Switchboard arrangement for small strata lot development guideline - 02 - 2022

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Description	Title	Name	Date
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Switchboard arrangement for small strata lot development guideline

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Contents

1. Description

This *guideline* has been prepared to assist *consumers*, industry and Western Power personnel, assess, determine and consistently apply regulatory and *network connection requirements* pertaining to the provision of *network* and *consumer* electrical infrastructure applicable to small *strata* (up to and include 4 *lots*) *subdivisions*.

1.1 Related policies

The *guideline* is made under and supports the Underground distribution schemes manual (UDS) and Western Australian Service and installation requirements (WASIR). In addition to the UDS and the WASIR, this *guideline* shall be read in conjunction with the:

- Applicable Australian Standards inclusive of but not limited to AS/NZS 3000 and 4777;
- Application of Model conditions (*network* stakeholders);
- Department of Planning - Model conditions (consumer and industry stakeholders);
- Embedded generation (EG) and Electric vehicle *technical requirements* (Refer to WASIR Section 1.6.2);
- Overhead to underground conversion standard (Previously known as pole to pillar - P2P); and
- WA Electrical Requirements (WAER).

1.2 Introduction

Where there is an intent to subdivide either a new or existing parcel of land, appropriate *network* and private electricity infrastructure is required to be installed prior to the creation of property titles.

The UDS sets out the minimum *network* and private requirements for all *subdivision* distribution schemes, that are or have the potential to either import or export energy from and/or to Western Power's *distribution network*. The WASIR prescribes the methodology and conditions to be applied when connecting *consumers* to that combined distribution infrastructure.

Both the WASIR and *embedded generation technical requirements* further define the minimum capacity *requirements* for a *standard connection service* inclusive of both *load* and generation conditions.

In summary a combined *network service connection*/private distribution system must be able to:

- Accommodate the combined energy capacities measured at the *point of common coupling* for each *standard connection service* being:
  - Single-phase:
    - *Load* capacity of 63 amps (metropolitan and major regional centres); or 32 amps (rural areas);
    - Generation capacity of 5 kVA (rural connections subject to *network* capacity evaluation)
  - Three-phase:
    - *Load* capacity 32 amps per phase, three phase;
    - Generation capacity of 15 kVA.
- Maintain a *voltage* range of 240 volt single phase (+/-6%) or 415 volt three phase (+/-6%) measured at the *point of supply (connection)* over a 5 min average;
- Accept *consumer mains cable*/submain main cables not exceeding 35 mm^2 to the *network meter*.

Note: The export capacity of the consumers generation system may be subject to limitation.

1.3 Purpose

The purpose of this *guideline* is to ensure, the consistent application of *subdivision* and *connection requirements* for small *strata subdivisions* as prescribed by the UDS and the WASIR.

1.4 Scope

This *guideline* applies to the electricity *distribution networks* within Western Power's South West Interconnected System (SWIS) where a new or existing parcel of land is to be subdivided, amalgamated or have *property boundaries* realigned, resulting in the creation or confirmation of one or more *strata lots* not exceeding four (4) *lots* within that parcel of land.

In accordance with the UDS and the WASIR compliance with this *guideline* is mandatory.

This *guideline* does not apply to freehold title *subdivisions*, amalgamations or *property boundary* realignments (Refer to the UDS manual for *requirements*).

1.5 Application and Publication

The content of this document aligns with current Western Power *subdivision* and *connection requirements*.

Application of these *connection requirement*s shall be applied to all current and new *strata subdivision* projects prior to and from the *date of publication*. (Refer also to clause 2.1)

2. Details

2.1 UDS Requirements

Clause 2.2.1 ***Electrical reticulation*** in part states:

> *These requirements apply to Western Power's electrical reticulation servicing freehold subdivisions and private distribution systems servicing survey strata lots and common property.*
>
> *Underground electricity reticulation is mandatory in all new freehold and survey strata subdivisions with lot sizes up to 10 hectares and applies to all subdivisions, including residential, rural residential, commercial and industrial.*

Clause 2.2.3.4 (e) ***Service connections in survey strata subdivisions*** in part states:

> *Where survey strata lots or built strata lots, are created on a freehold lot, a main switchboard (MSB), suitable for supplying all of the strata lots, shall be established at the point of supply (connection).*

Note: As of the 1st February 2020 the requirement to supply and install a MSB is applicable for all *survey and built strata developments*. Direct connections from *strata lots*, created after that date, to the *network* will not be permitted after 1st July 2020.

Clause 4.1.4.1 (e) ***Small Subdivisions*** in part states:

> *Overhead network and connection services are converted underground.*

Clause 4.1.5.1 ***Requirements*** in part states:

> *WAPC conditions on approved subdivision plans for both freehold and survey strata developments are only cleared after the following requirements are met:*
>
> ***a)*** *Payment in full of Western Power quote including where appropriate a Per–Lot Fee (Refer clause 3.9); and*
>
> ***b)*** *Submission of a copy of the deposited and or survey strata plan of the subdivision to Western Power showing substation sites, easement, restrictive covenant and notification requirements; and*

c) Compliance with other easement and/or special requirements that may include provision of main switchboard and "completion notices" for survey strata developments; and

Either,

d) Western Power receipt of "as constructed drawings" for large projects;

Or,

e) For early clearance request a copy of "approved for construction" drawing being part of the DCR submission and compliance with "early clearance requirements" of clause 3.9.

Note: The underground conversion and connection of any existing services within the *subdivision* to the installed MSB is an essential condition for title clearance.

2.2 WASIR requirements

Clause 11.5.1 ***General*** in part states:

Unless specified otherwise by these requirements or the network operator, network service and metering equipment (metering equipment) shall be located:

1. *not be more than 30 metres (route length) from the point of supply (connection) where the consumer mains cable is electrically unprotected;*
2. *in a position that clearly relates to consumer's premises and point of supply (connection);*
3. *on the principal frontage of the premises (but not more than 1 metre down any side wall);*
4. *facing a road, laneway or access way that has been gazetted or classified as the official address for that premises or structure…*

Clause 11.6.4.3 *Main switches* (Whole current metering)

A consumer's electrical installation shall have an installation main switch or switches installed as prescribed by AS/NZS 3000, WAER, WASIR *and the network operators:*

- *Technical rules; and*
- Embedded *generation (EG) and Electric vehicle (EV) technical requirements.*

Where required by the network operator, the consumer's main switch(s) shall be a circuit breaker(s) with visible and lockable isolation facilities and where:

1. *a single main switch is installed, it shall be rated to the lesser value of the network connection service or the consumer's requested and agreed allocated capacity for the consumer's electrical installation; or*
2. *multiple main switches are installed and the service protection device (SPD) is a fuse(s), the sum of the current ratings of the individual main switches, shall not exceed the lesser value of network connection service or the consumer's requested and agreed allocated capacity for that consumer's electrical installation; or*
3. *multiple main switches are installed and the service protection device (SPD) is a circuit breaker, the agreed allocated network capacity across the individual main switches, shall not exceed the lesser value of network connection service or service protection device (SPD) rating.*

Note:

a. *This is a mandatory requirement for all connections to Western Power's distribution network. For additional guidance refer to AS/NZS 3000 clause 2.5.1.*

b. *Horizon Power may also require, specify the application of this requirement as a condition of connection to their distribution network.*

Clause 11.11.2 **Installation requirements** (Multiple master metering) in part states:

Where the units are for domestic use, they shall be self-contained with facilities for maintenance and fault finding incorporated into the installation, to provide security of supply for each and every customer.

The site main switchboard/multiple master metering enclosure shall be installed in a common area not more than 30 metres (consumer mains cable route length) from the point of supply (connection).

The enclosure shall not be installed within the wall(s) of one or more of the individual units.

Clause 11.12.2 **Installation requirements** (Distributed master metering) in part states:

A distributed master metered installation shall have only one point of supply (connection). The site main switchboard shall be located not more than 30 metres (consumer mains cable route length) from the point of supply (connection).

Metering equipment shall be located in accordance with Clauses 11.5 in a position on the principal frontage as close as practical to the entry of each premise so that the metering equipment is readily identifiable and accessible. Where the installation cannot satisfy these requirements, refer to clause 11.11 for meter location details.

Grouping of individual distributed master meters and their enclosures in either a single or multiple location(s) is not permitted (refer to clause 11.11 Multiple master metering).

Clause 12.6.3 **Voltage drop/rise** in part states:

For the purposes of calculating voltage drop/rise, the assessed component across the consumer's mains cable shall be calculated in accordance with AS/NZS 3000 and 3008 part 1. Refer to clause 15.13 for additional information on voltage rise.

Note: WASIR Section 15. in summary states that voltage rise:

1. *within the consumer's electrical installation from the EG system to the point of supply (connection) shall not exceed 2%; and*
2. *shall not exceed 1% of the rated voltage across the network:*
    a. *overhead service cable from the point of supply (connection) to the street mains; or*
    b. *underground service mains cable from the point of common coupling to the junction with the street mains cable.*

2.3 AS/NZS 3000:2018

Clause 1.6.3 **Maximum demand** in part states:

The maximum demand of an electrical installation shall be determined, taking account the capacity, physical distribution and intended use of electrical equipment in the electrical installation and the manner in which the present requirements might vary. Consumer mains cable, submains and other electrical equipment of an electrical installation shall be designed and installed to meet the maximum demand.

Clause 2.2.2 offers 4 options to determine an installations maximum demand.

Note: Where the maximum demand cannot be determined or managed then that demand shall be determined by limitation. Refer to the *requirements* for *main switches.*

2.4 WA Planning Commission (WAPC) Model condition requirements.

The WAPC determines the requirements for freehold, vacant and *survey strata subdivisions* in WA with the exception of *built strata subdivisions* which are usually determined by local government. Model *subdivision* conditions are an essential tool used by the WAPC to ensure compliance with its statutory and policy responsibilities.

Model conditions applied at the time of a *subdivision* or connection application, provide a standardised set of tested and agreed conditions, for use by the Department of Planning, Lands and Heritage (the Department) in its role of supporting the WAPC. The State Planning Commission has the power to impose such conditions, consistent with the application of sound town planning principles. (*Hill v State Planning Commission* TPAT).

2.4.1 Clearance of condition

WAPC Model conditions (E1 through E8 and Ea1) are used by Western Power as a referral (clearance) agency to formalise *subdivision* and connection advice to the Department of Planning.

Subdivision infrastructure and connections are required to be constructed in accordance with the approved Condition(s). On completion of the works the landowner/*applicant* is responsible for obtaining the 'clearance' from the agency (Western Power) prescribed with the responsibility for 'clearing' the relevant condition.

Once all conditions have been met by the landowner/*applicant* and appropriate clearances obtained, the *applicant* may then seek/request the endorsement of diagrams or plans of survey *subdivision* in accordance with Section 145 of the Planning and Development Act 2005 facilitating the creation of property titles.

Note: Western Power applies the same set *subdivision/connection requirement* conditions for *built strata developments*.

2.5 Distributed energy resource (DER) infrastructure

Electrical installations containing a *network* connected embedded generation system(s), shall comply with the *network operators embedded generation*(EG) *technical requirements* and associated requirements for distributed photovoltaic management/emergency solar management (ESM).

3. Minimum requirements

In summary to ensure compliance with the applicable condition criteria for *strata subdivision developments* as identified above the following minimum elements shall be satisfied:

a. Provision of underground *network* electricity reticulation (e.g., *service mains* cable and *network point of supply (connection)* (e.g., *pillar*) for the *subdivision*;
b. Provision of underground private electricity reticulation inclusive of but not limited to:
    I. *switchboard* enclosure(s)/panels/supports;
    II. *service and meter protection device(s), network meters;*
    III. *main switch or switches;*
    IV. *consumer mains cable*/sub main cables;
    V. earthing system; and
    VI. associated infrastructure and labelling.

c. A combined *network* and private arrangement that:
   I. Facilitates the delivery of the required minimum energy import/export capacities to each *lot* (*premises*) within the *development*;
   II. Complies with applicable legislation and industry standards for installation and *voltage*;
   III. Complies with Western Power *requirements*, WAPC Model and/or local government conditions where applied;

d. Redundant overhead *consumer* equipment, infrastructure and poles have been removed or provision made and validated for the removal of same on completion of the conversion at the *consumer's* cost;

e. Any applicable *site* specific conditions inclusive of but not limited to:
   I. Conversion and connection of any existing *network* overhead service to the *site* MSB; and
   II. Relocation and connection of any existing *network* underground service to the *site* MSB.

Note: Where the installation of the *site main switchboard* (MSB) is for a *built strata development* or *survey strata* title clearances only and the supply arrangement for each *strata lot* within the *subdivision* is unknown, the following *main switchboard* configuration may be substituted for clause stated at 3(b) above:

b. Provision of underground private electricity reticulation (title clearance only) inclusive of but not limited to:
   I. *switchboard* enclosure/panels/supports:
   II. *service protection device*:
   III. *main switch*;
   IV. provision for submain circuit protection (3 phase) to each *lot* within the *subdivision*;
   V. *consumer mains cable*;
   VI. earthing system; and
   VII. associated infrastructure and labelling.

4. Solution

The attached drawings and supportive notes provide guidance on an appropriate solution:

4.1 Drawing Notes

1. Drawings and notes shall be read in conjunction with applicable legislation, industry standards, codes, inclusive of but not limited to the:
   a. AS/NZS 3000 and AS/NZS 4777;
   b. WA Electrical Requirements (WAER);
   c. Underground distribution schemes manual (UDS);
   d. WA Service and installation requirements (WASIR); and
   e. Network embedded generation (EG) connection technical requirements.

   Note:
   For *strata subdivision developments* and *lot* title clearance *requirements* refer to Western Power's WAPC terms and conditions.

2. For small *subdivisions* (up to 4) *strata lots*, the *consumer's point of supply (connection)* (POS) shall be the *network* nominated mini *pillar* or equivalent as determined by Western Power.

   Note:
   a. *Where applicable, network* service and *metering equipment* must be installed prior to the connection and energisation of the *consumer mains cable* to the *network* asset;
   b. *Consumer* connections via a *pit*, wall box or to a large *subdivision* (5 or more) require Western Power approval before installation and or connection.

3. The connection/supply arrangement for the total *subdivision* shall make provision on the MSB for the delivery of a *standard three (3) phase connection service* (as defined by the WASIR) to each individual *lot* (*premises*) within the *subdivision*.

4. Maximum number (#) of *standard connection services* shall not exceed four (4) to the nominated *point of supply (connection)* (*pillar*).
   Note:
   a. Each *lot* (*premises*) within the *subdivision* is defined as a connection regardless of whether the connection is direct or via an MSB;
   b. In determining the number of connections to a *pillar*, all connections to or from adjacent *lots* (*premises*) shall be included;
   c. Where any individual *consumer mains cable* exceeds 30m (route length) all new and existing connections within the s*ubdivision* shall be via a *site main switch board (MSB)* as defined in section 5 of this document.

5. The *consumer mains cable* and submain cables shall be sized and installed in accordance with AS/NZS 3000; WAER, and the WASIR.

6. SPD denotes *service protection device*. The device shall grade with the upstream *network* protection.
   Note:
   a. The fault rating of the SPD shall be as specified by the WAER, *Technical rules* and the WASIR;
   b. The maximum current carrying of the device shall not exceed the rating of the *network service mains* cable (Cat EE1425) which for a mini *pillar* is 125 amps;
   c. The SPD primary function is *network* protection and isolation;
   d. The device does not replace the installation *main switch* and shall not be deemed as protection for the *consumer's electrical installation*, equipment, or *consumer mains cable*.

7. MPD denotes *meter protection device*. The device shall grade with upstream *network* protection.
   Note:
   a. The fault rating of the MPD shall be as specified by the *network operator* and the WASIR;
   b. The maximum current carrying of the device shall not exceed the rating of the *network metering installation* which for a whole current *network meter* is 80 amps;
   c. The MPD primary function is *network meter* protection and isolation.
   d. The device does not replace the installation *main switch* and shall not be deemed as protection for the *consumer's electrical installation*, equipment, or downstream circuitry.

8. MS denotes *consumer's main switch*. The device(s) shall function and grade in accordance with this *guideline*, AS/NZS 3000, AS/NZS 4777 and the WASIR.
   Note:
   The MS for new, *altered* or *augmented* connection arrangements shall be:
   a. A circuit breaker which grades with the upstream protection;
   b. Fault rated in accordance with AS/NZS 3000, AS/NZS 4777 and the WASIR;
   c. Where required provide downstream protection in accordance with the appropriate industry standards;
   d. Rated in accordance with clause 2.2 – *Main switches*

9. Maximum Total:
   a. *Load* (MTL) at the *point of common coupling* (PCC) shall not exceed the rating of the *network* service equipment and cable;
   b. Generation (MTG) (hosting capacity) shall not exceed that specified for the PCC or as approved by Western Power's *embedded generation technical requirements*.

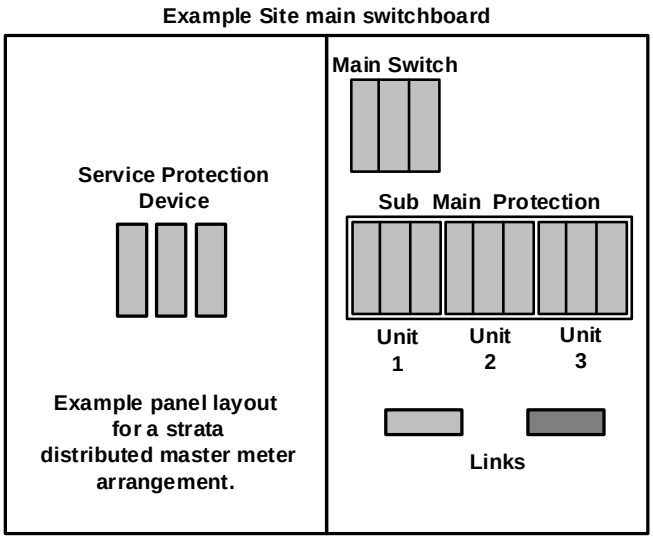
10. The illustrated earthing arrangement shall be in accordance with WAER, AS/NZS 3000 and the WASIR.

11. The *network metering installation* shall be in accordance with the Metering Code 2012 and the WASIR.

12. *Consumer* protection devices shown are for illustration purposes only.

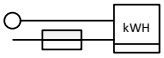
13. The configuration of *consumer mains cable* and submain cables is dependent on the *consumer's* connection requirements. The final connection to the individual *lot* (*premises*) may be single or three phase.

4.2 ELR Regulation 55 example panel layout

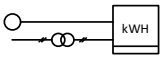


4.3 Drawings

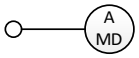
Whole current (direct connected) meter (non CT)



LV current transformer meter (LV CT)



HV current transformer metering unit (HV CT)



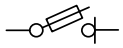
Maximum demand meter

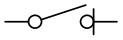
Links (removable)

Connection block

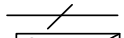

Fuse

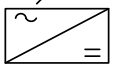

Circuit breaker (CB)

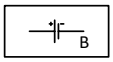

Combination fuse switch


LV links or HV / LV load disconnector


Drop out fuse (DOF)

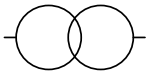

Pole top switch


Inverter - IES



Battery

Generator


Transformer (Tx)

Export limiting device

? Pole contactor


Cable termination to network assets including switchgear & transformers

Cable termination to overhead network

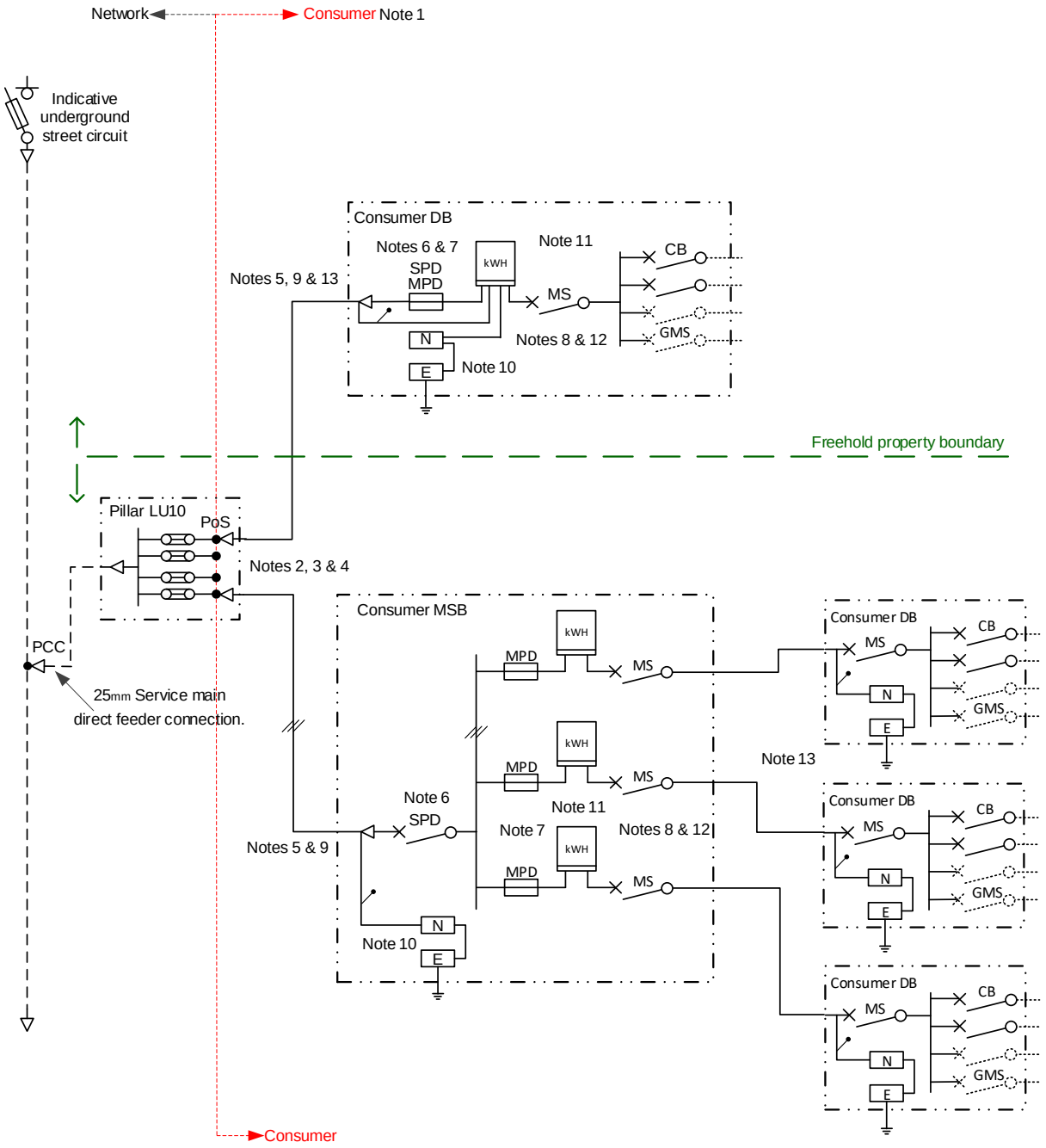

Earth connection


Neutral conductor

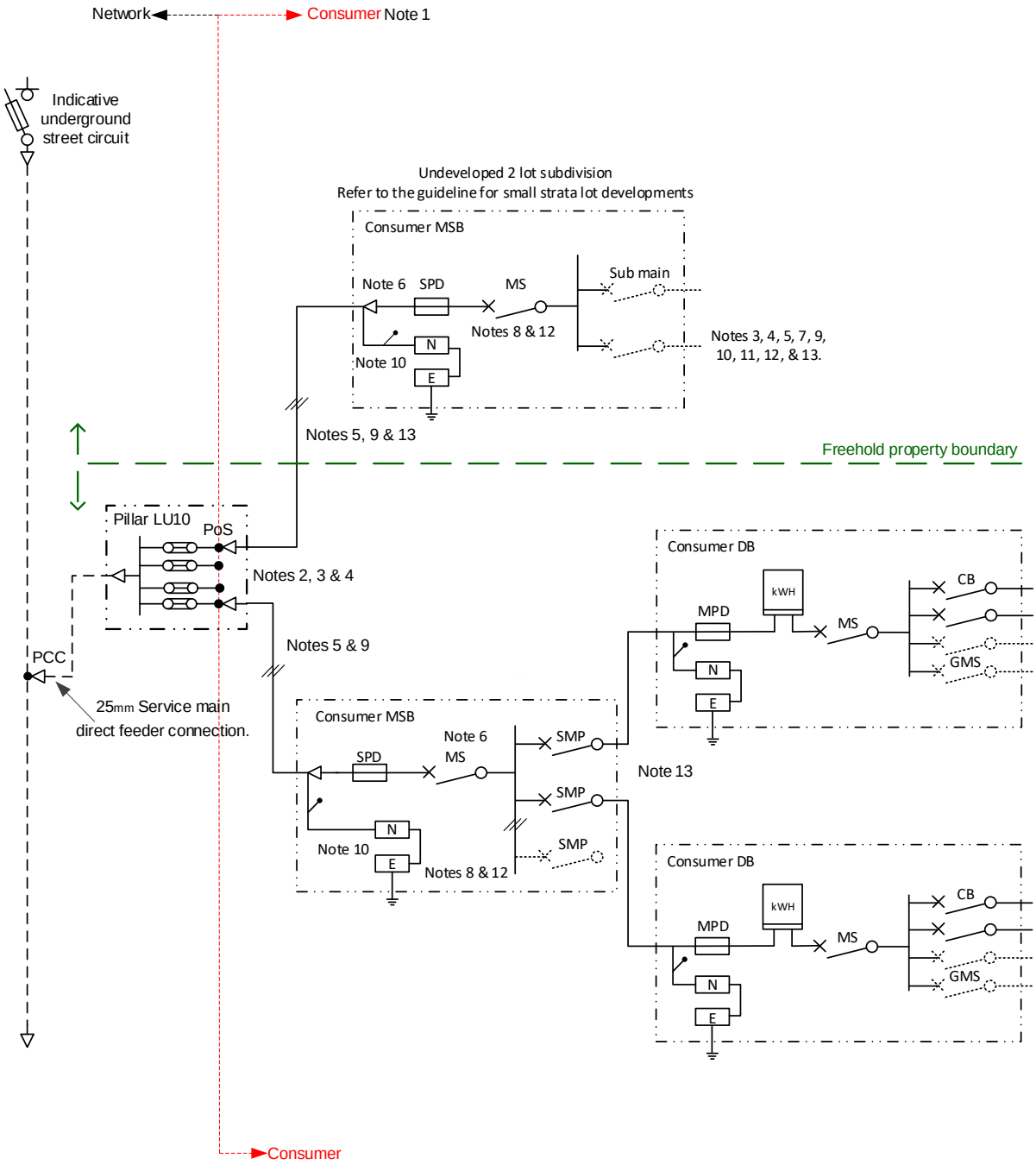
BESS	Battery energy storage system	IES	Inverter energy system
CB	Circuit breaker	MPD	Meter protection device (Meter fuse)
CFS	Combination fuse / switch	MCB	Mains connection box
CP	Connection point	MPS	Modular package substation
CMS	Consumer main switch	MSB	Main switchboard
CPS	Consumer paralleling switch	MS	Main switch
CPR	Consumer protection relay	MSIS	Main switch inverter system
CT	Current transformer	MTG	Maximum total generation
DB	Consumer distribution board	MTL	Maximum total load
LU xx	Distribution design catalogue reference	NOP	Normally open point
ELD	Export limiting device	PoS	Point of supply (connection)
FSD	Fuse switch disconnect	PCC	Point of common coupling
GMS	Generator main switch	SMSB	Site main switch board
HV	High voltage	SPD	Service protection device

Drawings to be read in conjunction with applicable legislation, industry standards, codes, the WAER and WASIR

westernpower Distribution customer connection requirements EDM Visio 499 01 284	Legend	Date # Oct 2021 Rev # Three Sheet # 1 of 1 Draw # DCCR 1-00-1

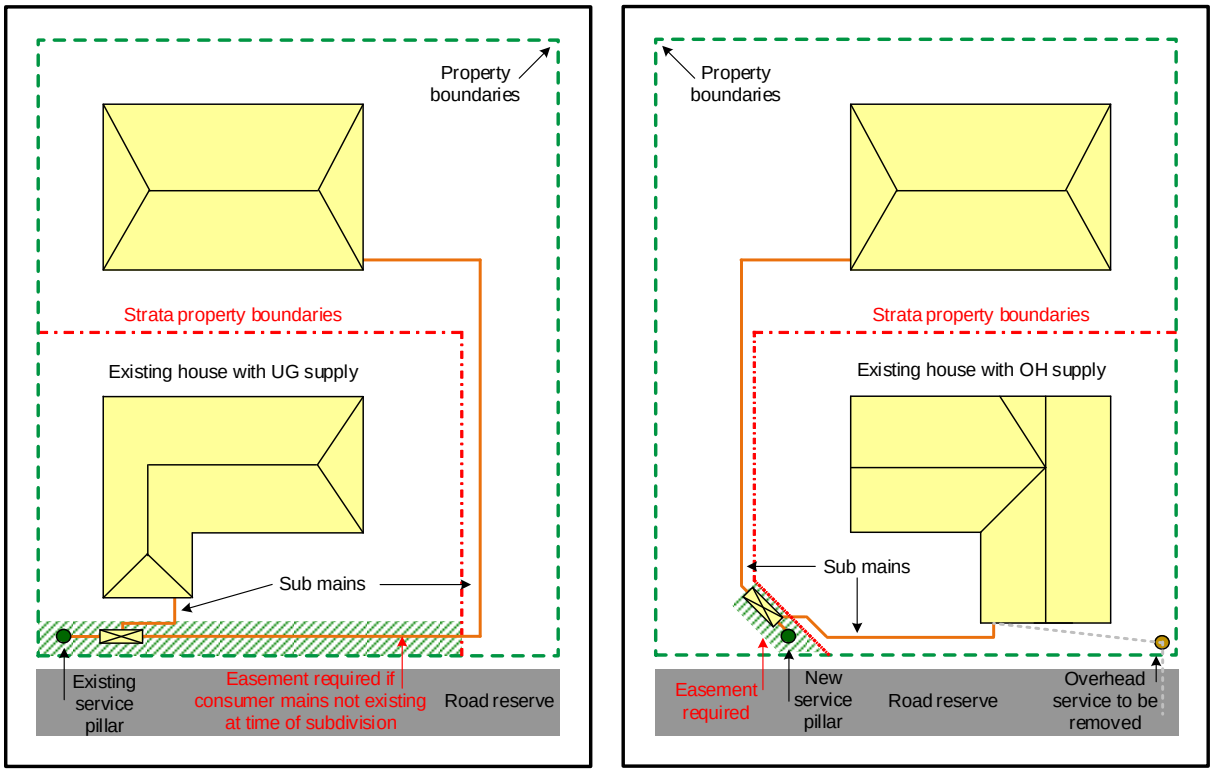


westernpower Distribution customer connection requirements EDM Visio 499 01 284	Strata connection supply arrangements Multiple master meter arrangement	Date # Aug 2021 Rev # One Sheet # 1 of 3 Draw # DCCR 1-01-10

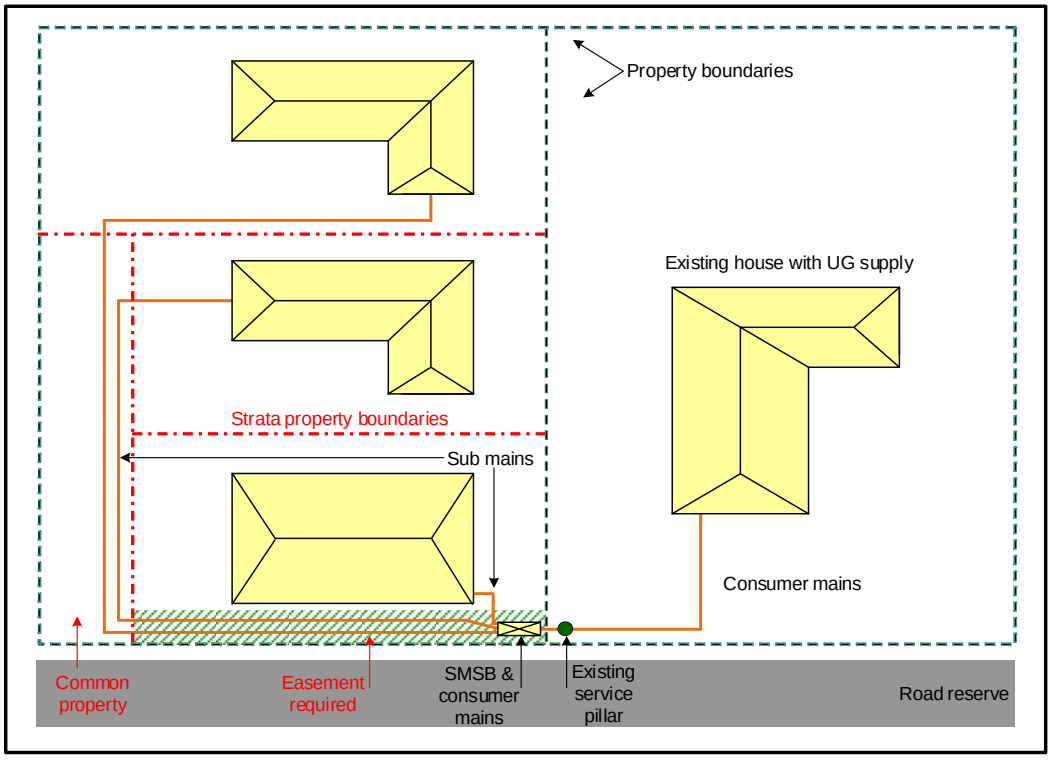


Drawings to be read in conjunction with DCCR 1-01-10 Notes

westernpower Distribution customer connection requirements EDM Visio 499 01 284	Strata connection supply arrangements Distributed master meter arrangement	Date # Oct 2021 Rev # Two Sheet # 2 of 3 Draw # DCCR 1-01-10



Examples are for illustration proposes only. May not be applicable in all cases.



westernpower Distribution customer connection requirements EDM Visio 499 01 284	Strata connection supply arrangements Distributed master meter arrangements	Date # Aug 2021 Rev # One Sheet # 3 of 3 Draw # DCCR 1-01-10

4.4 Exemption

For *survey and built strata subdivisions*, a *site main switchboard*, to service the entire *subdivision*, is required to be installed prior to clearance being granted.

An exemption to this clearance requirement may be sought where the *applicant* can demonstrate compliance with or provide Western Power with the following for all *strata lots*:

1. Builder *site* plans showing the permanent future position of the *site main switchboard*. The permanent position must be located within common property and not more than 30m from the Western Power *point of supply (connection)* (i.e., *pillar*);
2. Current building licences/building permits;
3. Date of commencement for the build on all properties;
4. Letter of intent from the builder (signed and dated on a company letterhead) stating that on completion of the build, the *site main switchboard* containing all *network meters* will be installed in the nominated permanent position.
5. Formal confirmation that any existing overhead or underground electrical services to the *subdivision* are or will be removed or converted to underground and connected to the MSB.

Note. If an electrical inspection is carried out and these terms and conditions have not been complied with further action may be initiated.

On receipt of the above, Western Power will assess the request for exemption and provide a formal response to the *applicant*. Should the request be approved, notification will be via return email with a copy of the approval forwarded to WA Electrical Inspectors office.

5. Dictionary

Words in the first column of the following table are defined terms and have the corresponding meaning shown in the second column of the table. Defined terms may appear in this document as *italicised*. Where a phrase or word is not specifically referenced, the definition shall be taken from the WASIR.

Defined term	Meaning
accountable	The staff member ultimately answerable for the correct and thorough completion of the objective or communication, and the one who delegates the work to those responsible. For example, an Accountable officer approves work that the responsible officer provides.
connection requirements	Western Australian Service and installation requirements (WASIR). This document defines Western Power's distribution connection requirements inclusive of standard "terms" and "phrases".
consumer mains cable	Those conductors between the point of supply (connection) and the consumer's main switchboard. (Clause 1.4.37 AS/NZS 3000). Note: The conductors, are owned and maintained by the consumer and form part of the customers' electrical installation.
date of publication	The date of approval shown in the "approval history" located at the rear of this document.
distribution system (network)	Electricity infrastructure used, or to be used, for, or in connection with, or to control, the transportation of electricity at nominal voltages of less than 66 kV, forming part of the South West Interconnected System (SWIS).

embedded generation technical requirements	Technical documents published by Western Power defining and detailing the requirements for installation, connection and operation of compliant embedded generator (IEG) systems and distributed energy resources (DER) to be connection to Western Power distribution network.
guideline	Statements or practices aimed at streamlining a particular business process according to a set routine or sound practice. Guidelines can be mandatory or optional.
informed	Those staff members who are kept up-to-date on progress, often only on completion of communication and advice.
main switch	A switch, the primary function of which is the: • isolation of the connection/supply of electricity to the electrical installation; and • protection of network and consumer infrastructure as defined by Western Powers Technical rules and the WASIR. Refer to the WASIR Section 11 for additional information .
main switchboard (MSB)	A switchboard from which the supply to the whole electrical installation can be controlled. (AS/NZS 3000-1.4.122)
metering installation(meter/equipment)	The devices and methods used for the purpose of metrology which lie between: a) at one boundary, a metering point; and b) at the other boundary, either: (i) if a telecommunications network is used for the delivery of energy data from the metering point — the point of supply (connection) to the telecommunications network; or (ii) if there is no such telecommunications network — the interface port of either the meter or data logger or both.
meter protection device (MPD)	A fuse isolation and protection device located on the un-metered side of the network meter. The fuse shall have a base and carrier rated at 100 amps minimum, capable of accommodating a fuse cartridge with a maximum rating of 80 amps unless directed otherwise by the network operator. Note: The primary function of a MPD is to provide an authorised individual point of isolation, meter protection and to facilitate the safe replacement of metering equipment. The MPD does not replace the installation main switch and shall not be deemed as circuit protection for the consumer's electrical installation, equipment, or circuitry. For a single consumer service up to 80 amps, the service protection and meter protection devices can be the same physical device. Refer to the WASIR Section 11 for additional information.
network	The electricity distribution and transmission system as defined by the Electricity Industry Act 2004 within the SWIS.
network operator	Means Western Power as the entity defined by Electricity Industry Act 2004 and the Energy Operators (Powers) Act that lawfully operates the distribution and transmission systems within the SWIS.

point of common coupling (PCC)	As prescribed by the network operator. (Refer to the respective network Technical rules).
point of supply (connection) (POS)	The junction of the consumer mains cable with: – a) conductors of the network operator's distribution or transmission systems; or b) output terminals of a network operator's stand-alone power supply. or output terminals of electricity generating system within a premises that is not network connected.
premises	Means any land, structure, or other place, and may include a vehicle or other thing in or in connection with which electricity is or is to be supplied.
service mains	Those network conductors between the network point of common coupling and the point of supply (connection).
service protective device (SPD)	A fuse or circuit-breaker installed as required by the network operator for interrupting the supply to and from the electrical installation on a consumer's premises from the supply main. **Note**: The primary function and purpose of the SPD is to provide: • An authorised collective point of isolation of the consumer's installation upstream of the metering installation; • Protection of the network operator's service equipment and mains; • Safe replacement of metering equipment where required (e.g., CT meter installations) The SPD does not replace the installation main switch and shall not be deemed as protection for the consumer's electrical installation, equipment, or consumer mains cable. Refer to the WASIR Section 11 for addition information
standard connection service	Refer to the Western Australian Service and installation requirements (WASIR) as published by Western Power.
subdivision	The total area of land to be developed, including all stages. Includes the amalgamation of lots Note: May include the division of a lot, tract, or parcel of land into two or more lots, sites, or other divisions of land for the purpose, whether immediate or future, of sale or of building development. Refer Underground distribution schemes manual (UDS)
switchboard	An assembly of circuit protective devices, with or without switchgear, instruments or connecting devices, suitably arranged and mounted for distribution to, and protection of, one or more submains or final sub-circuits, or a combination of both. (AS/NZS 3000-1.4.121)

6. Content owner

The content owner is the Manager Distribution Grid Strategy & Planning (Grid Transformation)

7. Accountabilities

Western Power Operational Personnel,	*Accountable* for network standard and guideline *application* and compliance.
Manager Distribution Grid Strategy & Planning	*Accountable* for the of review of *distribution network* standards and guidelines
Senior Standards & Technology Officer Distribution Grid Strategy & Planning	*Accountable* for publishing the approved version of this *guideline*.
Stakeholder Specialist Function/Area/Team	*Accountable* for Informing and circulating the published *guideline* .

Any questions in relation to this *guideline* should be referred, in the first instance to the relevant Operational Personnel, then either the Senior Standards & Technology Officer or Manager, Distribution Grid Strategy and Planning.

8. Review

The *guideline* content will be used to review and if deemed appropriate used to update the relevant areas of the identified documents.

Where the *guideline* is not incorporated into a subsequent document, the *guideline* will be reviewed and evaluated by the content owner at least once in every five year period taking into account the purpose of the *guideline* and the outcome of the compliance review.

9. Related documents

Title	EDM reference
AS/NZS 3000 - as amended	Australian Standard
AS/NZS 4777 - as amended	Australian Standard
Application of model conditions - as amended	EDM 40420164
Basic embedded generator (EG) connection technical requirements – as amended	EDM 13753065
Overhead to underground conversion standard (Previously - P2P) - as amended	DM 3081409
Underground distribution schemes manual (UDS) - as amended	DM 3384127
WA Electrical Requirements (WAER) - as amended	Building and Energy
WA Service and installation requirements (WASIR) - as amended	EDM 27130164

10. Document amendments

Version	Date of amendment	Date of approval (application)	Notes
1	November 2019	6 November 2019	New edition
2	January 2020	24 January 2020	2 lot strata requirements updated .
3	August 2021	6 August 2021	Alignment with 2021 WASIR
	October 2021	30 October 2021	Example of ELR Regulation 55 panel layout
	November 2021	3 June 2022	Alignment with DER management Dec 2021, DCCR Dec 2021/Jun 2022 & WASIR June 2022

End of Document