

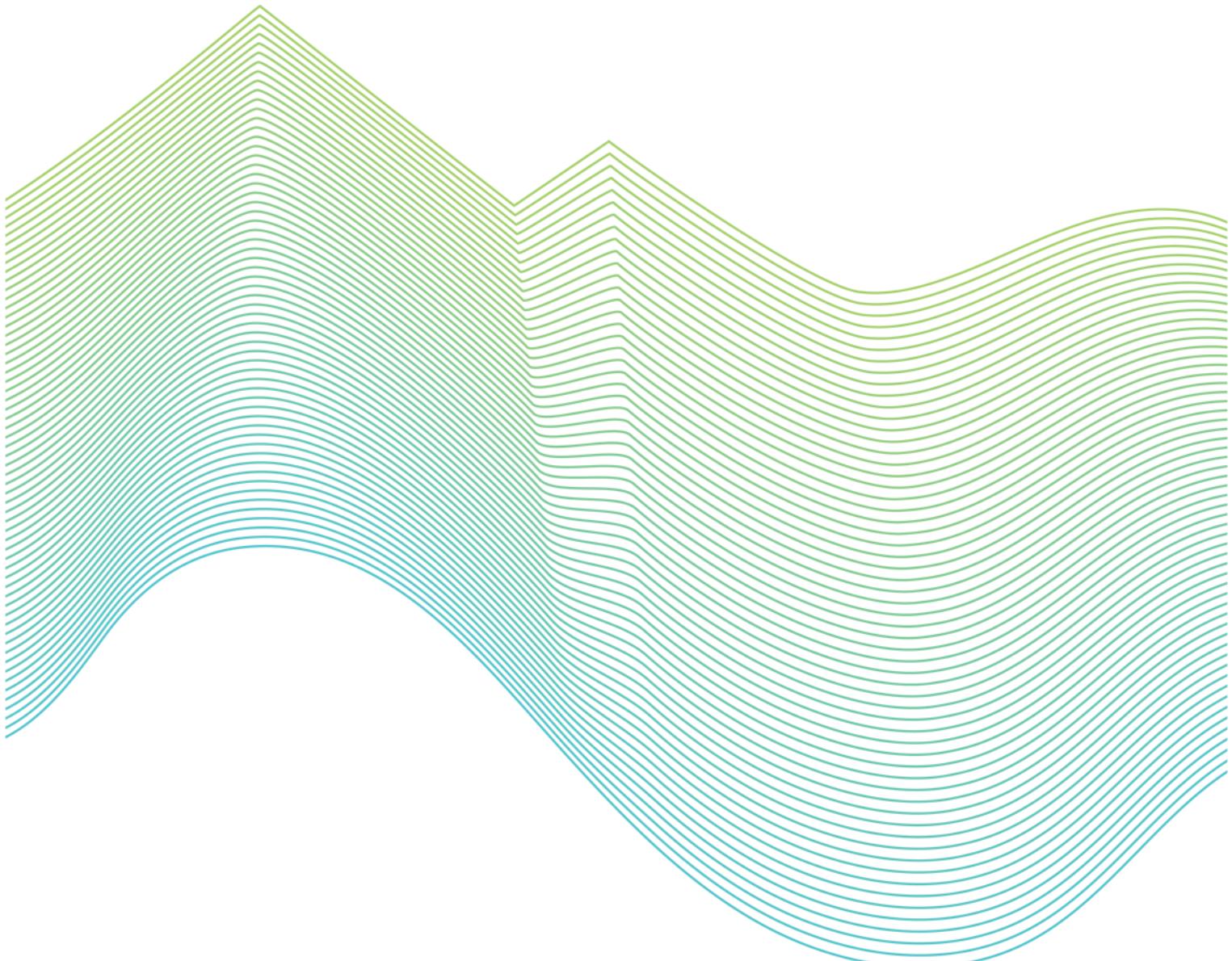
# Bass Strait Islands

## Service & Installation Rules

**COMP1401**

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August 2022



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#### Hydro Tasmania document control

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# 1.0 Purpose

*Hydro Tasmania* own and operates the electricity *distribution network* on King & Flinders Islands (BSI).

These Service and Installation Rules (*SIR* or *rules*) define the minimum requirements for connecting to *Hydro Tasmania's* low voltage (LV) *distribution network*.

These BSI Service and Installation Rules are based on the TasNetworks Service and Installation Rules and where practical these are identical.

The document shows where rules are mandatory, where items or behaviours are prohibited, where items are preferred and recommended, and where flexibility and negotiation are possible.

This document is intended for *Hydro Tasmania* employees, *Electrical Contractors*, Designers, *Electrical Consultants*, manufacturers and *customers* involved in the design, installation, testing and servicing of connections to the LV *distribution network*.

## 2.0 Scope

The *SIR* explains the connection process and defines the rules that apply to *points of supply (POS)* and *Consumer Mains* arrangements. These *rules* apply to:

- a) Connecting to the *Hydro Tasmania LV distribution network*. I.e. connections with a voltage greater than 50 volts AC and not exceeding 1,000 volts AC
- b) Making alteration to, or upgrading, a *customer's* connection to the *Hydro Tasmania LV distribution network*
- c) Connecting embedded generation or battery to the *Hydro Tasmania LV distribution network*
- d) Servicing arrangements
- e) *Hydro Tasmania's Electricity Meters*

The following are beyond the scope of these rules:

- a) Customer installations beyond the *Hydro Tasmania point of supply (POS)*
- b) Electrical licensing and requirements
- c) High voltage (HV) supply connections. I.e., a voltage greater than 1,000 volts AC
- d) Metering standards when an advanced *Electricity Meter* is installed

It is recognised that the *rules* cannot cover all connection and service provision situations. Wherever there is uncertainty in the interpretation and application of the *rules*, or where there is a need to negotiate terms related to any of these *rules*, *Hydro Tasmania* should be contacted via the [Hydro Tasmania website](#), for clarification, advice, and negotiation including engineering and design approvals. To avoid delays and potential premature expenditure, do this as early as possible.

## 3.0 Administration

*Hydro Tasmania* administers the development, revision and publication of these *rules*.

*Hydro Tasmania* will maintain the *rules* to apply improvements, align with relevant regulations, and through review of users' feedback. The current version of these *rules* is published on the [Hydro Tasmania website](#).

*Hydro Tasmania* will notify user-groups when a new version is published, however, it is the user's responsibility to ensure that they utilise the current edition of the *rules*.

## 4.0 Disclaimer

*Hydro Tasmania* has compiled this document having regard to the relevant electricity industry legislation, codes of practice and standards. This document is provided in good faith and is not in any way intended to provide legal advice as to how *Electrical Contractors* can meet their obligations and comply with such requirements. This document includes information and assumptions that may be subject to change at any time and without further verification. Whilst *Hydro Tasmania* has exercised due care in the preparation of this document, *Hydro Tasmania* does not guarantee the accuracy of the information contained or the suitability of such information for any particular purpose and to the extent permitted, *Hydro Tasmania* will not be responsible for any loss, damage, cost or expense incurred that arises out of or in connection with this document.

## 5.0 Hydro Tasmania Information

Information related to these *rules* is available on the [Hydro Tasmania website](#). This includes links to information on:

- a) Connection types and finding the right connection
- b) Basic and negotiated connections
- c) Fees for connections and alterations
- d) Contracts and policies
- e) Solar and embedded generation / batteries
- f) Applications and *electrical works requests (EWRs)*

Also on the [Hydro Tasmania website](#), is a section on “Safety” which provides information on working near or around powerlines and vegetation maintenance.

## 6.0 Enquiries

### To report a faults or a power outage

Please note that Momentum Energy and Hydro Tasmania do not have a dedicated 24-hour call centre service so we rely on TasNetworks to receive emergency and fault information on our behalf. Contact the TasNetworks 24-hour call centre on 132 004.

### Billing, connections and all general enquiries

Contact Momentum Energy on 1300 662 778, between 8.00am and 7.00pm Monday to Friday AEST (except on public holidays).

### Generation or distribution enquiries

Contact Hydro Tasmania on 1300 360 441, between 8.30am and 5.00pm Monday to Friday AEST (except on public holidays).

## 7.0 Relevant Standards / Acts

These *rules* are in accordance with the following legislation and industry standards. This list may not be exhaustive.

Information / Standard	Link
<b>1. National laws, regulations and codes</b>	
National Electricity Rules (NER)	<a href="#">National Electricity Rules (NER)</a>
Electricity Supply Industry Act (ESI Act) 1995	<a href="#">Electricity Supply Industry Act (ESI Act)</a>
Electricity Industry Safety and Administration Act 1997	<a href="#">Electricity Industry Safety and Administration Act 1997</a>
Electricity Industry Safety and Administration Regulation 1999	<a href="#">Electricity Industry Safety and Administration Regulation 1999</a>
Tasmanian Electricity Code (TEC)	<a href="#">Tasmanian Electricity Code (TEC)</a>
National Energy Retail Law	<a href="#">National Energy Retail Law (Tasmania)</a>
National Energy Customer Framework (NECF)	<a href="#">National Energy Customer Framework</a>
<b>2. Australian standards</b>	
AS/NZS 3000 - Electrical installations – buildings, structures and premises (also known as the “ <i>Wiring Rules</i> ”)	<a href="#">Standards Australia Wiring Rules</a>
AS/NZS 7000 - Overhead line design – detailed procedures	<a href="#">Standards Australia Overhead line design</a>
AS/NZS 3017 - Electrical installations – testing guidelines	<a href="#">www.standards.org.au</a>
AS/NZS 60269 - Low voltage fuses – fuses with enclosed fuse links (parts 1 & 3)	<a href="#">www.standards.org.au</a>
AS/NZS 61000.3 - Electromagnetic compatibility (EMC): Part 3	<a href="#">www.standards.org.au</a>
Limits	
AS/NZS 4576 - Guidelines for scaffolding	<a href="#">www.standards.org.au</a>
AS/NZS 3818.11, Timber – heavy structural products – visually graded utility poles	<a href="#">www.standards.org.au</a>
AS/NZS 1604.1- Preservative-treated wood- based products - products and treatment	<a href="#">www.standards.org.au</a>
ENA Doc 033 – Guideline for Power Quality: Harmonics	<a href="#">www.standards.org.au</a>
<b>3. Tasmanian regulations, standards and codes</b>	
Consumer Building and Occupational Standards (CBOS) – Tasmanian Government	<a href="#">Standards of Electrical Work Electric Standards and Safety</a>
Occupational Licensing (Electricity Consumption Metering Installations) Code of Practice Tasmania Government	<a href="#">www.cbos.tas.gov.au/</a>
Electricity Consumption Metering Safety Requirements (Tasmania) 2017	<a href="#">Electricity Consumption Metering Safety Requirements (Tasmania)</a>
Occupational Licensing (Electrical Work) Regulations 2018 – Tasmania Regulations	<a href="#">Occupational Licensing (Electrical Work) Regulations 2018</a>
Occupational Licensing Act 2005 – Tasmanian Legislation	<a href="#">Occupational Licensing Act 2005</a>
Worksafe Tasmania Acts, Regulations and Codes of Practice	<a href="#">www.worksafe.tas.gov.au/</a>
Strata Titles Act 1998	<a href="#">www.legislation.tas.gov.au/</a>
Electricity Wayleaves and Easements Act 2000	<a href="#">www.legislation.tas.gov.au/</a>

# 8.0 Safety Requirements

For *Hydro Tasmania*, safety is paramount. This includes the safety of *Hydro Tasmania* employees, customers, contractors and all stakeholders with whom it interacts. *Hydro Tasmania* is committed to “no harm to anyone at any time” and its employees are required to comply with *Hydro Tasmania*’s policy and procedures to assess risks for themselves and any other participants prior to undertaking any work.

For the purposes of these *rules*, safety includes compliance with all related [Worksafe Tasmania Acts, Regulations and Codes of Practice](#) and conforming to the Relevant Standards / Acts that were, or are in effect, at the time of connection, and if relevant reconnection, of the *electrical installation*.

## 8.1 Working On or Near Electricity Assets

When working on or near *Hydro Tasmania*’s electricity assets, you must operate in line with relevant Government and *Hydro Tasmania*’s safety requirements. This includes, but is not limited to:

- a) maintaining safe working clearances for overhead (OH) infrastructure, including live OH conductors and associated equipment
- b) maintaining safe excavation limits for underground (UG) infrastructure, including pole foundations, electrical cables, earthing systems, gas mains and telecommunication cables
- c) not working on any *Hydro Tasmania*’s single wire earth return (SWER) installations. Given the additional hazards associated with this work, it is not permitted.

Information for safety and working near power lines and UG infrastructure is available on the [Hydro Tasmania website](#) as well as the [Dial before you Dig website](#) and [Worksafe Tasmania - Powerlines](#).

## 8.2 Licenced Electrical Practitioner and Electrical Contractor

*Electrical Work, Electrical Practitioner and Electrical Contractor* are defined within the [Occupational Licensing \(Electrical Work\) Regulations 2018](#) and [Occupational Licensing Act 2005](#).

Tasmanian legislation requires that all *Electrical Work* be carried out by a licensed *Electrical Practitioner*, and prohibits all other persons from undertaking such work. It also requires that only licenced *Electrical Contractors* are permitted to sell electrical services to the public, businesses or government. Therefore, where the *customer* is responsible for *Electrical Work* required under these *rules*, a licensed *Electrical Contractor* must act as the agent of the customer. A licensed *Electrical Practitioner* may carry out the installation of wiring in a premise of which this person is the owner or bona fide occupier.

*Electrical Contractors* and any other person excavating or operating equipment in the vicinity of *Hydro Tasmania*’s assets must be aware of all safety requirements as per the [Hydro Tasmania website](#).

## 8.3 Authorisation and Accreditation

All persons working on or near OH or UG power lines, including vegetation works and accessing a *Hydro Tasmania* pole at heights greater than 3m above ground level, must be *accredited* and *authorised* by *Hydro Tasmania*. Further details on this can be found on the [Hydro Tasmania website](#).

Specifically relevant to these *rules*, Level 1 *accreditation* allows access to *Hydro Tasmania*'s assets, and level 2 *accreditation* allows operation of *Hydro Tasmania*'s assets, authority to open turrets and to install and remove a *service protection device (SPD)*.

To enquire about becoming authorised and accredited, contact *Hydro Tasmania* on 1300 360 441, between 8.30am and 5.00pm Monday to Friday AEST (except on public holidays).

## 8.4 Unauthorised Work

A person who is not suitably *accredited* and *authorised* by *Hydro Tasmania*, must not undertake any of the following on *Hydro Tasmania*'s assets:

- a) insert or remove a fuse link or a service protective device
- b) open any turret or cabinet
- c) make or break any connection
- d) open any seals or locks
- e) dismantle any component of *Hydro Tasmania*'s equipment or detach it from its fixing point
- f) access *Hydro Tasmania*'s UG assets
- g) access a *Hydro Tasmania* pole at heights greater than 3m above ground level. This includes positioning of ladders and any tools or equipment.

## 8.5 Prohibited Activities with Non-compliant Private Service Poles

*Customer's private service poles*

*Hydro Tasmania* will not reconnect Customers private service Poles where:

- a) the pole has not been tested for more than 10 years, or
- b) the pole is made from a steel railway line

*Hydro Tasmania* only uses ladders to climb poles as a last resort where elevated work platforms are not practical, the pole is sound and in good order and it is safe to do so, *Hydro Tasmania* will not climb private customer poles in the following circumstances:

- a) the pole has not been tested for over 5 years
- b) the pole is made from a steel railway line

If unable to determine when the *customer's private service pole* was last tested, contact *Hydro Tasmania* on 1300 360 441, between 8.30am and 5.00pm Monday to Friday AEST (except on public holidays).

# 9.0 Responsibilities and Important Definitions

This chapter defines the responsibilities for each of the participant parties involved in connecting to the *Hydro Tasmania distribution network*, and defines the lines of demarcation between those responsibilities.

The chapter also identifies and defines the key components of connection infrastructure, as well as key terms to help ensure a common understanding.

## 9.1 Convention for Standard Terms

Throughout these rules, terms defined by legislation or regulation and titles of published documents are capitalised italic (e.g., *Electrical Work*).

Terms that are defined in these *rules* are shown in italic (e.g., *customer*).

If the term is not in italic, then use of the term is generic.

## 9.2 Customer's Point of Supply (POS) and Point of Attachment (POA)

The *Point of supply (POS)* and the *point of attachment (POA)* are important definitions as they delineate responsibility. I.e. The supply side up to the *POS* being *Hydro Tasmania's* responsibility, and the load side beyond the *POS* being the *customer's* responsibility.

### 9.2.1 Point of Supply (POS)

The *point of supply (POS)* is the point at which *Hydro Tasmania's distribution network* connects to privately owned assets or equipment that serve the *premises* of one or more *customers*. Typically, this is the point where the *Hydro Tasmania service protection device (SPD)* is located.

*Hydro Tasmania* does not carry out any work beyond the *POS*. This is the *customer's* area of responsibility. However, *Hydro Tasmania* will contact the *customer* if repairs are required on the *customer's electrical installation* and a Notice of Non-compliance (NNC) will be issued.

*Hydro Tasmania's* asset ownership and responsibility end at the *POS*. The *customer* is responsible for all assets on the load side of the *POS*, except for

- a) Transformers and associated switchgear
- b) Transformer supports (including poles)
- c) *Hydro Tasmania* owned *Electricity Meters*
- d) *Service protection device (SPD)*

### 9.2.2 Service Protection Device (SPD)

Each *electrical installation* will have a *service protection device (SPD)* installed by *Hydro Tasmania* at the *POS*, to provide short circuit fault protection to the *distribution network*.

### 9.2.3 Usual Location of the POS for an Overhead (OH) Connection

Note: Where practical underground connects are preferred

- a) For a single *customer* with an OH connection, the *POS* is the junction between the *Consumer Mains* and *Hydro Tasmania's* single span of *service wire* from the *distribution network*. This can be to either a building or structure on the *customer's* property
  - i. Where a mains box exists, the *POS* is into the *customer* owned mains box, as shown in diagram [Installation Responsibilities: If Mains Box Exists](#).
  - ii. Where a mains box is not used, the *POS* is the junction between the *SPD* and *Consumer Mains*, as shown in diagram [Installation Responsibilities: If Mains Box Does Not Exist](#).
- b) In the case of a supply to one or more *customers*, the *POS* is the physical point of connection of a single *service wire* to the first pole on private property, or a building or structure on the property.

### 9.2.4 Point of Attachment

The *point of attachment (POA)* is the point at which a *Hydro Tasmania service wire* is physically anchored on a *customer's* building, pole or structure. The *POA* may be the same as the *POS*, but not necessarily.

### 9.2.5 Usual Location of the POS for an Underground (UG) Connection

The usual location of the *POS* for UG connections is the load-side *Consumer Mains* terminals of the *SPD* on the *distribution network*. The *SPD* is connected to a *customer's* UG *Consumer Mains* cable, and is usually within a turret or cabinet.

### 9.2.6 Installation Protection Device (IPD) and Main Switch

The *Installation Protection Device (IPD)*, or *Main Switch* for multiple tenancy electrical installations, is the point to which *Hydro Tasmania* connects supply, energises to, and performs connection point energisation tests. This *IPD* or *Main Switch* must comply with the Occupational Licensing (Electricity Consumption Metering Installations) Code of Practice on the [CBOS website](#).

### 9.2.7 Usual Location of the POS for a Hydro Tasmania Substation

For connections directly to a *Hydro Tasmania's* substation, not via a pole, turret or cabinet, the *POS* is the load-side *Consumer Mains* terminals of the substation providing the *customer's* LV supply.

### 9.2.8 Point of Supply (POS) and Point of Attachment (POA) Examples

The diagrams referenced below within [Supply Connection Arrangements](#) outline supply arrangements, which highlight examples of *POA* and *POS*.

Table 1 - POA and POS Sample Connection Arrangements

11.1.1	UG Consumer Service Attachment on Private Building or Structure
11.1.2	UG Consumer Mains to Hydro Tasmania Turret
11.1.3	UG Consumer Mains to Hydro Tasmania Cabinet
11.1.4	UG Consumer Mains to a Customer's Private Service Pole
11.1.5	UG Consumer Mains to a Hydro Tasmania Service Pole
11.1.6	UG Consumer Mains to a Hydro Tasmania Pole
11.1.7	OH Consumer Service Attachment on Private Building or Structure
11.1.8	OH Consumer Service Wire to a Customer's Private Service Pole
11.1.9	OH Consumer Service Attachment on Private Building or Structure, with Hydro Tasmania Service Pole
11.1.10	Shared Services – One Service Protection Device (SPD) to More than One NMI

## 9.3 Customer and Fault Initiated Supply Changes

### 9.3.1 Customer Initiated

If for any reason the *customer* requires *Hydro Tasmania* to disconnect the supply, or change the *POS* characteristics, the connection must meet the current version of these *rules* and associated standards prior to reconnecting supply. In other words, if *Hydro Tasmania* is required to undertake any *Electrical Work* in relation to the connection, the *customer* must address all non-compliances to these *rules*, commonly including any low clearances. Examples of when this may occur include:

- a) Increasing the load beyond current supply
- b) Relocating the *POA*, or replacing the fascia even if the *POA* is not moved
- c) Upgrading from a single-phase to a multi-phase connection
- d) Changing from an OH to an UG connection
- e) Replacing fascia or mains

The following scenario is exempt from this clause:

- a) Isolation (e.g. *SPD* operation) for the *Metering Provider*, or isolation for other works that do not require *Hydro Tasmania* to undertake any *Electrical Work*.

Special attention to the following circumstances is required as it often causes rework:

- Clearances – Height above driveways, trafficable areas, ground and vegetation - Refer to [Clearances](#)
- Clear access to meter boxes at all times

*Hydro Tasmania* reserves the right to issue a Notice of Non-Compliance (NNC) and not reconnect under any scenario if it deems the *electrical installation* as unsafe.

If uncertain about whether a scenario not listed above is included or exempt from this clause, contact *Hydro Tasmania* General Enquiries as listed within [Enquiries](#).

### 9.3.2 Fault initiated

If for any reason an emergency or fault scenario occurs and requires *Hydro Tasmania* to disconnect the supply or change the *POS* characteristics, the *electrical installation* must be deemed safe to reconnect by *Hydro Tasmania* prior to reconnecting supply. If the *electrical installation* is not deemed safe, the supply will remain disconnected until rectified as per [Disconnection for Safety and Reconnection After Fault](#).

## 9.4 Hydro Tasmania Electricity Meters

*Hydro Tasmania Electricity Meter* means any *Electricity Meter* owned by *Hydro Tasmania*

*Electricity Meters* and existing *Electricity Metering* assets, including *Electricity Meter* panels, ancillary equipment including modems, and assets on the load side of the *POS*, are the property of *Hydro Tasmania* (until there is a formal transfer of ownership). See [Hydro Tasmania Electricity Metering](#).

## 9.5 Relevant Parties

### 9.5.1 Customer

A *customer* is a person who engages in the activity of purchasing electricity supplied through a distribution system to a *POS*.

A *customer* may also be the *installation owner*. The *installation owner* is the person who owns the *property* in which an electrical connection is made. For the purposes of these *rules*, the term *customer* is inclusive of the *customer* and the *installation owner*.

The *customer* is responsible for nominating and negotiating with:

- a) Momentum Energy to organise connection or permanent disconnection of supply to the *Premises*
- b) An *Electrical Contractor* to install required connection assets on the *customer's* side of the *POS*
- c) *Hydro Tasmania*, in order to arrange a connection to the *distribution network*. (This can be done on behalf of the *customer* by the *customer's* *Electrical Contractor*).

The *customer* is responsible for ensuring it has all the appropriate rights, approval and any necessary agreements in relation to the *customer's* infrastructure. This includes providing evidence of Council approval for *Consumer Mains* crossing council land.

A *customer* is responsible for ensuring any assets and equipment owned or used by that *customer* (e.g. *private service poles*) are regularly inspected, maintained, continue to be safe, clear of vegetation and conform to these *rules* and applicable laws, regulations and standards. Ownership and responsibilities for installation and maintenance are set out below in [Table of Connection Responsibilities](#).

Installation and maintenance responsibilities do not preclude *Hydro Tasmania* from recovering costs from a *customer* in accordance with the energy laws.

Under the energy laws *customers* must allow *Hydro Tasmania's* *authorised representatives* and their equipment safe and unhindered access to the *customer's* supply address to:

- a) read *Hydro Tasmania Electricity Meters*
- b) connect or disconnect supply
- c) inspect, make safe, operate, change, maintain, remove, repair or replace any of *Hydro Tasmania* infrastructure or works at the premises
- d) Inspect or test an *electrical installation* at the premises. (*Hydro Tasmania* generally does not carry out any work beyond the *POS*. This is the *customer's* area of responsibility. However, *Hydro Tasmania* will contact the *customer* if repairs are required on the customer's electrical installation and a Notice of Non-Compliance (NNC) will be issued as per section [Non-compliant Installation](#))
- e) Clear vegetation from the *distribution network*.

## 9.5.2 Electricity Retailer Momentum energy

An *Electricity Retailer* is a person or entity who sells electricity.

The *Electricity Retailer* for the BSI is *Momentum Energy* and they are responsible for:

- f) Negotiating with the *customer* a Retail Supply Contract, which is a contract between the *customer* and the *Electricity Retailer* for the sale of electricity
- g) Requesting *Hydro Tasmania* to connect the premises to the *distribution network*
- h) Ensuring the *Electricity Meter* is installed in accordance with the [NER](#).

## 9.5.3 Customer's Electrical Contractor

Definition as outlined in [Licenced Electrical Practitioner and Electrical Contractor](#). The *customer's Electrical Contractor* is responsible for:

- i) Ensuring all *Electrical Work* is in accordance with Tasmanian Law, [AS/NZS 3000](#), other relevant standards and preparing a connection in accordance with these *rules*
- j) Where exceptional circumstances occur, ensuring that permission is obtained by submitting a request to *Hydro Tasmania* for a variation via the [Hydro Tasmania website](#).
- k) Installing *Consumer Mains* from the *POS* to the *IPD* or the *Main Switch* for *multiple tenancy* sites, and installing any sub-mains after the *Main Switch* for *multiple tenancy* sites, ready for connection
- l) Ensuring *Hydro Tasmania* is advised when there is an increase in the electrical load at an *electrical installation*, and advising the *customer* when increases in load require changes to the *electrical installation*
- m) Not working on or removing *Hydro Tasmania Electricity Metering* equipment without *authorisation*
- n) Following the completion of *Electrical Work* that involves a change to a connection or to its *Electricity Metering*, submit an *EWR* as per [Electrical Works Request \(EWR\)](#).
- o) Issuing a *CEC* as defined in [Certificate of Electrical Compliance \(CEC\)](#).
- p) Requesting a *tee-up* with *Hydro Tasmania* as defined in [Tee-up with Hydro Tasmania](#).
- q) Submitting appropriate forms in a timely manner and ensuring that the information is accurate and complete
- r) Rectifying any non-compliances that *Hydro Tasmania* had identified
- s) Bringing the *electrical installation* up to these *rules* and associated standards if any works are undertaken that require *Hydro Tasmania* to disconnect supply or change the *POS* characteristics,

as outlined in [Customer and Fault Initiated Supply Changes](#).

#### 9.5.4 Metering Provider

The *Metering Provider* is a person or business engaged to install *Electricity Meters* on an *electrical installation* as directed by an *Electricity Retailer*, Hydro Tasmania is the Metering Provider for BSI. As the *Metering Provider* *Hydro Tasmania* is responsible for:

- a) Undertaking all works, testing after the *IPD* and for *multiple tenancy* sites testing after the *Main Switch*. This includes supplying, installing and maintaining the *Electricity Metering* equipment on a *customer's premises*
- b) Ensuring the *electrical installation* is compliant with relevant standards/ acts and informing the customer if any defective *Hydro Tasmania* equipment is found
- c) Ensuring all *customer* electricity usage is metered (with the exception of unmetered supplies)
- d) Ensuring the *Electricity Metering* enclosure details the *Electricity Meter* number, National Metering Identifier (NMI) and the *Metering Provider* name and contact details
- e) Ensuring that all safety and security requirements are maintained for *Electricity Metering* Installations
- f) Ensuring safe work practices for the handling of asbestos are used when affixing any equipment to an *Electricity Meter* panel containing asbestos or replacing an *Electricity Meter* panel containing asbestos.

#### 9.5.5 Customer's Electrical Consultant

A *customer* may need to engage an *Electrical Consultant*, who is responsible for:

- a) Designing the *electrical installation* in accordance with Tasmanian Legislation, [AS/NZS 3000](#), other relevant standards, and these *rules*
- b) Where the design is outside the *rules*, ensuring that permission is obtained before work commences, by submitting a request to *Hydro Tasmania* for a variation through the negotiated connection process as per [Basic or Negotiated Connection](#).
- c) Large projects, liaising with *Hydro Tasmania* to ensure adequate supply is available when required
- d) Ensuring that *Hydro Tasmania* is advised when there is an increase in the load at an *electrical installation*
- e) Advising the *customer* when increases in load require changes to the *electrical installation* including *Electricity Meter* changes.

#### 9.5.6 Hydro Tasmania

*Hydro Tasmania* means Hydro-Electric Corporation, ABN 48 072 377 158, 4 Elizabeth Street, Hobart, Tasmania. *Hydro Tasmania* is the *distribution network* service provider (DNSP) for King and Flinders Island.

*Hydro Tasmania's authorised representatives*, including *authorised employees* and *authorised Electrical Contractors*, are *authorised* in writing by *Hydro Tasmania* to perform work on specified assets.

*Hydro Tasmania* is responsible for:

- a) Negotiating the provision of the electricity connection with the *customer* or *customer's*

*Electrical Contractor*, and issuing the National Metering Identifier (NMI)

- b) When requested by the *Electricity Retailer*, the connection from the *distribution network* to the customer *POS*
- c) Transporting, delivering and maintaining the reliability and quality of the electricity to the customer's connection point, which is purchased by *Electricity Retailers* and sold to *customers*
- d) Examining and testing for compliance the *Consumer Mains* to the *IPD*, or *Main Switch* for *multiple tenancy electrical installations*, before initially connecting to *Hydro Tasmania's distribution network*. If compliant, energising supply to the distribution side of the *IPD* or *Main Switch* for *multiple tenancy electrical installations*, leaving the *IPD* or *Main Switch* in the off position
- e) Fulfilling the responsibilities of the *Metering Provider*
- f) Maintaining existing external load control devices where a *Hydro Tasmania Electricity Meter* is installed. When an advanced *Electricity Meter* is installed on a single or a *multiple tenancy electrical installation*, the load control devices and the contactors become the *Metering Provider's* responsibility
- g) Installing conduits into a *Hydro Tasmania* turret or cabinet
- h) Rectifying damaged conduits installed earlier but not used.

*Hydro Tasmania* is also responsible for the electricity assets outlined in [Table of Connection Responsibilities](#) as installed, owned and/or maintained by *Hydro Tasmania*. The installation or maintenance responsibilities do not preclude *Hydro Tasmania* from recovering costs from a *customer* in accordance with the electricity laws.

## 9.6 Table of Connection Responsibilities

The following table provides an overview of connection responsibilities. Note that if any of the below assets are deemed unsafe, non-compliant or inaccessible by the Department of Justice or *Hydro Tasmania*, the owner/ maintainer of the asset is responsible for the upgrade of that asset and/ or its surrounding environment to be compliant.

Table 2 - Connection Responsibilities

Asset	Install	Own	Maintain
On the <i>Hydro Tasmania</i> side of the POS:			
One span of OH service wire from <i>Hydro Tasmania</i> distribution assets to the customer's <i>POS</i>	<i>Hydro Tasmania</i>	<i>Hydro Tasmania</i>	<i>Hydro Tasmania</i>
Service poles on public property	<i>Hydro Tasmania</i>	<i>Hydro Tasmania</i>	<i>Hydro Tasmania</i>
SPD and associated fittings	<i>Hydro Tasmania</i>	<i>Hydro Tasmania</i>	<i>Hydro Tasmania</i>
Vegetation around <i>Hydro Tasmania</i> assets over public property (to ensure safe clearance from OH lines). This includes the portion of the <i>service wire</i> crossing council land	N/A	N/A	<i>Hydro Tasmania</i>

Asset	Install	Own	Maintain
On the <i>customer</i> side of the POS:			
POA	Electrical Contractor	customer	customer*
Customer-owned HV/ LV power lines and poles on private property	Electrical Contractor	customer	customer*
Conduit installed for new UG subdivisions from a <i>Hydro Tasmania</i> turret or cabinet to the property boundary	Hydro Tasmania	Hydro Tasmania until Consumer Mains installed, then customer	customer*
Installing additional conduits requested by <i>customer</i>	Hydro Tasmania	customer	customer*
UG Consumer Mains	Electrical Contractor	customer	customer*
Consumer Mains after the POS	Electrical Contractor	customer	customer*
Mains box	Electrical Contractor	customer	customer*
Raiser Bracket	Electrical Contractor	customer	customer*
Transformer and associated support pole and hardware installed on private or public property, on the supply side of the <i>Electricity Metering</i> point	Hydro Tasmania	Hydro Tasmania	Hydro Tasmania
Hydro Tasmania Electricity Meter and associated equipment (including meter panels).	Hydro Tasmania	Hydro Tasmania	Hydro Tasmania
New <i>Electricity Metering</i> installation and equipment on the meter panel. Note: a new panel is required when an existing meter position is moved, if the panel is not up to current standards	Electrical Contractor - meter panel. Metering Provider - meter	customer	customer*
Vegetation near service wire, Electricity Meters and connection points	N/A	N/A	customer*
Unmetered supply cable	Electrical Contractor	customer	customer*
Unmetered public lighting	Hydro Tasmania	Hydro Tasmania	Hydro Tasmania
Metered public lighting	Electrical Contractor	customer	customer*
Unmetered private contract lighting	Hydro Tasmania or Customer	customer	Hydro Tasmania or customer*

\*Note: *customers* require a licenced *Electrical Contractor* to undertake any electrical work on their owned/ maintained assets as per [Licenced Electrical Practitioner and Electrical Contractor](#).

## 9.7 Common Property, Multiple Tenancy and Easements

*Stratum, Strata* and *Common Property* are defined within the [Strata Titles Act 1998](#).

For the purpose of these *rules*, it is important to understand that *Common Property* consists of all areas of the land and buildings that are not owned by an individual. For *Strata Schemes*, this includes all areas that are not included in any individual lot defined by vertical and horizontal boundaries (e.g. driveway, foyer, garden, etc.), as well as the electricity infrastructure serving more than one lot.

In a *Strata Scheme*, *Common Property* is jointly owned by each lot owner and is managed by a legal entity such as body corporate or *Strata Company*. A *Stratum Scheme*, which was superseded by the Strata Titles Act in 1967, provides lot owners with a share in the company set up to manage the *Common Property*.

*Multiple tenancy* is used in these *rules* to define two or more individual *electrical installations* that are supplied by a single *POS*, and is inclusive of all *Stratum* and *Strata Schemes*.

An (*Electricity Infrastructure*) *Easement* is an area of land reserved for electricity assets. *Easements* exist to ensure the infrastructure can be accessed for maintenance and other work. For further *Easement* details, see the [Hydro Tasmania website](#).

## 9.8 Other Important Definitions

The definitions below apply to these *Rules* and might vary from definitions contained in other documents. Common terms that not defined in this section, such as sub-mains and switchboard, are defined as per [AS/NZS 3000](#).

**Asset ID** The *asset ID* uniquely identifies each *Hydro Tasmania* asset, including poles, turrets and cabinets. *Asset IDs* are typically required when submitting a *EWR*.

**Cable** An electrical conductor (conductor as defined in [AS/NZS 3000](#)).

**Conduit** The protective casing that encloses an electrical conductor.

**Connection Assets** The physical assets used to connect to an *electrical installation*.

**Consumer Mains** As defined in [AS/NZS 3000](#), the *customer's* mains wiring between the *POS* and the *customer's* main switchboard.

**Distribution Network** The apparatus, equipment, plant and buildings owned, operated or controlled by *Hydro Tasmania* and used to convey and control the conveyance of electricity to *customers' premises*.

**Electrical Installation** The *customer's* set of wires, fittings and equipment that is connected to the *POS*.

**Must** Means a mandatory requirement. If for any reason you cannot abide to a mandatory requirement, you must contact *Hydro Tasmania* to discuss and where applicable, negotiate.

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**Property or Premise** An undivided parcel of freehold or leasehold land, or Crown Land held under lease or licence, that does not contain any public reserve, road reserve or land owned by or vested in a separate person or body.

**Private Service Pole** Any pole or structure that does not belong to *Hydro Tasmania* and that has been approved by *Hydro Tasmania* to support the *service wire* and *Consumer Mains*.

**Service, Service Wire or Service Cable** The first span of LV conductor from the *Hydro Tasmania distribution network* (including any *Hydro Tasmania service poles*) to a *POS*. The *service* does not include the supporting pole or structure at the *POS*.

**Hydro Tasmania Service Pole** A pole installed to provide an intermediate support for the *service cable*, to improve ground clearances or ensure appropriate span distances.

# 10.0 How to Connect, Reconnect or Alter

This chapter describes the difference between basic and negotiated connections, and outlines the process for new connections, alterations, disconnections and reconnections. This includes for situations where defects are identified on private electricity assets during a fault.

This chapter includes guidance on Electricity Connection Contracts, Retail Supply Contracts, *electrical works requests (EWRs)*, how to arrange *tee-ups*, and the use of the *Certificate of Electrical Compliance (CEC)*.

## 10.1 The Connection Portal

All connection and alteration requests must be submitted through the [Hydro Tasmania website](#).

All *EWRs* must also be submitted through the [Hydro Tasmania website](#). To register as a user to submit *EWRs*, you must be a licenced *Electrical Contractor* and provide your licence details.

## 10.2 Electricity Connection Contract

A *customer* who requires to be connected to the *Hydro Tasmania distribution network* or requires an alteration to an existing connection, must enter into an Electricity Connection Contract with *Hydro Tasmania*. For further details, see [New Connections](#) and [Connection Alteration](#).

The Electricity Connection Contract is for the provision of connection services to that *customer*. This contract, as well as its terms and conditions, can be found on the [Hydro Tasmania website](#).

Further agreements with *Hydro Tasmania* may be required depending on the connection requirements.

The connection request can be submitted through the [Hydro Tasmania website](#). The request can be made by the *customer* themselves, or by an *Electrical Consultant* or *Electrical Contractor* on behalf of the *customer*.

For more details on connection agreements, refer to the Connections section on the [Hydro Tasmania website](#) or contact Hydro Tasmania as per [Enquiries](#).

Connection fees are applicable. These can be reviewed on the [Hydro Tasmania website](#).

## 10.3 Retail Supply Contract

*Hydro Tasmania* cannot connect a *customer* to the *distribution network* without the *customer* having a Retail Supply Contract with Momentum Energy. Refer to the [Enquiries](#) section for contact details.

## 10.4 Basic or Negotiated Connection

A connection is basic unless, because of its complexity or non-standard circumstances, it necessitates *Hydro Tasmania* and the *customer* to negotiate the terms of the connection. A connection is negotiated if any of the following apply:

- a) The *electrical installation* requires system augmentation or network extension
- b) The *electrical installation* is for a sub-division
- c) The *electrical installation* is for irrigation
- d) The connection requires greater than 100 amps (A) per phase
- e) Mains larger than 95mm<sup>2</sup> or parallel mains
- f) A private or *Hydro Tasmania* HV supply is required
- g) Multiple points of supply are sought
- h) If network changes or design are required
- i) The *electrical installation* requires establishment of *Easement*
- j) The *electrical installation* requires removal or relocation of *Hydro Tasmania* assets
- k) If increasing load requires the supply transformer to be upgraded.

Applications for negotiated connections should be submitted as soon as practicable to minimise any delays for installation planning and design.

For basic connections, if the *electrical installation* maximum demand requirement is 100A or less, and an application has been submitted requesting 100A, the *IPD* or *Main Switch* for *multiple tenancy* sites must be a fixed 100A device. If an adjustable device is to be used for the *IPD* or *Main Switch*, it will require a *negotiated connection* application stating the maximum limit of the *device*.

## 10.5 New Connections

A *New Connection* refers to a connection established or to be established, in accordance with these *rules* and applicable electricity laws, where there is no existing connection. Examples of new connections are, greenfield *electrical installations*, *multiple tenancy* connections, and reconnection of abolished sites.

## 10.6 Connection Alteration

*Connection Alteration* refers to a change to an existing connection such as:

- a) an extension, expansion or augmentation
- b) a *Consumer Mains* upgrade (such as changing a single-phase to multi-phase)
- c) the addition or alteration of embedded generation, as per the [Hydro Tasmania website](#).

## 10.7 Reconections

The application process for reconnecting *premises* to *Hydro Tasmania distribution network* depends on the reason for the original disconnection and the period of disconnection, as outlined below.

### 10.7.1 Disconnected for Less than 6 Months

All connection requests for *premises* that have been disconnected from *Hydro Tasmania* supply for less than 6 months must be made to the *Momentum Energy*. The *Electricity Retailer* will arrange for the service reconnection.

#### 10.7.2 Disconnected for 6 Months or Longer

*Premises* that have been disconnected from *Hydro Tasmania* supply for a period of 6 months or longer, also require a connection request to *Momentum Energy*. A licenced *Electrical Contractor* must certify (via a *CEC* with the *EWR* as per [Certificate of Electrical Compliance \(CEC\)](#)) that the *electrical installation* is safe prior to reconnection. The connection application process applies.

#### 10.7.3 Disconnected Because of Defects

Where a defect on private electricity assets or equipment has been identified, a licenced *Electrical Contractor* must certify (via a *CEC* with the *EWR* as per [Certificate of Electrical Compliance \(CEC\)](#)) that the *electrical installation* is safe prior to reconnection. The connection application process applies.

#### 10.7.4 Disconnection for Safety and Reconnection After Fault

Where an *electrical installation* has been disconnected for safety purposes by *Hydro Tasmania* when attending to an emergency or a fault,

- a) If the repairs are completed within 10 business days and the *POS* characteristics have not changed, the *electrical installation* can be reconnected by contacting the *Hydro Tasmania* Fault Centre as listed in [Enquiries](#). A *CEC* is required to be sighted before reconnection can occur as per [Certificate of Electrical Compliance \(CEC\)](#).
- b) If the fault repairs are going to take longer than 10 business days, or if the *POS* characteristics change, the reconnection must follow the connection application and *EWR* process as per [Electrical Works Request \(EWR\)](#) and fees will be applicable.

### 10.8 Electrical Works Request (EWR)

- a) The *Electrical Works Request (EWR)* is a *Hydro Tasmania* document used by *Electrical Contractors* to notify *Hydro Tasmania* when they require *Hydro Tasmania* or a *Metering Provider* to attend site. For example:
  - i. To request a connection for a new *customer*
  - ii. To request an alteration to an existing connection
  - iii. To request a change to *Hydro Tasmania Electricity Metering* at a *customer's electrical installation*
  - iv. To request a change to an *Electricity Retailer's Electricity Metering* at a *customer's electrical installation*
- b) *EWR's* must have the *CEC* number recorded on them
- c) The *EWR* instigates connection and/or *Electricity Metering* work to be carried out by *Hydro Tasmania*.
- d) The *EWR* should only be submitted when the work at the *customer's installation* electrical has been completed up to the *POS* or a *tee-up* is required to do so. To check you have completed works up to the *POS*, reference [Supply Arrangement Considerations and Prohibited Arrangements](#).
- e) An *EWR* can only be submitted by a licensed *Electrical Contractor* via the [Hydro Tasmania website](#).

- f) It is important that the *EWR* is complete and accurate. This will facilitate quicker processing and avoid the necessity for the *EWR* to be returned for amendment and re- submission
- g) Work will not be undertaken if the *property* is not clearly identifiable onsite, safe and unhindered access is available
- h) In the event that a connection cannot be made due to failure to meet the conditions of connection defined by these *rules*, the *Electrical Contractor* will be notified. Once the defect(s) have been rectified, the *Electrical Contractor* must resubmit an *EWR*
- i) If the connection differs from the original submission or *Hydro Tasmania* deems it's necessary, the *Electrical Contractor* will be required to resubmit a new *EWR*
- j) If *Hydro Tasmania* is not required to attend, the *EWR* will be referred to the relevant *Electricity Retailer* to assess and initiate the requested works
- k) For any questions relating to a *EWR*, including the progress of your *EWR*, refer to the *EWR* portal or contact *Hydro Tasmania* *EWR* hotline as listed in [Enquiries](#).

## 10.9 Electrical Contractor Checklist Prior to Submitting an EWR

Table 3 - Electrical Contractor EWR Checklist

- A connection application has been submitted, if applicable (e.g. new connection)
- Determine the supply arrangement and provide *Hydro Tasmania* the *asset ID* (if available) and street address of the Pole, Turret or Cabinet from which you want to connect to the *distribution network*
- Provide the *Electricity Meter* number for existing connections
- Provide a valid address for a new connection, this cannot be a *LOT* or *Property ID*
- Property boundaries* have been checked prior to *electrical installation* work
- Switchboard and *Electricity Meter* panel are ready for connection
- Each *electrical installation* has an *Installation Protection Device (IPD)* or *Main Switch for multiple tenancy sites*, and *cables* are terminated as per [AS/NZS 3000](#)
- Any scaffolding around the *POA* has been removed as per [Safety Requirements](#)
- Referenced the *CEC* as per [Certificate of Electrical Compliance \(CEC\)](#)

## 10.10 Tee-up with Hydro Tasmania

A *tee-up* is where an *Electrical Contractor* requires *Hydro Tasmania* to be on site on a specific date or time. A *tee-up* must be indicated on the *EWR* and is required for activities such as:

- a) Alterations to fascia connections

- b) Replacing *Consumer Mains* including changes to *POA*
- c) *Consumer Mains* terminations into turrets or cabinets
- d) Connection of *multiple tenancy electrical installations*.
- e) Where a non-compliant installation is identified during the *tee-up* process the *EWR* must be resubmitted identifying the new date and time.

Fees are applicable for a *tee-up* as per the fee-based services guide, available on the [Hydro Tasmania website](#). The following work practices can be used to avoid a *tee-up* with *Hydro Tasmania*:

- a) Become *authorised* and Level 1 and Level 2 *accredited* by *Hydro Tasmania* to access and operate *Hydro Tasmania* infrastructure, as per [Authorisation and Accreditation](#).
- b) Install a jumper from the old switchboard to energise the new switchboard temporarily. This must be clearly labelled and added to the *EWR*
- c) If you require a *tee-up* with the *Metering Provider*, you must indicate this in the *EWR*.

## 10.11 Certificate of Electrical Compliance (CEC)

- a) A *Certificate of Electrical Compliance (CEC)* must be completed by the installing *Electrical Contractor* or *Electrical Practitioner* to certify that all works undertaken have been performed in accordance with the requirements of [AS/NZS 3000](#) and the [Occupational Licensing \(Electrical Work\) Regulations 2018](#)
- b) *Hydro Tasmania* inspects the connection arrangements to the main switchboard up to the *IPD* or *Main Switch* for *multiple tenancy* sites. This ensures safe connection to the *distribution network*
- c) *Hydro Tasmania* does not inspect or test any of the *electrical installation* beyond the *IPD* or *Main Switch* for *multiple tenancy* sites. This is the responsibility of the *customer's Electrical Contractor*
- d) All *electrical installation* work and the test results must be adequately described on the *CEC* as well as registration and contractor details and signature
- e) The *CEC* number must be noted on the *EWR* when requesting *Hydro Tasmania* to complete a connection.

## 10.12 Non-compliant Installation

If an *electrical installation* is found to be unsafe or to not comply with these *rules* and relevant standards and acts, *Hydro Tasmania* will not connect it to the *distribution network*, or in the case of an existing *electrical installation*, may disconnect it from the *distribution network* and issue a Notice of Non-Compliance (NNC).

## 10.13 Obtaining Electricity by Fraud

Obtaining electricity by fraud is theft. If a person is found guilty of an offence, it may result in the imposition of substantial fines together with an order for damages to compensate affected parties for any loss and court costs, and it may result in that person to have a criminal record.

## 10.14 Connection Process Flow

### 10.14.1 New Basic Connection

#### Step 1: provide your details

Provide us with the technical specifications of your new connection

Complete the [New supply enquiry form](#) (431 KB PDF) with your Electrical Contractor

For help completing this form, ask your electrical contractor or read the [New supply enquiry form guide](#) (297 KB PDF)

Email the completed form to [BSImailbox@hydro.com.au](mailto:BSImailbox@hydro.com.au).

#### Step 2: our assessment

We will visit your site to see what needs to be done to establish your connection. We will work out if your connection can be added directly to the network as it is or if we need to add an extension to the distribution network. This information will affect the time and cost of your connection.

We can then quote on the materials required and the cost of your connection.

New connections up to 25kVA have a fixed base cost, with an additional charge per kVA over 4.5kVA. Installations above 25kVA are charged the cost of materials, labour, overheads, delivery and the related costs of setting up new infrastructure plus an additional 15% to cover ongoing maintenance and service costs. The current cost of connection fees is set out in the [electricity tariffs](#).

We will send you a Letter of Offer showing the amount your new connection will cost. You need to sign the letter of offer, and return it.

#### Step 3: electrical work

You can now ask your electrical contractor (who must hold Tasmanian Electrical Contractor's License) to perform the work required for your new connection. Once your electrical contractor finishes work on your site they must send Electrical Works Request (EWR) and Certificate of Electrical Compliance (CEC) forms to [BSImailbox@hydro.com.au](mailto:BSImailbox@hydro.com.au).

The EWR and CEC are required by law and must be lodged before we can connect your premises.

If equipment owned by you needs to be fitted to a Hydro Tasmania asset, your electrical contractor will also need to complete an [Indemnity for installation of private assets on Hydro Tasmania poles form](#) (349 KB PDF).

#### Step 4: payment and finalisation of works

After we receive your signed Letter of Offer, you will receive an invoice for the cost of the new connection. If changes to the network are required, we will order the materials. Once your invoice has been paid, we will schedule works to complete the new connection in line with the [Tasmanian Electricity Code rules](#).

### 10.14.2 Alterations and additions

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When you renovate or make changes to the power supply at your home, you may need us to make changes to the energy meter or the connection point. This might include:

- temporarily disconnecting the power supply to your home so that repairs can be made to fascia boards
- changing your electricity supply from overhead to underground
- changing your connection from three phase to single phase.

#### 10.14.3 Minor changes

An electrical contractor with a Tasmanian Electrical Contractor's License must do the work on your property. When they have finished, they need to submit an Electrical Works Request (EWR) to [BSImailbox@hydro.com.au](mailto:BSImailbox@hydro.com.au) so we know that work is required at your property.

We will aim to complete the work within 10 business days, but there may be delays if:

- parts need to be ordered and brought to the island
- extreme weather events occur
- there are unplanned outages.

You will be notified as soon as possible if it will take longer than 10 business days.

Hydro Tasmania will charge you for work you request and the charges will be on the next energy bill you receive after the work has been completed.

#### 10.14.4 Major changes

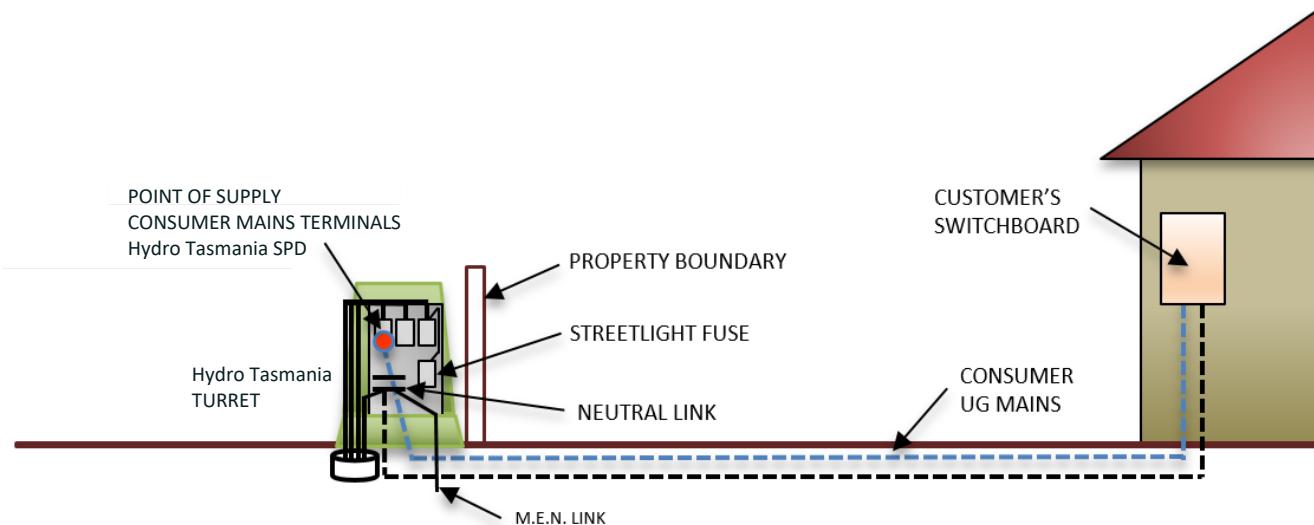
To make large-scale changes to your energy supply connection, for example changing from single phase to three phase, you need to follow the new connection process. Your electrical contractor will be able to advise you on this.

# 11.0 Supply Arrangement Considerations

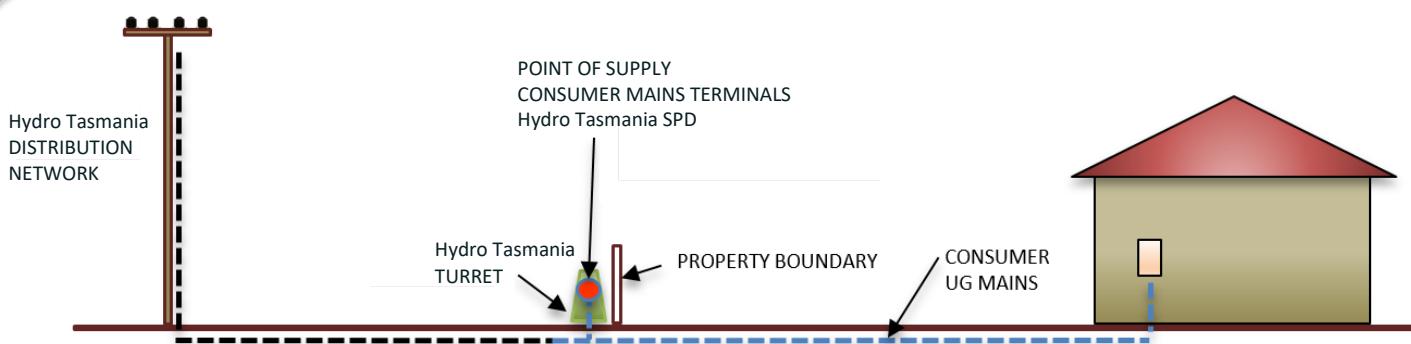
This chapter details permitted and prohibited supply arrangements, for both single and multiple *POSs*, from Tasmania's *distribution network* to the *customer's POA*. Reference [Appendix G Permitted and Prohibited Supply Arrangements](#) for alterations to existing supply arrangements

## 11.1 Supply Connection Arrangements

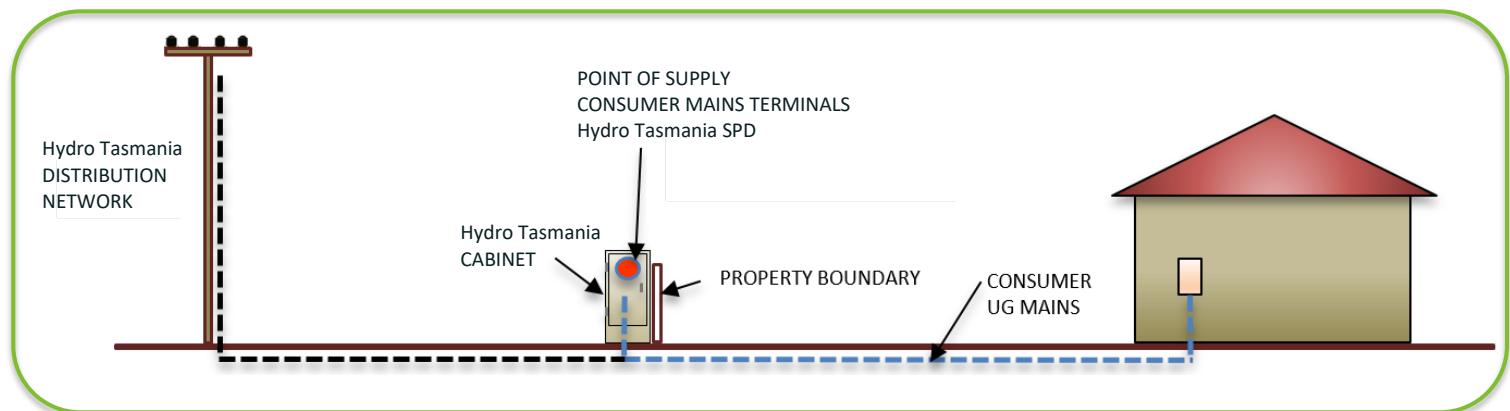
### 11.1.1 UG Consumer Service Attachment on Private Building or Structure



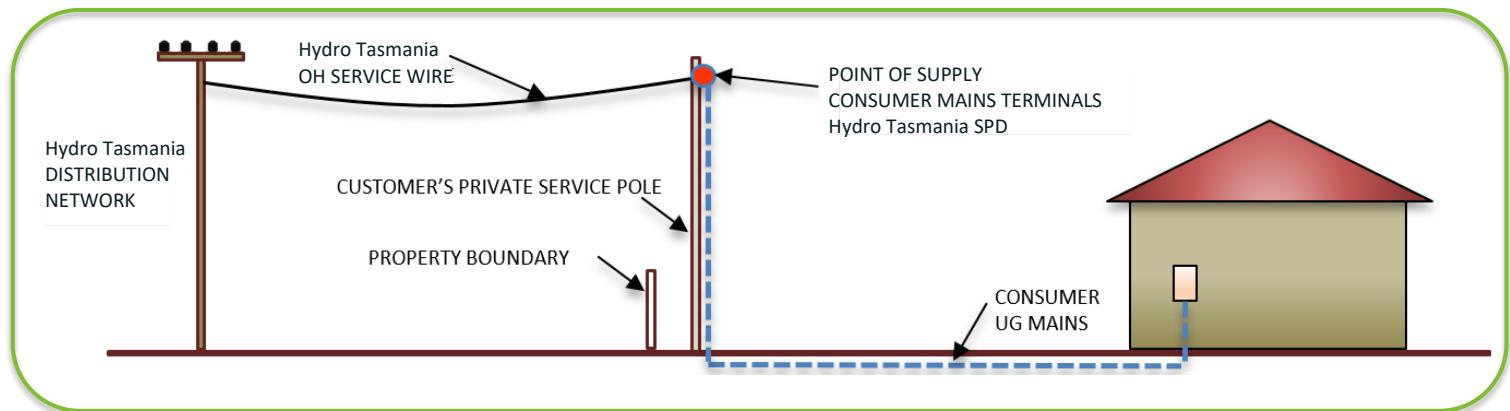
### 11.1.2 UG Consumer Mains to Hydro Tasmania Turret



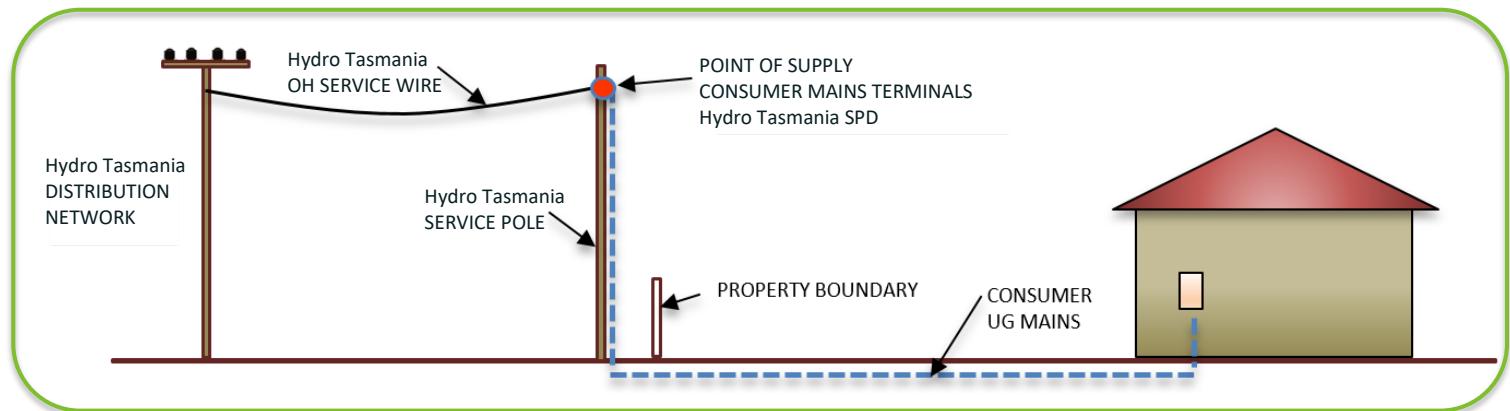
### 11.1.3 UG Consumer Mains to Hydro Tasmania Cabinet



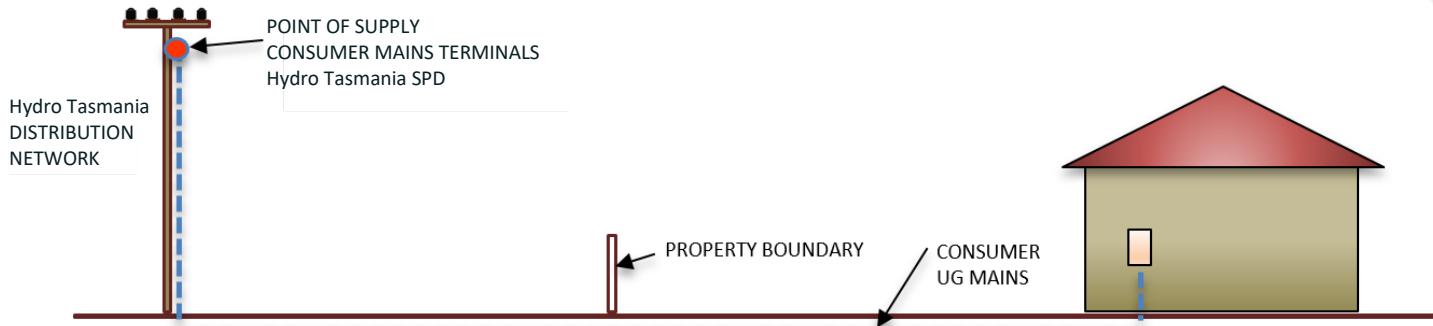
### 11.1.4 UG Consumer Mains to a Customer's Private Service Pole



### 11.1.5 UG Consumer Mains to a Hydro Tasmania Service Pole

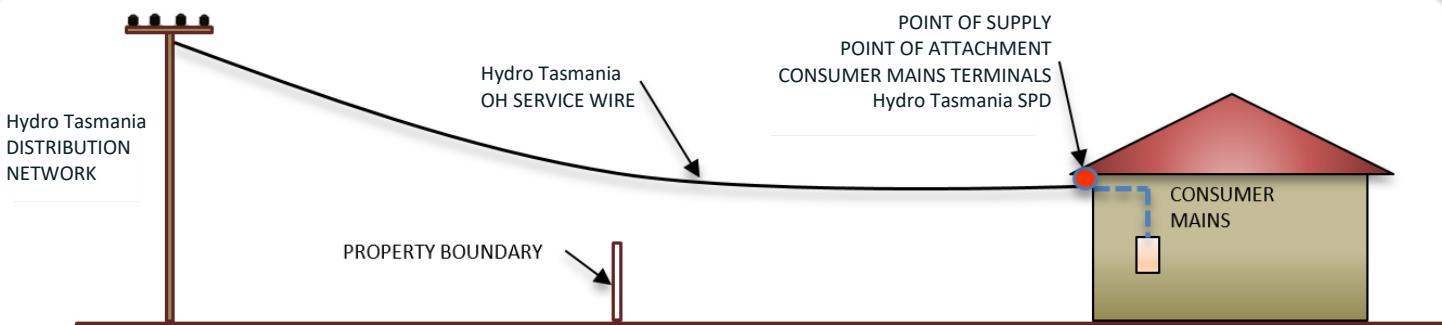


### 11.1.6 UG Consumer Mains to a Hydro Tasmania Pole

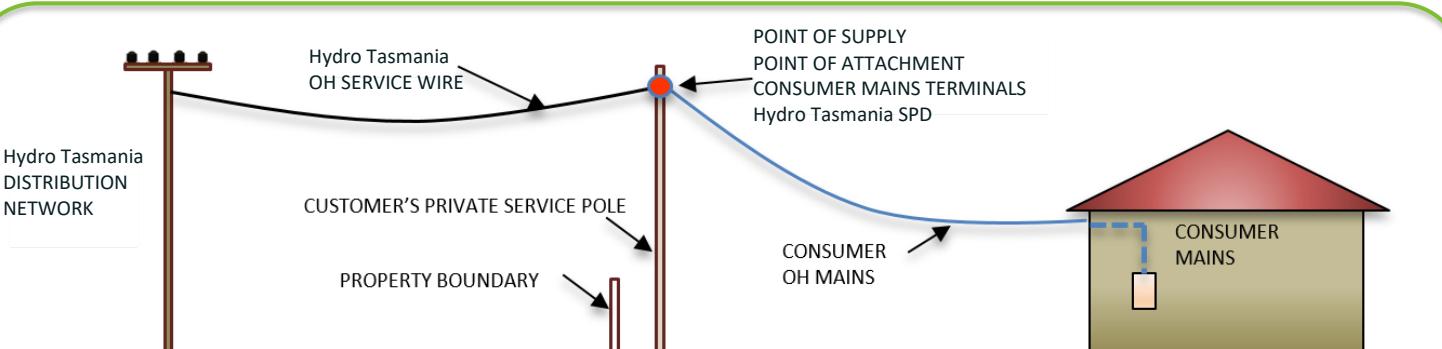


NOTE: Only applicable if Hydro Tasmania's distribution network is on the same side of the road as the premises. *UG consumer mains* must not cross a road/ carriageway.

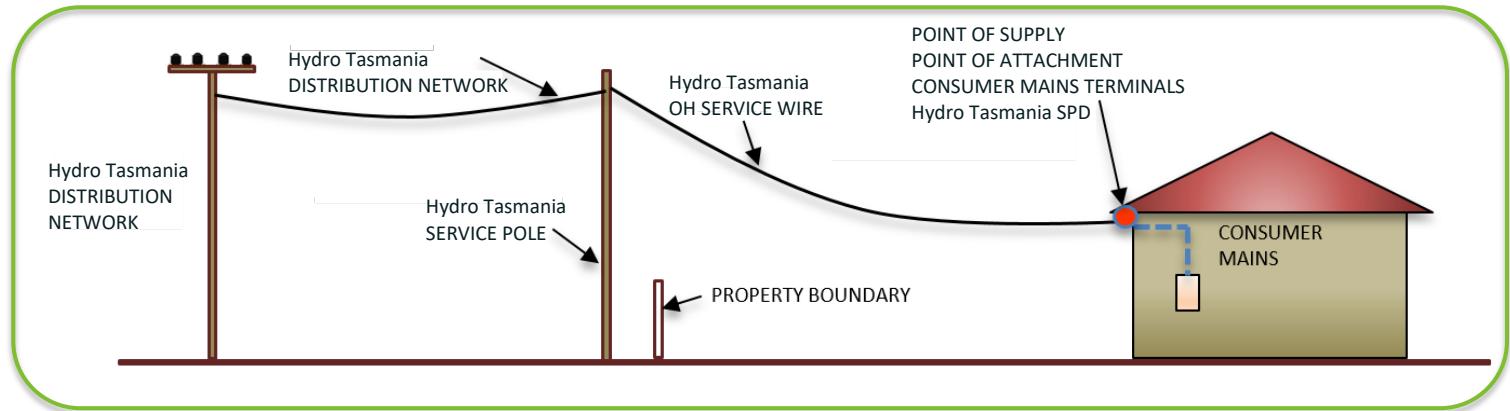
### 11.1.7 OH Consumer Service Attachment on Private Building or Structure



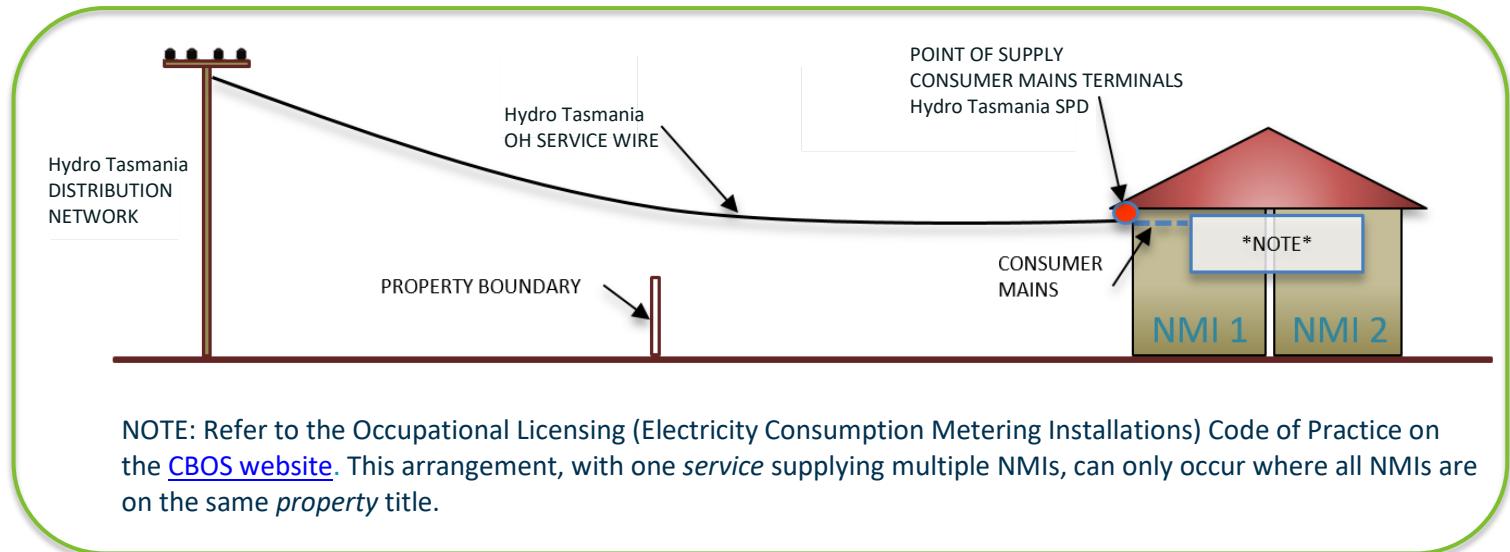
### 11.1.8 OH Consumer Service Wire to a Customer's Private Service Pole



### 11.1.9 OH Consumer Service Attachment on Private Building or Structure, with Hydro Tasmania Service Pole

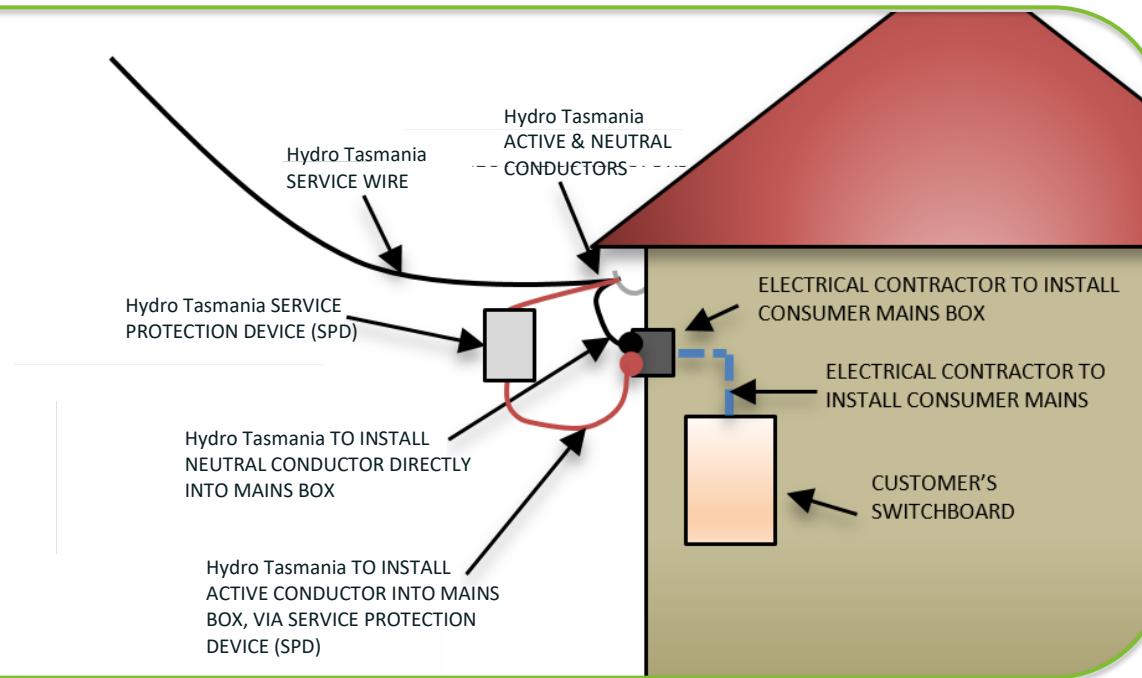


### 11.1.10 Shared Services – One Service Protection Device (SPD) to More than One NMI

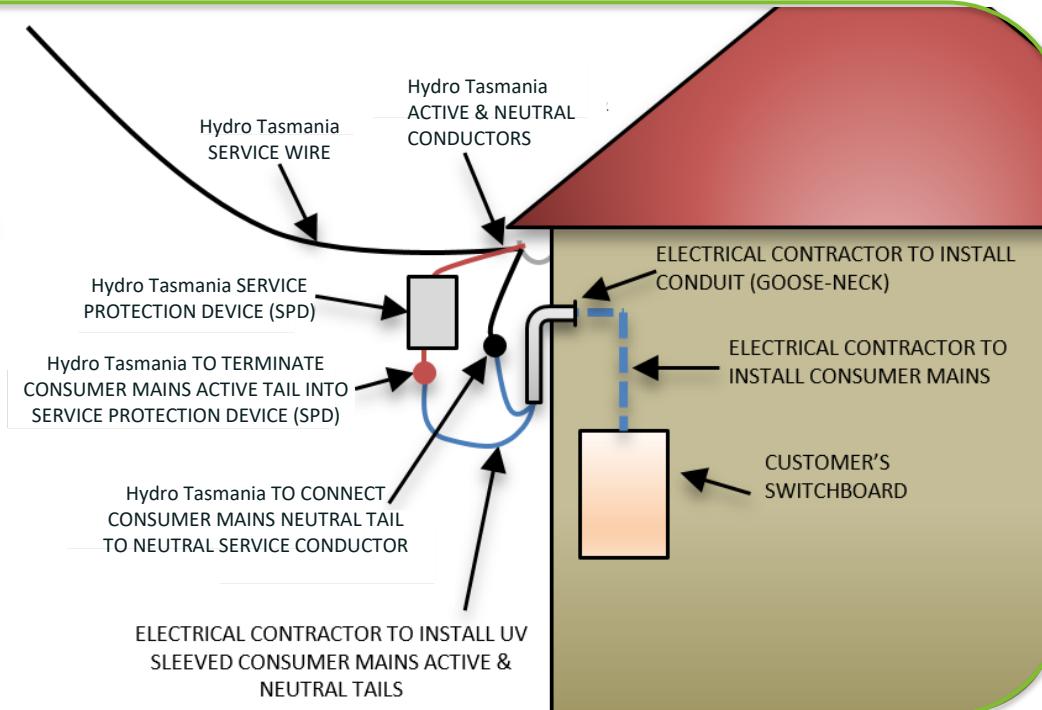


NOTE: Refer to the Occupational Licensing (Electricity Consumption Metering Installations) Code of Practice on the [CBOS website](#). This arrangement, with one service supplying multiple NMIs, can only occur where all NMIs are on the same property title.

### 11.1.11 Installation Responsibilities: If Mains Box Exists



### 11.1.12 Installation Responsibilities: If Mains Box Does Not Exist

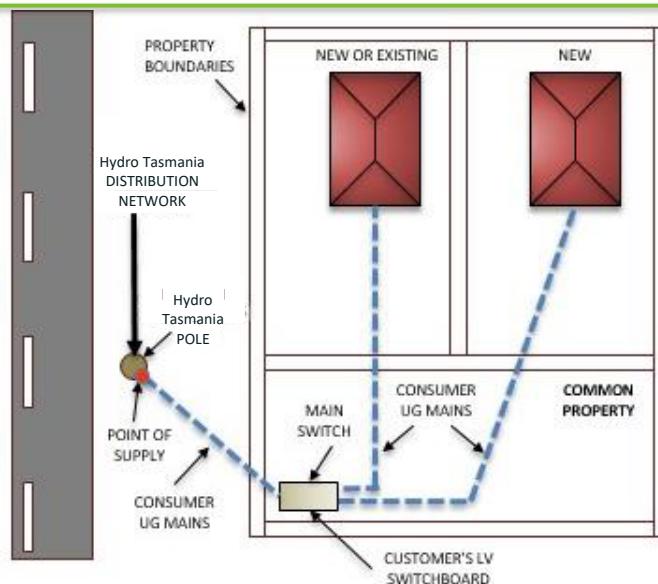


## 11.2 Multiple Tenancy (Strata/ Stratum) Arrangements

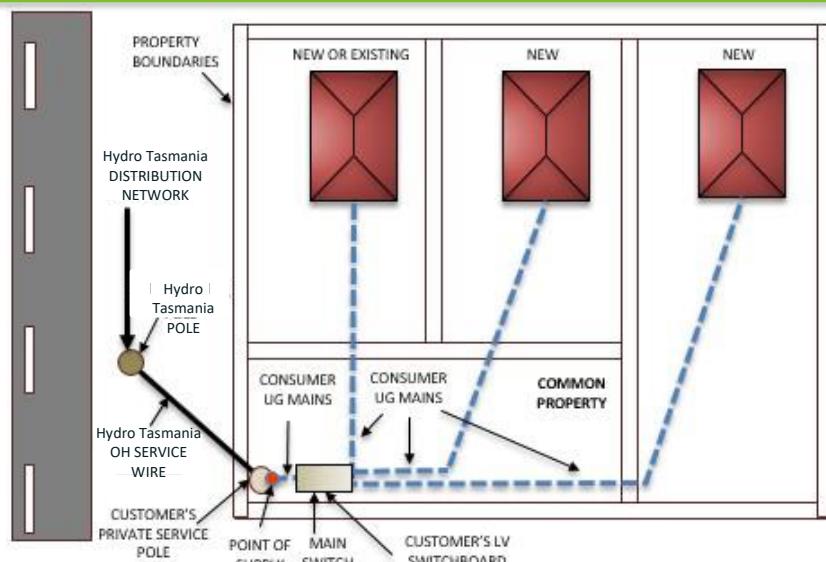
All multiple tenancy arrangements must have one main switchboard, which must be located in Common Property, independent from the wall of a house. The OH and UG sub-mains must be sourced from the customer's main switchboard directly.

To ensure each unit's supply is not impacted by failure of one of the others, the POS attachment must be in Common Property and independent from any single unit. Reference Appendix G for alterations to existing supply arrangements

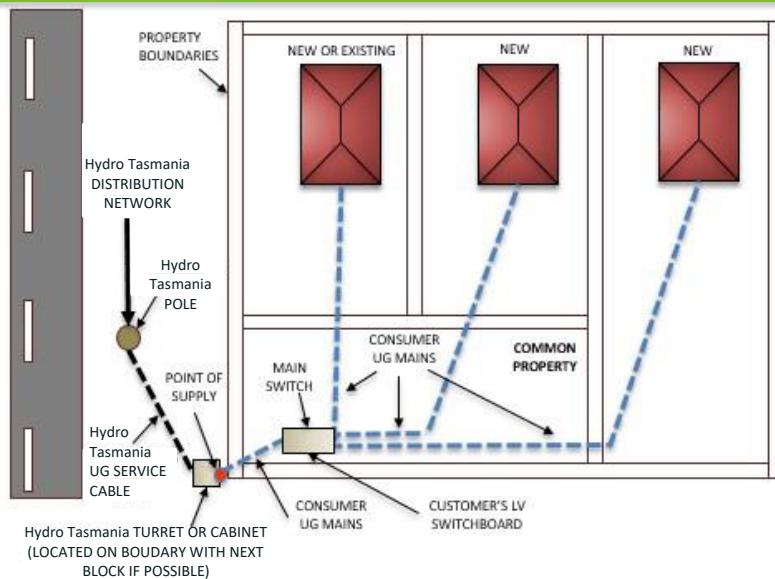
### 11.2.1 Multiple Tenancy, Supply from OH Mains via a Hydro Tasmania Pole



### 11.2.2 Multiple Tenancy, Supply from OH Mains via Private Service Pole



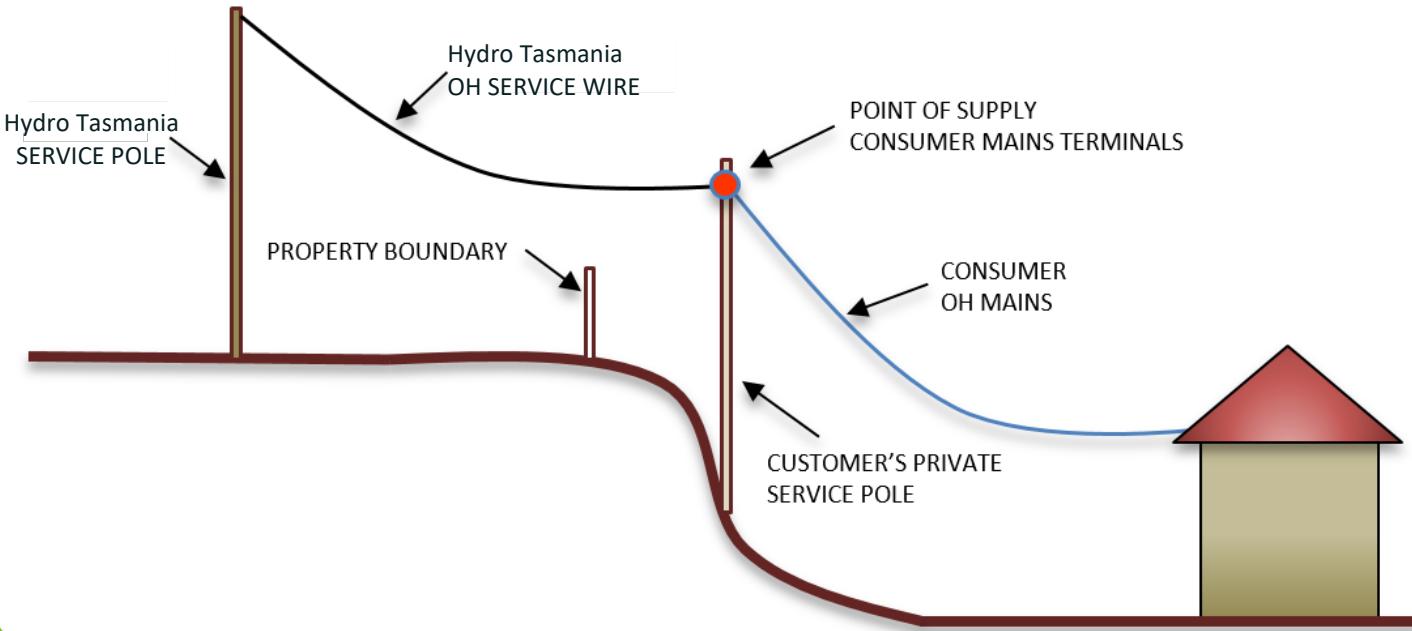
### 11.2.3 Multiple Tenancy, Supply from OH Mains via a Hydro Tasmania Turret or Cabinet



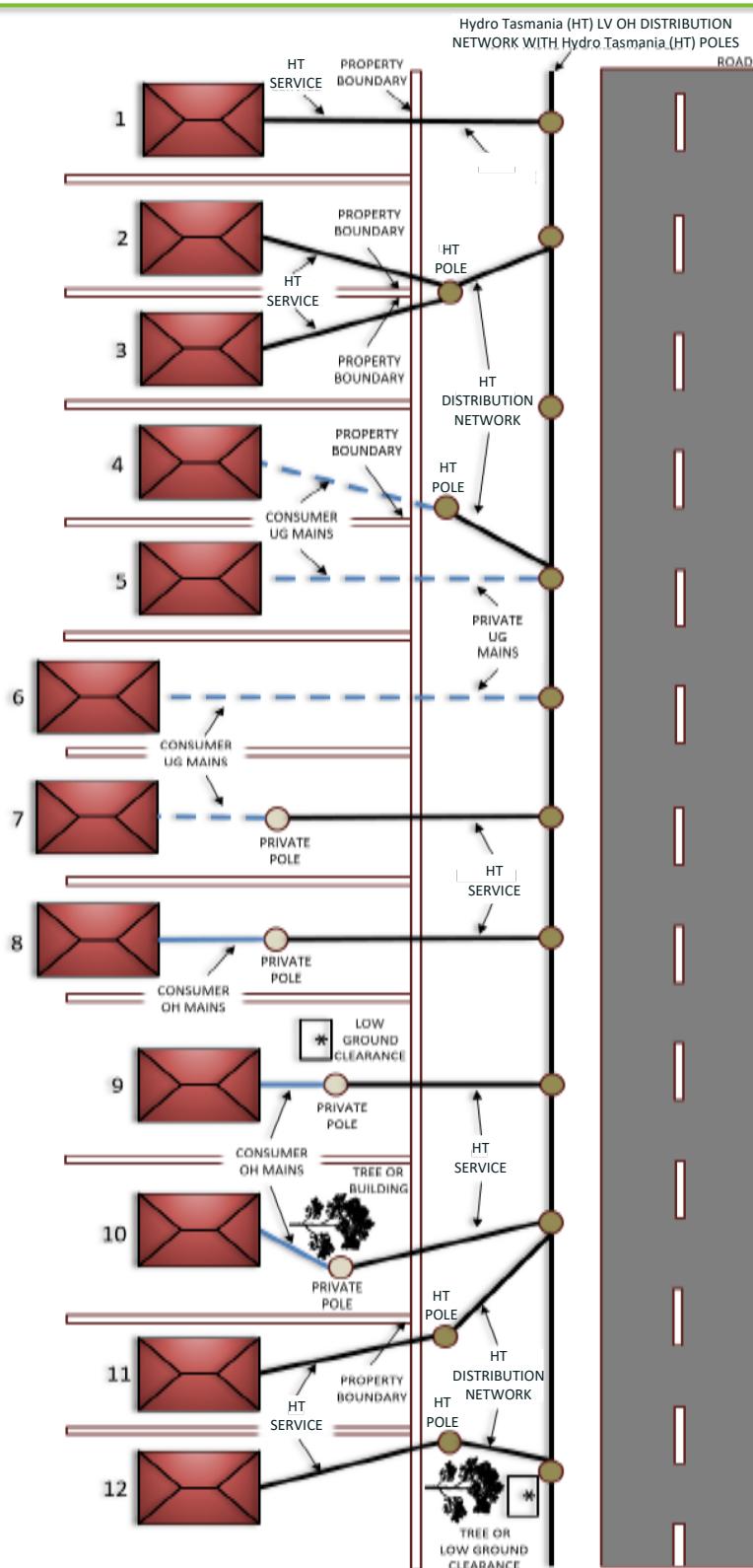
### 11.2.4 Service Pole Arrangements

\*Enlarged Diagram Referenced in 11.2.5 and 11.2.6

#### EXAMPLE OF LOW GROUND CLEARANCE ON PRIVATE PROPERTY

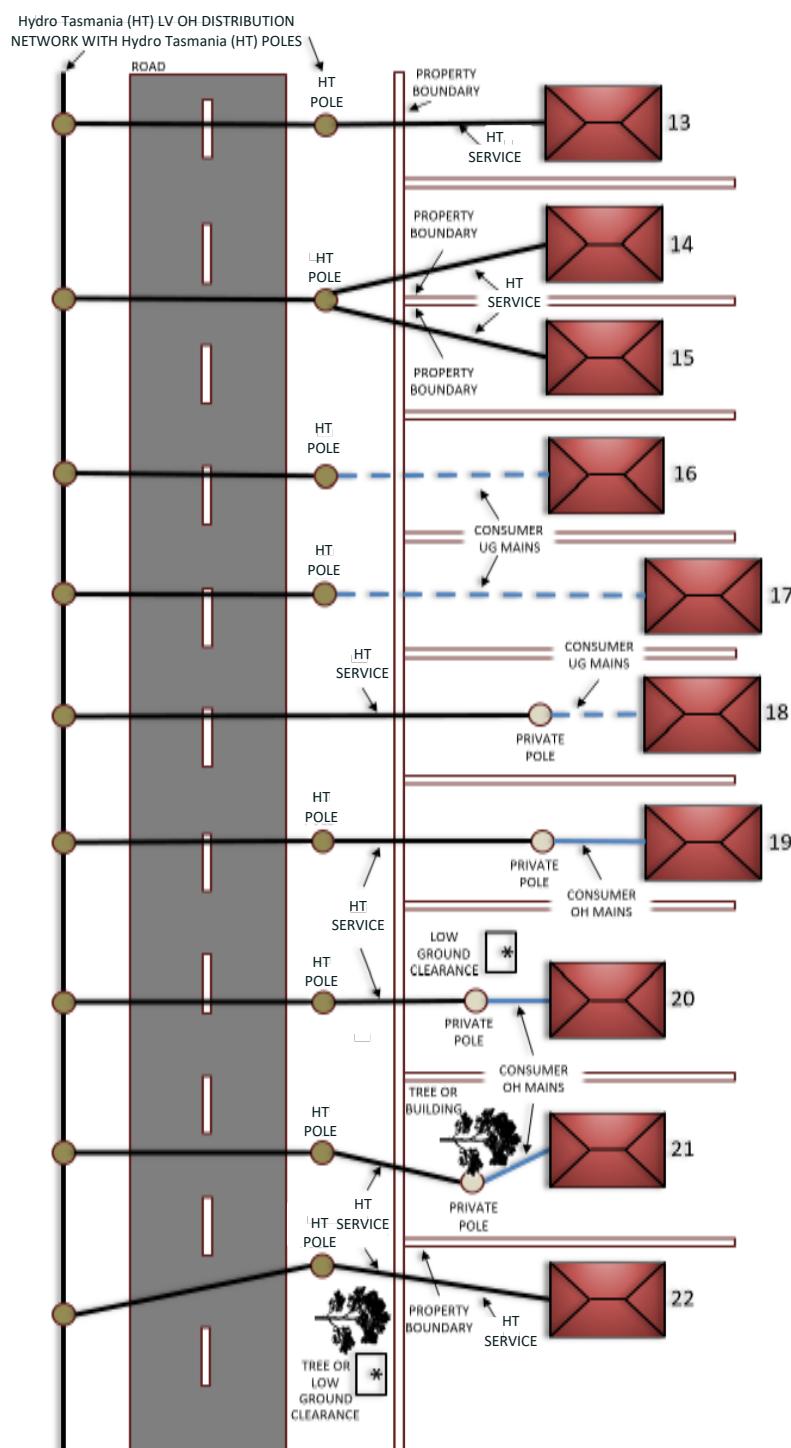


### 11.2.5 Service Pole Arrangements – Hydro Tasmania Supply on Same Side of Road



NOTE: "Private Pole" in above diagram refers to *customer's private service pole*.

### 11.2.6 Service Pole Arrangements – Hydro Tasmania Supply on Opposite Side of Road

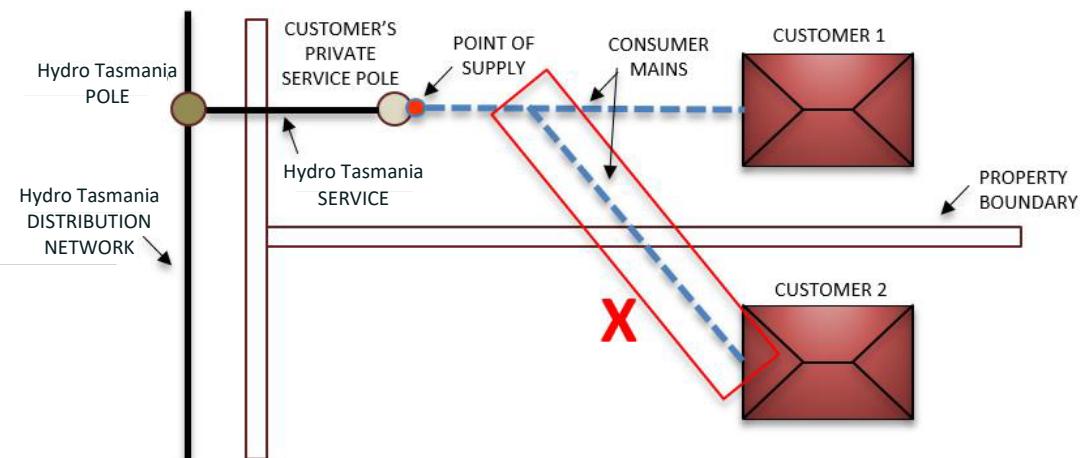


NOTE: "Private Pole" in above diagram refers to *customer's private service pole*

## 11.3 Prohibited Arrangements

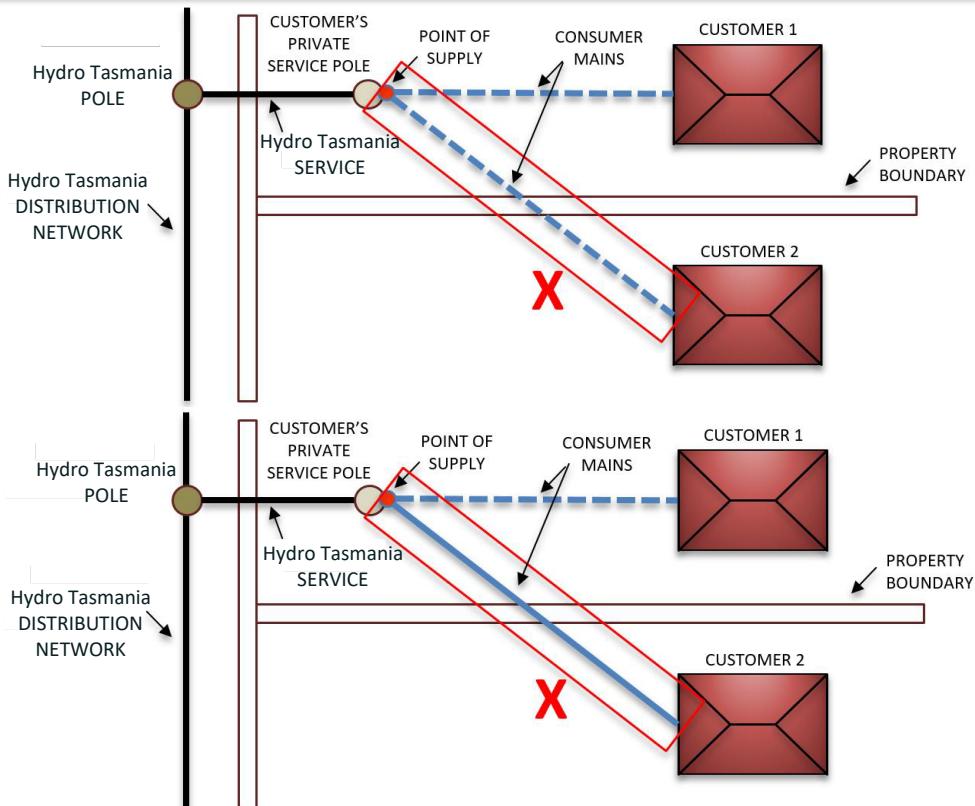
### 11.3.1 Prohibited: Connecting to a Neighbour's Consumer Mains

Reference [Appendix G Permitted and Prohibited Supply Arrangements](#) for alterations to existing supply arrangements



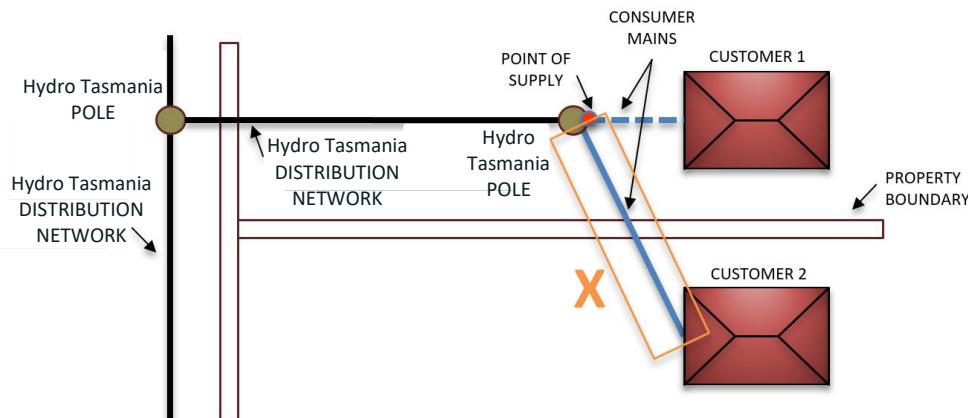
Connecting a customer's Consumer Mains to a neighbour's Consumer Mains (other than for multiple tenancy sites) in the same switchboard is prohibited under the [Electricity Supply Industry Act \(ESI Act\)](#).

### 11.3.2 Prohibited: Connecting to a Neighbour's Point of Supply



Connecting supply to a neighbour's POS is prohibited under the [Electricity Supply Industry Act \(ESI Act\)](#).  
This includes taking supply from a *private service pole* on a neighbour's *property*.

### 11.3.3 Application Only: Connecting Across a Property Boundary



Hydro Tasmania will not install, or connect to, an OH or UG electricity service wire or service cable from a Hydro Tasmania pole across a property boundary to supply a neighbouring customer unless it is unavoidable, in which case conditions defined in [Easements for Hydro Tasmania Service Wire or Cable Crossing Boundaries](#) must be met.

### 11.3.4 Prohibited Construction on or Near an Easement

The *electrical installation* construction must not be on or near an *Easement*, as shown in [working-near-hydro-tasmania-distribution](#) procedure.

### 11.3.5 Prohibited Cable Attachments on Certain Hydro Tasmania Pole Types

*Consumer Mains* are not permitted on, or inside, the following Hydro Tasmania poles:

- Single Wire Earth Return (SWER) transformer poles (contact between the LV and HV systems on SWER transformers can be hazardous and may damage the SWER transformer)
- Poles with HV equipment without LV earthing, this includes HV switch poles, HV link poles and HV fuse poles (without a transformer)
- Spun concrete\* and concrete + steel poles (e.g. Stobie poles) carrying HV assets
- Steel poles carrying HV assets
- Inside any pole (*Consumer Mains* are not permitted inside any Hydro Tasmania pole)

\*fiberglass reinforced concrete poles (e.g. Titan poles) are permitted due to their non-conductive properties

### 11.3.6 Other Prohibited Attachments on Hydro Tasmania Poles

The following apply to Hydro Tasmania poles:

- a) Cable guards are the only metallic object (excl. fixings/ saddles) that can be connected to Hydro Tasmania poles, with fixings at 1m intervals and only to height of 2.7m above ground level
- b) Any other metallic objects that connect with the ground, a building or a remote location are not to be installed on steel, concrete or steel-concrete HV poles:
  - i. Metal conduit connections from the pole to the *customer's electrical installation*
  - ii. Metal cable trays
  - iii. Self-tapping screws, unless galvanised
  - iv. *Customer's Electricity Metered* wiring must not be attached
- c) No holes greater than 4mm diameter on steel poles, no more than two holes in the same plane, and no holes left unsealed
- d) No rigid or corrugated conduit. UV stabilised grey flexible conduit may be used if required.

### 11.3.7 Prohibited Actions by Customer's Electrical Contractor

- a) The *customer's Electrical Contractor* must not operate any Hydro Tasmania SPDs or access Hydro Tasmania infrastructure unless they are approved by Hydro Tasmania, and must not make any connections to the Hydro Tasmania *distribution network*
- b) The *customer's Electrical Contractor* or *Meter Provider* must not change the size of Hydro Tasmania SPDs
- c) *Consumer Mains* must not cross a *property boundary*, nor cross any road/ carriageway
- d) If a *tee-up* has been requested and the *Electrical Contractor* has *authorisation* and is appropriately *accredited* to disconnect at the *SPD*, then the reconnection will only be undertaken if the *electrical installation* complies with the latest version of these *rules* and relevant standards/ acts.

### 11.3.8 Prohibited OH Service to NBN and Telecommunications Poles

Connecting an OH service to other infrastructure entity poles such as NBN and Telstra are not permitted.

## 11.4 Multiple Points of Supply

### 11.4.1 Requests for Additional Points of Supply

To ensure ease of identification of isolation points in emergencies, *Hydro Tasmania* will provide one *POS* to a *customer's* property. This includes a development on one or more adjacent titles or a *multiple tenancy* development, whether it is a staged development or not.

All multiple *POS electrical installations* require *Hydro Tasmania* approval. *Hydro Tasmania* will consider a written request for additional *POS* to a property in cases where provision of an additional *POS* is considered to be sound engineering practice. For example,

- a) Where the magnitude of the *customer's* load is high and cannot be supplied by a single substation located within the *property*
- b) Where the distance separating the relevant *electrical installations* and load from the existing *POS*

make it is impracticable to supply the relevant load using a LV sub-mains from the primary *electrical installation*. An example of this is where an irrigation pump is located more than 200m from the existing *POS* at the dwelling

- c) The environment limits the ability to have one *POS*
- d) To supply separately owned individual pump sheds that supply irrigation to separate *properties* and the isolation point is clear
- e) Where there are multiple street frontages to a *multiple tenancy* site, it is clear that access to different units require separate *POS*'s, and each *POS* can be clearly identified as the supply point for isolation to emergency services.

#### 11.4.2 Requirements for Additional Point of Supply

Applications for an additional *POS* must be approved by *Hydro Tasmania* and are *negotiated connections*. The customer is required to pay the cost of providing an additional supply, including the cost of transformers and any system augmentation or extension works.

Once written approval from *Hydro Tasmania* has been received that the proposed multiple *POSs* comply, the following requirements are to be established:

- a) Appropriate labelling and signage must be installed at the multiple *POSs* and the main switchboards, to ensure clarity of isolation points and safe operation by operational and emergency crews
- b) The *customer* must provide unhindered and clear access to connection points
- c) The *customer* maintains the electrical separation between the multiple *POSs* and physical segregation between the two respective *electrical installations*
- d) Multiple supplies from the same *Hydro Tasmania pole* to separate buildings must be via a main switchboard, with only one set of *Consumer Mains* from the *Hydro Tasmania service pole*. The other supplies must be sub-mains from this main switchboard
- e) Multiple points of supply have additional compliance requirements under the [AS/NZS 3000](#).

#### 11.4.3 Properties with Existing Multiple Points of Supply

- a) Owners of properties with existing multiple *POSs* are required to rationalise to a single *POS* for any scenario where the *customer* requires *Hydro Tasmania* to disconnect the supply or change the *POS* characteristics as outlined in *Customer Initiated*.
  - i. Exemption: upgrading to a single *POS* may not be required if the isolation point is clear, cannot be misinterpreted by emergency crews, and access to the existing *POA* is unhindered.
  - ii. This also applies where properties with single *POSs* are combined into one property or development
- b) If dispensation is required, a *negotiated* application and written permission is necessary
- c) Multiple supplies from the same *Hydro Tasmania pole* to separate buildings or in opposite directions must be via a main switchboard, with only one set of *Consumer Mains* from the *Hydro Tasmania pole*. The other supplies must be sub-mains from this main switchboard.

## 11.5 Distribution Network Availability

### 11.5.1 Requirement to Supply via a Turret, Service Box or Cabinet

*Hydro Tasmania* will supply via a turret, service box or cabinet on public land at the *customer's* cost where:

- a) The size and number of existing and proposed additional *Consumer Mains* cables installed on a *Hydro Tasmania service pole*:
  - i. makes it difficult to terminate on a *Hydro Tasmania service pole*, or
  - ii. restricts work on a *Hydro Tasmania service pole*, or
  - iii. restricts working on other *Hydro Tasmania poles*, or
  - iv. restricts *Hydro Tasmania* attachments on poles, or
  - v. requires multiple *POS*'s.
- b) *Multiple tenancy* developments of more than a single installation require a switchboard.  
See [Multiple Tenancy \(Strata/ Stratum\) Arrangements](#).
- c) It is required for system development reasons.

### 11.5.2 Requirement to Install a Hydro Tasmania Service Pole

- a) *Hydro Tasmania* will install a *Hydro Tasmania service pole* in the road reserve where it is required to satisfy any one of the following requirements:
  - i. Maintain the required clearance over the public road or street including clearance over the roadside reserve to the *property* boundary
  - ii. Install *services* to two or more *customers*
  - iii. Avoid a new *service wire* crossing a neighbour's *property* or title boundary
  - iv. Not to disadvantage a *customer* whose property is to be connected on the other side of the street to a *Hydro Tasmania* distribution line.
- b) If the requirements outlined in these *rules* for *Hydro Tasmania service poles* cannot be met, contact *Hydro Tasmania*.
- c) If a raiser bracket at the *POA* can avoid the installation of a *Hydro Tasmania pole*, then the *customer* must provide and install a raiser bracket at the *customer's* cost.

### 11.5.3 Requirement to Install Private Service Poles

The *customer* must install a *private service pole* and, if necessary, a raiser bracket on the *customer's property* to enable the *service* to be connected to the *customer's POA* where it is required to satisfy one or more of the following requirements:

- a) A single span of *OH service wire* would exceed the *service span limit* from the *Hydro Tasmania* distribution mains. If the distribution mains are on the opposite side of the street, then the maximum length is taken from the nominal position that distribution mains would occupy if constructed on the same side of the street as the *premises* requiring supply

- b) A *private service pole* is necessary to maintain the required clearance over the *customer's property*
- c) A *private service pole* is necessary to avoid any obstruction, such as a building or tree, on the *customer's property*

#### 11.5.4 Easements for Hydro Tasmania Service Wire or Cable Crossing Boundaries

- a) *Property boundaries must have been checked by the Electrical Contractor or customer prior to any electrical installation work being undertaken*
- b) All *Easement* arrangements must be finalised before the *service* is connected
- c) *Easements for new Hydro Tasmania service wires or cables* are not required if the *service wire or cable* is installed on the *property* of the *customer* taking supply, and the supply is for that *customer* only, and title boundaries are not crossed
- d) An *Easement* is required if any *Hydro Tasmania* infrastructure crosses a *customer's property* to supply another *customer*, or crosses title boundaries even if the lots are owned by the same *customer*
- e) If crossing a neighbour's *property* or a title boundary is unavoidable, then the *customer* is required to obtain their neighbour's agreement to grant *Hydro Tasmania* an *Easement* on terms acceptable to *Hydro Tasmania* and pay for any *Easement* and registration costs. This may require the *customer* to obtain agreement to register an *Easement* on title for an existing *Hydro Tasmania* power line. An Executed Easement Deed must be provided at the time of submitting a *EWR*
- f) *Hydro Tasmania* will generally hold an *Easement* in relation to existing infrastructure on private *property*. Electricity *Easements* will not necessarily be registered on title; for example, in some cases an *Easement* will be deemed to exist by virtue of the [Electricity Wayleaves and Easements Act 2000](#). *Customers* with *Hydro Tasmania* infrastructure on their *property* should contact *Hydro Tasmania* if they have any questions about *Easements*
- g) Where a new *Easement* is required, it is a requirement for the *Electrical Contractor* or *customer* to engage *Hydro Tasmania* to have the *Easement* Deed created for the *Hydro Tasmania* service span (First span). This is to make sure the correct *Easement* type and size is created with the correct wording.
- h) Services crossing neighbouring properties installed prior to 1996 have a deemed *Easement* 1m either side of the conductor. Moving the *service wire or cable* outside this deemed *Easement* (where there is no other option) will require a registered *Easement* being created by *Hydro Tasmania*, at the *customer's* cost
- i) In the case where the *service wire or cable* is removed to allow for construction, repairs or other reasons with the intention of eventually being replaced, then the statutory *Easement* is not abandoned
- j) If an *Easement* exists and is noted on title, and the electricity infrastructure has been either destroyed and is intended to be replaced, or has been removed for the purpose of repair, modification, addition to or replacement, then contact *Hydro Tasmania* for more information as listed in [Enquiries](#). Depending on the *Easement* type, there is a defined period of time after the destruction or removal, where the electricity infrastructure and associated maintenance responsibilities and rights are considered to continue to exist
- k) See also [Prohibited Construction on or Near an Easement](#).

#### 11.5.5 Consumer Mains Crossing Council or Public Land

- a) Prior to connection, the *customer* is responsible for ensuring it has all the appropriate rights, approval and any necessary agreements in relation to the *customer's* infrastructure.

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- b) For *Consumer Mains* crossing council or public land, the *customer* must gain approval from the relevant council or authority and provide the evidence of approval to *Hydro Tasmania* as part of its application.

# 12.0 Embedded Generation and Unmetered Supplies

This chapter describes, and outlines specific requirements for connecting embedded generators, batteries, unmetered supplies and public and private contract lighting to Tasmania's *distribution network*.

## 12.1 Embedded Generator / Batteries

Connecting an embedded generator solar battery system to the *Hydro Tasmania distribution network*, including to an existing connection, is a connection alteration and requires application to *Hydro Tasmania* for approval before the embedded generator can be installed. Refer to the [Hydro Tasmania website](#) for connection guidelines for embedded generators (micro, small and large), as well as the technical requirements.

### 12.1.1 Unmetered Supplies (UMS) Including Public and Private Contract Lighting

- a) All unmetered supply connections are *negotiated* connections, requiring load assessment and approval by *Hydro Tasmania*
- b) It is unlawful to change the base load of an unmetered supply or use an unmetered supply in an unapproved manner without the prior knowledge, assessment or approval of *Hydro Tasmania*
- c) With the exception of public and private contract lighting, unmetered supply is, in general, only suitable for installations with a *constant load* of less than 1000 watts. A *constant load* is a load that, under normal operating conditions, does not vary during any 24-hour period of any day of the year. Loads that regularly switch on and off, such as lighting or BBQ supplies, are not *constant loads*. Examples of unmetered supply installations include, electric fence supplies, traffic light supplies, communication equipment supplies, and TV amplifier supplies at unit developments
- d) *Electrical Contractors* should discuss with their *customer* why an unmetered supply arrangement is being sought and obtain their in-principle approval before applying for the connection. In particular, the *customer* should be aware that no financial advantage is gained from an unmetered supply arrangement. The network tariffs for unmetered and metered loads are the same. The load assessment is designed to minimise the financial risk to the *Electricity Retailer* and *Hydro Tasmania* if load differs from the assessed average daily load
- e) *Electrical installations* must be designed and constructed such that only the assessed load equipment can be connected to the *electrical installation*. Exceptions to this rule will only be approved in extenuating circumstances; for example, where a traffic light is used only for emergency or maintenance purposes
- f) The unmetered load must be assessed by a *Hydro Tasmania* metering technician at the time of connection of the unmetered supply. The daily load is assessed by measuring the peak load (spike) in watts (W) of the installation and applying the peak load over the 24-hour period. For example, for a base load of 900W with a 920W peak load, the assessed average daily load used for market data and retail billing is  $920W \times 24 \text{ hours} = 22.08 \text{ kWh}$
- g) Without approval by *Hydro Tasmania*, the load profile at an unmetered supply *electrical installation* must not vary by more than 5% (spikes and dips) of the base load

h) The following information must be permanently kept at the site of the unmetered supply in the form of a schedule or label:

- i. The load size and description of the unmetered load
- ii. The date the unmetered supply was installed
- iii. The name of the electrical technician it was installed by
- iv. The name of the electrical contracting firm it was installed by
- v. Details of the load assessment provided by the *Hydro Tasmania* technician (filled in by the *Hydro Tasmania* technician at the time of assessment)
- vi. The name of the *Hydro Tasmania* technician who assessed the installation (filled in by the *Hydro Tasmania* technician at the time of assessment)
- vii. The date of assessment (filled in by the *Hydro Tasmania* technician at the time of assessment)

i) The *customer* or their *Electrical Contractor* must notify *Hydro Tasmania* before changes are made to the base load of an unmetered supply and request a reassessment of the load by submitting a *EWR*.

## 12.2 Public and Private Contract Lighting

For public lighting connections where a new installation is required from the *distribution network* to the *POS*, you must submit a Public Lighting application through the relevant Local Council.

Public and private contract lighting installations are beyond the scope of these *rules* and only general descriptions are provided below.

Unmetered supply is the normal supply arrangement for lighting in most public roads and streets. Public lighting installations must comply with *Hydro Tasmania* public lighting standards and are owned and maintained by *Hydro Tasmania*. Detailed designs must be submitted by the road lighting authority (usually a local council) to *Hydro Tasmania* for approval prior to construction. *Hydro Tasmania* recovers its maintenance costs through the public lighting tariff.

### 12.2.1 Metered Public Lighting

*Electricity Metered* public lighting is generally associated with character streetscape lighting that does not conform to the *Hydro Tasmania* public lighting system. An *Electricity Metered* public lighting installation is owned and maintained by the lighting authority. It has a defined *POS*, metering point, and *SPD*. *Electricity Metered* public lighting connections are *negotiated* connections and must be approved by *Hydro Tasmania* prior to construction.

# 13.0 Underground (UG), Overhead (OH) or Multiple Tenancy Connection Types

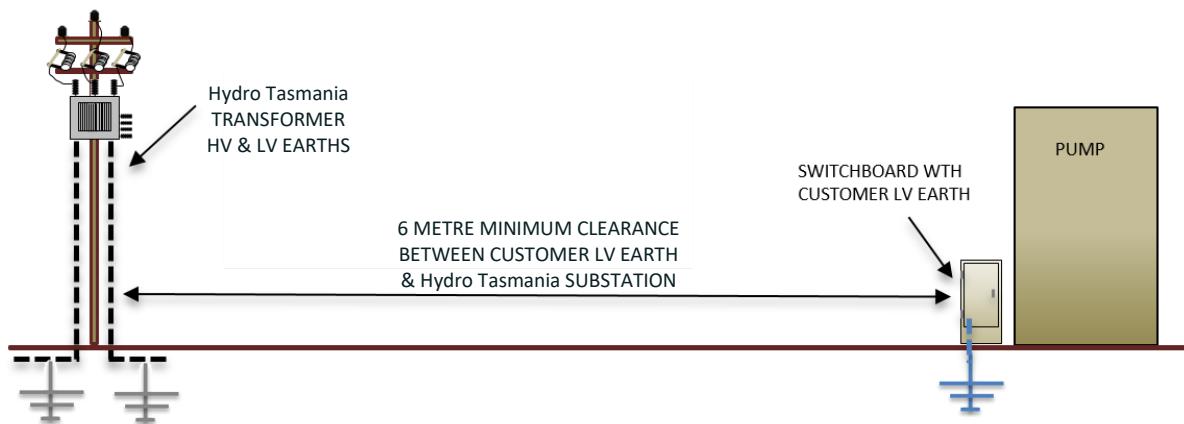
This chapter describes how an *electrical installation* is to be constructed ready for connection to the *Hydro Tasmania distribution network*. There are sections on UG connections, OH connections and connections to *multiple tenancy* sites. There is also information on clearances, span lengths and vegetation management, as well as links to further details on each of these.

## 13.1 General Information

### 13.1.1 Switchboard Requirements

Each Installation must have an *IPD* or *Main Switch* for *multiple tenancy* sites that comply with the Occupational Licensing (Electricity Consumption Metering Installations) Code of Practice on the [CBOS website](#). *Hydro Tasmania* recommends that the *IPD* and *MEN* be in the same switchboard, to enable efficient connection and/ or reconnection.

### 13.1.2 Diagram of Earthing Separation



### 13.1.3 Earthing

All installations required to be earthed must conform to the requirements for the *MEN* system of earthing as detailed in [AS/NZS 3000](#).

- The *Electrical Contractor* is responsible for ensuring the location/ position of *Hydro Tasmania*'s transformers and substations, both existing and proposed new, is known
- A *customer's* LV earthing system, including the switchboard enclosure, must be kept 6m away from a *Hydro Tasmania* pole-mounted substation pole or a ground-mounted substation enclosure, as shown in [Diagram of Earthing Separation](#).
- Conductive mediums, e.g. metallic pipes, concrete reinforcing mesh or metal fencing, including

the Switchboard Enclosure can extend an earthing system's reach and are to be included in clearance distances, if applicable

- d) *Customer's private service poles, LV earths or other metallic structures must be located at least 10m away from any SWER HV earthing system.*

### 13.1.4 Testing

The *Electrical Contractor* who carried-out the *electrical installation* work must perform all necessary tests and ensure that the work complies with the requirements of the [Occupational Licensing Act 2005](#). Refer to [AS/NZS 3000](#) and [AS/NZS 3017](#) for details.

## 13.2 Underground (UG) Connection

### 13.2.1 Installing Consumer Mains in a Hydro Tasmania UG Asset

The *customer's UG Consumer Mains* must be installed through to the turret or cabinet, and be left terminated as per a live connector in [AS/NZS 3000](#), and not actually connected to *Hydro Tasmania* infrastructure. You can only access the turret if you have level 2 *accreditation* from *Hydro Tasmania*.

- a) All *Consumer Mains* cables must be tested and positively identified in accordance with these rules, [Occupational Licensing Act 2005](#), [AS/NZS 3000](#) and [AS/NZS 3017](#)
- b) *Consumer Mains* terminations must be reduced to 25mm<sup>2</sup> to enable connection within a *Hydro Tasmania* turret or cabinet using the standard *service connections* and conduits
- c) *Consumer Mains* cables must have sufficient length above ground (1m) after being pulled through the conduit at the base of the turret or cabinet to allow for connection as per b).

See [Supply Connection Arrangements](#) for descriptions of UG supply arrangements.

### 13.2.2 UG Labelling

All labelling must be in accordance with [AS/NZS 3000](#).

- a) The *customer's* switchboard legend must clearly indicate the *asset ID* where the *POS* is located, and the location of the earthing electrode to enable *Hydro Tasmania* to connect to the *customer's* MEN earth point for testing
- b) The *Consumer Mains* must be labelled clearly to identify active phases and neutral. If the *Consumer Mains* are not colour-coded, use heat shrink sleeving to identify; active as red, white or blue and the neutral as black. Ensure that these colours are UV stabilised for all new installations
- c) The *Consumer Mains* must be permanently labelled at the *POS* end to identify the address of the *customer's* property that the *cable* supplies. Labels must be indelible, legible with letters/numbers no less than 6mm in height, suitable for the environment (i.e. UV stabilised and moisture resistant), located on the cable approximately 250mm from the above ground end of the conduit, and not impact the electrical integrity of the *Consumer Mains*. Examples include, but are not limited to, engraved laminate tags or sleeved tags with appropriate inserts and fixtures
- d) All *cables* not connected must be correctly terminated as per [AS/NZS 3000](#).

### 13.2.3 UG Paralleled Consumer Mains

- a) Paralleled cables are to be reduced to one cable before reaching the *Hydro Tasmania* asset (turret, cabinet, switchboard) which holds the *SPD*
- b) *Consumer Mains* terminations must be reduced to 25mm<sup>2</sup> to enable connection within a *Hydro Tasmania* turret or cabinet using the standard *service connections* and conduits
- c) *Consumer Mains* must be crimped together and sealed with a Raychem heat shrink sleeve, to enable *Hydro Tasmania* to connect the tails into the *SPD*.

### 13.2.4 Consumer Mains Conduit

- a) In a new UG *service* to subdivisions, a 50mm<sup>2</sup> conduit is normally installed from the turret, service box or cabinet to a point 1.5m inside the *customer's* property boundary. This conduit is owned by the *customer* once the *Consumer Mains* are installed, and is procured and installed by *Hydro Tasmania* on their behalf
- b) If no conduit has been installed from the *Hydro Tasmania* UG asset to the *property*, the *Electrical Contractor* is responsible for submitting a *Connection Application* to have *Hydro Tasmania* install a registered conduit from the *Hydro Tasmania* turret, service box or cabinet
- c) If the *Electrical Contractor* is Level 1 or Level 2 *accredited* as per [Authorisation and Accreditation](#), they should ensure that the turret, service box or cabinet has the capacity for additional conduit and note this on the application.

### 13.2.5 Access to Hydro Tasmania Keyed Cabinets or Service Boxes

Access to *Hydro Tasmania* distribution assets is restricted to *Hydro Tasmania authorised representatives*.

- a) Cabinets are secured by a keyed lock
- b) Service boxes are usually wall-mounted or installed on the *customer's* building, and secured either by sealing bolt or keyed lock
- c) Turrets are secured by a lock with a dedicated access tool.

If access is required, an *EWR* is to be submitted to arrange a *tee-up* so that *Hydro Tasmania authorised representatives* can meet on site to provide access.

## 13.3 Overhead (OH) Connection

### 13.3.1 Scaffolding Safety

As per [AS/NZS 4576](#), there must be a minimum clearance of 4m between any metallic or conductive scaffolding and any LV *conductor* or LV *service cable*, and a minimum of 1.5m clearance between any non-conductive scaffolding and any LV *conductor* or LV *service cable*. Refer to the [Safe work Australia - Scaffolding near Overhead Electric Lines Information Sheet](#) and [Hydro Tasmania website - Working near Hydro Tasmania's Assets](#). Important points to note:

- a) The required clearances from OH power lines which includes the assembly and dismantling
- b) Be aware that *authorised* and *unauthorised* persons have different approach distances

- c) Ensure clear access to *Electricity Meter* position, main switchboard and *POA*
- d) Ensure clear communication/ coordination with all parties involved on the worksite.

### 13.3.2 Position of Customer's Connection Assets

- a) If the position of a *customer's OH* or *UG* connection assets adds unnecessary costs to the *Hydro Tasmania distribution system*, the *customer* will be required to pay for any additional *Hydro Tasmania* assets and installation costs.
- b) When connecting to an *OH* supply, a *customer's OH* connection assets must be positioned such that:
  - i. The pole, conductor and service attachment requirements in [Supply Connection Arrangements](#) are met
  - ii. The *service wire* does not cross any third-party *property*, a title boundary or a hazardous area as defined in [AS/NZS 3000](#)
  - iii. Tree clearing is avoided wherever possible
  - iv. Impacts on visual amenity are minimised.
- c) For examples of acceptable *service pole* locations refer to [Supply Connection Arrangements](#)
- d) The maximum distance the *customer's mains box* can be from the *SPD* is 150mm
- e) Any requirement to install a *Hydro Tasmania service pole*, a *private service pole*, or both, will be determined in accordance with [Supply Connection Arrangements](#).

### 13.3.3 Maximum Number of UG Cables on Hydro Tasmania Service Poles

The maximum number of existing plus proposed *UG* cables on a *Hydro Tasmania service pole* must not exceed any of the following limits

- a) Where a *Hydro Tasmania service pole* is on public land:
  - i. One set of 150mm<sup>2</sup> to 240mm<sup>2</sup>, single-phase or multi-phase or
  - ii. Two sets of up to and including 120mm<sup>2</sup>, single-phase or multi-phase
  - iii. One cable per phase
- b) Where a *Hydro Tasmania service pole* is on private land:
  - i. One set of *consumers mains* up to and including 240mm<sup>2</sup> single-phase or multi- phase
- c) Requirements for running *Consumer Mains* up a *Hydro Tasmania service pole* are detailed in [UG Consumer Mains up Hydro Tasmania Service Pole](#).

### 13.3.4 Consumer Mains Cable Point of Supply

This includes pole connections.

- a) All *Consumer Mains* cables must be positively identified and permanently labelled as outlined within [UG Labelling](#)
- b) All cables not connected must be terminated in accordance with [AS/NZS 3000](#).

### 13.3.5 Point of Supply Requirements

#### 100 amps (A) or Less Per Phase

For an OH supply of 100A or less per phase the following requirements apply:

- a) The *POA* must be positioned such that the *service wire* complies with the clearance requirements in [Clearances](#)
- b) The *private service pole* must be positioned in accordance with [Service Pole Arrangements – Hydro Tasmania Supply on Same Side of Road](#) and [Service Pole Arrangements – Hydro Tasmania Supply on Opposite Side of Road](#)
- c) The *POA* must be positioned such that the *service wire* complies with the maximum conductor span lengths in [Appendix E Stringing of Service Conductors - Maximum Spans](#)
- d) The *service attachment* must comply with the requirements in [Mounting a Service Hook, Raiser Bracket or Strut to an Installation](#)
- e) If terminating to a permanent *POA* on a building, the *POA* must be positioned to comply with the Structures and Buildings row within [Clearances](#)
- f) *Private service poles* must comply with the strength, labelling, erection, footing, and attachment height requirements in [Customer Private Service Poles](#).
- g) The *POA* must be positioned such that it can be accessed using a ladder firmly footed on the ground from the outside of the building and with an operating stick, including when over roofed areas as per [Clearances over Roofed Areas](#).

#### Greater than 100 amps (A) Per Phase

For an OH supply of more than 100A per phase, contact *Hydro Tasmania* as listed in [Enquiries](#). A *negotiated* connection will be required.

### 13.3.6 Clearances

*Hydro Tasmania* OH *service wires* must comply with the following clearance requirements:

- a) As below in Table 4 – OH Service Clearance Requirements
- b) Minimum clearance to ground and structures specified in drawings in [Appendix B Minimum Clearances](#)
- c) Minimum clearance to other lines specified in drawing [Clearances between Consumer Mains and Service Poles](#)
- d) Minimum clearance to vegetation as specified in [Vegetation Management](#).

#### Clearance to Ground and Structures

Minimum clearances for *service spans* of 'covered' or 'insulated' conductors or aerial *Consumer Mains* of insulated conductor.

Table 4 - OH Service Clearance Requirements

Clearance Type	Location Description	Direction	Insulated Service Clearance
Roads	At centre of carriageway	Vertically	5.8m*
	At kerb line (bottom of kerb)	Vertically	4.7m*
	At road verge (footpath, nature strip) that is not accessible by vehicles	Vertically	3.0m
	At fence alignment	Vertically	3.0m
	At fence alignment (from top of fence)	Vertically	2.0m
Ground	Private driveways and land traversable by vehicles more than 3m in height (except service stations, farms, caravan parks and other high-risk locations)	Vertically	4.7m*
	Areas not normally accessible to vehicles	Vertically	3.0m
Structures / Buildings	Unroofed terraces, balconies, sun decks, paved areas etc. that are subject to pedestrian traffic only	Vertically	3.0m
	Roofs or similar structure not normally accessible to persons but on which a person may stand (See D-OHD-A044-SD-001 regarding restrictions over roofed areas)	Horizontally	1.0m
	Covered places normally accessible to persons, including for example windows capable of being opened, roofed open verandas and covered balconies	Vertically	2.0m
	Blank walls / windows which cannot be opened	Horizontally	1.0m
	Other structures not normally accessible to persons	In any direction	0.1m
Other High-Risk	Gas Storage Cylinders	In any direction	2.0m
	Swimming pools and spas	Horizontally	1.0m
	Rotary clothes line, Radio/TV antennae	Vertically	Not Permitted
		Horizontally	0.1m

Clearance Type	Location Description	Direction	Insulated Service Clearance
<b>Situations</b>	Areas where trailerable sailing craft, farm machinery and irrigation pipes may be used	Vertically	5.8m*
	Caravan parks	Vertically	5.8m*
	Service station and farm driveways	Vertically	5.8m*
<b>Telecommunications</b>	Telephone or Broadband Communications Cables	Vertically	0.6m
		Horizontally	0.6m

\*Including allowance for sag. Clearance has been increased by an amount equivalent to the sag produced if the conductor operating temperature were to rise to the maximum allowable of 75°C (see [2C 25mm<sup>2</sup> LVABC Service Stringing to Building](#), [3C & 4C 25mm<sup>2</sup> LVABC Service Stringing to Building](#) and [2, 3 & 4 Core 25mm<sup>2</sup> LVABC Stringing Pole to Pole](#).)

### 13.3.7 Conductor Maximum Span Lengths

- a) The conductor spans must comply with the following maximum span requirements:
  - i. For a termination pole, refer to [Maximum Spans for Un-stayed Service Pole](#)
  - ii. For a fascia/raiser bracket, refer to [Maximum Spans for Un-stayed Fascia/Raiser Bracket Termination](#)
  - iii. For an intermediate pole, refer to [Maximum Spans for Un-stayed Intermediate Service Pole 125x125x5mm](#)
- b) Maximum span requirements may also be calculated using the Span Charts in [2C 25mm<sup>2</sup> LVABC Service Stringing to Building](#), [3C & 4C 25mm<sup>2</sup> LVABC Service Stringing to Building](#) and [2, 3 & 4 Core 25mm<sup>2</sup> LVABC Stringing Pole to Pole](#)
- c) Where attachment heights on *Hydro Tasmania* assets are required to determine maximum allowable conductor span length refer to [Appendix D Low Voltage Attachment Heights for Hydro Tasmania Poles](#)

### 13.3.8 Customer Private Service Poles

- a) *Customer private service poles* must comply with the more onerous of [AS/NZS 3000](#) or [AS/NZS 7000](#), and these *rules*. Further details are included in [Appendix C Customer Private Service Pole Requirements](#)
- b) Drawings [OH Services & Customer Private Poles for OH Consumer Mains \(1\)](#) and [OH Services & Customer Private Poles for OH Consumer Mains \(2\)](#) show examples of *service poles* and footings. The preferred *customer private service pole* is a galvanised steel square section set in a concrete foundation, outlined in [Appendix C Customer Private Service Pole Requirements](#).
- c) *Poles* must be rated at 2kN working stress (or 4kN ultimate limit state equivalent) or greater. Any variance to this must have a design completed and approved by *Hydro Tasmania*. Steel poles must be hot-dipped galvanised
- d) *Customer's private service poles* must have treatment at and below ground line to inhibit the corrosion, soft rot or heart rot, whichever is applicable
- e) Timber poles sourced in Tasmania have durability class 3 or 4 and require full-length preservative

treatment for direct contact with soil in accordance with the requirements of [AS/NZS 3818.11](#) and [AS/NZS 1604.1](#)

- f) Welded steel *service poles* are prohibited and must not be used.

### *Labelling Customer Private Service Poles*

- h) The *Customer's private service pole* must be marked permanently at 3,450mm from the butt with the following information:
  - i. Strength rating at tip in kN
  - ii. Required buried depth in mm
  - iii. Species of timber (if a natural wood pole)
  - iv. Date of both pole manufacture and installation
  - v. Height.

### 13.3.9 Mounting a Service Hook, Raiser Bracket or Strut to an Installation

Customer installed *service attachments* must comply with the more onerous of [AS/NZS 3000](#) and [AS/NZS 7000](#), and these *rules*. Further details are in [Appendix F Overhead Service Attachments](#).

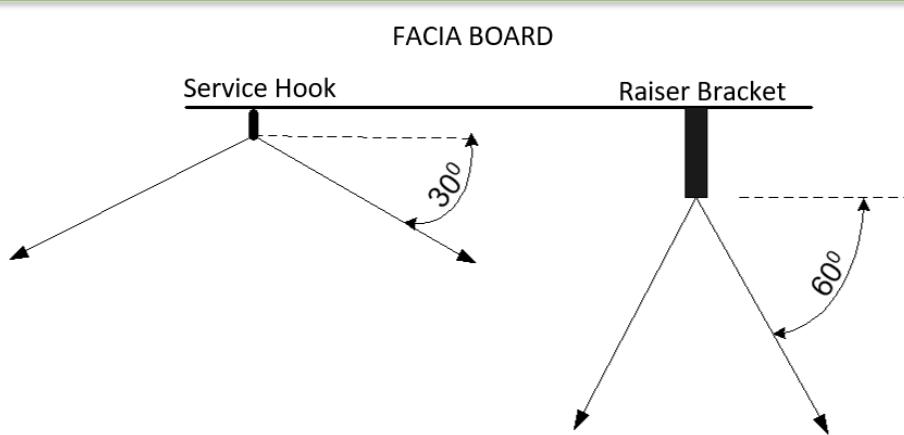
The Raiser brackets shown in [OH Services & Consumer Mains Standard Service Raiser Brackets \(1\)](#) and [OH Services & Consumer Mains Standard Service Raiser Bracket \(2\)](#) are designed and certified as compliant to [AS/NZS 3000](#) and are permitted to be used. Other raiser brackets or attachments may only be used if an engineering certificate is provided with the *EWR* to certify [AS/NZS 3000](#) compliance, and they are suitable for *Hydro Tasmania service* fittings. The raiser bracket or attachment must be installed so that it is adequate in strength to withstand the tension of the *service wire*.

The service attachment on a building fascia must comply with the following requirements and clearances:

- a) Service attachments must be rated at 1 kN or greater
- b) A raiser bracket must be self-supporting (no stay)
- c) Engineered raiser brackets or struts must be RHS steel Dura-gal or hot-dipped galvanised. Angle iron or timber struts must not be used
- d) The angle between the *service wire* or *cable* and the fascia should not be less than 30 degrees for a service connected to the fascia and 60 degrees for a service connected to a raiser bracket, as shown in [Maximum Angle of Service Attachment Diagram](#)
  - a) The clearances from ground, buildings, structures, vegetation and other lines specified in [Clearances](#) and [Appendix B Minimum Clearances](#)
  - b) The maximum span length specified in [Appendix E Stringing of Service Conductors - Maximum Spans](#)
  - c) If a *Hydro Tasmania service pole* can be avoided by the installation of a raiser bracket at the *POA*, then the customer must supply and fit a raiser bracket.

For service replacements where these requirements cannot be met, *Hydro Tasmania* may approve angles outside the standard installation where the span length and stringing tension have been reduced such that *Hydro Tasmania* deems the total force as acceptable based on its calculations. Refer to [How to Connect, Reconnect or Alter](#) section. For further information, contact *Hydro Tasmania* General Enquiries as listed in [Enquiries](#).

### 13.3.10 Maximum Angle of Service Attachment Diagram

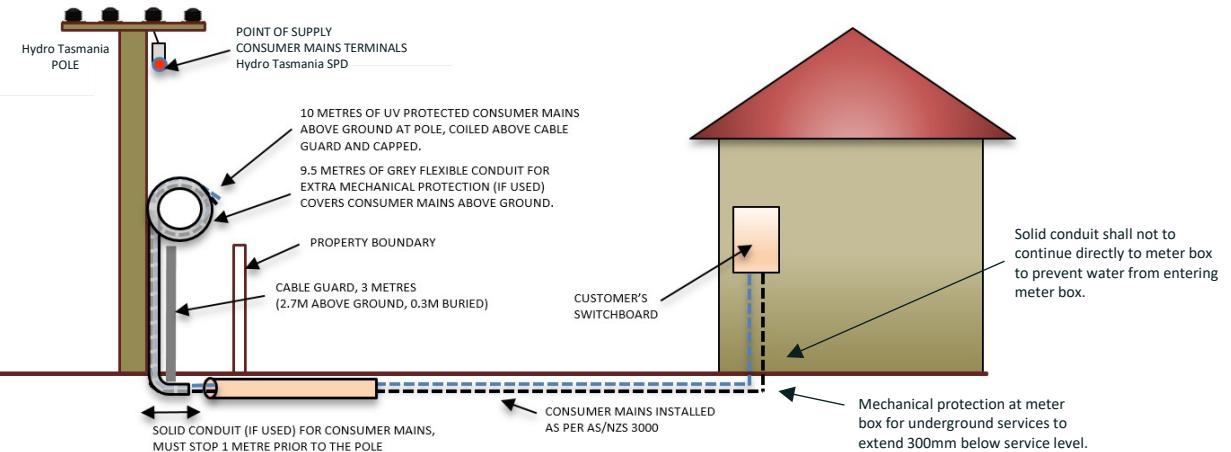


## 13.4 Vegetation Management

- a) Refer to [Hydro Tasmania website - Working near Hydro Tasmania's Assets](#) for full vegetation management requirements
- b) Adequate clearance between vegetation and OH service wires is essential to minimise the risk of fire and to maintain a safe and continuous supply of electricity for *customers*
- c) Each *customer* must, at its own cost, maintain safe clearances between vegetation on the *customer's property* and electrical infrastructure providing supply to the *customer's electrical installation*
- d) Where a new OH service wire is to be installed by *Hydro Tasmania* to connect a *customer* to the *distribution network*, the *customer* requesting the connection must arrange and pay for the clearing of vegetation from the proposed route. This includes the portion of the *service wire* on council land in the road reserve and the portion on the *customer's property*.

## 13.5 Installing UG Consumer Mains on a Hydro Tasmania Service Pole

### 13.5.1 Diagram of UG Consumer Mains up Hydro Tasmania Service Pole



### 13.5.2 UG Consumer Mains up Hydro Tasmania Service Pole

#### Customers must:

- Obtain approval in writing from their local council or authority to cross council or public land to attach *Consumer Mains* to a *Hydro Tasmania service pole*. The *Electrical Contractor* must provide evidence of this approval
- Cover the full cost of removal, replacement, relocating or modifying the attachment of their *Consumer Mains* in the event of *Hydro Tasmania* working-on, maintaining or replacing *Hydro Tasmania service pole*.

#### Customers' Electrical Contractors must:

- Provide evidence to *Hydro Tasmania* of approval from the local Council to cross council land to attach *Consumer Mains* to a *Hydro Tasmania service pole*
- Contact *Hydro Tasmania* before connecting any *Consumer Mains* up poles with a red cross or circle, as these poles are marked for replacement
- Ensure the pole type is suitable for UG *Consumer Mains*. UG *Consumer Mains* up a *Hydro Tasmania service pole* are permitted on wooden, steel (hot-dip galvanised) and fiberglass reinforced concrete poles (e.g. Titan poles) that are not prohibited under [Prohibited Cable Attachments on Certain Hydro Tasmania Pole Types](#)
- Observe all safety procedures associated with excavating and operating equipment in the vicinity of *Hydro Tasmania* assets, as described in [Working On or Near Electricity Assets](#)
- Leave sufficient *Consumer Mains* cable (10m) above ground at the base of the pole to run up to the LV conductors
- Leave *Consumer Mains* terminated as per a live connector in [AS/NZS 3000](#), but not connected to any *Hydro Tasmania* infrastructure. Any fittings required for *Hydro Tasmania* to terminate the *Consumer Mains* into service fitting must be fitted
- Ensure that if a solid conduit is used for the UG *Consumer Mains*, it stops approximately 1m before the *Hydro Tasmania* pole and UV stabilised grey flexible conduit must be used to reach

the pole with extra mechanical protection provided as per [AS/NZS 3000](#). If UV stabilised grey flexible conduit is used, it must be 9.5m from ground level in length to run up to the LV conductors and avoid moisture ingress. UV stabilised grey conduit is not required if XLPE conductors are used or if the cable is larger than 50mm<sup>2</sup>.

- h) Fix the cable to the pole at 1m intervals up to a position of 3m above ground level
  - i. Fixing via stainless self-tapping screws or similar for wood, steel or fibreglass reinforced concrete poles, using stainless steel full (not half) saddles that fit the conduit
  - ii. Fixing via galvanised bands for spun concrete and concrete + steel poles.
- i) Ensure all *Consumer Mains* have UV rated heat shrink to provide protection and to ensure that the cables are colour-coded appropriately as per [AS/NZS 3000](#)
- j) Ensure that if cables equal to or smaller than 50mm<sup>2</sup> (except XLPE) are used, they must be enclosed in UV stabilised grey flexible conduit
- k) Ensure that if XLPE cables are used, they must be installed as per [AS/NZS 3000](#)
- l) Install a cable guard over the *Consumer Mains* 300mm below the ground and 2.7m up the pole (3x900mm not sufficient). Install mechanical protection at both ends as per [AS/NZS 3000](#)
- m) Ensure that if the *Consumer Mains* are too large, as outlined in point n) below, they are reduced to stranded copper or aluminium. This is to be done as per [AS/NZS 3000](#), and *Hydro Tasmania* recommends using a reducing crimp and several layers of heavy-duty heat shrink that is UV stabilized and contains heat activated glue
- n) Ensure that the maximum size of *Consumer Mains* installed into a *SPD* does not exceed:
  - i. 95mm<sup>2</sup> up a pole or OH to a standard *SPD*
  - ii. 150mm<sup>2</sup> up a pole to an ABC box
  - iii. Above 150mm<sup>2</sup> Link fuses will be required.

**Hydro Tasmania must:**

- a) Not connect any *Consumer Mains* up poles to the *distribution network* if the requirements in [UG Consumer Mains up Hydro Tasmania Service Pole](#) above are not met
- b) Connect as per the *Hydro Tasmania* Overhead Construction Standard, including installing a gooseneck in the cable and grey conduit at the pole-top to ensure no water ingress
- c) Only allow *Consumer Mains* up poles that are supplied from a *Hydro Tasmania service* on the same side of the road, as per [Service Pole Arrangements – Hydro Tasmania Supply on Same Side of Road](#)

The above requirements are illustrated in the diagram in [UG Consumer Mains up Hydro Tasmania Service Pole](#).

**Prohibited Arrangements for UG Consumer Mains on a Hydro Tasmania Service Pole**

- a) Prohibited arrangements, including *Hydro Tasmania* pole types and pole attachments not permitted for *Consumer Mains*, are outlined in [Prohibited Cable Attachments on Certain Hydro Tasmania Pole Types](#) and [Other Prohibited Attachments on Hydro Tasmania Poles](#)
- b) The maximum number of conductors must not exceed the limits in specified in [Maximum](#)

#### Number of UG Cables on Hydro Tasmania Service Poles.

### 13.5.3 Parallel Consumer Mains up a Hydro Tasmania Pole

- a) Paralleled cables are to be reduced to one cable before reaching the *Hydro Tasmania* pole which holds the *SPD*
- b) *Consumer Mains* terminations must be reduced to 95mm<sup>2</sup> for connection on *Hydro Tasmania* poles using the standard service connections up the pole
- c) Flexible cable must be reduced to stranded copper or aluminium to enable *Hydro Tasmania* to connect the tails into the *SPD*. This must be done as per [AS/NZS 3000](#), and *Hydro Tasmania* recommends using a reducing crimp and several layers of heavy-duty heat shrink that is UV stabilized and contains heat activated glue.

### 13.5.4 Installing UG Consumer Mains on a Private Service Pole

The *customer's private service pole* and *Consumer Mains* are private assets and part of the *customer's electrical installation*. *Hydro Tasmania* terminates the *service wire* at the top of the first *private service pole, which is the POA*. The *Electrical Contractor* is responsible for the installation of the *Consumer Mains* to the top of the *customer's private pole* ready for *Hydro Tasmania* to terminate into the *SPD*.

### 13.5.5 Multiple Tenancy (Strata/ Stratum) Developments

Includes all OH and UG requirements for single tenancy, with the following adjustments and inclusions:

- a) Connect the *Consumer Mains* to the *Main Switch*
- b) For *multiple tenancy* or multiple NMI sites, the *Main Switch* will be at the main switchboard for the connection point, as per the Occupational Licensing (Electricity Consumption Metering Installations) Code of Practice on the [CBOS website](#).

See diagrams in [Multiple Tenancy \(Strata/ Stratum\) Arrangements](#).

### 13.5.6 Multiple Tenancy Requirements

- a) *Hydro Tasmania* treats all *multiple tenancy* developments as one *electrical installation*
- b) *Hydro Tasmania* will provide one service to a *multiple tenancy* development taking in to account loading & design requirements
- c) The *Hydro Tasmania POS* must be on *Common Property* via either an OH *service wire* or UG *service cable*, subject to site restrictions
- d) All *multiple tenancy electrical installations* must have a main switchboard. This cannot be a turret. A switchboard is more robust, and must be commercially manufactured and designed for purpose
- e) The main switchboard for the development must be installed on *Common Property*. This switchboard will contain the installation *Main Switch* installed before the *Electricity Metering* installation
- f) The *Hydro Tasmania POS* options are:
  - i. A turret or cabinet, preferably located at the boundary with the adjacent block,

subject to site restrictions

- ii. *UG Consumer Mains* up a *Hydro Tasmania* pole to a *customer* main switchboard in *Common Property* (subject to load and cable size)
- iii. *OH service* from a *Hydro Tasmania* pole to a *private service pole* in *Common Property* with the appropriate kN rating.

- g) All *multiple tenancy electrical installations* must have one *Main Switch* and individual *IPDs* that meet the requirements of the Occupational Licensing (Electricity Consumption Metering Installations) Code of Practice on the [CBOS website](#).
- h) *Consumer Mains* cables must not be laid within the roof space, wall cavity or under the floor of the existing dwelling as this is not *Common Property*
- i) If the installation maximum demand requirement is 100A or less, or the connection application has been submitted requesting 100A, the *Main Switch* must be a fixed 100A device not an adjustable one. If it is adjustable device is used it will require a *negotiated* application stating the maximum limit of the device
- j) If the installation draws more than the *Hydro Tasmania SPD* allows and operates the *Hydro Tasmania SPD* due to increased load, the installation will be left disconnected until the issues are rectified.

## 13.6 Energisation Requirements

*Hydro Tasmania* will connect to the *IPD* or *Main Switch* for *multiple tenancy* sites. If the *Electrical Contractor* is not on site to take responsibility for the installation, *Hydro Tasmania* will disconnect the load ends from the *IPD* or *Main Switch* for *multiple tenancy* sites.

## 13.7 Connection to a Substation

### 13.7.1 Hydro Tasmania Substation within the Property

LV connections to a *Hydro Tasmania* substation must comply with the following requirements:

- a) The *UG Consumer Mains* must be attached to the *Hydro Tasmania* connection asset in accordance with [Underground \(UG\) Connection](#)
- b) For an *OH service* wire to a building, as per [Overhead \(OH\) Connection](#)
- c) The main earth conductor connection (including MEN connection) at the main switchboard must not be located behind any panel, door etc. where access requires the removal of *Hydro Tasmania* security seals.

# 14.0 Electricity Supply Requirements

Connecting to *Hydro Tasmania distribution network* may affect the electrical supply of other *customers*. This chapter outlines requirements for both *Hydro Tasmania* and the connecting *customer* to ensure the electrical stability of *Hydro Tasmania distribution network*, and the connection to all *customers*, is maintained.

Supply availability and quality:

- a) The electricity supplied to a *customer's premises* is subject to interruptions in availability and fluctuations and other disturbances that affect supply quality
- b) *Customers* should be aware that some electrical equipment might have inadequate tolerance to variations in the electricity supply. *Customers* should ensure that equipment is protected from extreme voltage fluctuations such as those caused by storms and lighting. The purchase of special protective equipment might be necessary.

## 14.1 Supply Voltages

### 14.1.1 Supply at 230/400 Volt (Low Voltage)

- a) The [TEC](#) requires *Hydro Tasmania* to provide supply at a nominal voltage of 230 volts (V) (phase to neutral) with a steady state average over a 10-minute period of within plus 10% (253V) and minus 6% (216V)
- b) The nominal 50 hertz voltage waveform is sinusoidal but can be modulated by other frequencies for electricity distribution control and communication purposes
- c) In outlying areas, the supply can be from a split single-phase 230/460V three-wire distribution system. The single-phase voltage range is the same as from a 230/400V 4-wire system. Splitting a phase provides two single-phase supplies with a vector of 180 degrees instead of the normal 120 degrees.

### 14.1.2 Supply at High Voltage

Electricity supply can be provided at higher voltages if required. Contact *Hydro Tasmania* General Enquiries as listed in [Enquiries](#) for advice on supply arrangements.

## 14.2 Power Factor

The power factor for the *Customer's electrical installation* must not be less than the relevant value defined in [TEC - Chapter 8](#) as replicated in Table 5 below for connection voltages less than 6.6kV. If the *electrical installation* power factor does not comply with the Table 5, the *customer* must install power factor correction equipment at the *customer's* cost.

Table 5 - Power Factor Range

Maximum demand	Over 100 kVA up to 2 MVA			Over 2 MVA	
	Up to 100 kVA	Min lagging	Min leading	Min lagging	Min leading
Power factor range	0.75	0.8	0.8	0.85	0.85

#### 14.2.1 Rating of Consumer Mains

The *Hydro Tasmania connection agreement* and the NER require that a *customer's electrical installation*, including the *Consumer Mains*, is adequately designed and effectively coordinates with *Hydro Tasmania* electricity supply.

#### 14.2.2 Conductor Size

- a) The *Consumer Mains* conductor size should be selected so that it does not exceed its design limits for the load and that the protection coordinates with the *Hydro Tasmania SPD*
- b) The *Electrical Contractor* is responsible for installing any fittings required to enable *Hydro Tasmania* to connect the *Consumer Mains*. The maximum size of *Consumer Mains* that can be installed into a *SPD* is as follows:
  - i. 25mm<sup>2</sup> at a switchboard
  - ii. 35mm<sup>2</sup> at the turret
  - iii. 95mm<sup>2</sup> up a pole or OH to a standard SPD
  - iv. 150mm<sup>2</sup> up a pole to an ABC box
  - v. Above 150mm<sup>2</sup>, link fuses will be required or appropriate termination lugs.

If *Consumer Mains* are larger than the specified sizes, they will not fit into the standard *SPD* and must be reduced to stranded copper or aluminium. This is to be done as per [AS/NZS 3000](#), and *Hydro Tasmania* recommends using a reducing crimp and several layers of heavy-duty heat shrink that is UV stabilized and contains heat activated glue.

#### 14.2.3 Prospective Fault Current

- a) Prospective fault currents vary depending on the location of a *customer's POS* in the distribution system and the type of assets supplying the *customer*. I.e. the size of transformer, the size and length of *service wire*, and type of *service protection*
- b) The prospective fault current at the connection point is deemed to be 6kA for *service* connections up to 100A single-phase or multi-phase (unless otherwise informed by *Hydro Tasmania*), where a *customer's electrical installation* is supplied from the *distribution network* along a public road or in a rural environment. For *service* connections greater than 100A single-phase or multi-phase, contact *Hydro Tasmania*.

#### 14.2.4 Types of Service Protection Devices (SPDs)

a) Protection devices provided by *Hydro Tasmania* are usually of the type listed in Table 6 below. If *Hydro Tasmania* needs to vary the *SPD* or rating from those listed below, the *customer* may be required to contribute to the cost of alternative protection devices.

Table 6 - Service Protection Device (SPD) Rating

Service capacity required	Protection device type
up to 100A per phase	100A HRC fuse
Above 100A per phase	Refer to <i>Hydro Tasmania</i>

b) The purpose of the *SPD* is to provide short circuit fault protection and prevent detrimental effects to the *distribution network*. The *SPD* is therefore intended to protect the supply side of the *POS*, and is not intended to provide protection for the *customer's* load side of the *POS*.

### 14.3 Electricity Interference

Motor starting, variable speed motors, electric furnaces, welding machines, and other electrical equipment can cause voltage fluctuations or harmonic disturbance to *electrical installations* in the general vicinity.

a) A *customer's* LV *electrical installation* must not cause interference to the electrical supply of other *customers*, specifically:

- The *customer's* *electrical installation* must not cause harmonic voltage distortion exceeding the planning limits specified in [ENA Doc 033](#) – Guideline for Power Quality: Harmonics (as published by Standards Australia) or the site-specific planning allocation if specified by *Hydro Tasmania* in the *customer's* Electricity Connection Contract
- The *customer's* equipment must limit the harmonic current distortion by complying with:
  - [AS/NZS 61000.3.2](#) (equipment input current < 16A per phase)
  - [AS/NZS 61000.3.12](#) (equipment input current > 16A and < 75A per phase)
  - [AS/NZS 61000.3.4](#) (equipment input current > 75A per phase).
- The *customer's* equipment must limit changes, fluctuations or flicker by complying with:
  - [AS/NZS 61000.3.3](#) (equipment rated current < 16A per phase)
  - [AS/NZS 61000.3.11](#) (equipment rated current > 16A and < 75A per phase)
  - [AS/NZS 61000.3.5](#) (equipment rated current > 75A per phase).

b) The loading of a multiphase *electrical installation* must be arranged so that the maximum demand in an active *service conductor* is not more than 25A above the current in any other active *service conductor*, unless explicitly approved by *Hydro Tasmania*

c) The *customer* must arrange to modify or remove the equipment to eliminate the disturbance in the event that the above requirements are not met. *Hydro Tasmania* will disconnect the electricity supply in the event of the *customer* failing to do so

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- d) *Hydro Tasmania* connecting an *electrical installation* or accepting equipment for connection to the electricity supply does not exempt the *customer* from these requirements
- e) LV equipment that has a manufacturer's compliance certification to **AS/NZS 61000.3** provides the best guidance for acceptable connection. However, use of equipment with this certification does not guarantee that an overall *electrical installation* will comply with the voltage distortion limits outlined above.

# 15.0 Hydro Tasmania Electricity Metering

This chapter describes the responsibilities of *Hydro Tasmania* and the *customer* in regards to *Electricity Meters*, and outlines alteration, addition and access requirements. *Hydro Tasmania* aligns with the Occupational Licensing (Electricity Consumption Metering Installations) Code of Practice on the [CBOS website](#).

## 15.1 General Information

All metering panels must comply with the [Electricity Consumption Metering Safety Requirements \(Tasmania\) 2017 v1.0 \(cbos.tas.gov.au\)](#) and any advisory notes.

- a) *Customers* are responsible for ensuring that *Electricity Metering* equipment installed on their property is not damaged or interfered with
- b) Existing and new *Electricity Meter* panels are owned and maintained by *Hydro Tasmania*
- c) A meter enclosure shall be installed at a height that allows:
  - the top edge of the actual meter/s to be no higher than 2000mm, and
  - the bottom edge of the meter no lower than 600mm.
- d) Meter box height is stipulated for new work, if outside of these heights written approval from HT is required. Consideration will be given for existing installations recessed into external cladding.
- e) The whole of King and Flinders Islands are considered a seaside location, as such all new metering enclosures shall be made of stainless steel or plastic.

### 15.1.1 Separation from Distribution Infrastructure

*Electricity Metering* equipment must not be mounted on *Hydro Tasmania* infrastructure unless approved by *Hydro Tasmania*. For specifics of earthing and clearances, see [Earthing](#)

### 15.1.2 Existing Electricity Metering Installation Alterations and Additions

- a) *Hydro Tasmania* is the Metering Service Provider on King and Flinders Island and installs *Electricity Metering* equipment as defined in the [NER - Chapter 7](#) and associated metrology procedures and standards on *Electricity Meter* panels.
- b) Installation of *customer* owned equipment on *Hydro Tasmania* owned *Electricity Meter* panels requires written consent from *Hydro Tasmania*
- c) Existing current transformers must be relocated to the *customer* side of the *Main Circuit breaker*, as per the Occupational Licensing (Electricity Consumption Metering Installations) Code of Practice on the [CBOS website](#), upon replacement or upgrade of the switchboard
- d) Wooden *Electricity Meter* panels must either be replaced or made fire proof when *Electricity Metering* equipment is installed

### 15.1.3 Maintenance

Hydro Tasmania will maintain *Electricity Metering* equipment owned by Hydro Tasmania. Maintenance of *Hydro Tasmania Electricity Meters* is only to be done by Hydro Tasmania or an authorised Electrical Contractor working on behalf of Hydro Tasmania.

#### 15.1.4 Load Control Equipment Ownership and Maintenance

When an advanced *Electricity Meter* is installed on a single or a *multiple tenancy electrical installation*, the load control devices and the contactors become the *Metering Provider's* responsibility.

#### 15.1.5 Location of Customer's Equipment

*Customer's* equipment, including load limiting devices, cannot be installed on *Hydro Tasmania* owned *Electricity Meter* panels. *Hydro Tasmania* will not maintain or repair *Electricity Meter* panels with *customer's* equipment installed on the *Electricity Meter* panel.

#### 15.1.6 Unacceptable Access Conditions for Hydro Tasmania Electricity Meters

- a) *Hydro Tasmania* will not permit *Hydro Tasmania Metering* equipment to be located where access cannot be guaranteed. If *Electricity Metering* equipment is enclosed without *authorisation*, then the *customer* must remove the enclosure or lock, or contact the electricity retailer and have an advanced meter installed
- b) Where *customers* have private locks on enclosures, gates or doors giving direct access to *Hydro Tasmania Electricity Metering* position, existing arrangements where *Hydro Tasmania* has previously accepted a key must remain until the lock is changed. Then, only a *Hydro Tasmania* standard master keyed lock must be used if security is required
- c) *Hydro Tasmania* requires uninhibited access to *Electricity Metering* equipment for emergency scenarios, to ensure the safety of all *customers* and the *distribution network*.

#### 15.1.7 Current Transformer Equipment Supply

Current transformer equipment (fuses, cable, links etc.) will not be supplied by *Hydro Tasmania* and is the responsibility of the *Metering Provider*.

#### 15.1.8 High Voltage Electricity Metering

HV *Electricity Metering* is the responsibility of the *Electricity Retailer's Metering Provider*.

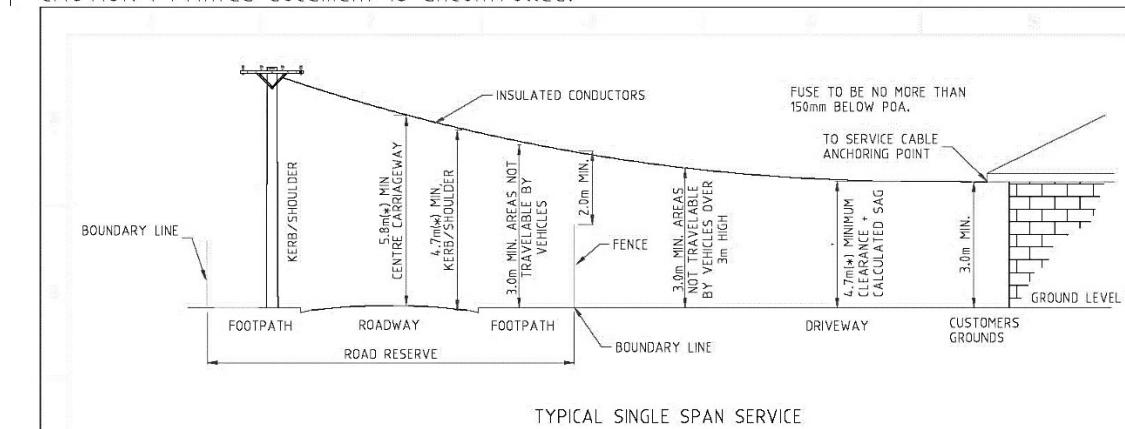
# 16.0 Appendix A Abbreviations

Abbreviation	Term
A	Ampere (amp)
ABC	Aerial Bundled Conductor
AEMC	Australian Energy Market Commission
CBL	Conductor designated Breaking Load
CEC	Certificate of Electrical Compliance
°C	Degrees Celsius
EC	Electrical Contractor
ENA	Energy Networks Association
EWR	Electrical Works Request
HV	High voltage
IPD	Installation protection device
kN	Kilo-Newton
LV	Low voltage
MEN	Multiple earthed neutral
MP	Metering Provider
NNC	Notice of Non-compliance
NECF	National Energy Customer Framework
NER	National Electricity Rules
NMI	National Metering Identifier
OH	Overhead
POA	Point of Attachment
POS	Point of Supply
RHS	Rectangular Hollow Section (steel)
SHS	Square Hollow Section (steel)
SIR	Service and Installation Rules
SPD	Service Protection Device
SWER	Single Wire Earth Return
TEC	Tasmanian Electricity Code
UG	Underground
V / kV	Volt / Kilovolt

# 17.0 Appendix B Minimum Clearances

## 17.1.1 Services Clearances from Ground and Structures

CAUTION : Printed document is uncontrolled.



### NOTES

1. ALL DIMENSIONS SHOWN ARE MINIMUM CLEARANCES IN METRES. TO WHICH A CONDUCTOR MAY SWING OR SAG.
2. WHEREVER POSSIBLE SERVICES SHOULD BE LOCATED TO AVOID DRIVEWAYS ON CUSTOMER'S PROPERTY DUE TO HIGHER CLEARANCE REQUIREMENTS.
3. A CONDUCTOR "Drip Loop" OF NOT MORE THAN 150mm IS REQUIRED BELOW THE POINT OF ATTACHMENT.
4. NORMAL TERMINATING SPAN TO BE TWISTED INSULATED CONDUCTOR NO GREATER THAN 46m FDR 2c 25mm<sup>2</sup> LVABC AND 33m FOR 4c 25mm<sup>2</sup> LVABC.

\* INCLUDED ALLOWANCE FOR SAG.

EMF/PDF CREATION DATE 02/NOV/2021

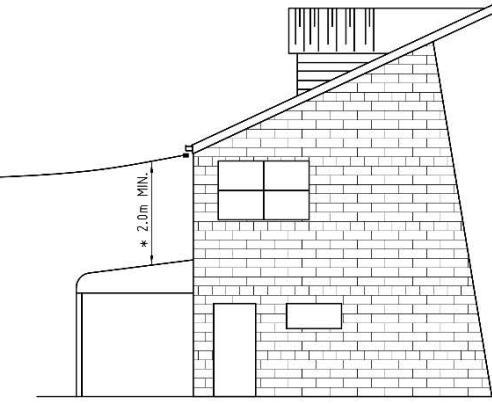
REFERENCE DRAWINGS  
D-OHC-A040-SD-001 & D-OHC-A040-SD-002

TYPICAL SERVICE CLEARANCES FROM A BUILDING

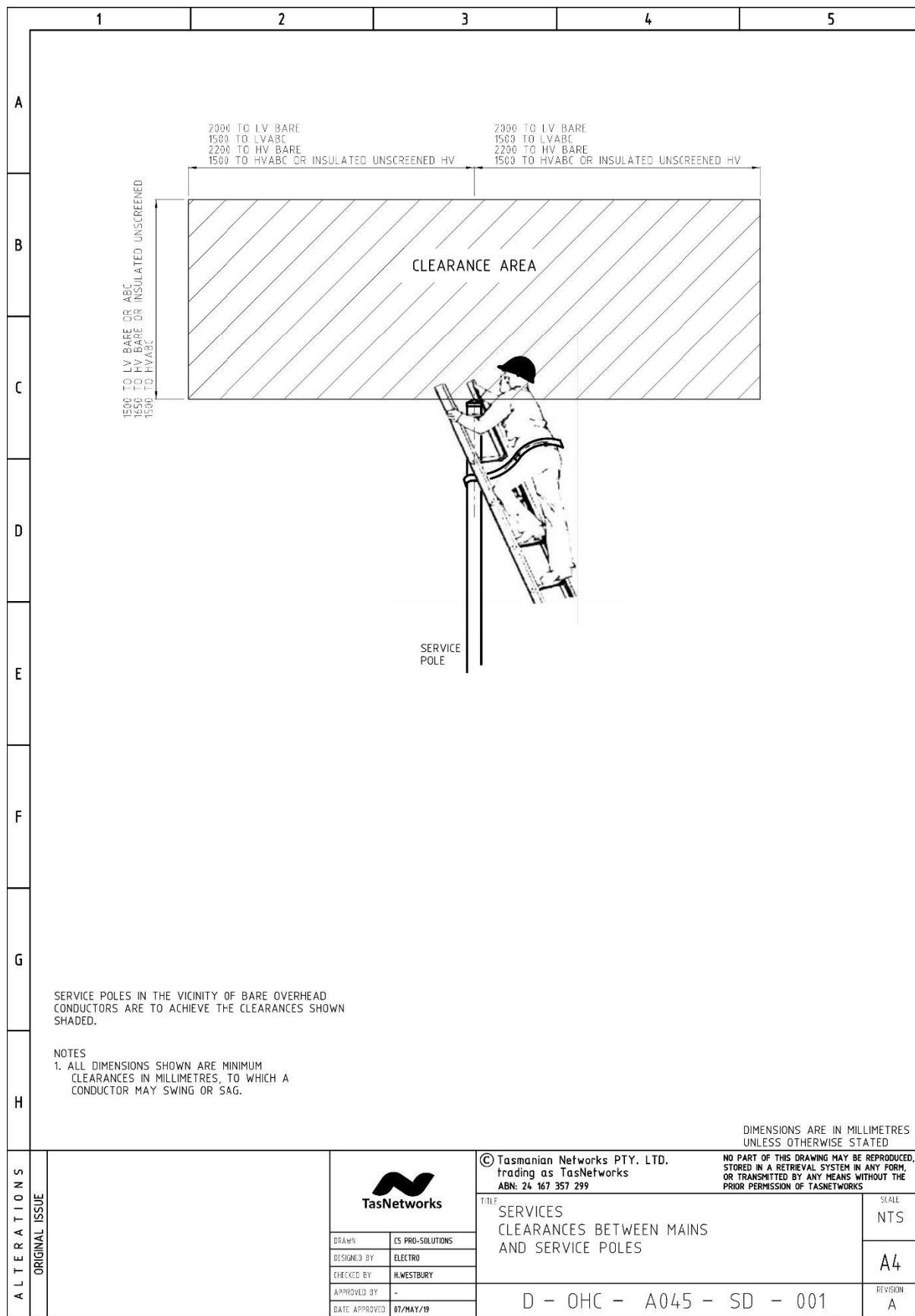


## 17.1.2 Clearances over Roofed Areas

**CAUTION : Printed document is uncontrolled.**

	1	2	3	4	5																				
<b>A</b> <b>B</b> <b>C</b> <b>D</b> <b>E</b> <b>F</b> <b>G</b> <b>H</b>	 																								
	<b>SERVICES OVER ROOFED-AREAS ARE RESTRICTED TO APPLICATIONS THAT ARE UNAVOIDABLE BECAUSE LINESPERSONS MAYBE PLACED IN POTENTIALLY UNSAFE SITUATIONS WHEN SERVICE REPAIRS ARE REQUIRED EG:</b>																								
	LINESPERSONS COULD BE FORCED TO WORK FROM AN EARTHED PLATFORM (METAL ROOF) INSTEAD OF AN INSULATED PLATFORM (EWP OR LADDER).																								
	VERANDAHS MAY NOT BE STRUCTURALLY SOUND.																								
	DAMAGE MAY BE SUSTAINED TO THE ROOF AREA WHEN ACCESS IS REQUIRED.																								
	SERVICE CONDUCTOR MAY COME IN CONTACT WITH THE ROOF DUE TO CONDUCTOR MOVEMENT DUE TO SEVERE WIND CONDITIONS.																								
	<b>SERVICE OVER ROOFED AREAS ARE ONLY PERMITTED WHEN ALL THE FOLLOWING CONDITIONS ARE MET:</b> <ol style="list-style-type: none"> <li>1. THE SERVICE ROUTE OVER THE ROOF IS UNAVOIDABLE, AND</li> <li>2. THE POINT OF ATTACHMENT AND SERVICE FUSE(S) MUST BE ACCESSIBLE FROM A LADDER FIRMLY FOOTED ON THE GROUND, AND</li> <li>3. SERVICE FUSE(S) MUST BE ACCESSIBLE DIRECTLY FROM GROUND LEVEL TO ENABLE DISCONNECTION OF SUPPLY BY FUSE STICKS.</li> </ol> <p>* THE MINIMUM CLEARANCE BETWEEN THE ROOF AND THE SERVICE LINE IS 2.0M AFTER SAG AND CABLE SWING IS TAKEN INTO CONSIDERATION. EG VERTICAL CLEARANCE OVER A ROOF SITUATED UNDER THE CENTRE OF A 46M SPAN OF 25MM<sup>2</sup> 2 CORE AL XLPE, WILL NORMALLY MEAN A VERTICAL CLEARANCE OF 2.3M AT A STRINGING TEMPERATURE OF 15°C.</p> <p>THE WIRING CONNECTING TASNETWORKS AERIAL SERVICE CONDUCTORS TO THE CUSTOMERS INSTALLATION IS REQUIRED TO BE AT LEAST ARMS LENGTH, (NOMINALLY 2.5M VERTICALLY 1.25M HORIZONTALLY) FROM GROUND OR ELEVATED AREA. REFER TO AS/NZS WIRING RULES 3000 FIG 1.1.</p>																								
<b>EMF/PDF CREATION DATE</b> 16/APR/19	<b>BM DWG NO</b> D - OHD - A044 - SD - 001																								
<b>ALTERATIONS</b> ORIGINAL ISSUE	<b>BM REV A</b>																								
<b>NOTES</b> 1. THIS DRAWING IS INCLUDED IN THE SERVICE AND INSTALLATION RULES.						 <b>TasNetworks</b>  <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">DRAWN BY</td> <td style="width: 25%;">CS PRO-SOLUTIONS</td> <td style="width: 50%;">TITLE</td> </tr> <tr> <td>DESIGNED BY</td> <td>ELECTRO</td> <td>CLEARANCE OVER ROOFED AREAS</td> </tr> <tr> <td>CHECKED BY</td> <td>H.WESTBURY</td> <td></td> </tr> <tr> <td>APPROVED BY</td> <td>-</td> <td>SCALE</td> </tr> <tr> <td>DATE APPROVED</td> <td>16/APR/19</td> <td>NTS</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">D - OHD - A044 - SD - 001</td> <td style="width: 50%; text-align: center;">A4</td> </tr> <tr> <td colspan="2" style="text-align: center;">REVISION A</td> </tr> </table>	DRAWN BY	CS PRO-SOLUTIONS	TITLE	DESIGNED BY	ELECTRO	CLEARANCE OVER ROOFED AREAS	CHECKED BY	H.WESTBURY		APPROVED BY	-	SCALE	DATE APPROVED	16/APR/19	NTS	D - OHD - A044 - SD - 001	A4	REVISION A	
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<b>DWG STATUS</b>						<b>CONSTRUCTION</b>																			

### 17.1.3 Clearances between Consumer Mains and Service Poles



# 18.0 Appendix C Customer Private Service Pole Requirements

- a) *Private service poles* must comply with the more onerous of [AS/NZS 3000](#) or [AS/NZS 7000](#)
- b) Drawings [OH Services & Customer Private Poles for OH Consumer Mains \(1\)](#) and [OH Services & Customer Private Poles for OH Consumer Mains \(2\)](#) below show examples of *service poles* and footings. The preferred *private service pole* is a galvanised steel square section set in a concrete foundation
- c) The nature of the pole foundation is dependent on the soil type into which the pole is being erected and these drawings are provided as a guide rather than a design to fit all situations
- d) As an example, the technical details of preferred *private service pole* are:

- i. Galvanized Steel 125x125x5.0 SHS Grade 350

LENGTH (m)	TIP STRENGTH (kN)			Sinking Depth (m)	Tip Height (m)	Nom. Windage Resolved to Tip (kN)
	Nominal Working Stress	ULS	Max. Wind Limit State			
8.0	2.0	4.0	3.60	1.4	6.6	0.62

- ii. The limit state tip strength shown is inclusive of all loads including, conductor forces and windage on the pole itself and all attachments.

## 18.1.1 Design Criteria for Customer Private Service Poles

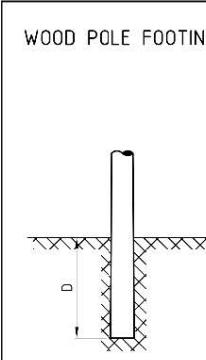
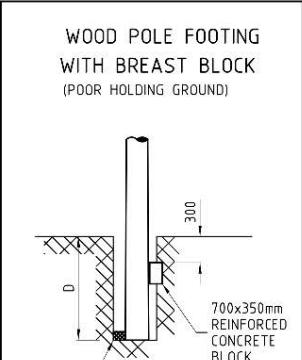
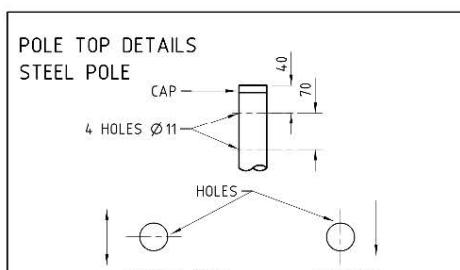
*Private service poles* must be designed in accordance with the following criteria: (refer [AS/NZS 7000](#))

- a) *Customer private service poles* must be rated at 2kN or greater. Any variance to this must have a design completed and approved by *Hydro Tasmania*
- b) Proprietary service connections or raiser brackets must be rated at 1kN or greater
- c) Ground clearance must be based on an initial conductor stringing at 5.6% of the conductor's designated breaking load (CBL) at 5°C and a conductor operating temperature of 75°C
- d) Pole-top force must be based on:
  - iii. 500Pa wind force at 15°C on conductor
  - iv. 1200Pa wind force on square pole
  - v. The effect of pole wind loading on the resultant conductor loading must be equivalent to the resultant conductor force for an intermediate pole and perpendicular to conductor force on an un-stayed termination pole
  - vi. Clamping force on the conductor's insulation must not exceed 28% of the CBL.

## 18.1.2 OH Services & Customer Private Poles for OH Consumer Mains (1)

	1	2	3	4	5																																									
A																																														
B	ACCEPTABLE POLE TYPES AND STRENGTHS																																													
	POLE LENGTH (m)	POLE TYPE	MINIMUM GIRTH (mm)		DEPTH IN GROUND 'D' (m)	HEIGHT OF POLE ABOVE GROUND (m)	MAX. ALLOWABLE HORIZONTAL FORCE AT POLE TOP (kN)																																							
			AT TOP	2m FROM BUTT (OVER SAPWOOD)																																										
C	8.0	GALVANISED STEEL 125x125x5.0 SHS GRADE 350	-	-	1.4	6.6	2.0																																							
	8.0	P.I. HARDWOOD (4kN)*	635	810	1.5	6.5	4.0																																							
	8.0	P.I. HARDWOOD (6kN)*	635	900	1.5	6.5	6.0																																							
	9.0	P.I. HARDWOOD (4kN)*	635	860	1.5	7.5	4.0																																							
	9.0	P.I. HARDWOOD (6kN)*	750	975	1.65	7.35	6.0																																							
	10.5	P.I. HARDWOOD (4kN)*	655	920	1.65	8.85	4.0																																							
	10.5	P.I. HARDWOOD (6kN)*	775	1040	1.8	8.7	6.0																																							
	12.0	P.I. HARDWOOD (4kN)*	675	975	1.8	10.2	4.0																																							
	12.0	P.I. HARDWOOD (6kN)*	800	1100	1.8	10.2	6.0																																							
D	<p>* MAX WORKING STRENGTH, NOT TO BE CONFUSED WITH NOMINAL BREAKING LOAD OR LIMIT STATE STRENGTH.</p>																																													
E	<p>NOTE</p> <p>THE CUSTOMER MAY SINK THE HOLE AND ERECT THE POLE, BUT AN INSPECTION OF THE POLE AND THE HOLE WHEN DUG TO FULL DEPTH WILL BE MADE BY THE ELECTRICAL CONTRACTOR BEFORE THE POLE IS ERECTED, TO ENSURE THAT THE POLE AND THE HOLE COMPLY WITH THIS STANDARD. THE DATE OF ERECTION SHALL BE MARKED ON THE POLE.</p> <p>A PRIVATE POLE THAT IS NOT INCLUDED IN THE ABOVE LIST IS NOT PERMITTED UNLESS IT HAS BEEN CERTIFIED BY A RECOGNISED STRUCTURAL ENGINEER SPECIALISING IN WOOD POLE STRENGTHS. THE ENGINEER SHALL SPECIFY THE FOLLOWING:</p> <ol style="list-style-type: none"> <li>1. THE MINIMUM DIAMETER AT GROUND LEVEL AND AT THE POLE TOP.</li> <li>2. THE STRENGTH RATING OF THE POLE (NOMINATED IN kN AT THE TIP, MARKED PERMANENTLY ON THE POLE AT 3450mm FROM THE BUTT.) THE RATING SHOULD BE IDENTIFIED AS EITHER THE MAX. WORKING STRENGTH, BREAKING LOAD OR LIMIT STATE STRENGTH.</li> <li>3. THE WALL THICKNESS FOR STEEL POLES (STEEL TO BE GALVANISED)</li> <li>4. THE REQUIRED BURIED DEPTH. (A MARK IS TO PERMANENTLY LABELLED AT 3450MM FROM THE BUTT)</li> <li>5. THE SPECIES OF TIMBER IF A NATURAL WOOD POLE IS USED ( PERMANENTLY MARKED ON THE POLE)</li> <li>6. THE MINIMUM RIM THICKNESS OF WOOD FOR A SAFETY FACTOR OF 2.5, 1.5 AND 1.0</li> <li>7. THE TREATMENT AT AND BELOW GROUND LINE TO INHIBIT THE PROMOTION OF CORROSION, SOFT ROT AND HEART ROT (WHICHEVER IS APPLICABLE)</li> </ol>																																													
G																																														
H	<p style="text-align: right;">DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="2" style="width: 10%;">ALTERATIONS</td> <td rowspan="2" style="width: 10%;">ORIGINAL ISSUE</td> <td rowspan="2" style="width: 30%; text-align: center;">  </td> <td colspan="2" style="width: 40%; text-align: center;"> <small>© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299</small> </td> <td colspan="2" style="width: 20%; text-align: center;"> <small>NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS</small> </td> </tr> <tr> <td style="width: 10%; text-align: center;">DRAWN BY</td> <td style="width: 10%; text-align: center;">CS PRO-SOLUTIONS</td> <td style="width: 10%; text-align: center;">DESIGNED BY</td> <td style="width: 10%; text-align: center;">ELECTRO</td> <td style="width: 10%; text-align: center;">CHECKED BY</td> <td style="width: 10%; text-align: center;">H.WESTBURY</td> </tr> <tr> <td style="text-align: center;">APPROVED BY</td> <td style="text-align: center;">-</td> <td colspan="4" style="text-align: center;">SERVICES CUSTOMER POLES</td> <td style="text-align: center;">SCALE</td> </tr> <tr> <td style="text-align: center;">DATE APPROVED</td> <td style="text-align: center;">07/MAY/19</td> <td colspan="4"></td> <td style="text-align: center;">NTS</td> </tr> <tr> <td colspan="4"></td> <td colspan="2" style="text-align: center;">D - OHC - A019 - SD - 001</td> <td style="text-align: center;">A4</td> </tr> <tr> <td colspan="4"></td> <td colspan="2"></td> <td style="text-align: center;">P95/01 A</td> </tr> </table>					ALTERATIONS	ORIGINAL ISSUE		<small>© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299</small>		<small>NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS</small>		DRAWN BY	CS PRO-SOLUTIONS	DESIGNED BY	ELECTRO	CHECKED BY	H.WESTBURY	APPROVED BY	-	SERVICES CUSTOMER POLES				SCALE	DATE APPROVED	07/MAY/19					NTS					D - OHC - A019 - SD - 001		A4							P95/01 A
ALTERATIONS	ORIGINAL ISSUE		<small>© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299</small>		<small>NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS</small>																																									
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						P95/01 A																																								

### 18.1.3 OH Services & Customer Private Poles for OH Consumer Mains (2)

	1	2	3	4	5
A	NOTES  THE STEEL SECTIONS LISTED IN THE TABLE ARE TO BE CONTINUOUS LENGTHS WITHOUT JOINS AND ARE TO BE DIRECT BURIED TO SPECIFIED DEPTH SET IN CONCRETE AS SHOWN BELOW.  ALTERNATIVE STEEL SECTIONS HAVING EQUIVALENT STRENGTH IN ALL DIRECTIONS TO THE LISTED POLES, MAY BE USED SUBJECT TO APPROVAL AND RECEIPT OF A CERTIFICATE FROM A REGISTERED STRUCTURAL ENGINEER. THE FOLLOWING ARE NOT PERMITTED:- FABRICATED STEEL POLES BASE PLATE MOUNTED STEEL POLES ALL STEEL PLATES ARE TO BE GALVANISED IN ACCORDANCE WITH AS4680.				
B	TO CONFORM TO AS4677 STEEL UTILITY POLES, THE POLE SHALL HAVE THE FOLLOWING DETAILS PERMANENTLY ETCHED/FIXED TO THE POLE IN A MINIMUM OF 5mm HIGH LETTERING (1) MANUFACTURERS IDENTIFICATION (2) YEAR OF MANUFACTURE (3) POLE LENGTH/MASS m/kg (4) MAXIMUM TOP LOAD kN (5) A DEPTH MARKER 3m FROM THE BUTT END				
C	WOOD POLES A) PRESSURE IMPREGNATED WOOD POLES:- ALL P.I. WOOD POLES SHALL COMPLY WITH TASNETWORKS SPECIFICATIONS. B) THE USE OF GROWING, DEAD OR 'RINGED' TREES AS POLES IS PROHIBITED. C) POLE DIMENSIONS:- THE DIMENSIONS OF THE POLE SHALL BE IN ACCORDANCE WITH THE TABLE ON DRG D-OH1-0356-SD-001. D) SECOND HAND POLES:- RECOVERED POLES GREATER THAN 15 YEARS OF AGE SHALL NOT BE USED E) DATE OF ERECTION TO BE STAMPED ON LETTER 'P' FIXED TO POLE.				
D					
E					
F	WOOD POLE FOOTING 	WOOD POLE FOOTING WITH BREAST BLOCK (POOR HOLDING GROUND) 	POLE TOP DETAILS STEEL POLE 	STEEL POLE FOOTING CORROSION PREVENTIVE TAPE (DENSO OR EQUIVALENT) CONCRETE SLOPED FOR DRAINAGE 5:2.5:1 CONCRETE MIX 100mm MINIMUM RADIAL THICKNESS AROUND POLE. *  * MAY BE REDUCED TO 65mm WHEN A CYLINDER OF ARC MESH (F42 MIN) OR SIMILAR IS CENTRALLY LOCATED IN THE CONCRETE FOR THE FULL DEPTH OF HOLE.	
G					
H					
					DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED
ALTERATIONS	ORIGINAL ISSUE		 <b>CUSTOMER POLES</b>	<b>© Tasmanian Networks PTY. LTD.</b> <b>trading as TasNetworks</b> <b>ABN: 24 167 357 299</b>	<small>NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS</small>
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# 19.0 Appendix D Low Voltage Attachment Heights for Hydro Tasmania Poles

## 19.1.1 Extract from the Overhead Design and Construction Standard.

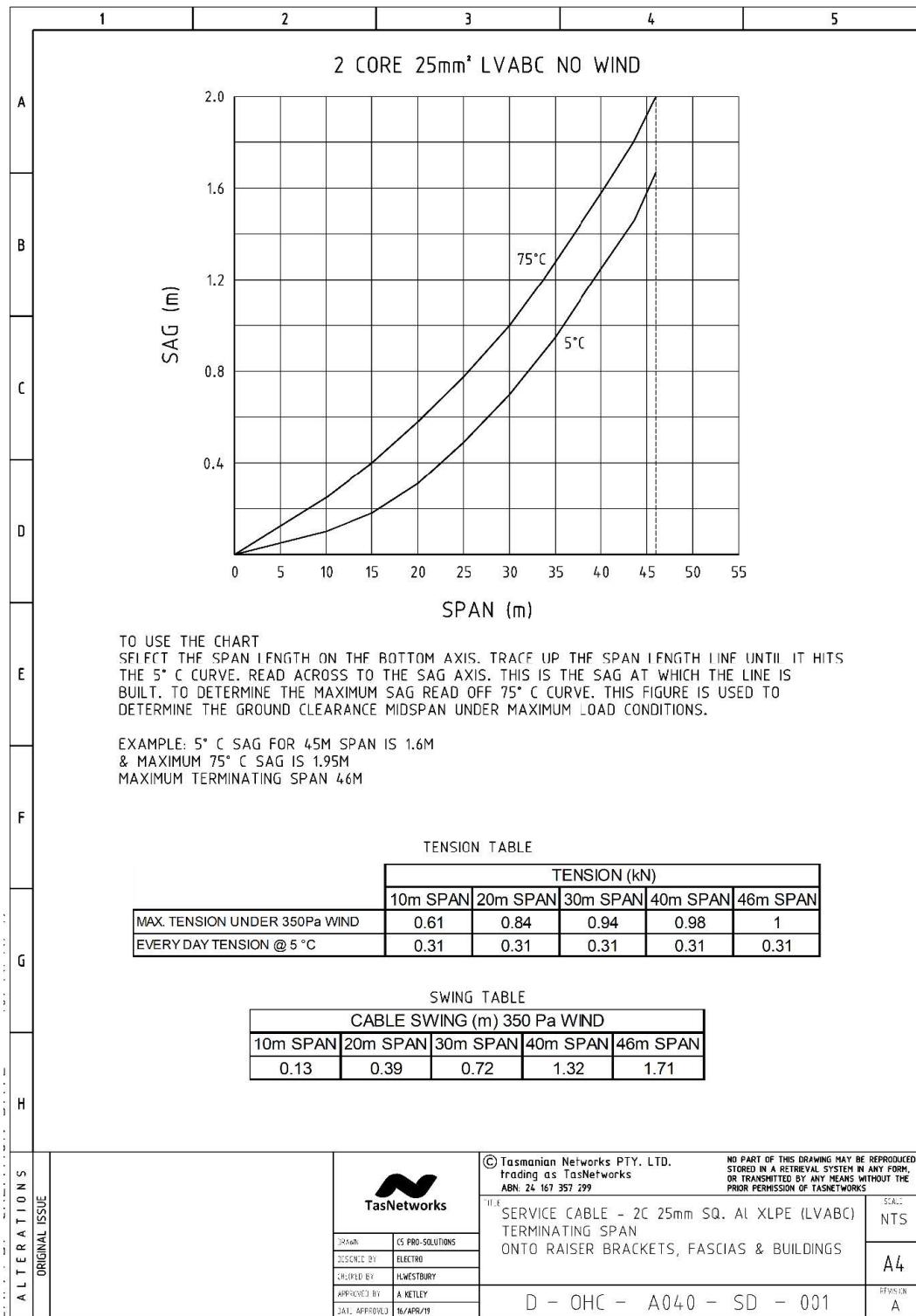
Hydro Tasmania Pole	Pole Assets	Approx. Height from Pole Top	Pole Depth in Ground	Low Voltage Attachment Height Above Ground
(m)		(m)	(m)	(m)
8.0 SHS	LV ABC	0.15	1.4	6.5
9.0	Bare LV	0	1.5	7.5
9.0	LV ABC	0.15	1.5	7.3
10.5	Bare LV	0	1.7	8.8
10.5	LV ABC	0.15	1.7	8.7
10.5	HV + Bare LV	1.4	1.7	7.4
10.5	HV + LV ABC	1.4	1.7	7.4
12.0	HV + Bare LV	1.4	1.8	8.8
12.0	HV + LV ABC	1.4	1.8	8.8
12.0	HV + 10-50 kVA Transformer + Bare LV	3.1	1.8	7.1
12.0	HV + 10-50 kVA Transformer + LV ABC	3.3	1.8	6.9
12.0	HV + 300 kVA Transformer + Bare LV	4.1	1.8	6.1
12.0	HV + 300 kVA Transformer + LV ABC	4.1	1.8	6.1

These heights shown are approximate and do not apply for all *Hydro Tasmania* poles as local conditions may require differing heights for *Hydro Tasmania* assets.

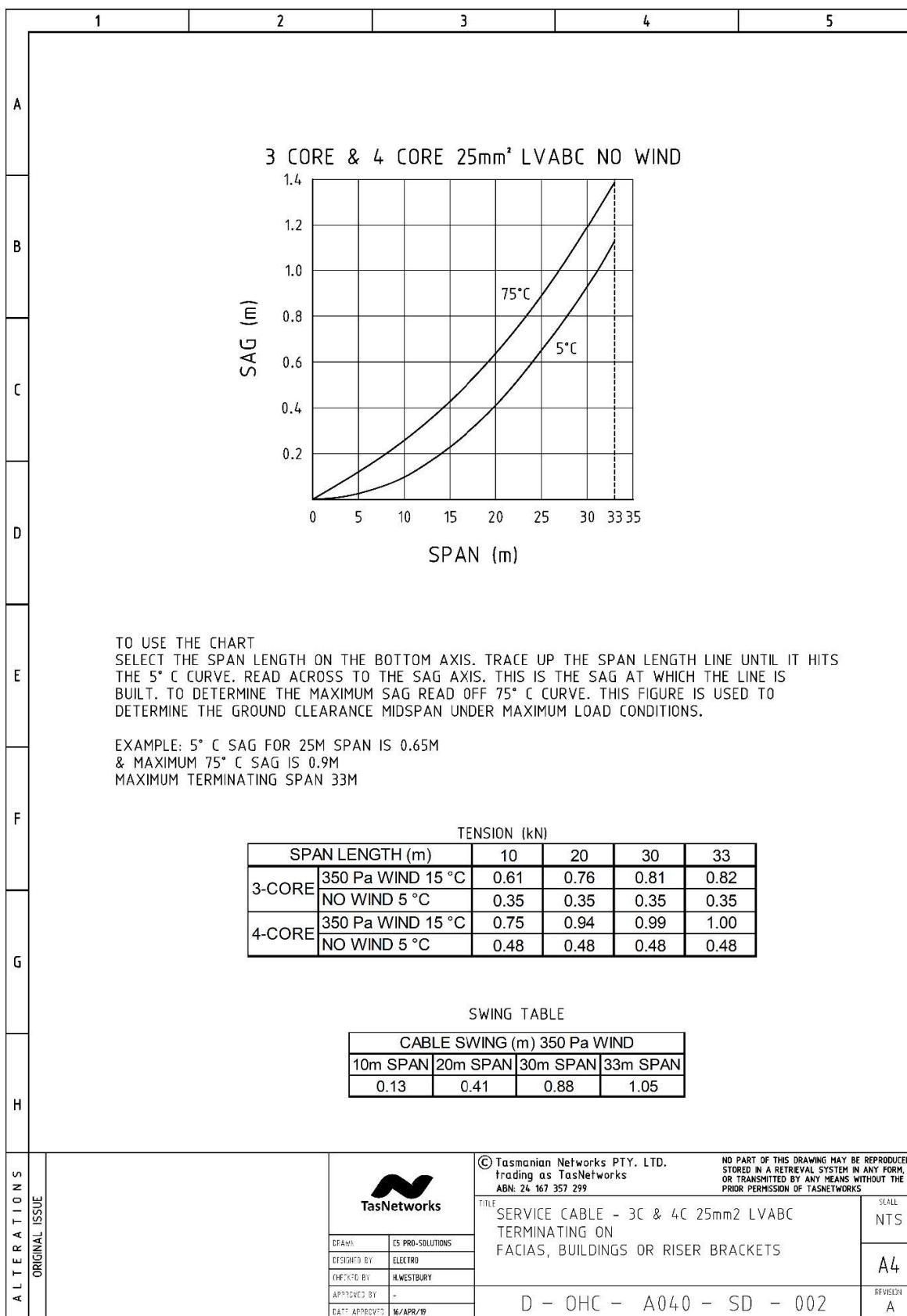
# 20.0 Appendix E Stringing of Service Conductors - Maximum Spans

Extract from the Overhead Design and Construction Standard.

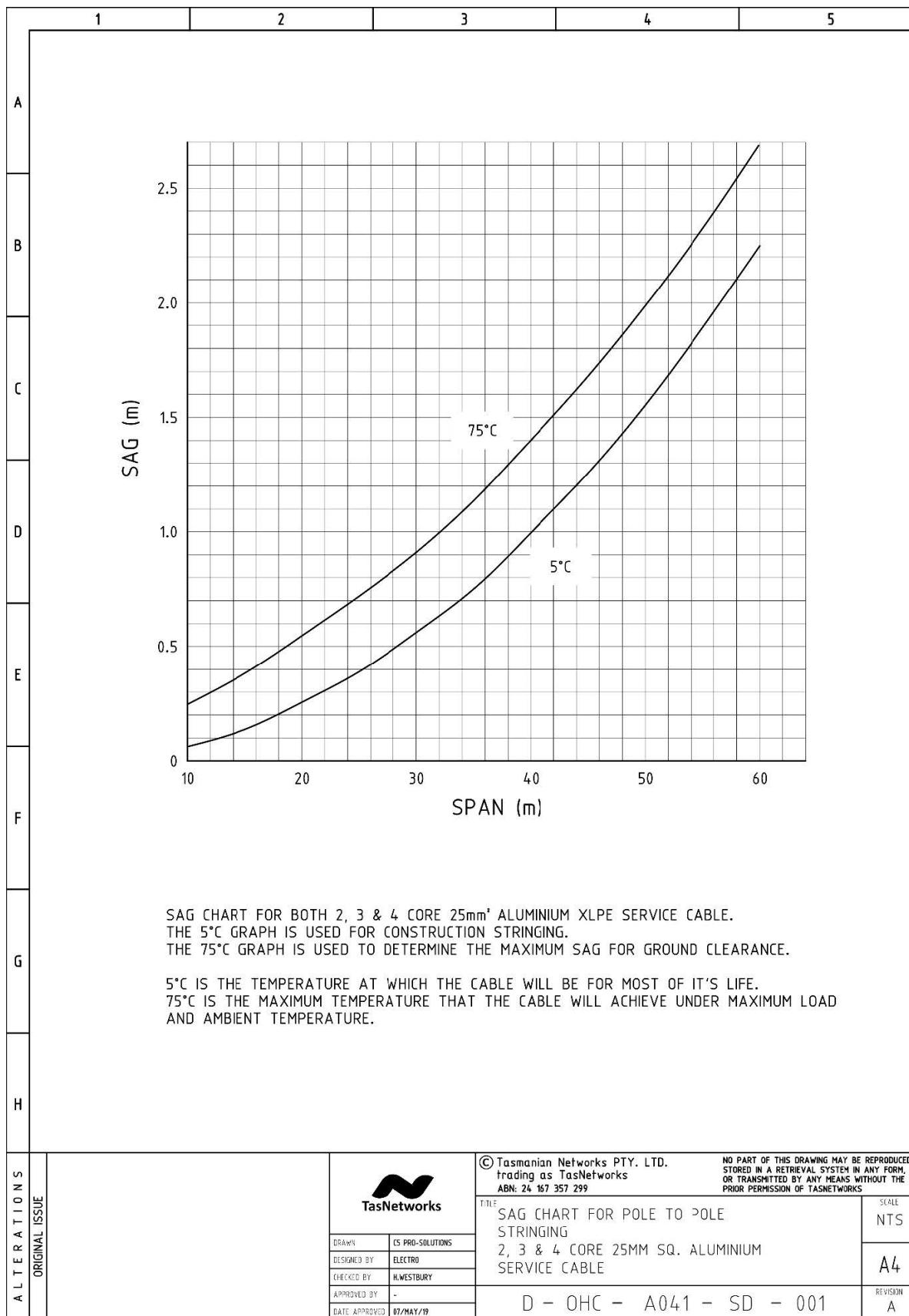
## 20.1.1 2C 25mm<sup>2</sup> LVABC Service Stringing to Building



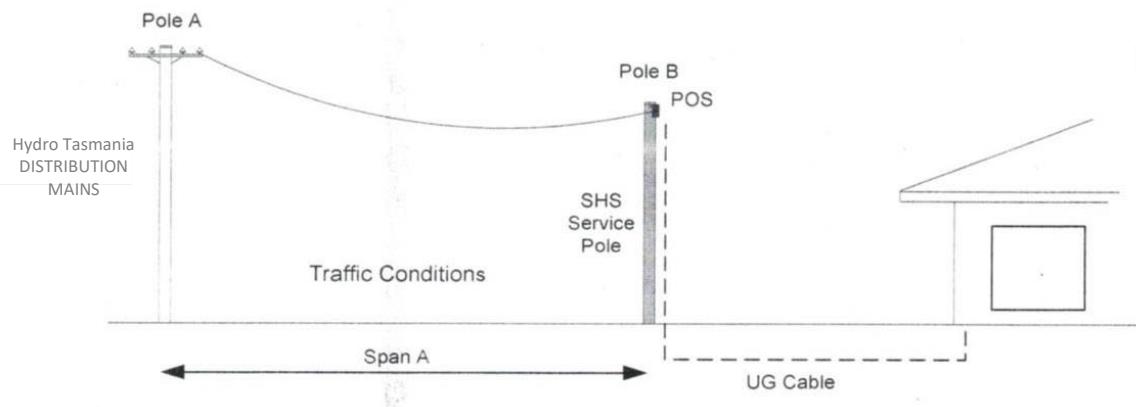
## 20.1.2 3C & 4C 25mm<sup>2</sup> LVABC Service Stringing to Building



### 20.1.3 2, 3 & 4 Core 25mm<sup>2</sup> LVABC Stringing Pole to Pole



## 20.1.4 Maximum Spans for Un-stayed Service Pole



The *service pole* location will be dependent primarily on:

- Achieving acceptable conductor ground clearance for the traffic conditions under Span A
- Ensuring that the loading at the top of the pole is not greater than 2kN
- Ensuring that the clamping force on the conductor's insulation does not exceed 28% of the Conductor's designated Breaking Load (CBL)

Notes:

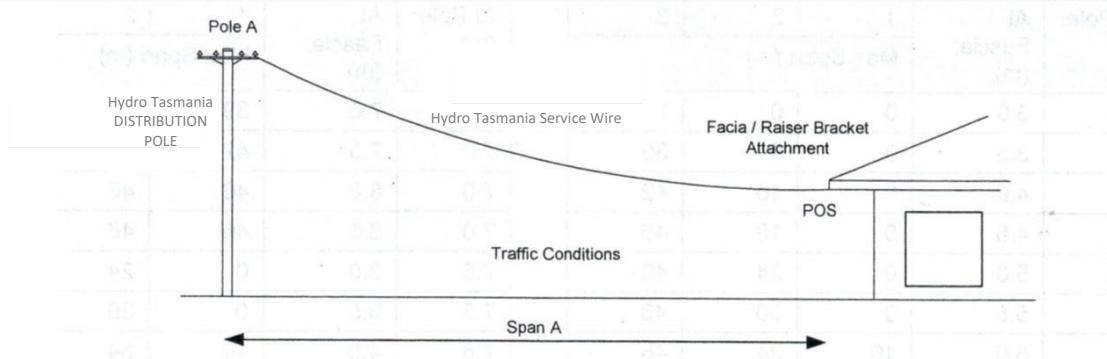
- Ground clearance is based on an initial conductor stringing of 5.6% CBL at 5°C, and a conductor operating temperature of 75°C
- The Pole-Top Force is based on 500Pa 15°C wind force on Conductor and 1200Pa force due to wind on square pole.
- The effect of pole wind loading on the resultant conductor loading has been approximated to being perpendicular to the resultant conductor force.

## 20.1.5 2 Core and 4 Core 25 mm<sup>2</sup> LVABC

- Traffic Conditions used in the following table are
  - Over roads, or in caravan parks or where farm machinery could operate
  - Over footpaths or over driveways
  - Over ground that has no vehicle traffic or has no footpaths or driveways
- Traffic conditions assumed to be under lowest point of conductor sag
- Assumed 8m 2kN 125mm x 125mm SHS *service pole* (Pole B), 6.5m attachment height.

Attachment Height at <i>Hydro Tasmania</i> Pole (Pole A)	2 Core 25 mm <sup>2</sup> LVABC (Span A)			4 Core 25 mm <sup>2</sup> LVABC (Span A)		
	Traffic Conditions					
	1 (m)	2 (m)	3 (m)	1 (m)	2 (m)	3 (m)
5.5	20	42	60	20	30	30
5.8	23	45	60	23	30	30
6.0	26	46	60	26	30	30
6.3	30	49	60	30	30	30
6.5	32	50	60	30	30	30
6.8	35	52	60	30	30	30
7.0	37	54	60	30	30	30
7.3	40	56	60	30	30	30
7.5	42	57	60	30	30	30
7.8	45	59	60	30	30	30
8.0	46	60	60	30	30	30
8.3	49	60	60	30	30	30
8.5	50	60	60	30	30	30

## 20.1.6 Maximum Spans for Un-stayed Fascia/Raiser Bracket Termination



The facia attachment location will be dependent primarily on:

- a) Achieving acceptable conductor ground clearance for the traffic conditions under Span A
- b) Ensuring that the loading at the fascia attachment or raiser bracket is not greater than 1kN Notes:
  - a) Ground clearance is based on an initial conductor stringing of 4.5% Conductor's designated Breaking Load (CBL) at 5°C, and a conductor operating temperature of 75°C for 2 Core 25mm<sup>2</sup> LVABC.
  - b) Ground clearance is based on an initial conductor stringing of and 3.35% CBL at 5°C, and a conductor operating temperature of 75°C for 4 Core 25mm<sup>2</sup> LVABC.
  - c) The force at the fascia is based on a 350 Pa 15°C wind force on the conductor.
  - d) Traffic Conditions as used in the following tables **2 Core 25mm<sup>2</sup> LVABC Over Road (A) and Driveway or Footpath (B)** and **2 Core 25mm<sup>2</sup> LVABC Over Road (A) and Un-trafficked Land (B)**
    1. Over roads, or in caravan parks or where farm machinery could operate
    2. Over footpaths or over driveways
    3. Over ground that has no vehicle traffic or has no footpaths or driveways
  - e) Traffic conditions assumed to be under lowest point of conductor sag
  - f) Clearances and spans are for flat ground only
  - g) Ground clearance is based on an initial conductor stringing reference of 4.5% CBL at 5°C and a conductor operating temperature of 75°C.

## 20.1.7 2 Core 25mm2 LVABC

Attachment Height		Traffic Conditions		
At Pole: (m)	At Fascia: (m)	1	2	3
		Max Span (m)		
5.5	3.0	0	0	34
5.5	3.5	0	0	39
5.5	4.0	0	10	42
5.5	4.5	0	18	46
5.5	5.0	0	24	46
5.5	5.5	0	30	46
5.5	6.0	10	34	46
5.5	6.5	18	39	46
5.5	7.0	24	42	46
5.5	7.5	30	46	46
5.5	8.0	34	46	46
5.5	8.5	39	46	46
6.0	3.0	0	0	39
6.0	3.5	0	10	42
6.0	4.0	0	18	46
6.0	4.5	0	24	46
6.0	5.0	0	30	46
6.0	5.5	10	34	46
6.0	6.0	18	39	46
6.0	6.5	24	42	46
6.0	7.0	30	46	46
6.0	7.5	34	46	46
6.0	8.0	39	46	46
6.0	8.5	42	46	46
6.5	3.0	0	10	42
6.5	3.5	0	18	46
6.5	4.0	0	24	46
6.5	4.5	0	30	46
6.5	5.0	10	34	46
6.5	5.5	18	39	46
6.5	6.0	24	42	46
6.5	6.5	30	46	46
6.5	7.0	34	46	46
6.5	7.5	39	46	46
6.5	8.0	42	46	46
6.5	8.5	46	46	46

Attachment Height		Traffic Conditions		
At Pole: (m)	At Fascia: (m)	1	2	3
		Max Span (m)		
7.0	3.0	0	18	46
7.0	3.5	0	24	46
7.0	4.0	0	30	46
7.0	4.5	10	34	46
7.0	5.0	18	39	46
7.0	5.5	24	42	46
7.0	6.0	30	46	46
7.0	6.5	34	46	46
7.0	7.0	39	46	46
7.0	7.5	42	46	46
7.0	8.0	46	46	46
7.0	8.5	46	46	46
7.5	3.0	0	24	46
7.5	3.5	0	30	46
7.5	4.0	10	34	46
7.5	4.5	18	39	46
7.5	5.0	24	42	46
7.5	5.5	30	46	46
7.5	6.0	34	46	46
7.5	6.5	39	46	46
7.5	7.0	42	46	46
7.5	7.5	46	46	46
7.5	8.0	46	46	46
7.5	8.5	46	46	46
8.0	3.0	0	30	46
8.0	3.5	10	34	46
8.0	4.0	18	39	46
8.0	4.5	24	42	46
8.0	5.0	30	46	46
8.0	5.5	34	46	46
8.0	6.0	39	46	46
8.0	6.5	42	46	46
8.0	7.0	46	46	46
8.0	7.5	46	46	46
8.0	8.0	46	46	46
8.0	8.5	46	46	46

Attachment Height		Traffic Conditions		
At Pole: (m)	At Fascia: (m)	1	2	3
		Max Span (m)		
8.5	3.0	10	34	46
8.5	3.5	18	39	46
8.5	4.0	24	42	46
8.5	4.5	30	46	46
8.5	5.0	34	46	46
8.5	5.5	39	46	46
8.5	6.0	42	46	46
8.5	6.5	46	46	46
8.5	7.0	46	46	46
8.5	7.5	46	46	46
8.5	8.0	46	46	46
8.5	8.5	46	46	46

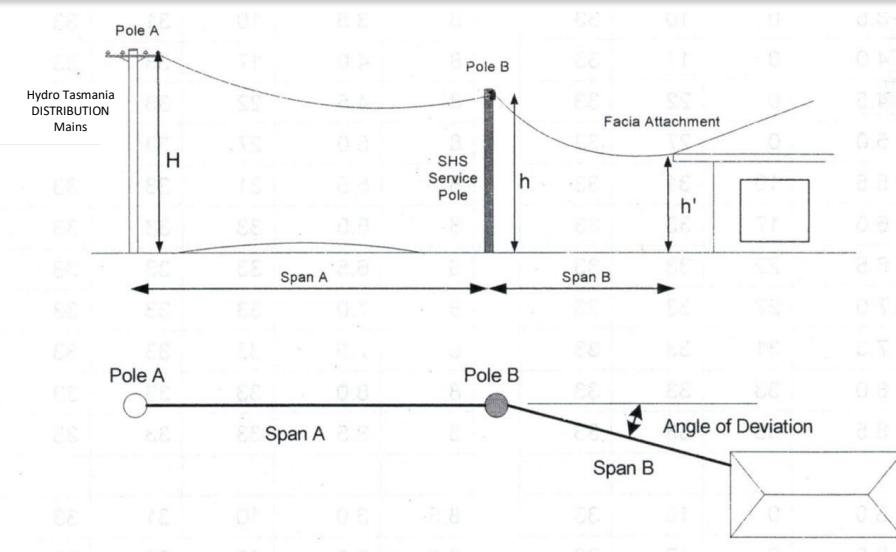
## 20.1.8 4 Core 25mm<sup>2</sup> LVABC

Attachment Height		Traffic Conditions		
At Pole: (m)	At Fascia: (m)	1	2	3
		Max Span (m)		
5.5	3.0	0	0	31
5.5	3.5	0	0	33
5.5	4.0	0	10	33
5.5	4.5	0	17	33
5.5	5.0	0	22	33
5.5	5.5	0	27	33
5.5	6.0	10	31	33
5.5	6.5	17	33	33
5.5	7.0	22	33	33
5.5	7.5	27	33	33
5.5	8.0	31	33	33
5.5	8.5	33	33	33
6.0	3.0	0	0	33
6.0	3.5	0	10	33
6.0	4.0	0	17	33
6.0	4.5	0	22	33
6.0	5.0	0	27	33
6.0	5.5	10	31	33
6.0	6.0	17	33	33
6.0	6.5	22	33	33
6.0	7.0	27	33	33
6.0	7.5	31	33	33
6.0	8.0	33	33	33
6.0	8.5	33	33	33
6.5	3.0	0	10	33
6.5	3.5	0	17	33
6.5	4.0	0	22	33
6.5	4.5	0	27	33
6.5	5.0	10	31	33
6.5	5.5	17	33	33
6.5	6.0	22	33	33
6.5	6.5	27	33	33
6.5	7.0	31	33	33
6.5	7.5	33	33	33
6.5	8.0	33	33	33
6.5	8.5	33	33	33

Attachment Height		Traffic Conditions		
At Pole: (m)	At Fascia: (m)	1	2	3
		Max Span (m)		
7.0	3.0	0	17	33
7.0	3.5	0	22	33
7.0	4.0	0	27	33
7.0	4.5	10	31	33
7.0	5.0	17	33	33
7.0	5.5	22	33	33
7.0	6.0	27	33	33
7.0	6.5	31	33	33
7.0	7.0	33	33	33
7.0	8.5	33	33	33
7.5	3.0	0	22	33
7.5	3.5	0	27	33
7.5	4.0	10	31	33
7.5	4.5	17	33	33
7.5	5.0	22	33	33
7.5	5.5	27	33	33
7.5	6.0	31	33	33
7.5	6.5	33	33	33
7.5	7.0	33	33	33
7.5	7.5	33	33	33
7.5	8.0	33	33	33
7.5	8.5	33	33	33
8.0	3.0	0	27	33
8.0	3.5	10	31	33
8.0	4.0	17	33	33
8.0	4.5	22	33	33
8.0	5.0	27	33	33
8.0	5.5	31	33	33
8.0	6.0	33	33	33
8.0	6.5	33	33	33
8.0	7.0	33	33	33
8.0	7.5	33	33	33
8.0	8.0	33	33	33
8.0	8.5	33	33	33
8.5	3.0	10	31	33
8.5	3.5	17	33	33

Attachment Height		Traffic Conditions		
At Pole: (m)	At Fascia: (m)	1	2	3
		Max Span (m)		
8.5	4.0	22	33	33
8.5	4.5	27	33	33
8.5	5.0	31	33	33
8.5	5.5	33	33	33
8.5	6.0	33	33	33
8.5	6.5	33	33	33
8.5	7.0	33	33	33
8.5	7.5	33	33	33
8.5	8.0	33	33	33
8.5	8.5	33	33	33

## 20.1.9 Maximum Spans for Un-stayed Intermediate Service Pole 125x125x5mm



The *Hydro Tasmania service pole* location will be dependent primarily on:

- Achieving acceptable conductor ground clearance for the traffic conditions of the spans either side of the pole.
- Ensuring that the loading at the top of the *service pole* is not greater than 2kN
- Ensuring that the loading on any building support is not greater than 1kN
- Ensuring that the clamping force on the conductor's insulation does not exceed 28% of the Conductor's Designated Breaking Load (CBL)
- Ensuring that the pole has adequate footing strength to remain vertical for its full life.

## 20.1.10 2 Core 25mm<sup>2</sup> LVABC Over Road (A) and Driveway or Footpath (B)

For the following table,

- a) Span A is over the road
- b) Span B is over a driveway or footpath
- c) Fascia attachment height (h): 4.5m and greater
- d) *service pole* attachment height (h): 6.5m

Notes:

- a) Max Span B length to achieve required ground clearance is 15m.
- b) For angles of deviation greater than 60 degrees, consult *Hydro Tasmania*
- c) Flat ground has been assumed.

<b>H (m)</b>	<b>Ang of Dev Up to (Deg)</b>	<b>Span A Up to (m)</b>	<b>Span B Up to (m)</b>
5.5	30	20	15
5.5	40	20	15
5.5	50	18	10
5.5	50	13	15
5.5	60	12	10
5.5	60	7	15
6.0	30	28	15
6.0	40	28	10
6.0	40	23	15
6.0	50	18	10
6.0	50	13	15
6.0	60	12	10
6.0	60	7	15
6.5	30	33	15
6.5	40	28	10
6.5	40	23	15
6.5	50	18	10
6.5	50	13	15
6.5	60	12	10
6.5	60	7	15
7.0	30	39	15
7.0	40	28	10
7.0	40	23	15
7.0	50	18	10
7.0	50	13	15

<b>H (m)</b>	<b>Ang of Dev Up to (Deg)</b>	<b>Span A Up to (m)</b>	<b>Span B Up to (m)</b>
7.0	60	12	10
7.0	60	7	15
7.5	30	43	10
7.5	30	41	15
7.5	40	28	10
7.5	40	23	15
7.5	50	18	10
7.5	50	13	15
7.5	60	12	10
7.5	60	7	15
8.0	20	48	15
8.0	30	46	10
8.0	30	41	15
8.0	40	28	10
8.0	40	23	15
8.0	50	18	10
8.0	50	13	15
8.0	60	12	10
8.0	60	7	15
8.5	20	51	15
8.5	30	46	10
8.5	30	41	15
8.5	40	28	10
8.5	40	23	15
8.5	50	18	10
8.5	50	13	15
8.5	60	12	10
8.5	60	7	15

## 20.1.11 2 Core 25mm<sup>2</sup> LVABC Over Road (A) and Un-trafficked Land (B)

For the following tables:

- e) Span A is over the road
- f) Span B is over un-trafficked land
- g) Fascia attachment height (h): 3m and greater
- h) *service pole* attachment height (h): 6.5m

Notes:

- a) Max Span B length to achieve required ground clearance is 43m
- b) For Angles of Deviation greater than 60 degrees, consult *Hydro Tasmania*
- c) Flat ground has been assumed.

<b>H</b> <b>(m)</b>	<b>Angle of Dev.</b> <b>Up to (Deg)</b>	<b>Span A</b>	<b>Span B</b>
		<b>Up to (m)</b>	<b>Up to (m)</b>
5.5	20	20	43
5.5	30	20	35
5.5	30	16	40
5.5	30	13	43
5.5	40	20	15
5.5	40	18	20
5.5	40	13	25
5.5	40	8	30
5.5	50	18	10
5.5	50	13	15
5.5	50	8	20
5.5	60	12	10
5.5	60	7	15
6.0	20	28	43
6.0	30	28	25
6.0	30	26	30
6.0	30	21	35
6.0	30	16	40
6.0	30	13	43
6.0	40	28	10
6.0	40	23	15
6.0	40	18	20
6.0	40	13	25
6.0	40	8	30
6.0	50	18	10
6.0	50	13	15
6.0	50	8	20

<b>H</b> <b>(m)</b>	<b>Angle of Dev.</b> <b>Up to (Deg)</b>	<b>Span A</b>	<b>Span B</b>
		<b>Up to (m)</b>	<b>Up to (m)</b>
6.0	60	12	10
6.0	60	7	15
6.5	20	33	43
6.5	30	33	20
6.5	30	31	25
6.5	30	26	30
6.5	30	21	35
6.5	30	16	40
6.5	30	13	43
6.5	40	28	10
6.5	40	23	15
6.5	40	18	20
6.5	40	13	25
6.5	40	8	30
6.5	50	18	10
6.5	50	13	15
6.5	50	8	20
6.5	60	12	10
6.5	60	7	15
7.0	20	39	43
7.0	30	39	15
7.0	30	36	20
7.0	30	31	25
7.0	30	26	30
7.0	30	21	35
7.0	30	16	40
7.0	30	13	43
7.0	40	28	10
7.0	40	23	15
7.0	40	18	20
7.0	40	13	25
7.0	40	8	30
7.0	50	18	10
7.0	50	13	15
7.0	50	8	20
7.0	60	12	10
7.0	60	7	15

<b>H</b> <b>(m)</b>	<b>Angle of Dev.</b>	<b>Span A</b>	<b>Span B</b>
	<b>Up to (Deg)</b>	<b>Up to (m)</b>	<b>Up to (m)</b>
7.5	20	43	43
7.5	30	43	10
7.5	30	41	15
7.5	30	36	20
7.5	30	31	25
7.5	30	26	30
7.5	30	21	35
7.5	30	16	40
7.5	30	13	43
7.5	40	28	10
7.5	40	23	15
7.5	40	18	20
7.5	40	13	25
7.5	40	8	30
7.5	50	18	10
7.5	50	13	15
7.5	50	8	20
7.5	60	12	10
7.5	60	7	15
8.0	20	48	43
8.0	30	46	10
8.0	30	41	15
8.0	30	36	20
8.0	30	31	25
8.0	30	26	30
8.0	30	21	35
8.0	30	16	40
8.0	30	13	43
8.0	40	28	10
8.0	40	23	15
8.0	40	18	20
8.0	40	13	25
8.0	40	8	30
8.0	50	18	10
8.0	50	13	15
8.0	50	8	20
8.0	60	12	10
8.0	60	7	15

<b>H (m)</b>	<b>Angle of Dev. Up to (Deg)</b>	<b>Span A Up to (m)</b>	<b>Span B Up to (m)</b>
8.5	20	51	43
8.5	30	46	10
8.5	30	41	15
8.5	30	36	20
8.5	30	31	25
8.5	30	26	30
8.5	30	21	35
8.5	30	16	40
8.5	30	13	43
8.5	40	28	10
8.5	40	23	15
8.5	40	18	20
8.5	40	13	25
8.5	40	8	30
8.5	50	18	10
8.5	50	13	15
8.5	50	8	20
8.5	60	12	10
8.5	60	7	15

## 20.1.12 4 Core 25mm<sup>2</sup> LVABC Over Road (A) and Driveway or Footpath (B)

In the following table,

- i) Span A is over Road
- j) Span B is over Footpath or Driveway
- k) Fascia attachment height (h) is: 4.5m and greater
- l) *service pole* attachment height (h) is: 6.5m.

Notes:

- a) Max Span A length to allow separate construction or disconnection of Span B is 30m
- b) Max Span B length before exceeding clearance over footpath or driveway is 14m
- c) For Angles of Deviation greater than 60 degrees, consult *Hydro Tasmania*
- d) Flat ground has been assumed.

<b>H</b> <b>(m)</b>	<b>Angle of Dev.</b> <b>Up to (Deg)</b>	<b>Span A up to</b> <b>(m)</b>	<b>Span B up to</b> <b>(m)</b>
5.5	20	20	14
5.5	30	20	14
5.5	40	14	10
5.5	40	10	14
5.5	50	8	10
6.0	20	28	14
6.0	30	24	10
6.0	30	20	14
6.0	40	14	10
6.0	40	10	14
6.0	50	8	10
6.5	20	30	14
6.5	30	24	10
6.5	30	20	14
6.5	40	14	10
6.5	40	10	14
6.5	50	8	10
7.0	20	30	14
7.0	30	24	10
7.0	30	20	14
7.0	40	14	10
7.0	40	10	14
7.0	50	8	10
7.5	20	30	14
7.5	30	24	10

<b>H (m)</b>	<b>Angle of Dev. Up to (Deg)</b>	<b>Span A up to (m)</b>	<b>Span B up to (m)</b>
7.5	30	20	14
7.5	40	14	10
7.5	40	10	14
7.5	50	8	10
8.0	20	30	14
8.0	30	24	10
8.0	30	20	14
8.0	40	14	10
8.0	40	10	14
8.0	50	8	10
8.5	20	30	14
8.5	30	24	10
8.5	30	20	14
8.5	40	14	10
8.5	40	10	14
8.5	50	8	10

### 20.1.13 4 Core 25mm<sup>2</sup> LVABC Over Road (A) and Un-trafficked Land (B)

In the following table,

- m) Span A is over Road
- n) Span B is over Un-trafficked Land
- o) Fascia attachment height (h) is: 3m and greater
- p) *service pole* attachment height (h) is: 6.5m

Notes:

- a) Max Span A length to allow separate construction or disconnection of Span B is 30m
- b) Max Span B length before exceeding 1kN facia attachment limit is 33m
- c) Max Span B length before exceeding clearance over untrafficked areas is 33m
- d) For Angles of Deviation greater than 60 degrees, consult *Hydro Tasmania*
- e) Flat ground has been assumed.

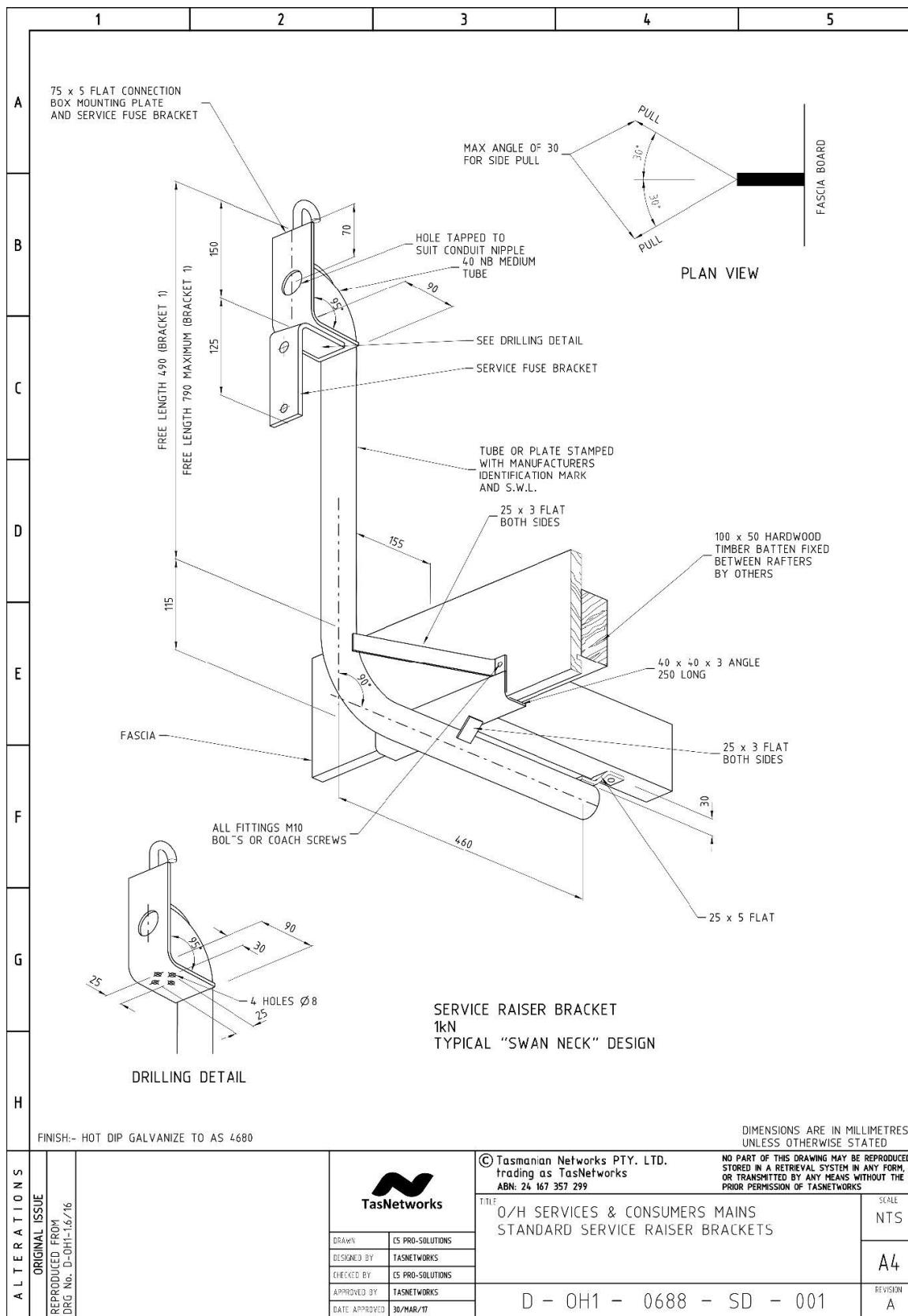
H (m)	Angle of Deviation up to (Deg)	Span A up to (m)	Span B up to (m)
5.5	10	20	33
5.5	20	20	33
5.5	50	8	10
6.0	10	28	33
6.0	20	28	30
6.0	20	25	33
6.0	50	8	10
6.5	10	30	33
6.5	20	28	30
6.5	20	27	33
6.5	50	8	10
7.0	10	30	33
7.0	20	28	30
7.0	20	27	33
7.0	50	8	10
7.5	10	30	33
7.5	20	28	30
7.5	20	27	33
7.5	50	8	10
8.0	10	30	33
8.0	20	28	30
8.0	20	27	33

<b>H (m)</b>	<b>Angle of Deviation up to (Deg)</b>	<b>Span A up to (m)</b>	<b>Span B up to (m)</b>
8.0	50	8	10
8.5	10	30	33
8.5	20	28	30
8.5	20	27	33
8.5	50	8	10

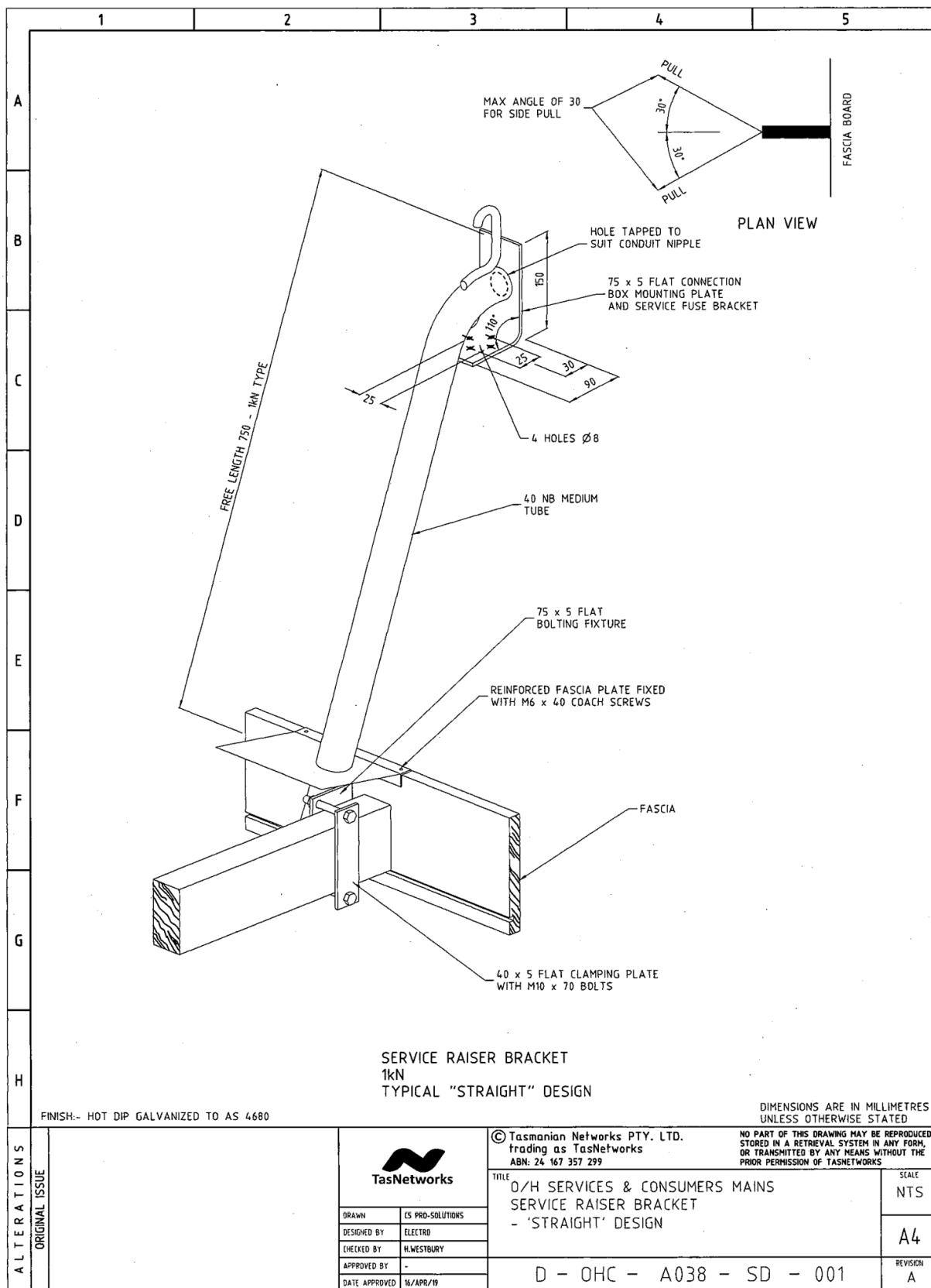
## 21.0 Appendix F Overhead Service Attachments

- a) Customer installed service attachments must comply with the more onerous of [AS/NZS 3000](#) and [AS/NZS 7000](#)
- b) Drawings [OH Services & Consumer Mains Standard Service Raiser Brackets \(1\)](#) and [OH Services & Consumer Mains Standard Service Raiser Bracket \(2\)](#) below show examples of raiser brackets in use. These were designed to [AS/NZS 3000](#) and are included here to show types of brackets which are acceptable to *Hydro Tasmania*
- c) Drawings [OH Services & Consumer Mains Service Fittings](#) show service brackets in use which were designed to [AS/NZS 3000](#).

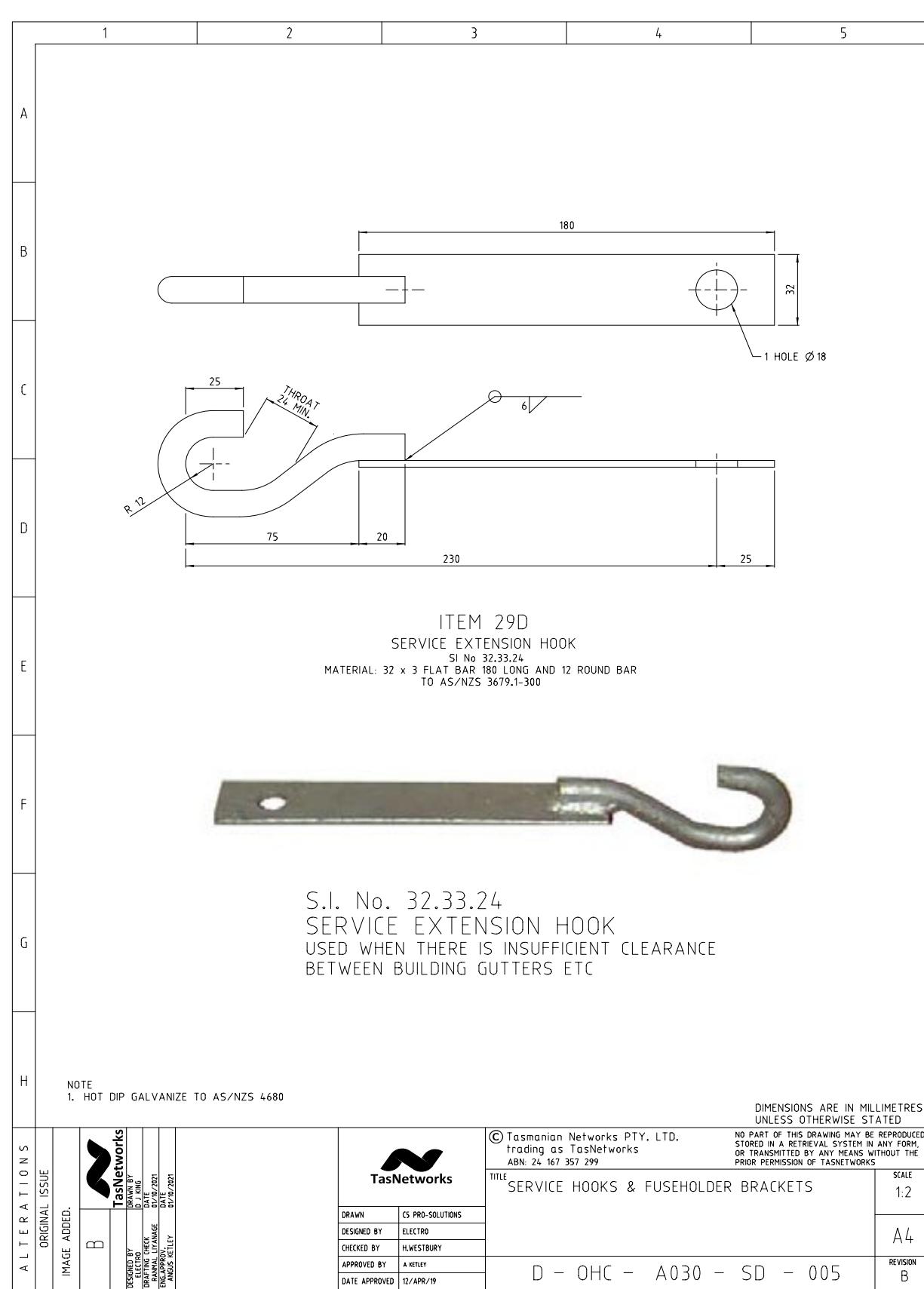
## 21.1.1 OH Services & Consumer Mains Standard Service Raiser Brackets (1)



## 21.1.2 OH Services & Consumer Mains Standard Service Raiser Bracket (2)



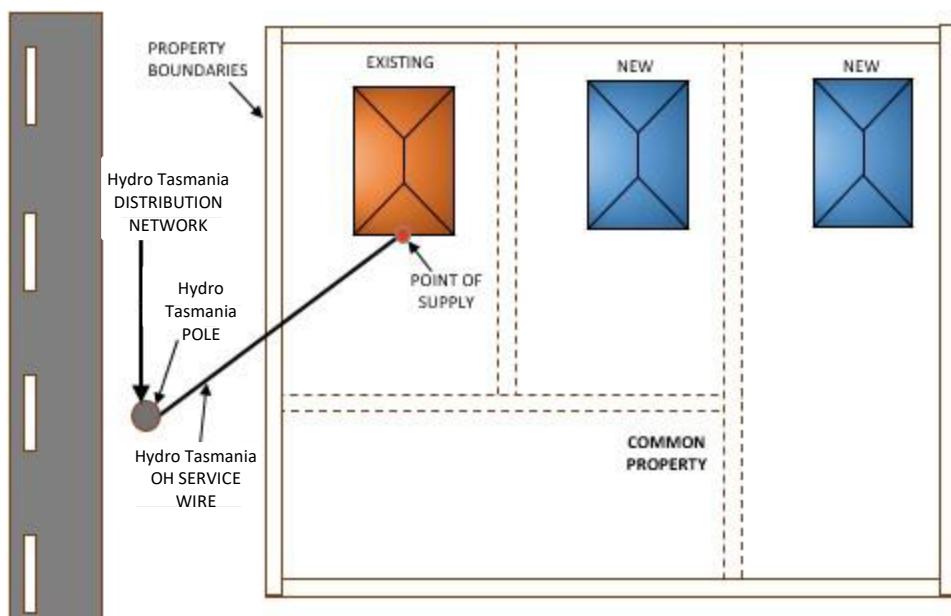
### 21.1.3 OH Services & Consumer Mains Service Fittings



## 22.0 Appendix G Permitted and Prohibited Supply Arrangements

### 22.1.1 Scenario A Upgrade from Single Residence to Multi-Tenancy.

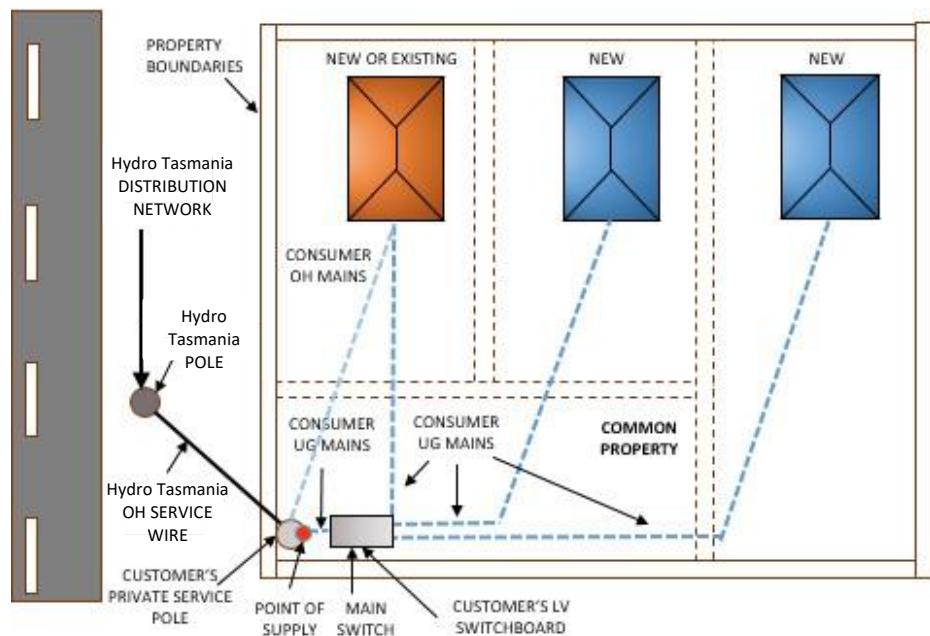
Existing residence has OH supply via a Hydro Tasmania service wire to the POS located on the residence. The existing connection directly to the pre-existing premise must be disconnected / removed.



## 22.1.2 Scenario A Permitted Connection Upgrade from Single Residence to Multi-Tenancy

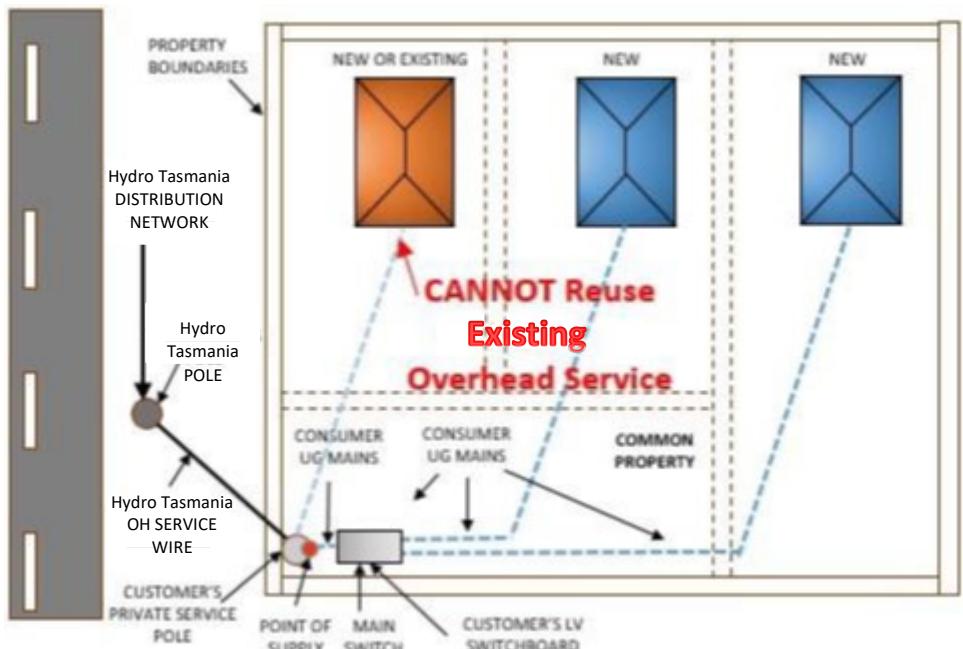
For any new connection or customer-initiated alteration, all multi-tenancy connections must have one point of supply (POS), and a main switchboard in common property to connect all sub-mains either U/G or O/H (see [11.2.1](#), [11.2.2](#) and [11.2.3](#)).

O/H consumers mains must be pre installed by E/C Power line contractor before Hydro Tasmania visit site. The Hydro Tasmania O/H service wire and service protection device cannot be reused.



## 22.1.3 Scenario A Prohibited Connection Upgrade from Single Residence to Multi-Tenancy

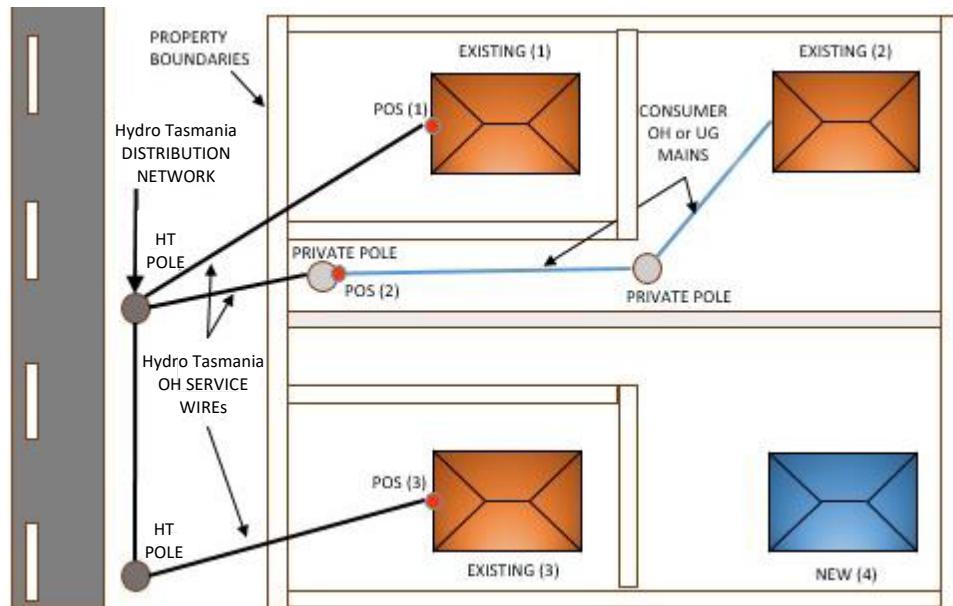
The Hydro Tasmania service CANNOT be reused and swung across to the customers private service pole  
The existing connection directly to the pre-existing premise must be disconnected/ removed



Refer to [Prohibited Connection Arrangements](#)

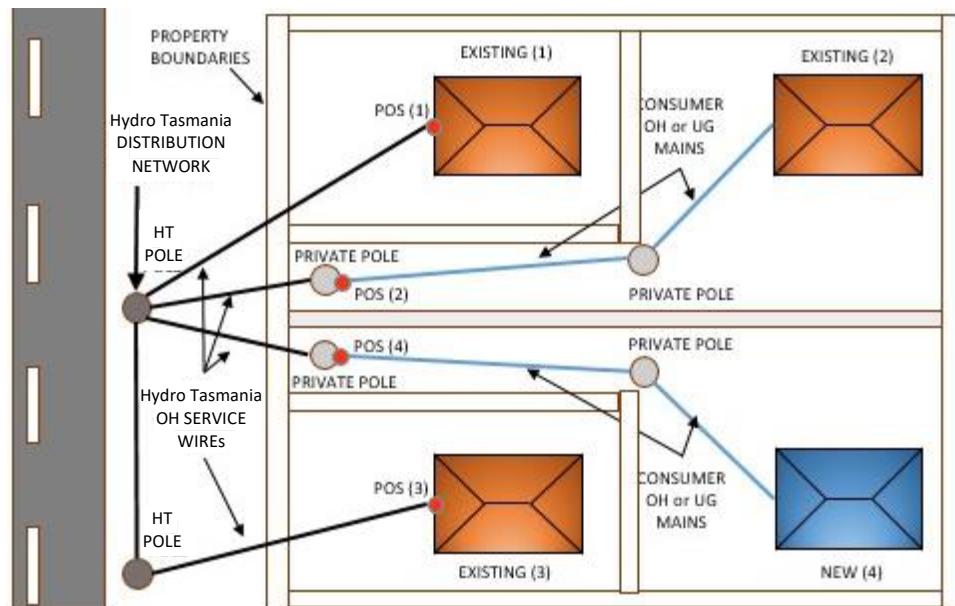
## 22.1.4 Scenario B New internal block needs supply, with driveway.

Supply from the distribution network requires new private poles and mains. The existing neighbours supply via their private pole is closer and would avoid any new poles.

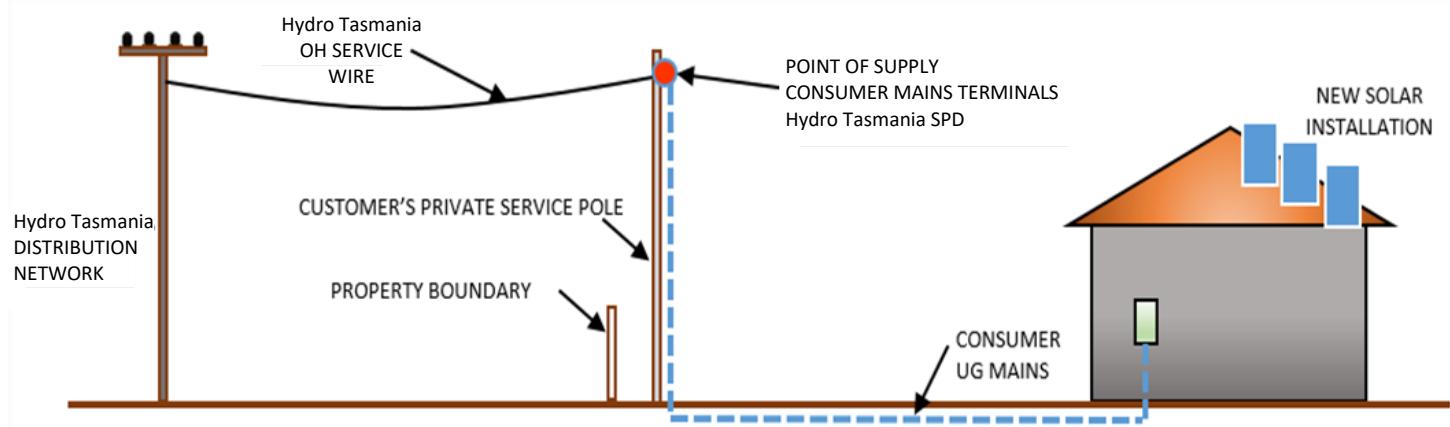


## 22.1.5 Scenario B Permitted Connection New internal block needs supply, with driveway.

For any new connection or customer-initiated alteration, supply must be directly via the distribution network with new private poles and mains. The neighbouring supply cannot be utilised. Consumers mains must be pre installed by E/C Powerline contractor before Hydro Tasmania visit site



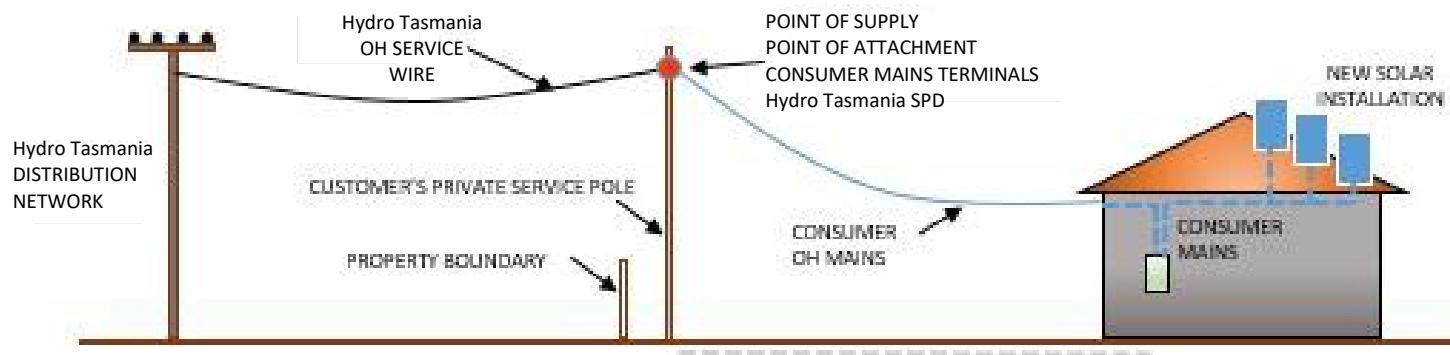
## 22.1.6 Scenario C Customer request to upgrade supply, including change from UG second span to larger OH second span.



## 22.1.7 Scenario C Permitted Connection Customer request to upgrade supply, including change from UG second span to larger OH second span

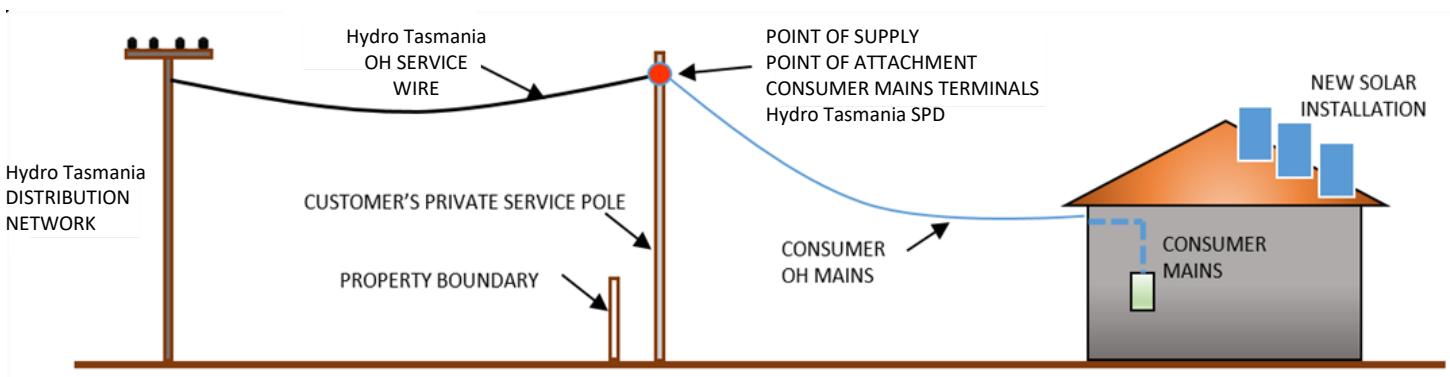
For any new connection or customer-initiated alteration, Hydro Tasmania is responsible for upgrading the first span and POS – including terminating the consumer mains into the SPD. The customer's EC is responsible for everything on the load side of the POS, including the second span, noting the following:

For customer-initiated alterations where there is an existing 'live' Hydro Tasmania Over Head service wire to the private pole (and supply is isolated at the POS), the customer's EC must have appropriate powerline competencies to operate within close proximity to 'live' powerlines and install the second span.



## 22.2 Prohibited Connection Arrangements

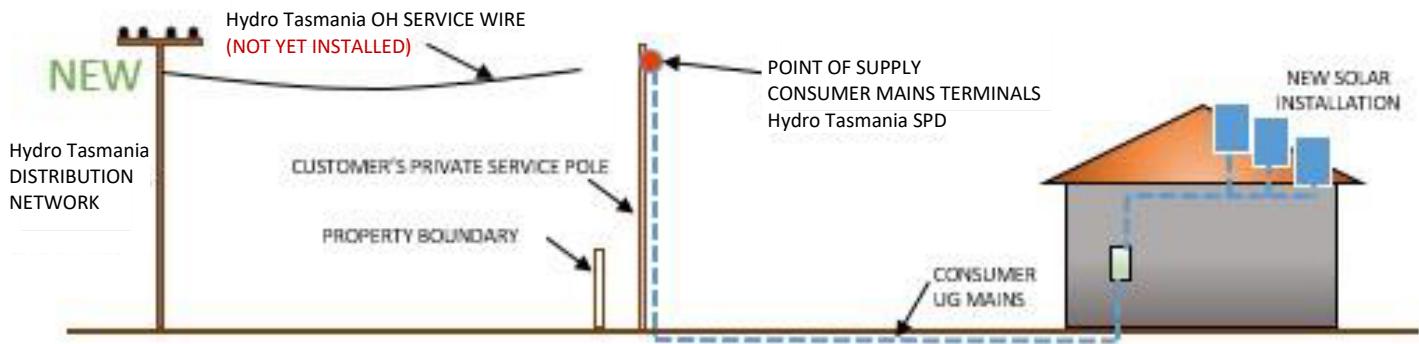
### 22.2.1 Scenario D Customer request to upgrade supply, including change from OH second span to larger UG second span



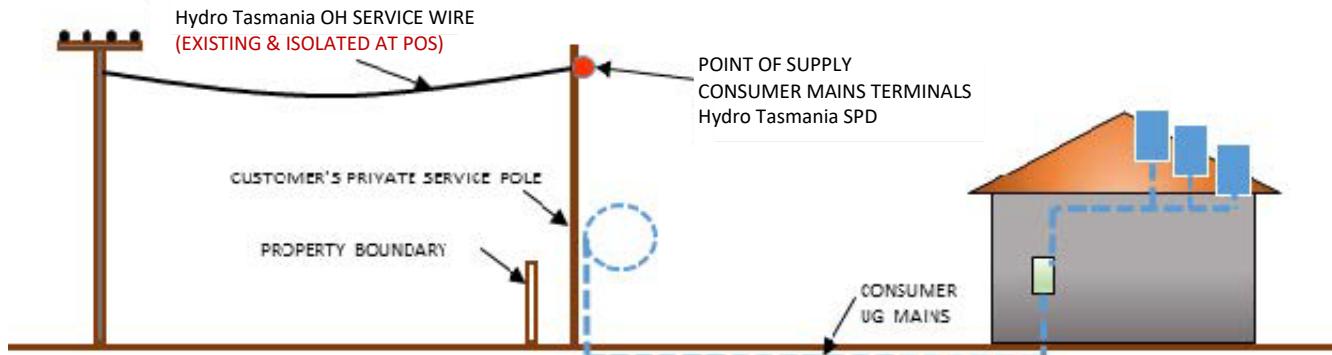
### 22.2.2 Scenario D Permitted Customer request to upgrade supply, including change from OH second span to larger UG second span

For any new connection or customer-initiated alteration, Hydro Tasmania is responsible for the first span and POS – including termination into the SPD. The customer's EC is responsible for everything on the load side of the POS, noting the following:

For new connections where there is no existing 'live' Hydro Tasmania OH service wire to the private pole, the customer's EC is responsible for running/securing the consumer mains up to the top of the private pole, for Hydro Tasmania to then install and terminate into the SPD (See [11.1.4](#))

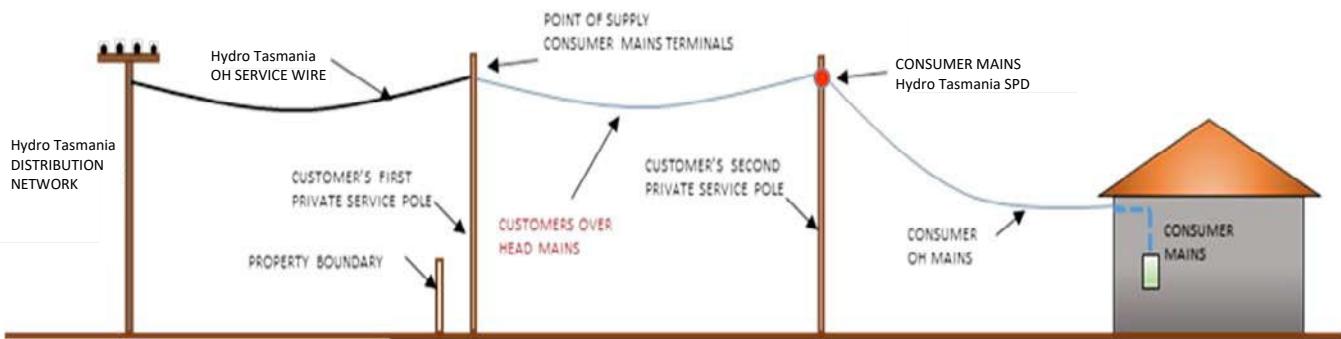


For alterations where there is an existing 'live' Hydro Tasmania OH service wire to the private pole (and supply is isolated at the POS), the customer's EC is responsible for running the consumer mains up the private pole to a height of 3m. The EC must coil sufficient cable, and provide saddles, for Hydro Tasmania to run the consumer mains up the remainder of the pole and terminate into the SPD, as per "installing UG consumer mains on a Hydro Tasmania service pole" (See [13.5.1](#))



Refer to [Prohibited Connection Arrangements](#)

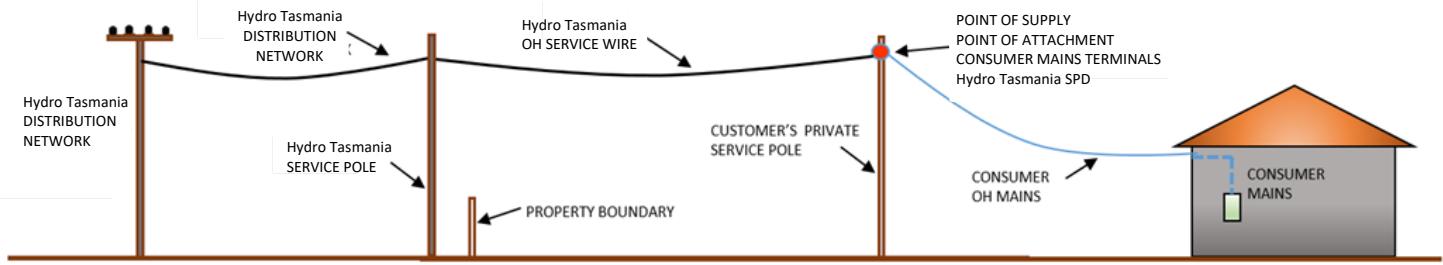
#### 22.2.3 Scenario E Customer requests alteration work on legacy connection, where Hydro Tasmania SPD is currently installed on the second private pole.



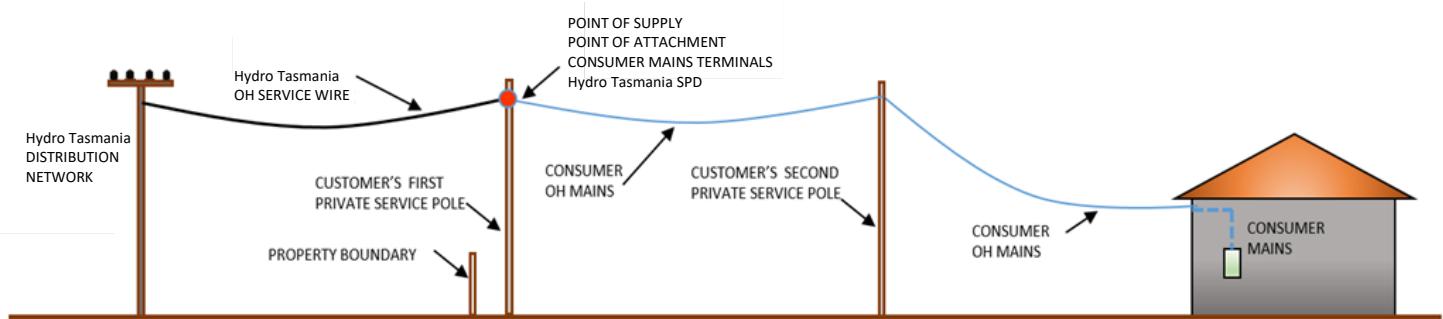
#### 22.2.4 Scenario E Permitted Connection Customer requests alteration work on legacy connection, where Hydro Tasmania SPD is currently installed on the second private pole

For any new connection or customer-initiated alteration, this is to be a negotiated connection. Hydro Tasmania may relocate its SPD to current standards where practical. As to how this is to be done – whether a new Hydro Tasmania pole is installed to negate the need for the first private service pole, or the SPD is relocated to the customer's first private service pole, etc., this will be determined within the design/negotiation phase.

## 22.2.5 Example 1 of permitted connection

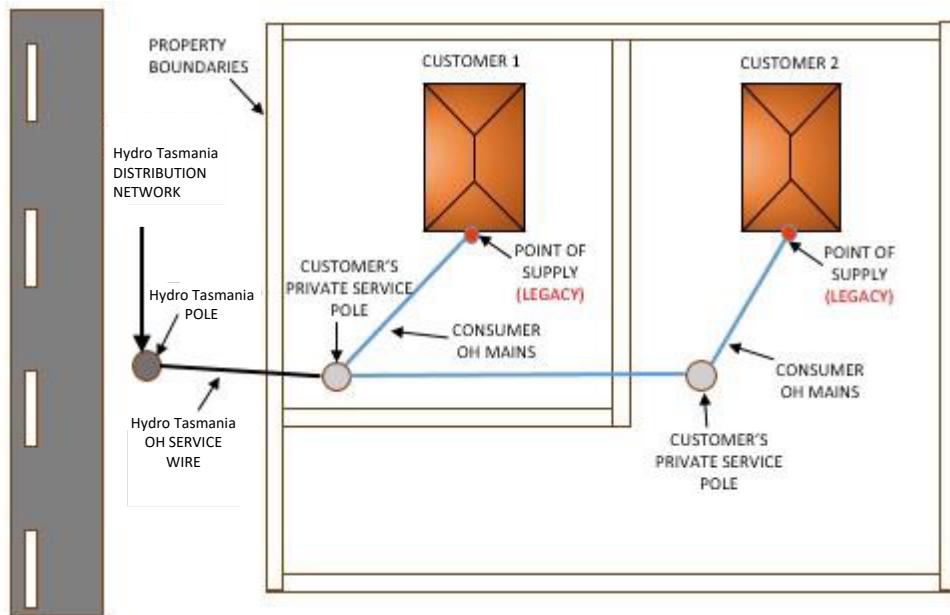


## 22.2.6 Example 2 of permitted connection



Refer to [Prohibited Connection Arrangements](#)

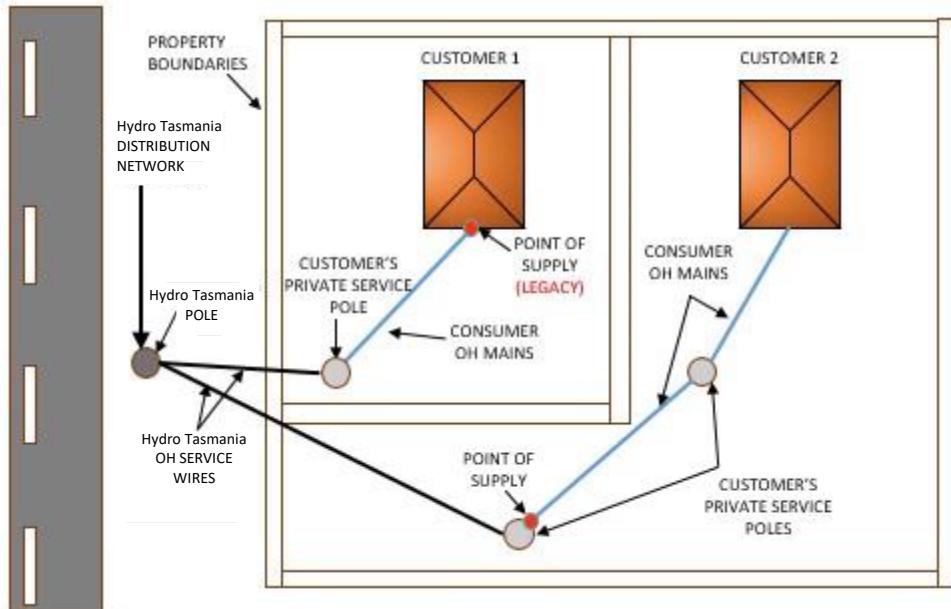
## 22.2.7 Scenario F Legacy connection, where the properties have now been sub-divided. Customer 2 wants to upgrade supply.



## 22.2.8 Scenario F Permitted Connection Legacy connection, where the properties have now been sub-divided. Customer 2 wants to upgrade supply

For any new connection or customer-initiated alteration to Customer 2, firstly Customer 2 must engage with Customer 1 (as works will be undertaken on Customer 1's property/ assets).

Supply to Customer 2 must be directly via the distribution network with new private poles & mains that do not cross Customer 1's property. POS must be moved.



[Refer to Prohibited Connection Arrangements](#)