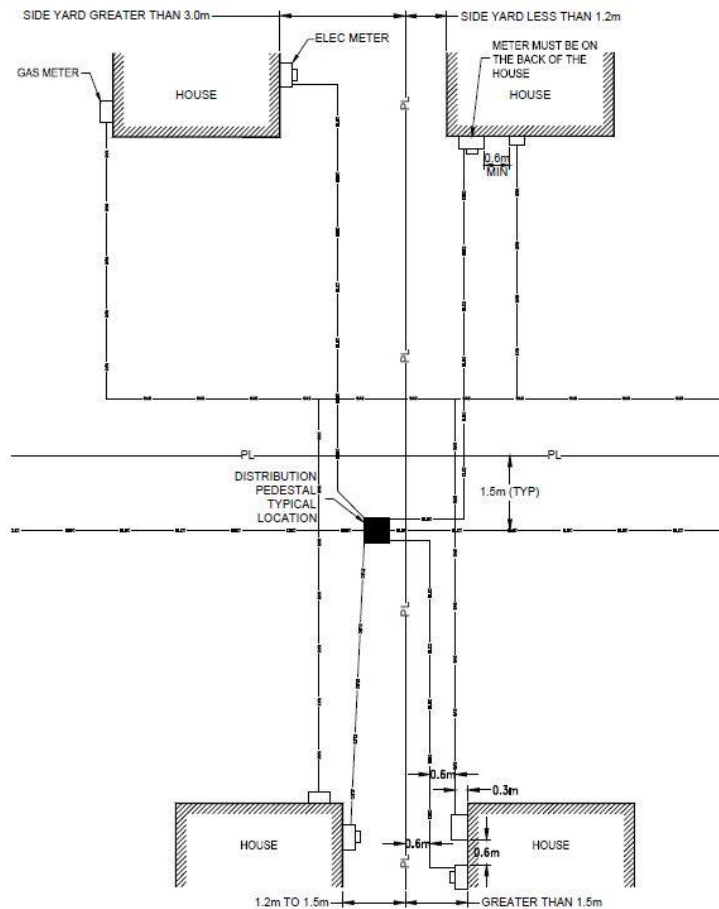
	Metres	Feet
Public roadway or lane	5.5	18.0
Residential driveway	4.0	13.1
Pedestrian walkway	3.5	11.5
Deck, flat roof	2.5	8.2
Garage roof	1.0	3.1

Underground

The electrical meter shall be located at the nearest corner of the building to the supply pole or underground pedestal.

A typical **residential service layout** is shown in Figure 2 – Typical Layout for New Residential Underground Services.

Typical Layout for New Residential Underground Services
Figure 2



Meter sockets shall have a 12.5 mm (0.5 inch) stud type line side and neutral terminals to permit straight in conductor connections suitable for securing compression lugs rated for #6 to 4/0 conductors. A single meter socket with dual lugs on the load side will be allowed to serve a house

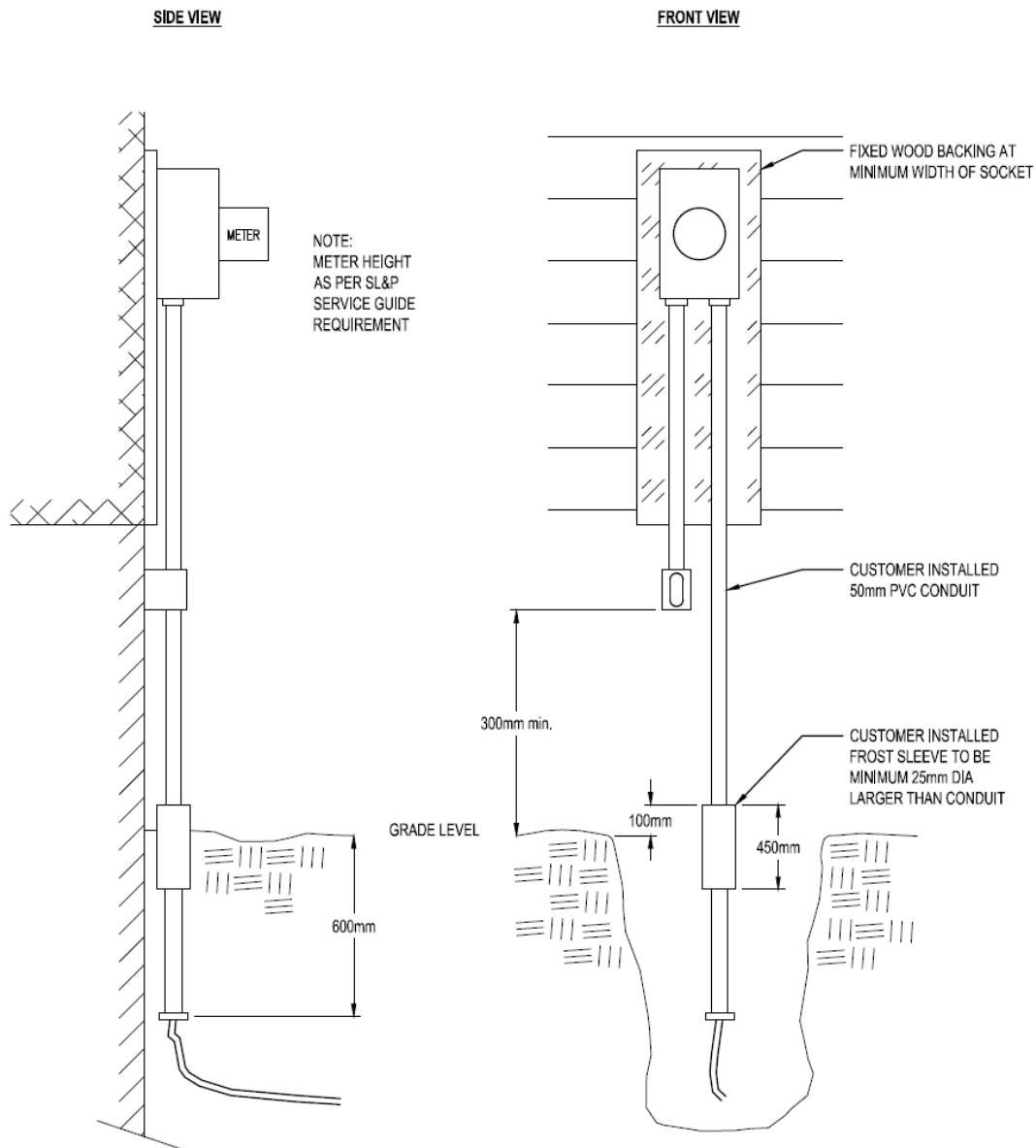
and a garage from the same socket. Total load on the socket must not exceed that allowed by the Canadian Electrical Code. The meter socket is to be mounted on an adequately secured fixed wood backing at least the same size as the socket.

The use of a 400 Amp self-contained meter socket is NOT allowed.

Residential underground service to a single family dwelling requires a 50 mm (2") PVC supply conduit from the socket to 450 mm (18") below finished grade. A PVC **frost sleeve** or **slip pipe** is required to protect

against ground settling. The sleeve should measure 600 mm (24") in length and 25 mm (1") larger in diameter than the supply conduit.

The height of the centreline of the meter is to be between 1.5 m (5 feet) and 1.8 m (6 feet) above finished grade or deck for both underground and overhead services.



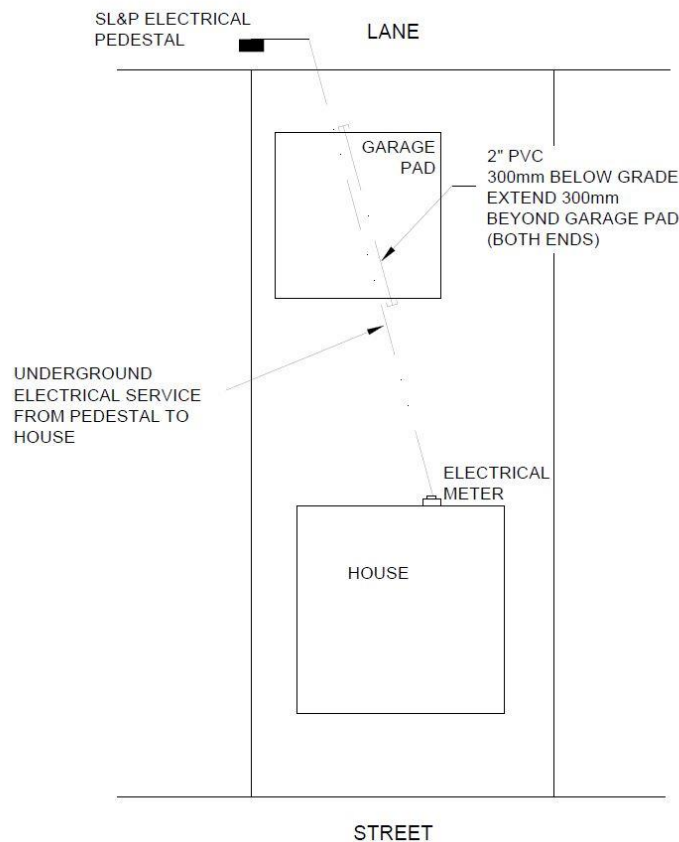
Customers requiring two (2) meters can use a ganged meter socket in a single meter trough for a two-residence building. Service conduit, frost sleeve, and elevation requirements are the same as above.

The **electric meter socket** shall be located at the nearest corner of the building to the supply pedestal. The minimum size of meter socket shall be **450 mm x 300 mm x 125 mm** (18" x 12" x 5") for all single-phase underground services up to and including 200 Amps.

A garage may be built over a customer's underground service

cable, but not on an easement. The service cable must be hand exposed for the entire length which will be covered by the garage to prevent its damage during construction. The customer is required to install a 50 mm (2") PVC duct under the garage pad at 450 mm (1.5 feet) below finished grade to facilitate future maintenance to the service cable. The duct should extend beyond the garage pad by a minimum of 300 mm (1 foot). Please call (306) 975-3056 to have the duct location recorded by Saskatoon Light & Power staff.

**Building Garage
Figure 3**



Townhouses

For underground service to a multi-unit residential building, 3 or 4 meters in one meter trough with an exterior splitter box with a minimum size of 600 mm x 600 mm x 250 mm (24" x 24" x 12") mounted on the building wall is required. For two (2) meters with residential loads up to 200 Amps, a 3 ganged meter trough may be used. The third meter position can be used as a termination point. For two (2) meters with residential loads greater than 200 Amps, a splitter is required to accommodate a larger supply cable.

A **125 mm (5")** PVC supply conduit complete with a 600 mm (2 feet) long frost sleeve, is required from the splitter to 450 mm (1.5 feet) below finished grade. The customer is responsible to supply and install all 125 mm duct in the property as may be required by Saskatoon Light & Power to supply service to each building.

The splitter is to have a door with a **3-point latch** and a **padlockable handle**. The splitter becomes the Utility's point of service. An electrical room is required for residential buildings with more than eight (8) units.

Downtown 347/600 Volt Network Service Area

The Saskatoon downtown has been designated as an underground Network Service Area. This is an area roughly within the boundaries of 25th Street on the north, Idylwyld

Drive on the west, and the riverbank on the east and south. Services within this area have special requirements.

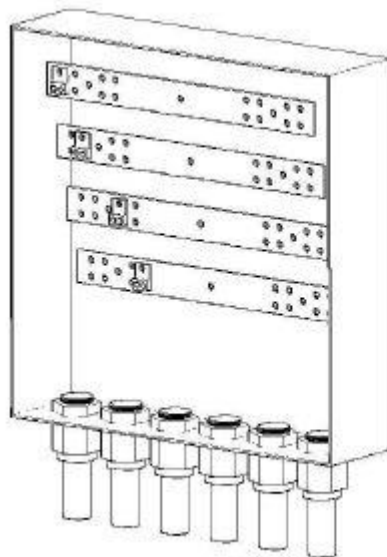
For new developments and existing electrical services that are being changed or upgraded, the electrical service will be 347/600 V 3 phase 4 wire. **Metering** will be at the **supply voltage**. 600 V meters must be **inside** the building or an **approved enclosure**.

The customer's service entrance shall include a cable connection box and ducts from the box to the property line at 1.0 m below finished grade. Depending on the circumstances (existing or new building, street or lane location of the network system), the connection box may be an **exterior splitter box** (see Figure 4 – Typical Splitter Layout & Figure 5 – Splitter Bus Spacing), or an **interior cable entry cell** (see Figure 6 – Cable Entry Cabinet) for service sizes greater than 800 Amps. Based on Canadian Electric Code, installation of the internal splitter cabinet is not approved.

The splitter size of network splitters can be up to 1520 x 1520 x 400 mm (60" x 60" x 16") to accommodate limiter fuses and door locking mechanism.

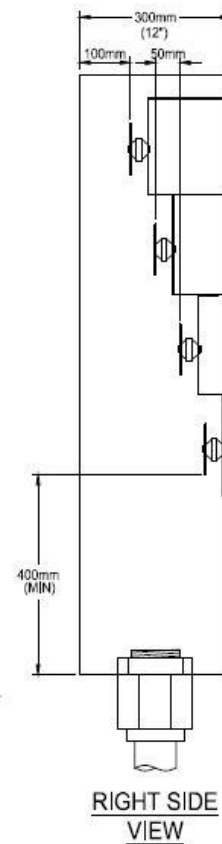
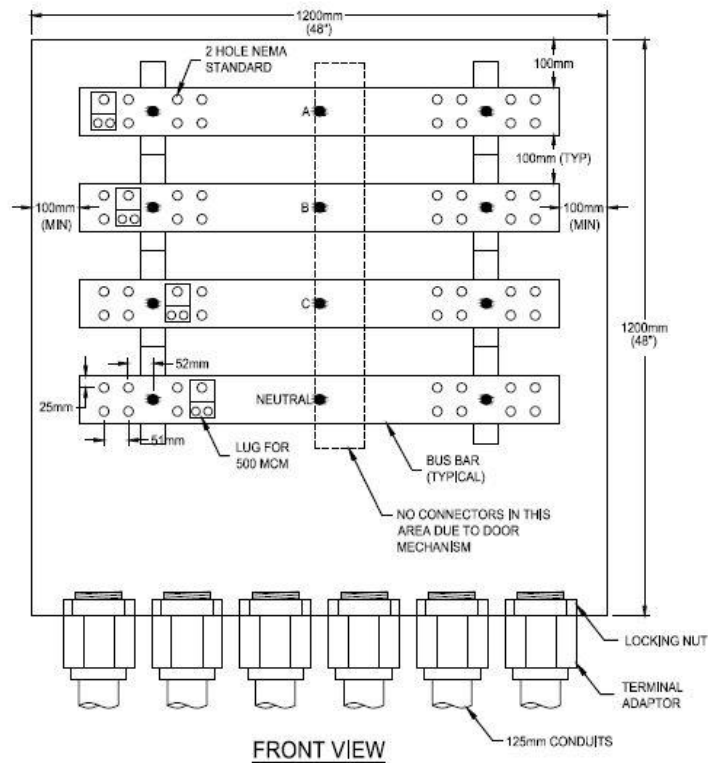
For more information on network services, call Customer Connection Information at (306) 975-7768.

Typical 48"x48" Splitter Layout Figure 4

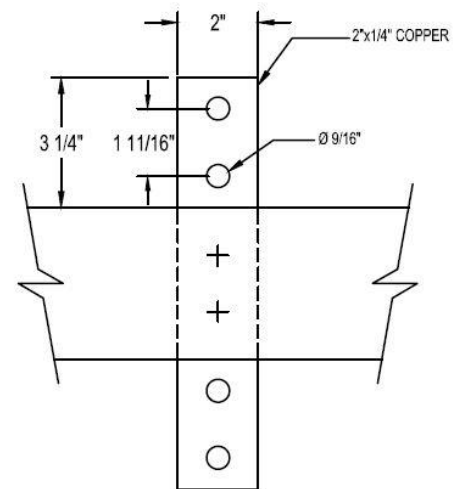
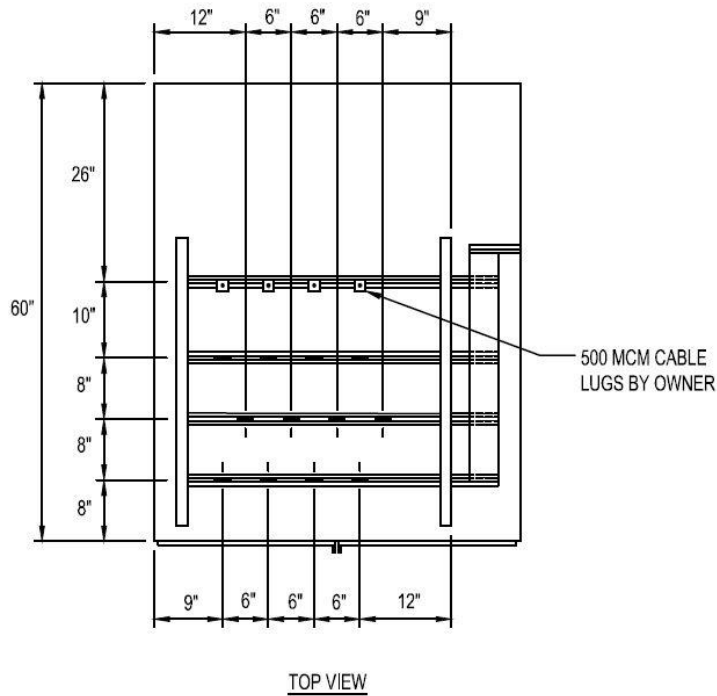


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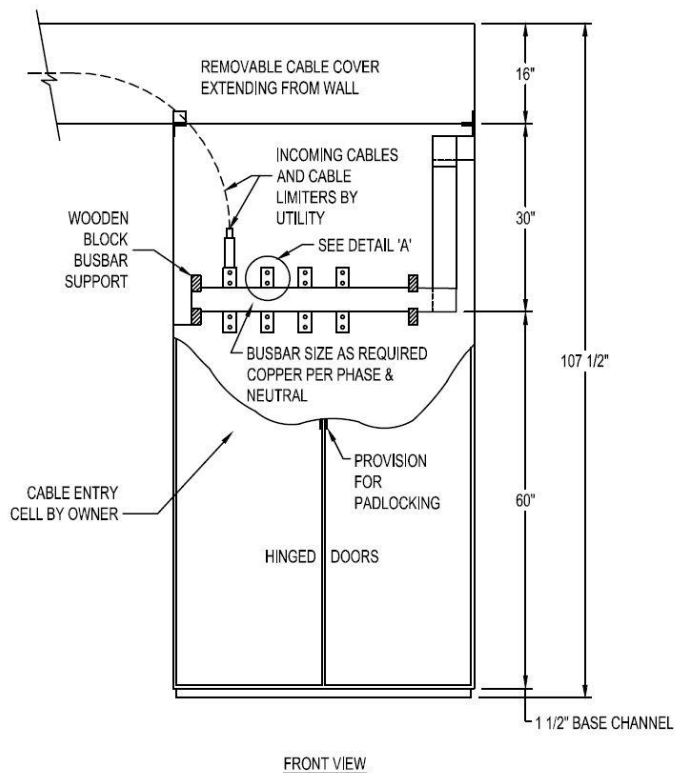
- REFER TO TABLE 3 FOR SPLITTER DIMENSIONS IN GIVEN SERVICE SIZE
- NEMA 3R
- 600 AMP TO 2000 AMP
- 120/208V TO 347/600V
- TYPICAL FAULT CURRENT RATING IS 50,000 AMP; CONTACT SL&P FOR AVAILABLE FAULT LEVELS AT A GIVEN LOCATION.
- MOUNTED 2' ABOVE FINISHED GRADE
- DUAL DOORS; PADLOCKABLE WITH 3-POINT LATCH
- POWDER COATED ANSI 61 GREY



**Cable Entry Cabinet
Figure 5**



DETAIL 'A'
(TYPICAL FOR PHASE BUS ONLY)



C) Steps for Service

For a new service or an upgrade, here are the basic steps which are involved:

1. Contact

- The customer contacts Saskatoon Light & Power's Customer Connection Information Line at (306) 975-7768 with the initial request. This line goes directly to a voicemail which is checked periodically.
- The minimum information required is the location of the customer, load information, requested voltage, option of overhead or underground and the contact information of the customer.

2. Design:

- Based on the information provided, Saskatoon Light & Power will complete a preliminary design.
- During this process, Saskatoon Light & Power will be in touch with the customer to establish the final design.

3. Quote:

- Once the design is finalised, Saskatoon Light & Power will determine its investment, if any, and convey costs to the customer.
- Saskatoon Light & Power requires a written acceptance of the costs before a Work Order is initiated.

4. Work Order:

- With the acceptance of the costs, Saskatoon Light & Power initiates a Work Order.

- Job preparations for material and manpower are made and the job is placed into a preliminary schedule.

5. Construction:

- When the customer has completed their work and is ready for service, Saskatoon Light & Power will commence construction.
- Based on the nature of the job, it may require 4-6 weeks to complete the construction.
- Some work may occur in advance to facilitate construction schedules.

6. Energize:

- Installing the meter is the last step.
- The customer should contact City of Saskatoon – Corporate Revenue Division to set up an account for the new meter.
 - *In person*
222 – 3rd Avenue North
 - *Phone* (306) 975-2400 or 1-800-667-9944
 - *Fax* (306) 975-7975
 - *Email*
revenue@saskatoon.ca
- The electrical contractor has to contact Saskatoon Light & Power's Meter Shop at (306) 975-2417 and provide Saskatoon Light & Power's Meter Shop with the SaskPower Electrical permit number prior to installation of the meter.

Note:

- Saskatoon Light & Power will not energize the service unless there is a SaskPower Energization sticker on the service installed by the electrical contractor.
- Saskatoon Light & Power has the right to refuse energizing the service if there are concerns regarding safety, and the customer may or may not be notified of the deficiencies. It is the duty of the customer to call Saskatoon Light & Power to gather all the information.

D) Easements

An easement or utility right of way is used for the protection, safety, and service of the Utility's infrastructure in the designated area. The Certificate of Title for the property will list the easement and the name of the company holding the easement if there is any Utility Infrastructure on the property.

In the event of a power outage, access to the cables may be required to restore electricity. For this reason, customers are not to change the grade of an easement, build garages or sheds, or plant trees in an easement.

Note:

- Any building/property with a service entrance of 800A or higher requires the installation of a splitter and will be an underground service to the splitter.
- Downtown Network Services sized at 1200 Amps require a splitter size of minimum 48" x 48" x 16" or 1200 mm x 1200 mm x 400 mm.
- In case of Downtown Network Service (347/600V), the customer must provide Saskatoon Light & Power with the shop drawings of the switchgear (if applicable) prior to servicing.

1.0 m (3 feet) of clearance is required around all sides of pedestals.

Customers may plant a lawn, flowerbeds, vegetable gardens, and low shrubs in an easement.

E) Commercial Connections

General Information

Commercial, industrial, institutional, apartment, or condominium customers must contact Saskatoon Light & Power as soon as possible for new services or upgrades to existing services.

This Utility will provide design estimates for new or upgraded electrical services by informal request but will not do detailed designs or order equipment without a formal letter of request. The letter is to include requested voltage and main size (ampacity) requirements as well as desired service location. Drawings showing site plans and single line diagram must be included.

Please refer to the following table for the typical splitter sizes and the associated Instrument Transformer cabinets for standard service request.

Typical Service Installation Chart
Table 3

<u>Volts</u>	<u>Amps</u>	<u>Utility Cable Size Overhead</u>	<u>Utility Cable Size Underground</u>	<u>Customer Splitter Size Underground</u>	<u>Customer Installed Instrument Transformer Cabinets</u>
120/240	100	#2 Triplex	#2- 2cond	Not Required	Not Required
	200	#2 Triplex	#2- 2cond	Not Required	Not Required
	400	2/0 Triplex	4/0 – 2cond	760x760x250 (30"x30"x10")	760x760x250 (30"x30"x10")
	600	4/0 Open	500MCM	900x900x300 (36"x36"x12")	900x900x300 (36"x36"x12")
	800	Not Available	500MCM	900x900x300 (36"x36"x12")	900x900x300 (36"x36"x12")
120/208	200	2/0 Quad	4/0	900x900x300 (36"x36"x12")	900x900x300 (36"x36"x12")
	400	4/0 Quad	500MCM	900x900x300 (36"x36"x12")	900x900x300 (36"x36"x12")
	600	4/0 Open	500MCM	900x900x300 (36"x36"x12")	900x900x300 (36"x36"x12")
	800	Not Available	500MCM	1200x1200x300 (48"x48"x12")	900x900x300 (36"x36"x12")
	1000	Not Available	2x 500MCM	1200x1200x300 (48"x48"x12")	900x900x300 (36"x36"x12")
	1200	Not Available	3x500MCM	1200x1200x300 (48"x48"x12")	900x900x300 (36"x36"x12")

<u>Volts</u>	<u>Amps</u>	<u>Utility Cable Size Overhead</u>	<u>Utility Cable Size Underground</u>	<u>Customer Splitter Size Underground</u>	<u>Customer Installed Instrument Transformer Cabinets</u>
	1600	Not Available	4x500MCM	1500x1500x400 (60"x60"x16")	900x900x300 (36"x36"x12")
	2000	Not Available	5x500MCM	1500x1500x400 (60"x60"x16")	900x900x300 (36"x36"x12")
347/600	200	2/0 Quad	4/0 CN	900x900x300 (36"x36"x12")	900x900x300 (36"x36"x12")
	400	4/0 Quad	500MCM	900x900x300 (36"x36"x12")	900x900x300 (36"x36"x12")
	600	4/0 Open	500MCM	900x900x300 (36"x36"x12")	900x900x300 (36"x36"x12")
	800	Not Available	500MCM	1200x1200x300 (48"x48"x12")	900x900x300 (36"x36"x12")
	1000	Not Available	2x 500MCM	1200x1200x300 (48"x48"x12")	900x900x300 (36"x36"x12")
	1200	Not Available	3x500MCM	1200x1200x300 (48"x48"x12")	900x900x300 (36"x36"x12")
	1600	Not Available	4x500MCM	1500x1500x400 (60"x60"x16")	900x900x300 (36"x36"x12")
	2000	Not Available	5x500MCM	1500x1500x400 (60"x60"x16")	900x900x300 (36"x36"x12")
	3000	Not Available	6x500MCM	1500x1500x400 (60"x60"x16")	900x900x300 (36"x36"x12")

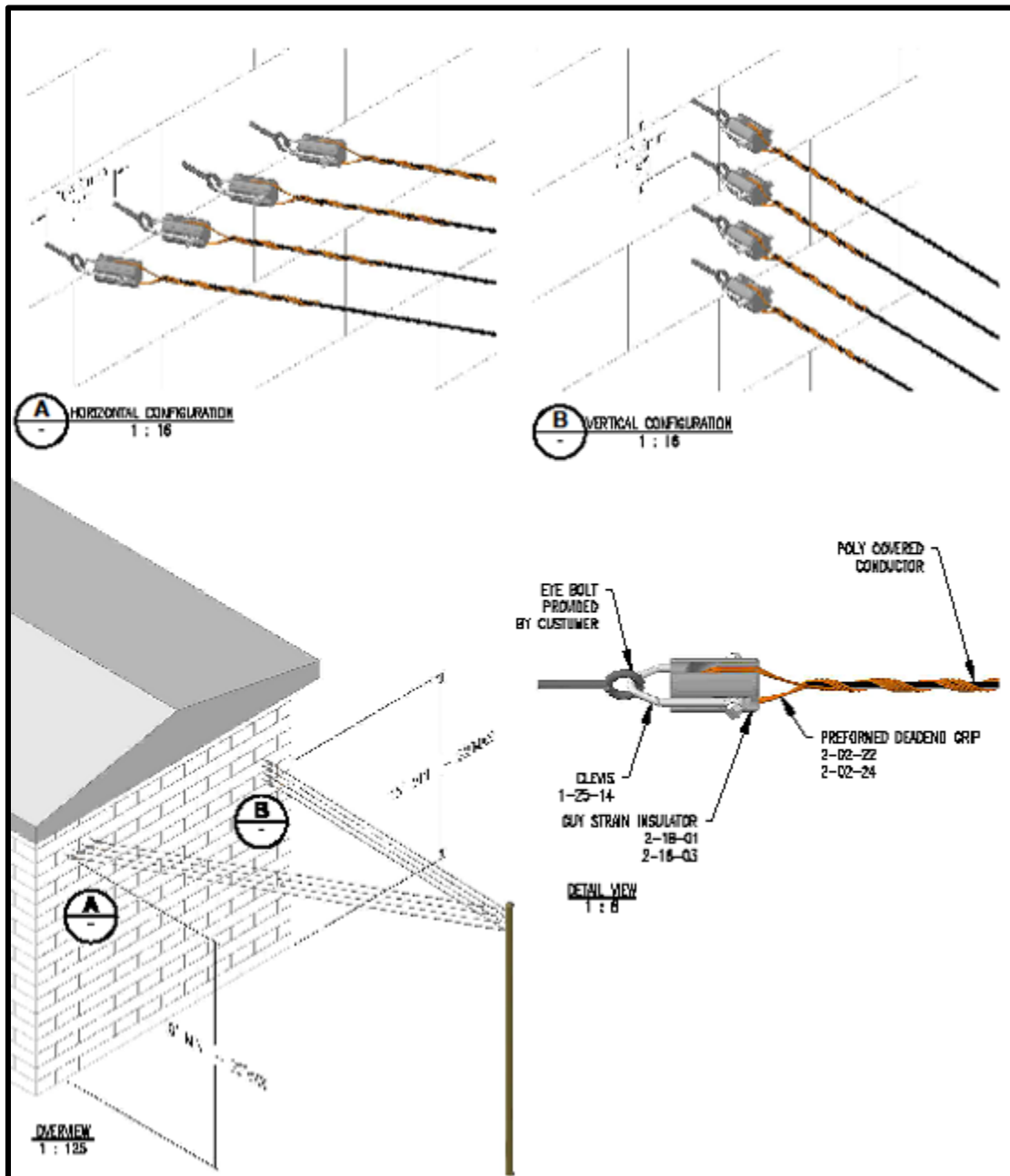
Dimensions are in millimetres unless otherwise noted.

Overhead

If the service is 400 Amps or less, a single hook (eyebolt) is required. Services 600 Amp and greater will require four (4) hooks (eyebolts)

spaced vertically or horizontally. Call Customer Connection Information at (306) 975-7768 for more details.

**Typical Overhead Hooks
for Three Phase Power
Figure 6**



Underground

Typical **padmount** transformer and **guard post** installations are shown in Figure 8 – Typical Transformer Installation and Figure 9 – Typical Guard Post Installation. Included is clearance information to adjacent structures and objects such as buildings, fences, and plants.

An exterior weatherproof splitter is required for all underground services greater than 200 Amps. The **height** of the bottom of the splitter above finished grade is to be 600 mm (24") to 900 mm (36"). The splitter is to have a door with a **3-point latch** and a **padlockable handle**. The splitter becomes the Utility's point of service.

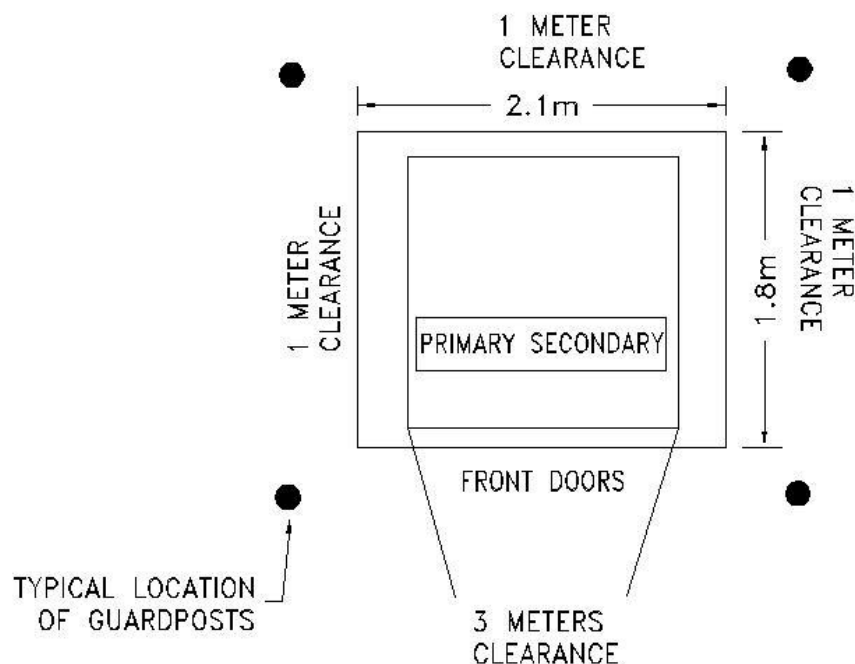
The **neutral connection** is to be at the bottom lug or bus bar of the splitter.

The secondary lugs must be positioned away from the **door latching mechanism** to avoid accidental contact.

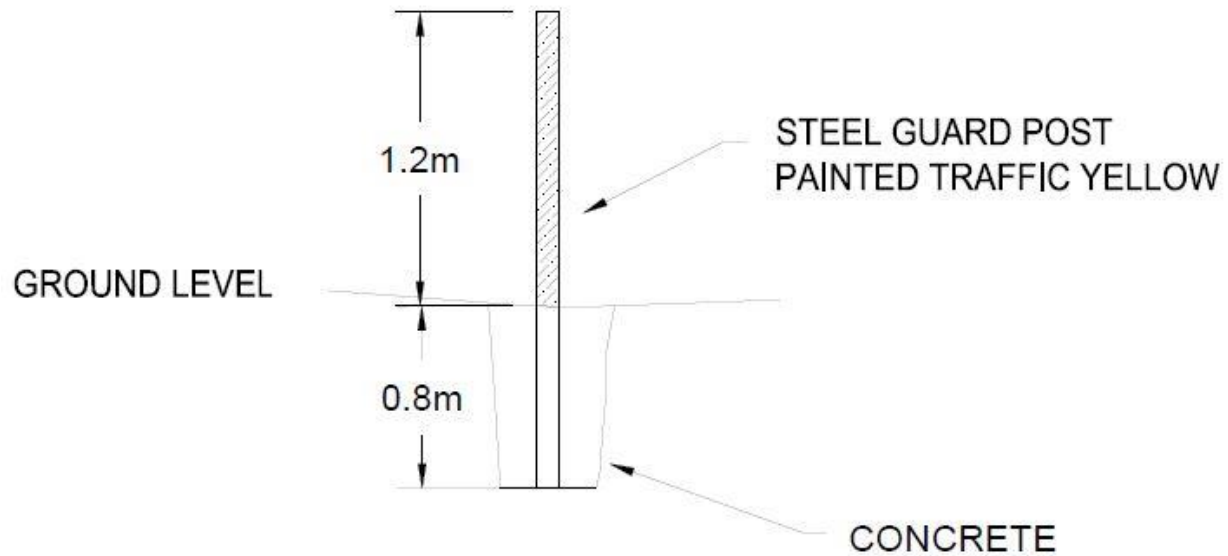
Splitter layout and spacing are shown on Figure 4 – Typical Splitter Layout and Figure 5 – Splitter Bus Spacing.

The customer is responsible to supply and install all required primary and secondary duct within the property boundaries. The **duct** is to be **125 mm (5") PVC** installed at one (1) metre below finished grade. The number of ducts required and whether they are to be concrete encased will be determined in discussion with Saskatoon Light & Power. Call (306) 975-7768 for details.

Typical Transformer Installation
Figure 7



Typical Guard Post Installation
Figure 8



F) Customer Charges

When a customer requests new or upgraded electrical services, Saskatoon Light & Power will provide a quotation for costs associated with getting electrical power to that site. As part of these costs, Saskatoon Light & Power may determine a

utility investment and deduct the amount from the total construction costs. Additional investments may be made where the upgrade facilitates improvements to Saskatoon Light & Power infrastructure.

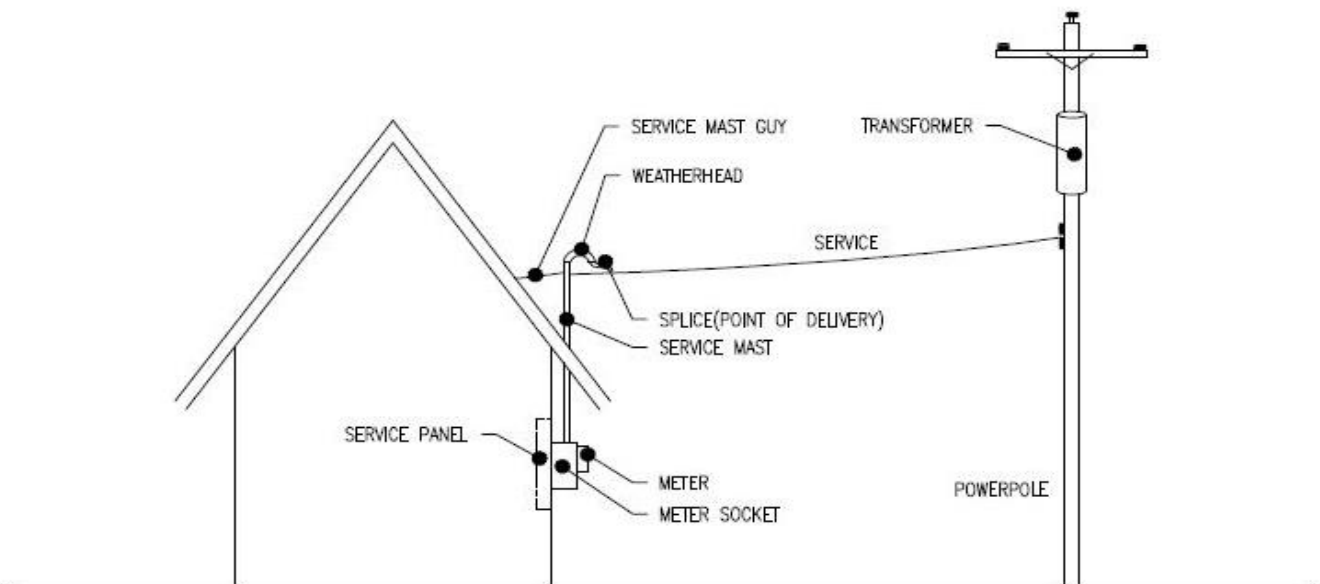
G) Metering

General

A **SaskPower Energization Sticker** must be affixed to the Meter Socket for new services or reconnects when installations are ready to be energized. Affixing this sticker is assurance that:

- i. A paid electrical permit has been obtained for the customer's service.
- ii. Wiring on the customer's service (from the point of delivery to the main disconnect) is free from short circuits, grounds or any defects that might cause a hazard to life or property.
- iii. The customer's main switch shall be in the open position.
- iv. The customer's service is free of any other source of energization (back feed).
- v. For customer's services 600 Amps and above, a pre-energization inspection has been performed by SaskPower Electrical Inspections and they have approved the service connections.
- vi. The customer's service meets the Canadian Electrical Code for grounding and clearance.

Typical Residential Overhead Service
Figure 9



NOTE:

Electrical Contractors are not permitted to remove a meter and/or perform a service disconnect under any circumstances, and should report any unsafe conditions to Saskatoon Light & Power's Meter Shop at (306) 975-2417.

1.2 m (4 feet) of clearance is required for service access to the meter.

Electrical services which have **cold metering** (meter after disconnect) must be energized with the disconnect locked off before

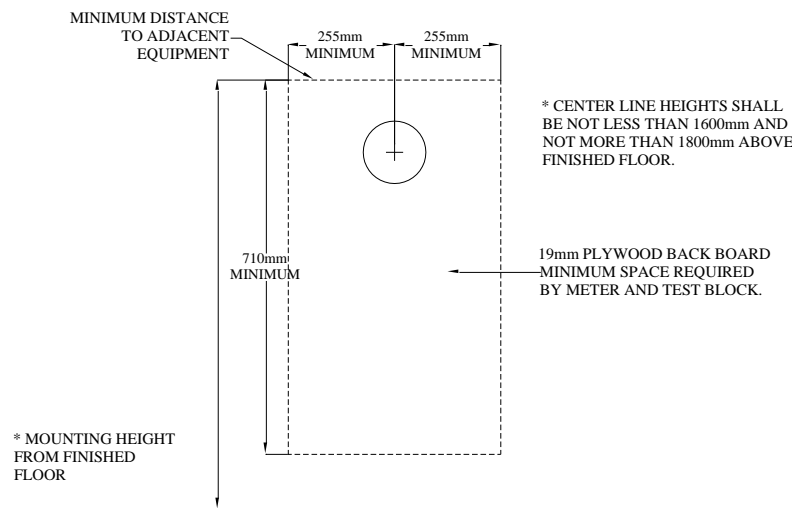
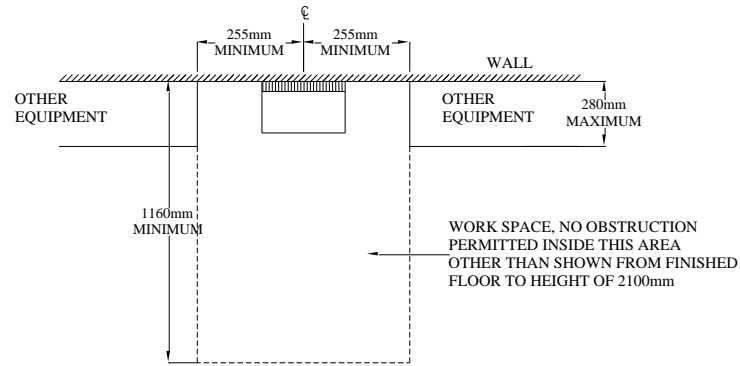
Saskatoon Light & Power will install the revenue meter.

Electrical services with **hot metering** (no disconnect before the meter) must have the meter socket glassed off and sealed with a tie wrap before Saskatoon Light & Power will install the revenue meter.

For instrument rated meters, **minimum size of conduit** from CT (Current Transformer) cabinet to base of plywood backboard for meter and test block is **37 mm**.

See Figure 10 – Revenue Meter Clearance for revenue metering clearances.

**Revenue Meter Clearance – Instrument Rated Meters
Figure 10**



A suitable meter enclosure requires 3 point latching on the doors and a padlockable handle.

Contact the Saskatoon Light & Power's Meter Shop at (306) 975-2417 for more information.

Primary

Primary polyphase metering at distribution system voltage will be instrument rated and must be inside a building or suitable padlockable enclosure. Saskatoon Light & Power requires a minimum of four (4) months' notice to provide primary metering.

Polyphase Demand Meter

All demand meters must be inside a building or in a suitable meter enclosure. Meter must be cold metered for all voltages.

347/600 V Meter

All 347/600 V meters, demand or energy only, are to be inside a building or in a suitable meter enclosure and cold metered. 100 Amps and 200 Amps are self-contained. Above 200 Amps are instrument rated.

120/208 V Meter

120/208 V meters up to 200 Amps can be outside and hot, if inside are

to be cold. Instrument rated meters are to be inside and cold metered. 100 Amps and 200 Amps are self-contained. Above 200 Amps are instrument rated.

Network 120/208 V 3 Wire Meter

All commercial and residential meters must be inside and cold metered.

Multiple Meters

All multiple meters must be inside a building and cold metered, and are to be grouped in a centralized location (usually electrical room). All meters must be **clearly identified** with unit number and are to be **arranged in sequential order** either vertically or horizontally.

Single Phase

Commercial – Single Meter

Meters for services up to 200 Amps are self-contained and can be outside and hot metered, if inside are to be cold metered. Meters for services above 200 Amps are instrument rated and must be inside and cold metered.

Commercial – Multiple Meters

Meters up to 200 Amps are self-contained and must be inside and cold metered. Meters for services above 200 Amps are instrument rated and must be inside and cold metered.

Residential – Single Meter

All residential single house meters are to be sized to 200 Amps. These meters are self-contained and must be outside and hot metered.

Residential – Multiple Meters

A splitter is required for multiple meters. Maximum number of four (4) meters in a meter trough. Greater than eight (8) meters must be in an electrical room and cold metered. Any building with complete living spaces above ground level will require an electrical room.

Residential – Senior Citizen Apartment or Condominium

Metering may be individual or bulk at the option of the owner. If bulk metered, then a separate house meter is required for common loads. All other residential apartment or condominium complexes are to be individually metered with a separate house meter.

NOTE:

For services over 1200 Amps, the metering wiring and the arrangements can be made in the customer switchgear instead of the Customer Installed Instrument Transformer Cabinets as per Table 3 - Typical Service Installation Chart. Please contact Saskatoon Light & Power's Meter Shop at (306) 975-2417 for more information on this.

Types of Metering

Self-Contained Metering

- The maximum load for a self-contained meter is 200 Amps per phase.
- The maximum voltage limit for a self-contained meter is 600 V phase to phase.

Self-Contained Meters (Up to 200 Amps)
Table 4

Voltage	Phase	Wire	Connection	Socket	Figure
120/240	1	3		4 Jaws	11
120/208	1	3	Network	5 Jaw	12
120/208	3	4	Star (Y)	7 Jaw	13
347/600	3	4	Star (Y)	7 Jaw	13

Supply of Self-contained Metering Equipment

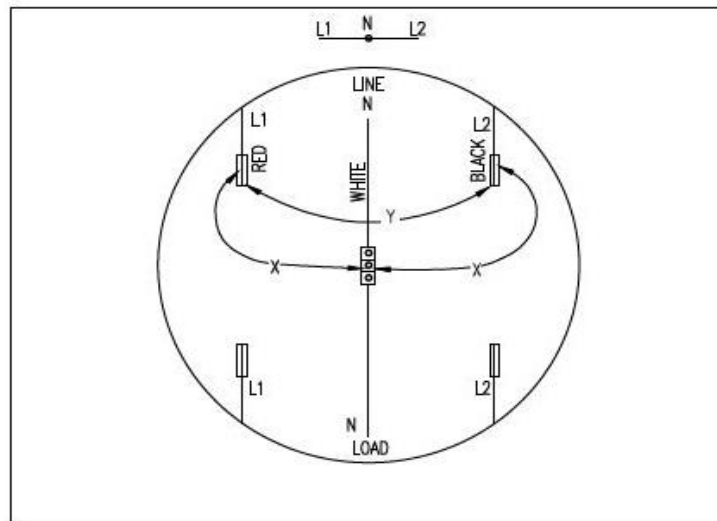
The customer shall:

- Supply and install an approved meter socket complete with a screw type sealing ring for Saskatoon Light & Power.
- Make all connections within the meter socket.

Saskatoon Light & Power shall:

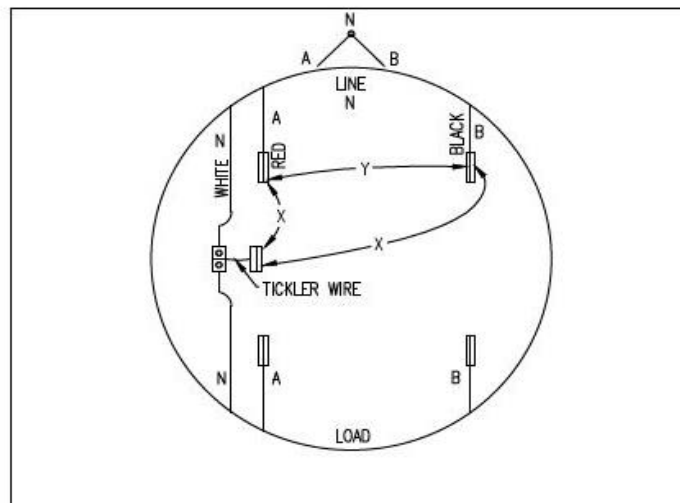
- Supply the meter and install the meter in the socket.

4 Jaw Meter Socket Figure 11



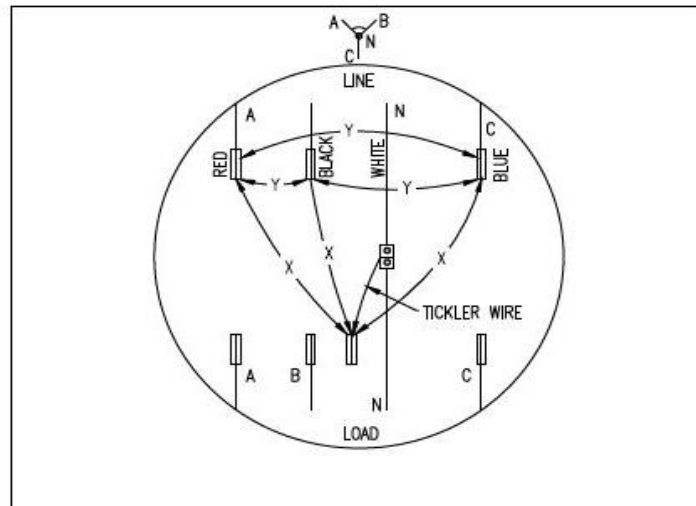
LINE VOLTAGE	MEASURED VOLTAGE	
	X	Y
120/240	120	240

5 Jaw Meter Socket Figure 12



LINE VOLTAGE	MEASURED VOLTAGE	
	X	Y
120/208	120	208

7 Jaw Meter Socket Figure 13

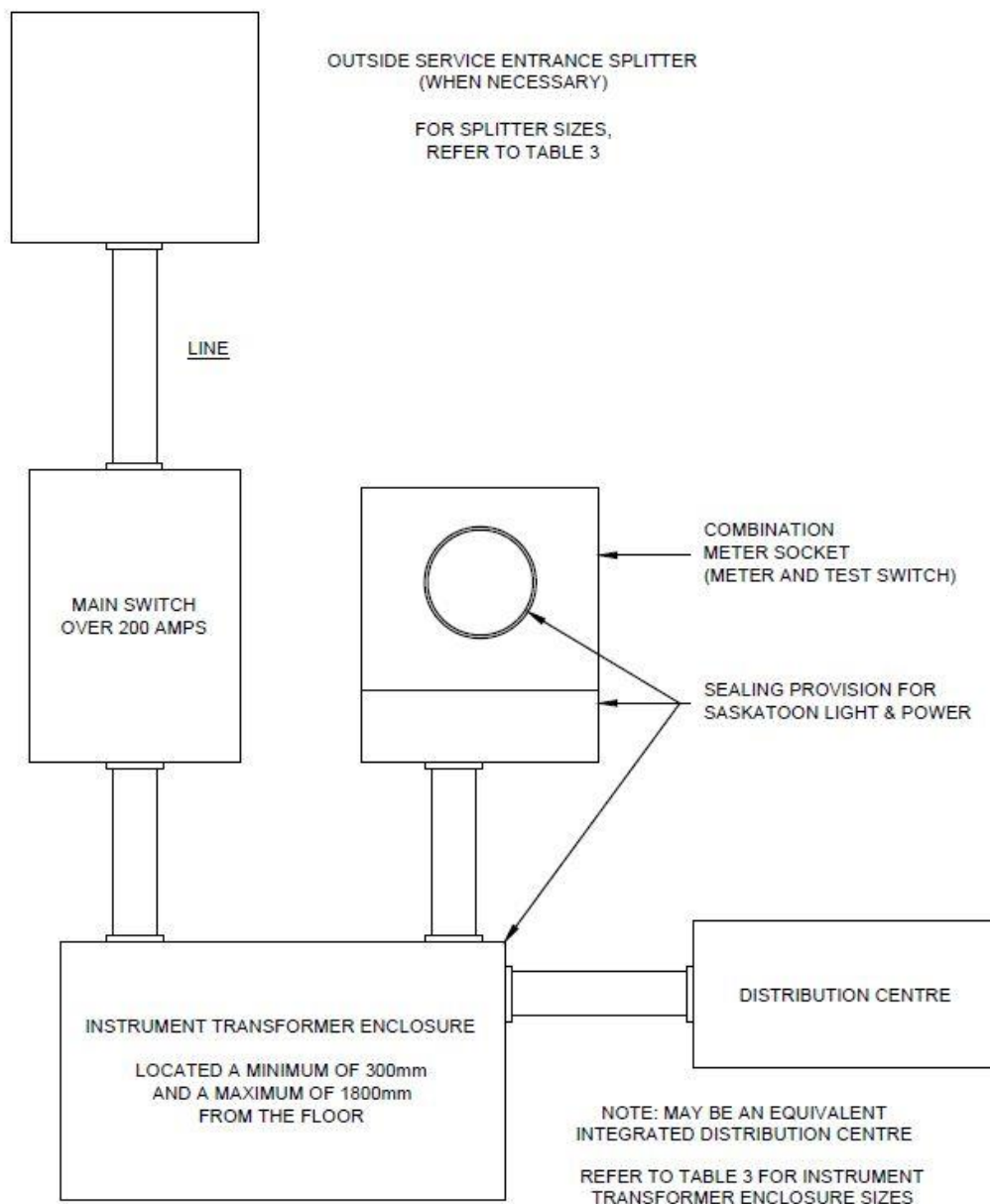


LINE VOLTAGE	MEASURED VOLTAGE	
	X	Y
120/208	120	208
347/600	347	600

Instrument Transformer Metering

Instrument transformer type metering is required on all services exceeding 200 Amps per phase. If it is required to enter an instrument transformer enclosure, the customer must contact Saskatoon Light & Power's Meter Shop.

Single Phase – 3 Wire or Three Phase – 4 Wire Services Exceeding 200 Amp Figure 14



Instrument Transformer Metering Equipment Location

For Saskatoon Light & Power owned distribution transformer installations, meter and metering equipment installation shall be connected on the load side of the distribution transformer.

For customer owned distribution transformer installations, meter and metering equipment shall be connected on the line side of the distribution transformer.

Customer equipment is not allowed within the Instrument Transformer enclosure. The instrument transformer cabinet shall not be used as a splitter box.

Supply of Instrument Transformer Metering Equipment

The customer shall:

- Supply and install a manufacturer pre-wired meter enclosure according to specifications shown in Table 3.
- Supply and install a 31.75 mm (1 1/4") conduit between the instrument transformer enclosure and the meter enclosure. (25.4 mm (1") conduit for single phase installations).
- Supply and install all hardware, buswork, termination and/or cable required for primary connects to the current transformers.
- Supply and install a 19 mm (3/4") plywood sheet behind all enclosures.

Saskatoon Light & Power will:

- Supply instrument transformers.
- Supply and install the secondary wiring.
- Supply and install the meter.

The instrument transformers are available to the customer for installation upon request from Saskatoon Light & Power. The customer shall provide the Service Address and Electrical Permit number to Saskatoon Light & Power's Meter Shop when placing a request for instrument transformers.

Meter Enclosure

A separate meter enclosure is required for each instrument transformer service. This enclosure is a manufacturer pre-wired meter enclosure including a 13-jaw meter socket (for 3 phase services) or 4-jaw meter socket (for single phase services), a test switch and wiring from the test switch to the socket. Meter enclosure specifications are shown in Table 4 – Self-Contained Meters (Up to 200 Amps).

Care of Metering Equipment

The customer is required to exercise reasonable care for the protection of the Saskatoon Light & Power metering equipment installed on the customer's premises. Should any damage occur or is lost or stolen after installation, the customer will be liable for the cost of repair or replacement.

H) Power Quality

Power quality is defined as the quality of the voltage which is delivered to the customer.

Saskatoon Light & Power is committed to delivering the best quality of power to its' customers. However, there are factors which are beyond the Utility's control and contribute towards poor power quality. Some of the common disturbances seen are:

Flickering Lights – Caused due to periodic fluctuation of voltage. This is mainly caused due to fluctuating loads on the system such as hoists, arc furnaces, etc.

Voltage Unbalance – Seen for three phase customers where the voltage measurements of the individual line voltages are not the same.

Low Voltage – Voltage levels at customer's equipment are lower than the standard voltage levels.

Voltage Dip – Seen mainly by customers in industrial areas. Typically, a motor start further down the line causes a momentary reduction of the voltage levels at their end.

In all these cases, Saskatoon Light & Power will work with the customer to rectify the issue. Please call Saskatoon Light & Power's Meter Shop at (306) 975-2417 and based on the type of power quality issue observed by the customer, Saskatoon Light & Power would work to rectify the problem.

I) Customer Owned Generation

Customers may generate electricity at their home or business under Saskatoon Light & Power's Power Producer's Policy.

Any electricity generated by the customer offsets electricity purchased from Saskatoon Light & Power for their home or business, reducing their monthly electricity bill. Any excess power generated is sold to Saskatoon Light & Power and flows to the electrical grid.

A bi-directional meter keeps track of the electricity to and from the grid for billing purposes. Power put back onto the grid is accumulated throughout the year. At the end of each year, payment is made for all customer generated electricity sold to Saskatoon Light & Power.

Customers are required to apply for the program prior to installing any equipment. There are some program restrictions in the downtown area. There are technology and system size restrictions in certain applications.

Please visit the City of Saskatoon website → Services for Residents → Power & Water → Saskatoon Light & Power → Services for Customers section for more information, rules, requirements, and to download the application form.

J) Electrical Fees

SERVICE	FEE
During Normal Working Hours:	
Application for Service	\$ 25.00
Cut and Reconnection of Service	\$ 50.00
Reconnection after cut-off for non-payment	\$ 50.00
Request for special meter reading	\$ 25.00
Request for meter test	\$ 25.00
Request for account research	\$ 25.00 per year researched
Same day service	\$ 100.00
After Normal Working Hours:	
Emergency service	\$ 120.00
Cut and reconnection of service	\$ 120.00
Reconnection after cut-off for non-payment	\$ 100.00

4. Revisions

September 2007 Revision 2

Commercial Splitter Information d) Underground – page 14

- 3 point latch and padlockable handle
- minimum and maximum installation height

June 2008 Revision 3

Clearance from Electrical Lines – page 3

- Safe limit of approach distance to energized lines

Network Splitters – page 6

- Size of splitter to be minimum 1520x1520x400mm (60"x60"x16")

Installation of Supply Duct – page 12 and 15

- Customer will supply and install 125mm duct in property

May 2015 Revision 4

Major Revision – renamed Customer Information Guide

- Additional information provided regarding Saskatoon Light & Power Services
- Revised format

June 2015 Revision 5

Swimming Pools – page 6

Minimum separation of overhead and underground lines by a swimming pool

January 2016 Revision 6

Note – page 2

- Customers are not permitted to perform their own service disconnects.

E) Commercial Connections:

- The customer must provide Saskatoon Light & Power with the shop drawings of the switchgear (if applicable) prior to servicing.

Typical Service Installation Chart

- Services sized at 800A and higher will not be an overhead service.