

Developers' guide
Electricity connections

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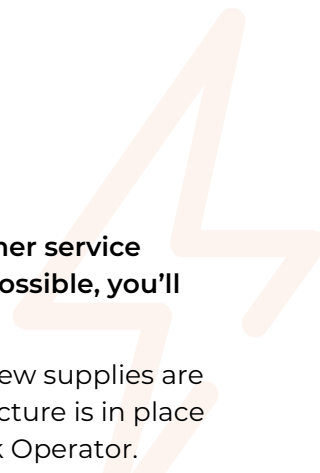
Introduction and process

At Last Mile, we are committed to providing the highest standard of customer service throughout your entire connection process. To make things as smooth as possible, you'll have a dedicated point of contact at every stage of your project.

We will be installing the electricity distribution infrastructure to ensure your new supplies are connected and energised to the required metering points. Once this infrastructure is in place and fully energised, it will be owned and maintained by the adopting Network Operator.

You will be provided with an approved design that has been reviewed and approved by the adopting Network Operator. It is crucial that all elements of the installation for which you are responsible are completed precisely as specified in the design. Failure to follow these requirements may lead to delays in the energisation of the new infrastructure and/or additional costs – both of which we strive to avoid.

If you have any questions, concerns, or positive feedback about any aspect of this project, please don't hesitate to reach out to us. Additionally, we will provide you with the contact details of the team should you need to discuss any queries.



Responsibilities

The table clearly defines who is responsible for the various tasks required for the installation of the electricity services on your site. These may vary slightly if specifically requested at quotation stage, please check your proposal to confirm or call your Project Manager to discuss.

Minimum excavation requirements to support connections in footpath. Excavation base to be 150mm below cable.

Please note there may be some differences in the responsibilities that would be determined within the project specific contract.

Tasks	Customer	Last Mile
Request call off service connections from Last Mile	✓	
Provision of MPAN numbers		✓
Excavation and reinstatement of onsite cable trenches	✓	
Supply and installation of onsite ducting and draw cord	✓	
Supply and installation of onsite cable warning tape		✓
Supply and installation of external meter box and hockey stick	✓	
Excavation of onsite joint bays	✓	
Supply and installation of electrical cabling		✓
Arrange for meters to be fitted	✓	
Safe and secure storage area available prior to works commencing	✓	
Security for plant and contractor's equipment delivered to site	✓	

Requesting works

Once your project enters the construction phase, the Last Mile Project Manager will arrange a pre-start meeting with your site team. During this meeting, they will review the project deliverables in greater detail. You will also need to call off your mains and service requirements in accordance with your build program.

Lead times for calling off work are:

- Low voltage (LV) mains cable installation – 20 working days
- Low voltage (LV) service connections – 10 working days for Scotland and the North
- Low voltage (LV) service connections – 15 working days for Midlands and the South

LV mains cable installation and plot connections should be requested through your nominated representative or the Operations Support teams. This will be covered in the pre-start meeting.

To ensure our work can be completed smoothly and without delays, please ensure the following requirements are met before our team attends the site:

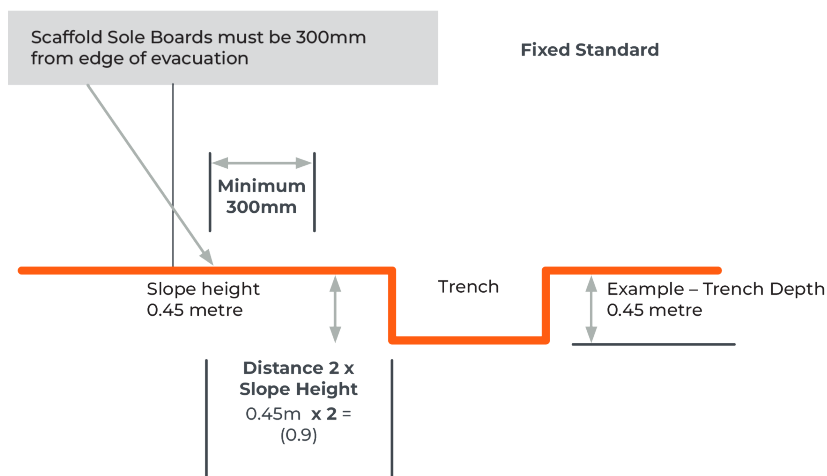
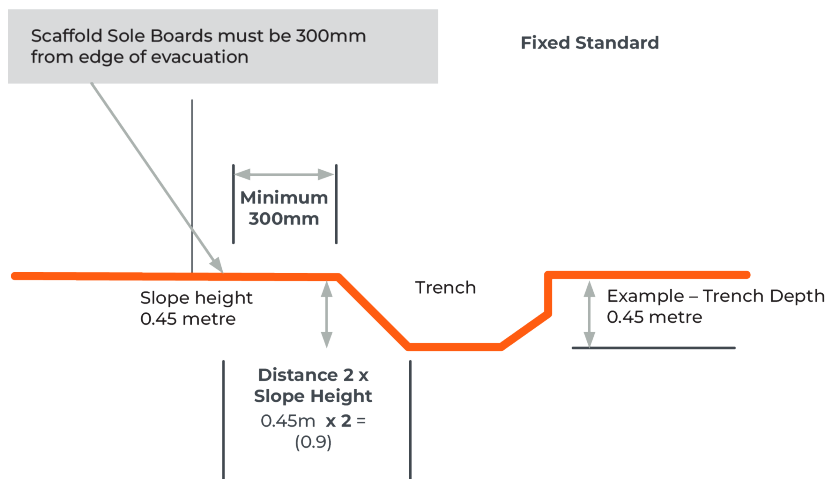
- Premises are watertight and secure
- Meter boxes/positions are installed and complete
- Final ground lines and levels are clearly defined
- Jointing excavations are safe and suitable
- Scaffolding is removed from our work area
- Ducting/containment is installed to the correct specification and position

These preparations will help prevent any unnecessary disruptions or aborted visits.

Working near scaffold

Last Mile must ensure a safe working environment when working near scaffolding for its installation teams; to allow this we must implement the following in line with National Access & Scaffolding Confederation (NASC) TG20 Operational Guide Section 5:

- Scaffold must be designed and erected by competent persons.
- It must have an in-date scaffold tag confirming its safe condition.
- Allow safe access and egress to the point of work.
- There must be no one working on the scaffold at the time when our installation team are completing their works.
- Scaffold sole boards must be a minimum of 300mm from the edge of the excavation.
- The bottom of the excavation must be twice the height of the trench away from the sole board horizontally.
- Work may only take place under scaffold at the discretion of the team on-site after consultation with their supervisor or manager.



Materials

It is very important that only the correct specification of materials are used in line with the Last Mile approved design drawing. Below is a list of the items that the customer would normally be required to supply. If in doubt always ask your Project Manager prior to procurement.

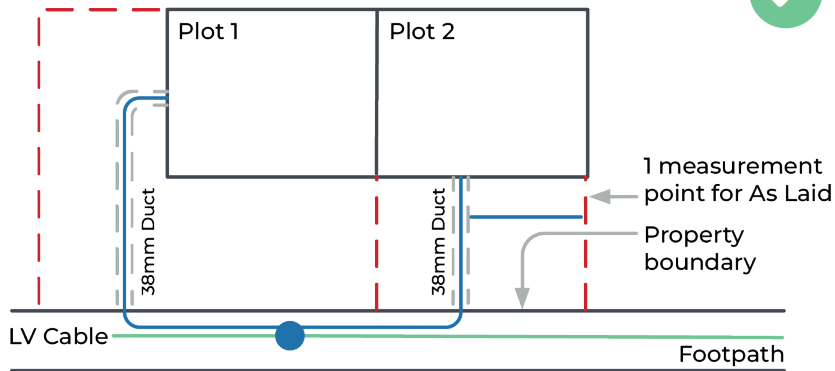
Material description	Material use	Colour/size	Manufacturer	Applicable standard
Electric meter box recessed	Housing of cutout and meter	White H595 x W409 x D210mm	MCL Composites	ENATS 12-24 Class 3
38mm hockey stick	Protection of service cable rising into meter box	White 38mm width	MCL Composites	BS8567:2012 ESI 12-3
38mm smooth electrical Polyduct	Duct of single-phase service cables only	Black 38mm ID	Polypipe	ENATS 12-24 Class 3
125/150mm twin walled rigiduct electricity embossed on two diametrically opposing sides	Ducting of Low Voltage and High Voltage mains cable	Black 125mm or 150mm ID	Polypipe	ENATS 12-24 Class 2

Examples of service crossings and connections

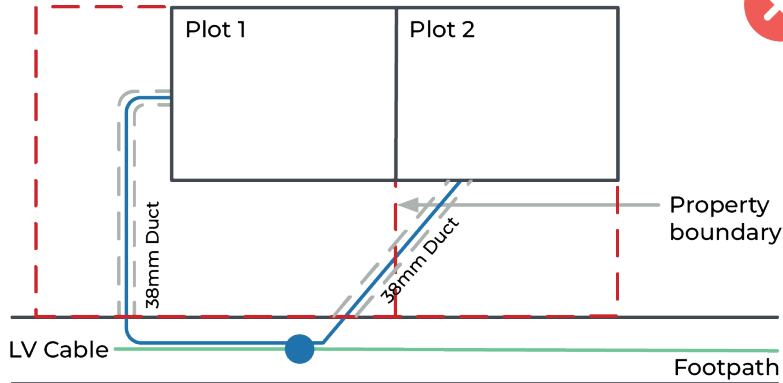
Note:

The below examples demonstrate the requirement for all service cables to take the most direct route from the property towards the point of connection with the mains cable. The service cable must not cross any other land other than that of the property it is supplying.

Acceptable Electricity Service Routes



Unacceptable Electricity Service Routes

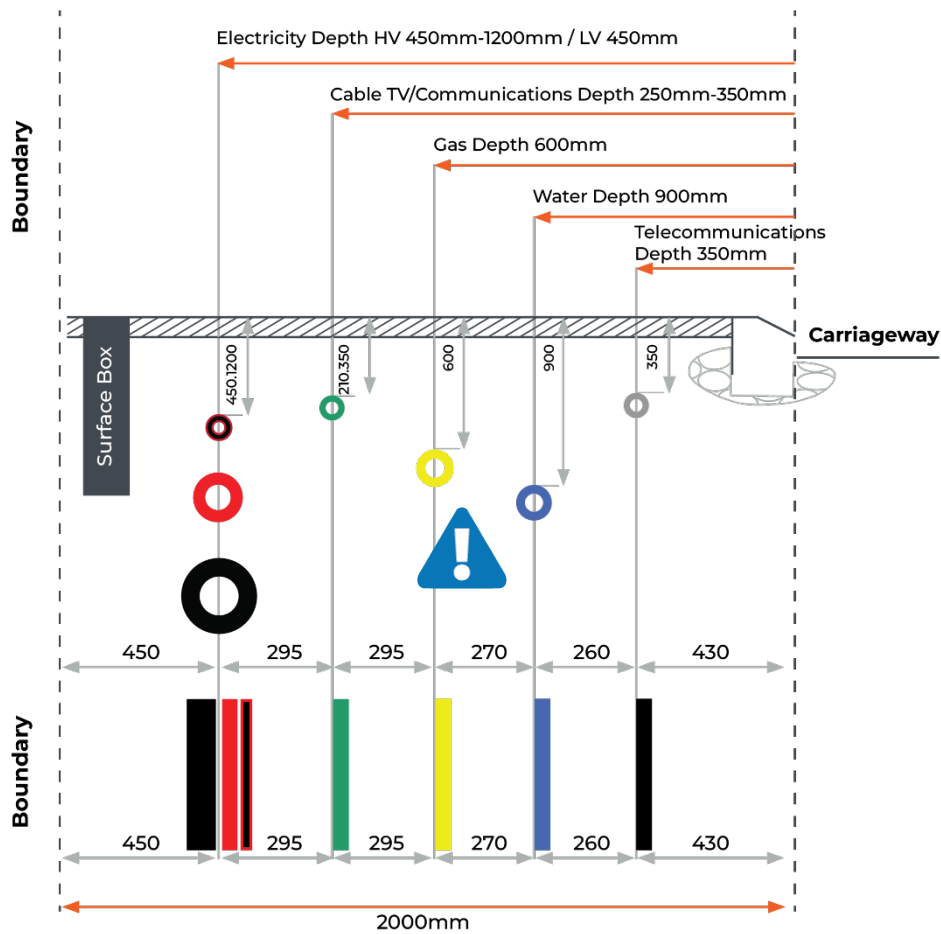


Positioning of services in the highway

National Joint Utilities Group guidelines on the positioning of underground apparatus for a new development. Below shows the recommended positioning for a two-metre footway.

Note:

Where a development has no available footway and the property boundary is adjacent to the carriageway, services should ideally be positioned within the carriageway or service strip, if it is safe and practical to do so (please refer to minimum depth requirements for carriageways). For further guidance, please contact the Project Manager.



Outdoor meter box locations

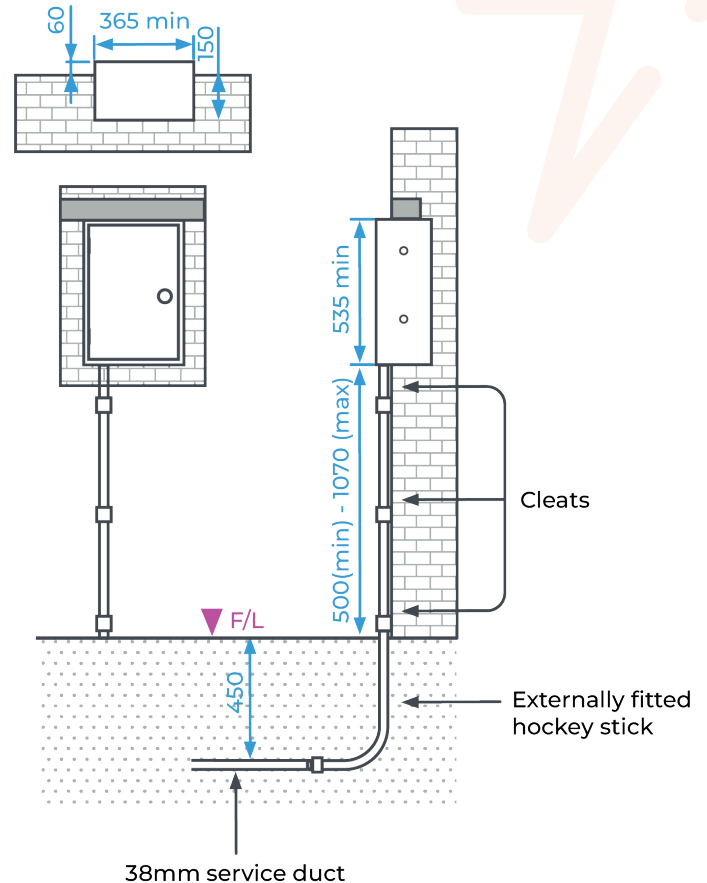
Outdoor meter boxes must be mounted into or onto an external wall located at the front or side elevation of a property. Meter boxes must not be positioned behind a gate or fence as this could restrict access.

Meter boxes must be installed at:

- Maximum height of 1800mm from ground level to the top of the box - to enable access without ladders or steps
- Minimum height of 500mm from ground level to the bottom of the box - to reduce the risk of water entering the box in the event of flooding or fire-fighting activities

Outdoor boxes must not be installed:

- Inside a property
- At the rear of a property
- At the side of the property behind a fence or gate
- Inside a dustbin, coal or refuse store
- Inside a garage or porch
- Underneath a window unless the minimum installation height of 500mm is achievable



Consumer unit location

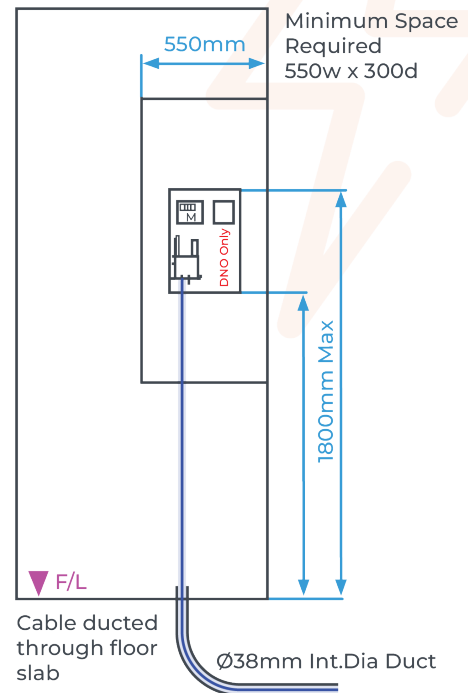
The customer's consumer unit must be located so that the conductors from the electricity cut out are no longer than 3m, to comply with BS7671 regulations. If the unit exceeds this requirement, then suitable switch fused protection must be installed. This protective device must be installed within the 3m limit.

Single phase service cables must be installed vertically up the surface of the wall and enter the meter box from the underside. The cable must be protected by a cable guard board contained within a pipe.

Indoor meter box locations

Indoor meters are accepted as long as the following conditions are met:

- The design of the indoor position does not put contractors or occupiers at risk of coming into contact with live equipment during installation and subsequent building work
- The service cable must be ducted and routed inside or under the building by the shortest and most direct route possible. The internal end of the duct must be sealed immediately after the cable has been installed
- If a suitable brick or block work wall is not available, then a steel sheet at least 1mm thick and earthed should be fixed behind the cut out and meter by Last Mile
- Electric services must have a minimum spacing of 250mm from other services.
- Where a meter is installed in a cupboard in a main access or egress route, then this shall be designated as a protected area and as such shall be 30-minute fire rated
- Unimpeded access to be provided for cut out with 1m fall back distance from cut out to opposite wall



Indoor meters cannot be installed:

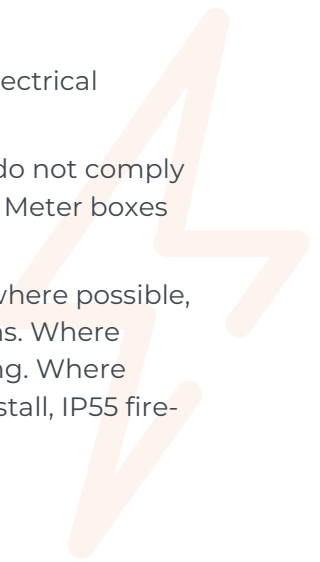
- Inside a dustbin, coal or refuse store
- Inside a toilet, kitchen, bathroom, or utility/wet room
- Above doorways
- On partition walls made of plasterboard, drywall or similar material (without steel plate)
- Under stairs where headroom is less than 2m
- In any location which is in breach of the current edition of BS7671 Requirement for Electrical Installations

Note:

- Standard detail only. Cupboard size and locations may vary from plot to plot.
- Unimpeded access to be provided for cut out with 750mm fall back distance.
- The indoor position shall not put contractors or occupiers at risk of coming into contact with live equipment during installation and subsequent building thereafter.
- The service equipment must be installed on a brick or block work wall.
- Where a risk of drilling into the service cable exists from inside the premises, a steel sheet of at least 1mm thickness to the wall behind the service cable, service termination and meter

shall be installed. This shall be connected to the main earth terminal by the electrical contractor.

- Standard fibreglass outdoor meter boxes are not suitable for indoors as they do not comply with the appropriate British standards for fire resistance and fume emissions. Meter boxes must fully comply with the fire regulations and any local by-laws.
- Where residential supplies are metered internally, the customer must avoid where possible, locating in spaces with localised heating and/or water-based sprinkler systems. Where installed with localised heating, services may be derated with use of 60A fusing. Where installed in spaces with water-based sprinkler systems, the customer must install, IP55 fire-rated enclosures.



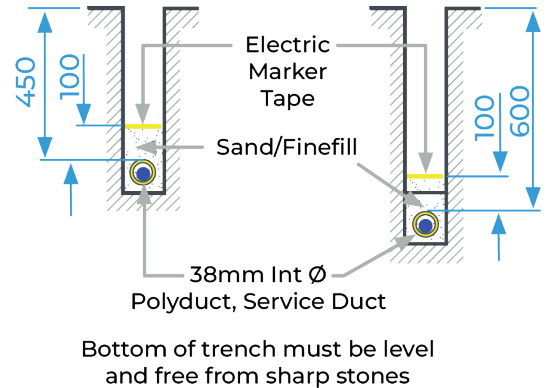
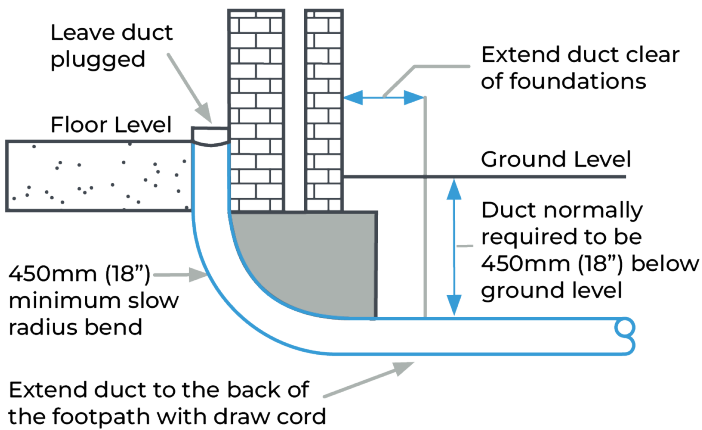
Cable installation

Last Mile are responsible for the supply and installation of all electrical cables onsite in trenches that are to be pre-excavated by the client (unless otherwise stated).

The following minimum depths shall be adhered to when carrying out trench excavations in advance of a cable installation.

Service cable	
Installation	Depth of duct/top of cable
Footpath	450mm
Roadway/Crossing	600mm
Verges	450mm
Agricultural	1000mm

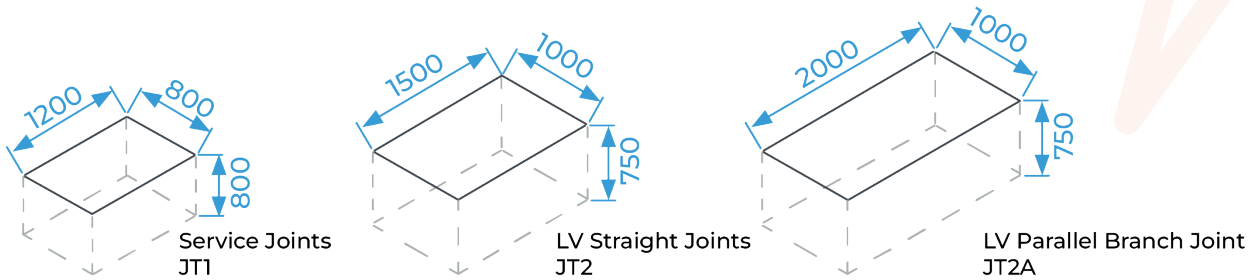
Cable entry into building



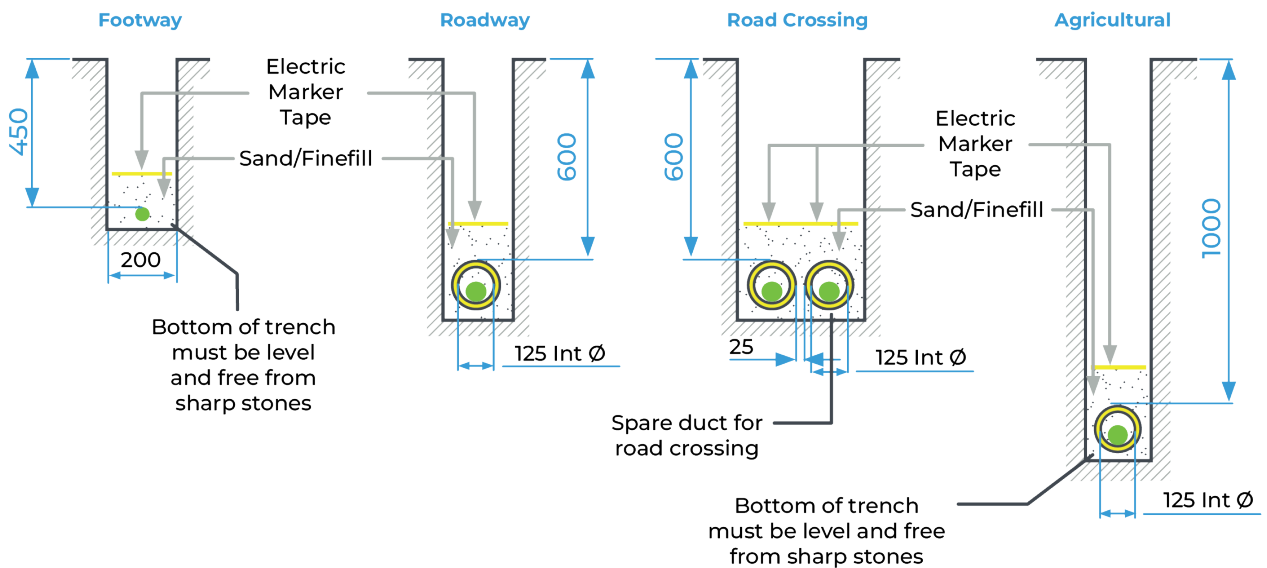
Low voltage mains cable

Electric warning marker tape to ENA TS 12-23 shall be positioned 150mm to a maximum of 250mm directly above all ducts, service and mains cables because on some occasions the developer is responsible for sanding and taping.

Standard joint hole sizes for LV



Low voltage cable	
Installation	Depth of duct/top of cable
Footpath	450mm
Roadway/Crossing	600mm
Verges	450mm
Agricultural	1000mm

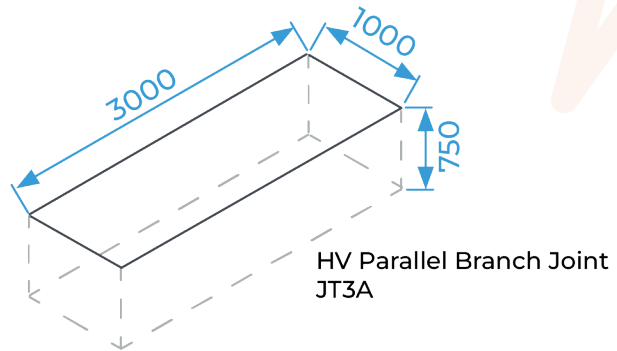
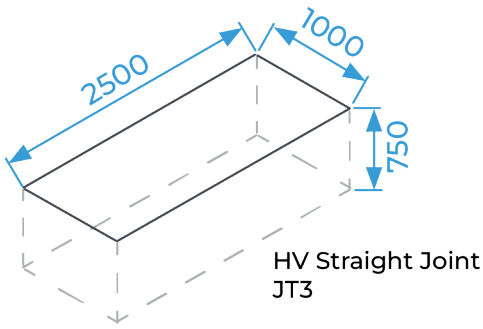


High voltage (11kV) mains cable

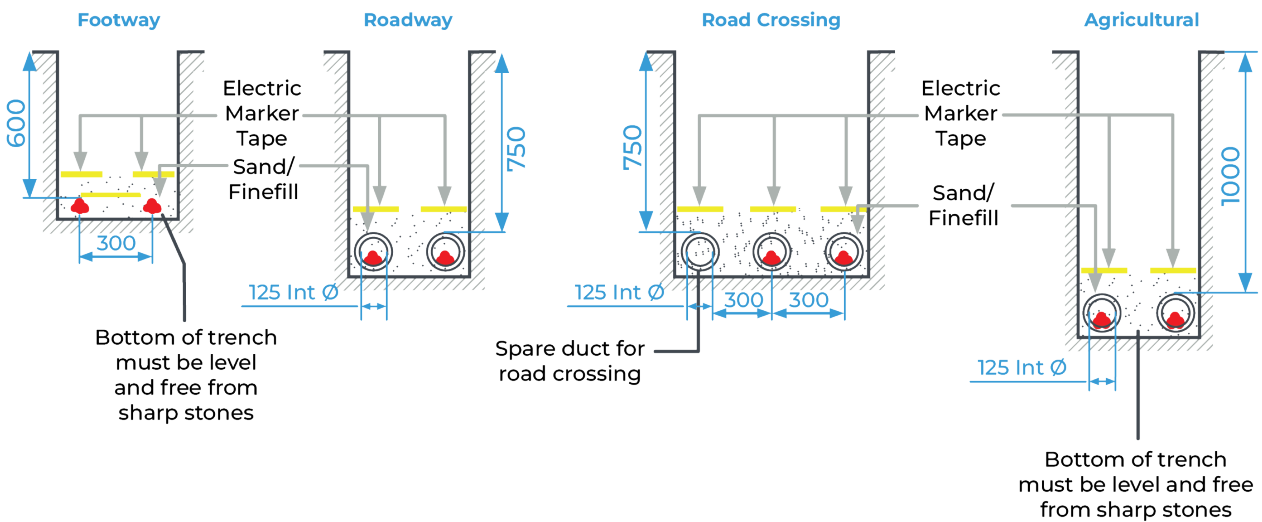
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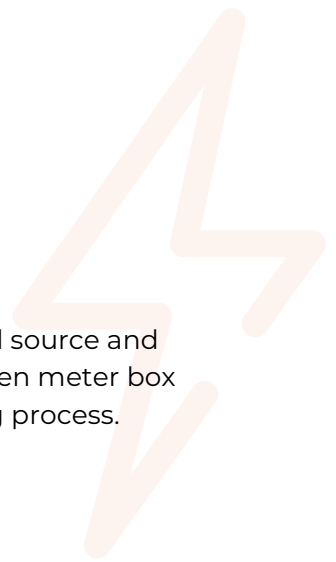
Standard joint hole sizes for HV



High voltage cable	
Installation	Depth of duct/top of cable
Footpath	600mm
Roadway/Crossing	750mm
Verges	600mm
Agricultural	1000mm



Last Mile takes care of your electric connections, as part of a multi-utility or standalone solution, all with one point of contact



Last Mile connection guides

Our connection guides for site managers and builders are an excellent referral source and enable you to ensure that you have the correct ducting, trench depths and even meter box positionings on your development for a smoother connections and energising process.

[Download our Gas and Water connection guides](#)

Free quotation

For a free, no obligation proposal and outline design, email sales@lastmile.co.uk or call us on 03300 587400

