This guide is intended to support your on site teams in the deployment of our minimum requirements for civils infrastructure and wiring required in each premise. All information within this guide is supplied for information purposes only and does not constitute a change in terms of your agreed contract with Virgin Media.

This is a living document and if printed then all information should be treated as subject to change. If you are unsure of any aspect of this document then please refer to your Virgin Media site contact in the first instance for support.
1. All dimensions in millimetres unless otherwise stated.
2. Reinstatement to comply with the requirements of the NRSWA (subject to category).
3. All covers shall have an approved BS standard kite mark to the approval of the Virgin Media Delivery Engineer.
4. All duct ends to be finished with a bell mouth where possible or finished 50mm from edge of interior wall.
5. The maximum number of duct entries into any single wall is 4.
6. All materials and workmanship to be in accordance with the specification.
7. Carriageway covers and frames to be class D 400 to BSEN 124.
8. Concrete base and surround to be low water/cement ratio (low slump) Grade C20/20 for non-aggressive soil conditions, for other soil conditions see Eurocode 2 part 1 sections 3 and 6 recommendations and obtain Virgin Media Delivery Engineers approval prior to construction. The mix design shall take full account of ground sulphate content conditions and comply with table 6.1 of Eurocode 2.
9. Concrete base slab to be placed, tamped and surface finished. Cubis chamber rings to be installed and levelled to suit. Mass concrete surround to be placed and tamped in maximum 100mm lifts around perimeter of chambers up to required level. Due care is to be exercised when placing concrete around ducts.
10. Duct entries vary in number, grouping and orientation. Duct entry positions should be agreed with the Virgin Media Delivery Engineer prior to construction.
11. Draw lines shall be secured inside chambers by tying off to a suitable fixture or by tying to an approved batten.

50mm Min distance between inner wall and outer duct.

100mm Thick Mass Concrete Surround

25mm Min Distance between base of ring and bottom of duct.

Sump with fall in chamber base to grating.

Infill to suit Footway.

831mm (FW6), 666mm (FW4)

1531mm (FW6), 1136mm (FW4)

Internal Dimensions...
FW4 – 915mm x 445mm
FW6 – 1310mm x 650mm

Cubis Stakkabox rings have pre-marked locations for duct entry points on all faces, these must be adhered to and all cuts made with a hole saw.

Cover to be EN124 grade B125, bedded and lanced in 1:3 cement/sand mortar. Covers to have approved labels.

Sump with fall in chamber base to grating.

15mm Min Mortar

If ducts cannot be finished with a bell mouth then finish max 50mm from wall of chamber.
1. All dimensions in millimetres unless otherwise stated.
2. Reinstatement to comply with the requirements of the NRSWA (subject to category).
3. All covers shall have an approved BS standard kite mark to the approval of the Virgin Media Delivery Engineer.
4. All duct ends to be flush with brick/concrete work and in line.
5. The maximum number of duct entries into any single wall is 8.
6. All materials and workmanship to be in accordance with specification.
7. All concrete to be in accordance with BS8110 (EN1992). Reinforced concrete to be minimum grade C40 and subject to the minimum requirements of BS8110 (EN1992). Concrete mix to chambers to be C32/40 with S.R.C used only as directed by the Virgin Media Delivery Engineer.
8. Carriageway frames and covers to be class D400 to BSEN124.
9. All duct ends to be built into brick work with class 1 mortar.

Important – The CW1, 2 and 3 chambers can be either brick built (9” English bond) or Concrete In-Situ. In all situations the opening, depth and width dimensions remain the same. The requirements of the chamber build must be agreed on site by the Virgin Media Delivery Engineer prior to any construction.
1. All dimensions in millimetres unless otherwise stated.
2. Reinstatement to comply with the requirements of the NRSWA (subject to category).
3. All covers shall have an approved BS standard kite mark to the approval of the Virgin Media Delivery Engineer.
4. All duct ends to be flush with brick/concrete work and in line.
5. The maximum number of duct entries into any single wall is 8 No.
6. All materials and workmanship to be in accordance with specification.
7. All concrete to be in accordance with BS8110 (EN1992). Reinforced concrete to be minimum grade C40 and subject to the minimum requirements of BS8110 (EN1992). Concrete mix to chambers to be C32/40 with S.R.C used only as directed by the Virgin Media Delivery Engineer.
8. Carriageway frames and covers to be class D400 to BSEN124.
9. All duct ends to be built into brick work with class 1 mortar.

Important – The CW1, 2 and 3 chambers can be either brick built (9” English bond) or Concrete In-Situ. In all situations the opening, depth and width dimensions remain the same. The requirements of the chamber build must be agreed on site by the Virgin Media Delivery Engineer prior to any construction.

Plan View (Ducts Omitted for Clarity)

Wall openings 450x325mm Max, actual size to be formed to suit duct entries. Voids to be sealed and surfaces made good with class 1 mortar.

Isometric

CW2 ductile iron frame and cover approved and supplied by Virgin Media.

Section A:A

Epoxy Resin (set 20mm Min) below finished level.

Section B:B

Duct separation to be 25mm laterally and vertically.

Epoxy Resin (set 20mm Min) below finished level.

For full details of steel reinforcement please refer to document VMTD0010

Cast in-situ concrete chambers to be constructed of class C32/40 concrete.

Optional 50mm thick sand binding

Galvanised step irons to be fitted in all carriageway chambers, position on the end remote from any side entry duct or as directed by the Virgin Media Delivery Engineer, and away from the sump.

Sump

Voids to be sealed and surfaces made good with class 1 mortar.

Section B:B

Cast in-situ concrete chambers to be constructed of class C32/40 concrete.

Optional 50mm thick sand binding

Galvanised step irons to be fitted in all carriageway chambers, position on the end remote from any side entry duct or as directed by the Virgin Media Delivery Engineer, and away from the sump.

Sump

Voids to be sealed and surfaces made good with class 1 mortar.

Section B:B

Cast in-situ concrete chambers to be constructed of class C32/40 concrete.

Optional 50mm thick sand binding

Galvanised step irons to be fitted in all carriageway chambers, position on the end remote from any side entry duct or as directed by the Virgin Media Delivery Engineer, and away from the sump.

Sump

Voids to be sealed and surfaces made good with class 1 mortar.

Section B:B

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Sump

Voids to be sealed and surfaces made good with class 1 mortar.

Section B:B

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Sump

Voids to be sealed and surfaces made good with class 1 mortar.

Section B:B

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Sump

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Optional 50mm thick sand binding

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Sump

Voids to be sealed and surfaces made good with class 1 mortar.

Section B:B

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Optional 50mm thick sand binding

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Sump

Voids to be sealed and surfaces made good with class 1 mortar.

Section B:B

Cast in-situ concrete chambers to be constructed of class C32/40 concrete.

Optional 50mm thick sand binding

Galvanised step irons to be fitted in all carriageway chambers, position on the end remote from any side entry duct or as directed by the Virgin Media Delivery Engineer, and away from the sump.

Sump

Voids to be sealed and surfaces made good with class 1 mortar.

Section B:B

Cast in-situ concrete chambers to be constructed of class C32/40 concrete.

Optional 50mm thick sand binding

Galvanised step irons to be fitted in all carriageway chambers, position on the end remote from any side entry duct or as directed by the Virgin Media Delivery Engineer, and away from the sump.

Sump

Voids to be sealed and surfaces made good with class 1 mortar.

Section B:B

Cast in-situ concrete chambers to be constructed of class C32/40 concrete.

Optional 50mm thick sand binding

Galvanised step irons to be fitted in all carriageway chambers, position on the end remote from any side entry duct or as directed by the Virgin Media Delivery Engineer, and away from the sump.

Sump

Voids to be sealed and surfaces made good with class 1 mortar.

Section B:B

Cast in-situ concrete chambers to be constructed of class C32/40 concrete.

Optional 50mm thick sand binding

Galvanised step irons to be fitted in all carriageway chambers, position on the end remote from any side entry duct or as directed by the Virgin Media Delivery Engineer, and away from the sump.

Sump

Voids to be sealed and surfaces made good with class 1 mortar.

Section B:B

Cast in-situ concrete chambers to be constructed of class C32/40 concrete.

Optional 50mm thick sand binding

Galvanised step irons to be fitted in all carriageway chambers, position on the end remote from any side entry duct or as directed by the Virgin Media Delivery Engineer, and away from the sump.

Sump

Voids to be sealed and surfaces made good with class 1 mortar.

Section B:B

Cast in-situ concrete chambers to be constructed of class C32/40 concrete.

Optional 50mm thick sand binding

Galvanised step irons to be fitted in all carriageway chambers, position on the end remote from any side entry duct or as directed by the Virgin Media Delivery Engineer, and away from the sump.

Sump

Voids to be sealed and surfaces made good with class 1 mortar.

Section B:B

Cast in-situ concrete chambers to be constructed of class C32/40 concrete.

Optional 50mm thick sand binding

Galvanised step irons to be fitted in all carriageway chambers, position on the end remote from any side entry duct or as directed by the Virgin Media Delivery Engineer, and away from the sump.

Sump

Voids to be sealed and surfaces made good with class 1 mortar.

Section B:B

Cast in-situ concrete chambers to be constructed of class C32/40 concrete.

Optional 50mm thick sand binding

Galvanised step irons to be fitted in all carriageway chambers, position on the end remote from any side entry duct or as directed by the Virgin Media Delivery Engineer, and away from the sump.

Sump

Voids to be sealed and surfaces made good with class 1 mortar.
Wall openings 450x325mm Max, actual size to be formed to suit duct entries. Voids to be sealed and surfaces made good with class 1 mortar.

1. All dimensions in millimetres unless otherwise stated.
2. Reinstatement to comply with the requirements of the NRSWA (subject to category).
3. All covers shall have an approved BS standard kite mark to the approval of the Virgin Media Delivery Engineer.
4. All duct ends to be flush with brick/concrete work and in line.
5. The maximum number of duct entries into any single wall is 8
6. All materials and workmanship to be in accordance with specification.
7. All concrete to be in accordance with BS8110 (EN1992).
8. Reinforced concrete to be minimum grade C40 and subject to the minimum requirements of BS8110 (EN1992). Concrete mix to chambers to be C32/40 with S.R.C used only as directed by the Virgin Media Delivery Engineer.
9. All duct ends to be built into brick work with class 1 mortar.

**Important** – The CW1, 2 and 3 chambers can be either brick built (9" English bond) or Concrete In-Situ. In all situations the opening, depth and width dimensions remain the same. The requirements of the chamber build must be agreed on site by the Virgin Media Delivery Engineer prior to any construction.

**Section A:A**

- Minimum depth 25mm cement sand screed (1:3) with fall to grating.
- Ends of ducts in walls of in-situ chambers to be set flush with inside face of walls.
- Anchor Irons

**Section B:B**

- Duct separation to be 25mm laterally and vertically.
- Epoxy Resin (set 20mm Min) below finished level.
- 254x254mm Galvanised Steel sump grating.
- Optional 50mm thick sand binding
- 150mm uPVC drain pipe and socket plug to BS4660.

Cast in-situ concrete chambers to be constructed of class C32/40 concrete.

CW3 ductile iron frame and cover approved and supplied by Virgin Media.

For full details of steel reinforcement please refer to document VMTD003D
1. All dimensions in millimetres unless otherwise stated.
2. All reinforcement to be T10 bars at 175mm centres except for T25 bars for anchor irons.
3. Covers to Reinforcement to be minimum 35mm.
4. Lap length to be 40ø (all bars).
5. All Reinforcement to be high yield (fy=460) deformed type 2.
6. All Reinforcement to be T10 bars cut and bent in accordance with BS8666.
7. Sump is to be displaced locally to suit Reinforcement.
8. Reinforcement may be displaced to sit between ducts if ducts are cast into wall.
9. T12 bars are to be placed on each face at 175mm centres over duct openings to suit.
10. Step irons and anchor irons (bar marks 06 and 13 respectively) not shown for clarity.

**Bar Schedule FW6**

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<th>Type &amp; Size</th>
<th>No. Of Members</th>
<th>Bar in Each Length of Each Bar</th>
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**Bar Schedule FW10**

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Example 40ø Contact Lap Splice
Plan View (Ducts Omitted for Clarity)

Bar Schedule

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1. All dimensions in millimetres unless otherwise stated.
2. All reinforcement to be T10 bars at 175mm centres except for T25 bars for anchor irons.
3. Covers to Reinforcement to be minimum 35mm.
4. Lap length to be 40ø (all bars).
5. All Reinforcement to be high yield (fy=460) deformed type 2.
6. All Reinforcement to be T10 bars cut and bent in accordance with BS8666.
7. Sump is to be displaced locally to suit Reinforcement.
8. Reinforcement may be displaced to sit between ducts if ducts are cast into wall.
9. T12 bars are to be placed on each face at 175mm centres over duct openings to suit.
10. Step irons and anchor irons (bar marks 06 and 13 respectively) not shown for clarity.
**Terminating a Single Way Duct Configuration at the Last Swept Tee**

54mm Duct leading to property and Termination Box.

End Cap

Minimum 200mm length of 96mm duct where applicable.

96-54mm Swept Tee (as example)

**Terminating a Single Way Duct as an Internal Tee (For use in MDU)**

90° bend to rise above finished floor level by at least 100mm and capped to prevent debris ingress.

Slow bend required to ease cable into final bend.

54mm duct with a 90° bend to termination box.

Core drilled hole between external and internal walls, preferably with a uPVC duct to finish, minimum 15mm Diameter. Cored hole should run at a slight downward angle to prevent moisture ingress.

**External Termination Box (ETB)**

All internal cabling to be coiled in this assembly.

Termination Box (Toby) to be level with the finished ground and a gap of at least 100mm to be left between the box and exterior wall.

250 min cover.

96mm Duct and Tee.

Lean (20:1) Dry Mix Concrete (150 minimum surround to box).

Pin Kerb.

Highway or Footway finished to NRSWA standards.

**Important Note:** If internal wiring is complete before external civils infrastructure is deployed the Termination Box (Toby) should be located immediately opposite the Internal Back-box or below the External Termination Box (ETB). If the external civils infrastructure is complete first then consideration must be given to the placement of the Toby compared to the cable input point at the property.

1. All dimensions in Millimetres unless otherwise stated.
2. Reinstatement to comply with requirements of the NRSWA (subject to category).
3. The installed assembly complies with BSEN124 and should only be installed in line with these guidelines. Any deviation from this install example must be highlighted with the local Virgin Media Delivery Engineer.

Additional notes include:

- Core drilled hole between external and internal walls, preferably with a uPVC duct to finish, minimum 15mm Diameter. Cored hole should run at a slight downward angle to prevent moisture ingress.

**VMTD0011a**

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TechnicalDrawings@virginmedia.co.uk
FTTH and HFC Termination Box

1. All dimensions in Millimetres unless otherwise stated.
2. Reinstatement to comply with requirements of the NRSWA (subject to category).
3. The installed assembly complies with BSEN124 and should only be installed in line with these guidelines. Any deviation from this install example must be highlighted with the local Virgin Media Delivery Engineer.

**Important Note:** If internal wiring is complete before external civils infrastructure is deployed the Termination Box (Toby) should be located immediately opposite the Internal Back-box or below the External Termination Box (ETB). If the external civils infrastructure is complete first then consideration must be given to the placement of the Toby compared to the cable input point at the property.
1. All dimensions in millimetres unless otherwise stated.
2. All reinforcement to be T10 bars at 175mm centres except for T25 bars for anchor irons.
3. Covers to Reinforcement to be minimum 35mm.
4. Lap length to be 40ø (all bars).
5. All Reinforcement to be high yield (fy=460) deformed type 2.
6. All Reinforcement to be T10 bars cut and bent in accordance with BS8666.
7. Any re-bar installation which deviates from the design standards in either VMTD0009 or VMTD0010 must be discussed with the local Virgin Media Delivery Engineer before any work takes place.

Example 40ø Non Contact Lap Splice

Example 40ø Contact Lap Splice
1. All dimensions in millimetres unless otherwise stated.
2. All concrete to be BS8110 (EN1992) grade C20/40.
3. Concrete to be fully compacted.
4. Trim ducts flush with inside face of wall.
5. Cover and frame 916x446 clear opening approved for B125 duty.
6. Frame to have bolting lugs and be bolted down on bedding with cover in place, to ensure there is no rocking.
7. Capped lead outs to be provided as directed by the Virgin Media Delivery Engineer.
8. Chamber depth to be increased with 450 cover at road crossings and decreased for 1 no. duct layer.
9. Bricks to be class B Engineering bricks to BSEN771-1.
10. Chamber for 2 no. to 4 no. ducts in any direction and for 1 no. duct layer on straight through main cable route.

**Plan View**

Wall openings to be arranged on site and confirmed by the Virgin Media Delivery Engineer.

**Isometric**

Virgin Media approved and supplied FW4 concrete inset chamber lid.

**Section B:B**

Galvanised step irons to be fitted in all footway boxes deeper than 700mm. Position on the end remote from any side entry duct or as directed by the Virgin Media Delivery Engineer, and away from the sump.

**Section A:A**

Class 1 mortar to be used in English bond.

**Maximum Duct Arrangement**

150mm Concrete base. Grade C20/40 with A393 mesh.

Minimum depth 25mm cement sand screed (1:3) with fall to grating.

Epoxy Resin (set 20mm Min) below finished level.

25mm Duct separation on all faces.

Optional 50mm thick sand binding

254x254mm Galvanised Steel sump grating.

150mm uPVC drain pipe and socket plug to BS5460.
1. All dimensions in millimetres unless otherwise stated.
2. All concrete to be BS8110 (EN1992) grade C20/40.
3. Concrete to be fully compacted.
4. Trim ducts flush with inside face of wall.
5. Cover and frame 916x446 clear opening approved for B125 duty.
6. Frame to have bolting lugs and be bolted down on bedding with cover in place, to ensure there is no rocking.
7. Capped lead outs to be provided as directed by the Virgin Media Delivery Engineer.
8. Chamber depth to be increased with 450 cover at road crossings and decreased for 1 no. duct layer.
9. Bricks to be class B Engineering bricks to BSEN 771-1.
10. Chamber for 2 no. to 4 no. ducts in any direction and for 1 no. duct layer on straight through main cable route.

Wall openings 450x325 maximum.

Class 1 mortar to be used in English bond.

Virgin Media approved and supplied FW6 concrete inset chamber lid.

Minimum depth 25mm cement sand screed (1:3) with fall to grating.

Galvanised step irons to be fitted in all footway boxes deeper than 700mm. Position on the end remote from any side entry duct or as directed by the Virgin Media Delivery Engineer, and away from the sump.

Epoxy Resin (set 20mm Min) below finished level.

Optional 50mm thick sand binding

254x254mm Galvanised Steel sump grating.

150mm Concrete base. Grade C20/40 with A393 mesh.

Virgin Media approved and supplied FW6 concrete inset chamber lid.
Maximum 8 ducts from all sides of chamber in any combination.

1. All dimensions in millimetres unless otherwise stated.
2. Reinstatement to comply with the requirements of the NRSWA (subject to category).
3. All covers shall have an approved BS standard kite mark to the approval of the Virgin Media Delivery Engineer.
4. The maximum number of duct entries into any single wall is 8.
5. All end ducts to be flush finished with the brickwork and in line.
6. All materials and workmanship to be in accordance with the specification.
7. Concrete base and surround to be low water/cement ratio (low slump) Grade C20/20 for non-aggressive soil conditions, for other soil conditions see Eurocode 2 part 1 sections 3 and 6 recommendations and obtain Virgin Media Delivery Engineer’s approval prior to construction. The mix design shall take full account of ground sulphate content conditions and comply with table 6.1 of Eurocode 2.
8. Concrete base slab to be placed, tamped and surface finished. Mass concrete surround to be placed and tamped in maximum 100mm lifts around perimeter of chambers up to required level. Due care is to be exercised when placing concrete around ducts.
9. Duct entries vary in number, grouping and orientation. Duct entry positions should be agreed with the Virgin Media Delivery Engineer prior to construction.
10. Draw lines shall be secured inside chambers by tying off to a suitable fixture or by tying to an approved batten.

Minimum cover of 250mm (260mm in Scotland)
1. All measurements in millimetres.
2. The standard minimum distance between ducts and edge of trench wall of 25mm applies.
3. The Virgin Media Delivery Engineer must give approval for all concrete backfill against structures before construction begins.
4. The concrete filling shall have expansion joints 20mm wide coinciding with duct joints as may be necessary to ensure that no continuous filling exceeds 9.0m.

Where the dimension "L" is less than 1.0m, the concrete filling shall be taken to the level of the underside of the foundation.

Where the dimension "L" is greater than 1.0m, then the trench shall be filled with concrete to a level which is not lower than the underside of the foundation by more than the distance "V".

For example, if "L" does equal 1m then V should be 850mm which will be the depth of your backfill, this should be considered before aligning any ductwork.
NJUG Requirements for Utilities Layout in a 2m Footway

1. All measurements in millimetres unless otherwise stated.
2. Utilities measurements are distance from outer footway limit with the carriageway.
3. All measurements are minimum depth of cover requirements.
4. Duct/cable routes are indicative and drawn on the basis that all utilities lead straight to the property and do not terminate in the footway with Cable TV being the exception.
6. Please refer to VMTD0017d for full details of duct alignment and backfill requirements in a service trench.

**Remember...**

- Footway Cover – 250mm (260mm Scotland)
- Carriageway Cover – 450mm

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**Virgin Media NJUG Requirements**

Created by Stephen Scott

Authorised by Statutory and Standards

TechnicalDrawings@virginmedia.co.uk

VMTD0017c

Version 1.1 Updated 03/05/2016

Drawing owned and maintained by Virgin Media Technical Drawings. For any queries or feedback please contact...
Formation of footway or carriageway to NRSWA Standards

Fibre Optic Warning Tape (Provided by Virgin Media)

Backfill where necessary to be Class 1A D.O.T Highway Specification under carriageways and arising under footways

Multi Duct (Indicative)

Duct Bedding and Surround

25mm or 65mm in sandy or rocky conditions

25mm

Swept Tee to be fitted to uppermost duct route and closest to the property.

Finished Surface Level

Customer Installation Duct

Preferred Options for Duct Configuration in Footway and Highway Situations

All even numbers of duct in the same trench will be laid in pairs stacked on top of each other, with the exception of some special engineering difficulties which may require a different duct arrangement (to be agreed in advance with the Virgin Media Delivery Engineer).

Odd number duct configurations will have the single duct laid nearest the surface equispaced between the two lower ducts.

1. All measurements in millimetres unless otherwise stated.
2. Reinstatement to comply with the requirements of the NRSWA (subject to category)
3. All duct to be Green, supplied and approved by Virgin Media.
4. Swept Tee’s must always be installed on the uppermost duct line closest to the property.
5. A minimum clearance of 25mm must be left between all Duct routes and edge of trench and base of backfill. Any deviation must be approved in advance with the Virgin Media Delivery Engineer.
1. All measurements in millimetres.
2. This guide is representative of the cabinets utilised across the Virgin Media network, the description and number of homes served is indicative only to give an impression of what cabinets to expect based on the size of your site. Full confirmation of the cabinet types and positioning will be agreed at the planning stage.
3. All cabinets are supplied with the standard Virgin Media cabinet colour of Goose Grey.
4. Please refer to drawing VMTD0034 for obstruction limitations to consider around Virgin Media street cabinets.

VMDD3/HP3 – 900 W x 940 H x 400 W
Distribution Cabinet – 1 per 60 homes max.

VMSD1 – 535 W x 985 H x 315 W
Distribution/Amplifier Cabinet
1 per 30 homes max.

VMDD0 – 535 W x 600 H x 250 W
Distribution Cabinet – 1 per 30 homes max.

VMT1 – 1800 W x 1500 H x 450 W
MSAN (Multi Service Access Node) Cabinet – 1 Per 500 homes approx.

VMD1/HP1 – 1200 W x 1200 H x 400 W
VMD2/HP2 – 1500 W x 1200 H x 400 W
Distribution and Nodal Cabinets
1 per 60 homes max.

VMSD – 535 W x 985 H x 315 W
Distribution/Amplifier Cabinet
1 per 30 homes max.

1. All measurements in millimetres.
2. This guide is representative of the cabinets utilised across the Virgin Media network, the description and number of homes served is indicative only to give an impression of what cabinets to expect based on the size of your site. Full confirmation of the cabinet types and positioning will be agreed at the planning stage.
3. All cabinets are supplied with the standard Virgin Media cabinet colour of Goose Grey.
4. Please refer to drawing VMTD0034 for obstruction limitations to consider around Virgin Media street cabinets.
VMDDi – 535 W x 985 H x 330 D
Distribution Cabinet
1 per 48 Homes (when used as L4)
1 per 512 Homes (when used as L3)

VMDDii – 900 W x 940 H x 400 D
Distribution Cabinet
1 per 96 Homes (when used as L4)
1 per 1024 Homes (when used as L3)

VMVHii – 1800 W x 1700 H x 650 D
Nodal Cabinet (Virtual Hub)
1 per 3000 Homes Approx.

1. All measurements in millimetres.
2. This guide is representative of the cabinets utilised across the Virgin Media network, the description and number of homes served is indicative only to give an impression of what cabinets to expect based on the size of your site. Full confirmation of the cabinet types and positioning will be agreed at the planning stage.
3. All cabinets are supplied with the standard Virgin Media cabinet colour of Goose Grey.
4. Please refer to drawing VMD0034 for obstruction limitations to consider around Virgin Media street cabinets.
5. Please refer to VMD0031a for full details on the other cabinets in the VM range.
Access required to left front side of VMT1 power compartment.

A minimum of 120 mm must be left between the back of any Virgin Media cabinet and any new construction (walls, buildings) post cabinet construction.

Roof portion of VMT1 cabinet should not be obstructed. Full access required for maintenance and cooling.

Primary doors open outwards and no obstructions must be placed in the immediate footprint to the front of any cabinet within the boundary of the public footpath.

Space between VMT1 and VMHP1 must be kept free of obstacles to within the 120 mm minimum distance to the rear of the cabinets.

120 mm Min

320 mm Min

500 mm Min

600 mm Min

600 mm Min

320 mm Min
96mm Duct. Available in 4m lengths, used in all duct configurations requiring 96mm duct runs.

96mm 22.5° Slow Bend. Used to ease main ducting around bends and obstacles. Also used to extend the main 96mm duct towards a building when terminating a Swept Tee in an MDU.

96mm 90° Bend. Used primarily in cabinet root base construction. These bends should not be utilised for moving duct around obstacles due to the limitation on cable bending radius. This piece can be used when bringing a duct into an MDU where trunk cable is used and not drop cable.

96mm to 54mm Swept Tee. A standard lateral connection size where 96mm duct will feed a property from a 96mm main line duct.

54mm Duct. Available in 3m lengths, used in all duct configurations requiring 54mm duct runs.

54mm 90° Bend. Used to turn a 54mm duct up to a termination box at a property. These bends should not be utilised for moving duct around obstacles.

54mm 22.5° Slow Bend. Used to assist a two piece 96/54mm swept Tee towards the property boundary. Used to ease 54mm duct around bends and obstacles where appropriate.

54mm 22.5° Divided Tee Branch. Used to divide the customer connection point when a common access point to two properties can be achieved.

54mm 90° Bend. Used mainly for MDU installation where larger duct capacity is required.

Slip Collar/Coupler. Available for both 96mm and 54mm duct connections, also available as a 96/54mm reducer.

End Cap. Available in 54mm (Yellow) and 96mm (Red).

96mm Swept Tee. Used mainly for MDU installation where larger duct capacity is required.

Need Duct Items for your site?
Contact your local Virgin Media representative to arrange a duct delivery direct to your holding yard. Please allow 7-10 days for delivery so try and give us as much notice as possible.

1. All measurements in millimetres unless otherwise stated.
2. This guide is representative of the duct items utilised and provided by Virgin Media. Where the duct supplied does not meet your site requirements or you have special engineering requirements then please liaise with your Virgin Media site contact to discuss any issues.
3. All duct is manufactured and provided in Green, this is to differentiate our network from other operators and is part of the NJUG standards set out for utilities colouring and usage.
4. Do not use our duct to satisfy the build requirements of other operators, you will be asked to remove any duct used for purposes not within our network plan. On the contrary, do not use other operator duct to complete our on site network build either.
**New Home Pre-Wire to Individual Points**

- **External Termination Box (ETB)**
  - All cables terminated back to this location with 150mm tails and labelled.

- **Master Phone Socket**
  - Copper phone wiring to be terminated in a backbox and finished with a blanking plate, final phone socket connectivity provided at point of customer install by Virgin Media.

- **Single Gang Blanking Plate**
  - Single gang flush mounted wall boxes to contain a 150mm Coaxial tail. Euro Module faceplates can also be utilised for CATV locations if you have other media considerations in your property.

- **2 Pair Copper Telephone Cable**

- **RG6 Coaxial Cable**
  - Triple shielded white Coaxial cable, supplied by Virgin Media.

- **Media Plate (Optional)**
  - Coaxial and copper cables to be coiled behind lower section of media plate. Lower panel to be reserved for Virgin Media use. Please refer to document VMTD0048 for more details.

- **Euro Modules**
  - If Euro Module faceplates are to be utilised then please consider at least 2 Euro Module slots per room for Virgin Media connectivity. Cables to be coiled with a 150mm tail and faceplate to be finished with blanking Euro modules.

- **Single Gang Blanking Plate**

- **2 Pair Copper Telephone Cable**

- **RG6 Coaxial Cable**
  - Triple shielded white Coaxial cable, supplied by Virgin Media.

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  - Coaxial and copper cables to be coiled behind lower section of media plate. Lower panel to be reserved for Virgin Media use. Please refer to document VMTD0048 for more details.

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- **Media Plate (Optional)**
  - Coaxial and copper cables to be coiled behind lower section of media plate. Lower panel to be reserved for Virgin Media use. Please refer to document VMTD0048 for more details.

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  - If Euro Module faceplates are to be utilised then please consider at least 2 Euro Module slots per room for Virgin Media connectivity. Cables to be coiled with a 150mm tail and faceplate to be finished with blanking Euro modules.

- **Single Gang Blanking Plate**

- **2 Pair Copper Telephone Cable**

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- **RG6 Coaxial Cable**
  - Triple shielded white Coaxial cable, supplied by Virgin Media.

- **Media Plate (Optional)**
  - Coaxial and copper cables to be coiled behind lower section of media plate. Lower panel to be reserved for Virgin Media use. Please refer to document VMTD0048 for more details.

- **Euro Modules**
  - If Euro Module faceplates are to be utilised then please consider at least 2 Euro Module slots per room for Virgin Media connectivity. Cables to be coiled with a 150mm tail and faceplate to be finished with blanking Euro modules.

- **Single Gang Blanking Plate**

- **2 Pair Copper Telephone Cable**

- **RG6 Coaxial Cable**
  - Triple shielded white Coaxial cable, supplied by Virgin Media.

- **Media Plate (Optional)**
  - Coaxial and copper cables to be coiled behind lower section of media plate. Lower panel to be reserved for Virgin Media use. Please refer to document VMTD0048 for more details.

- **Euro Modules**
  - If Euro Module faceplates are to be utilised then please consider at least 2 Euro Module slots per room for Virgin Media connectivity. Cables to be coiled with a 150mm tail and faceplate to be finished with blanking Euro modules.

- **Single Gang Blanking Plate**

- **2 Pair Copper Telephone Cable**

- **RG6 Coaxial Cable**
  - Triple shielded white Coaxial cable, supplied by Virgin Media.
- All cable supplied by Virgin Media.
- A minimum of 2 Coaxial sockets (master bedroom and living room) per property. Further sockets can be agreed with local Virgin Media New Build teams.
- All cabling must be labelled in the ITB to highlight its destination.
- All CATV sockets must be installed within 1m of a power outlet.
- Individual cable lengths should not exceed 30m, please seek advice before wiring if this isn’t possible.
- 150mm minimum tails to be left coiled in each back box.
- Cables must be separated from low voltage electrical cabling by at least 50mm. Our cable may only be installed adjacent to LV power cabling where LV cables are installed in a separate conduit or are of a mineral insulation or armoured construction.

**External Termination Box**
Single Siamese drop cable run from internal Termination Box location and coiled with a 150mm tail.

**Single Gang Blanking Plate**
Single gang flush mounted wall boxes to contain a 150mm Coaxial tail.

**RG6 Siamese Cable**
Triple shielded white Coaxial cable and 2pr Telco cable, supplied by Virgin Media.

**RG6 Coaxial Cable (Optional)**
Triple shielded white Coaxial cable, supplied by Virgin Media. RG6 cable used where no phone socket is required in a room.

**Master Phone Socket**
Incoming Telco from Siamese terminated in Master socket, any returning telco cables from Internal Siamese runs connected as extensions through the Master socket.

**Internal Termination Box (ITB)**
PVC termination box supplied by Virgin Media. All internal wiring to be terminated back to this location. This must be located next to a dual 13A power socket to allow mains power for our equipment.

**Small (Krone 220A) - 170 x 120 x 80 HWD**
**Medium (Krone 251A) - 210 x 160 x 90 HWD**
**Large (Krone250/7) - 236 x 176 x 98 HWD**

**Media Plate (Optional)**
Coaxial and copper cables to be coiled behind lower section of media plate. Lower panel to be reserved for Virgin Media use. Please refer to document VMTD0048 for more details.

**Example Comm’s Cupboard**
RG6 Siamese Cable
Triple shielded white Coaxial cable and 2pr Telco cable, supplied by Virgin Media.

**Extension Phone Socket (Optional)**
Telco cable from Siamese drop looped into standalone Telco socket.
The DETA EuroModule compliant face plates are an easy fit option for any new build home. Available in a selection of finishes from White to Satin and Brushed Chrome finishes you will find a version to suit the finish of your new build home.

Virgin Media recommends the use of the DETA 1975 series of lounge plates which incorporate fixed 13A power sockets and an option for up to 6 module spaces for expansion.

We advise that at least 2 EuroModule sockets are retained for use by Virgin Media in the lower part of the media plate. Currently, we supply the brush entry plates which allows us to pull our Coaxial cable through the media plate and connect to customers equipment.

Virgin Media Euro Module with In Line Isolator
Our branded Euro module outlet allows you to have a single fixed master Coaxial socket in a Euro module faceplate without the need for additional wall-boxes. These units are supplied by Virgin Media, please specify in advance if you require these.

RJ45 (Ethernet) EuroModule
Ideal if you are pre-wiring you house with Ethernet sockets back to a patch panel in a comms or electrical cupboard.

Brush Entry EuroModule
Available in varying colours, these 50x50mm entry plates take up 2 module slots in your Media Plate. We require this access to pull through our coaxial cable at the point of customer install if you don’t use our Euro Module.

HDMI EuroModule
A pass through face plate allowing you to have a fixed HDMI point, very useful for prewiring to a wall mounted TV location. If using this module then please ensure this is used in the upper row of the faceplate.

This model of media plate allows 3 modules per row, we require at least 2 module spaces in the lower row which we will supply brush plates for if required.

If you are connecting a phone extension through your media plate then we request you connect this in the lower row as well and punch down to a suitable RJ11 module. The 2pr extension cable should then be run back to the master phone socket location.

If you wish to utilise a Media Plate as a master socket then please discuss with your Virgin Media site contact before completing any wiring to ensure suitability.

HDMI modules are best connected in the upper plate or in a standalone back-box next to your media plate if you are also deploying a dual satellite feed. You might struggle to fit an HDMI cable plus 2 coaxial feeds in one row.

HDMI modules are best connected in the upper plate or in a standalone back-box next to your media plate if you are also deploying a dual satellite feed. You might struggle to fit an HDMI cable plus 2 coaxial feeds in one row.

RJ11 (Telephone) EuroModule
This module allows the connection of a single phone socket either as a master or an extension. Ideally we require you fit a master Telephone socket for us at the main ingress point of the property, next to the BT socket if applicable.

Please discuss your on site Telephone requirements with your Virgin Media Site Engineer before deploying any final wiring.

Example EuroModules...
- All cable supplied by Virgin Media.
- A minimum of 2 Coaxial sockets (master bedroom and living room) and 1 Telephone socket per property. Further sockets can be agreed with local Virgin Media New Build teams.
- All cabling must be labelled at the termination box to highlight its destination.
- All CATV and Telco sockets must be installed within 1m of a power outlet.
- Individual cable lengths should not exceed 15m, please seek advice before wiring if this isn't possible.
- 150mm minimum tails to be left coiled in each back box.
- Cables must be separated from low voltage electrical cabling by at least 50mm. Our cable may only be installed adjacent to LV power cabling where LV cables are installed in a separate conduit or are of a mineral insulation or armoured construction.

**Master Phone Socket**

2pr cable to be terminated in a flush mounted back box and finished with a blanking plate.

**Euro Modules**

If Euro Module faceplates are to be utilised then please consider at least 2 Euro Module slots per room for Virgin Media connectivity. Cables to be coiled with a 150mm tail and faceplate to be finished with blanking Euro modules.

**RG6 Siamese Cable**

Twin core Coaxial and 2pr cable from central point in MDU run back to central distribution point in building (i.e. Lockbox)

**RG6 Coaxial Cable**

Triple shielded white Coaxial cable, supplied by Virgin Media.

**Internal Termination Box (ITB)**

PVC termination box supplied by Virgin Media. All internal wiring to be terminated back to this location. This must be located next to a dual 13A power socket to allow mains power for our equipment.

**Single Gang Blanking Plate**

Single gang flush mounted wall boxes to contain a 150mm Coaxial boxes.

**Extension Phone Socket (Optional)**

Coaxial and copper cables to be coiled behind lower section of media plate. Lower panel to be reserved for Virgin Media use. Please refer to document VMTD0048 for more details.

**Media Plate (Optional)**

Coaxial and copper cables to be coiled behind lower section of media plate. Lower panel to be reserved for Virgin Media use. Please refer to document VMTD0048 for more details.

**Internal Termination Box (ITB)**

PVC termination box supplied by Virgin Media. All internal wiring to be terminated back to this location. This must be located next to a dual 13A power socket to allow mains power for our equipment.

**Small (Krone 220A) - 170 x 120 x 80 HWD**

**Medium (Krone 251A) - 210 x 160 x 90 HWD**

**Large (Krone250/7) - 236 x 176 x 98 HWD**

**Single Gang Blanking Plate**

Single gang flush mounted wall boxes to contain a 150mm Coaxial boxes.

**Extension Phone Socket (Optional)**

Coaxial and copper cables to be coiled behind lower section of media plate. Lower panel to be reserved for Virgin Media use. Please refer to document VMTD0048 for more details.

**Media Plate (Optional)**

Coaxial and copper cables to be coiled behind lower section of media plate. Lower panel to be reserved for Virgin Media use. Please refer to document VMTD0048 for more details.

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PVC termination box supplied by Virgin Media. All internal wiring to be terminated back to this location. This must be located next to a dual 13A power socket to allow mains power for our equipment.

**Small (Krone 220A) - 170 x 120 x 80 HWD**

**Medium (Krone 251A) - 210 x 160 x 90 HWD**

**Large (Krone250/7) - 236 x 176 x 98 HWD**

**Single Gang Blanking Plate**

Single gang flush mounted wall boxes to contain a 150mm Coaxial boxes.
All cable and blown fibre tubing supplied by Virgin Media.
- A minimum of 2 sockets (master bedroom and living room) per property. Further sockets can be agreed with local Virgin Media New Build teams.
- All cabling and tubing must be labelled in the ITB cupboard to highlight its destination.
- All sockets must be installed within 1m of a power outlet.
- Individual cable lengths should not exceed 15m, please seek advice before wiring if this isn’t possible.
- 150mm minimum tails to be left coiled in each back box.
- Cables must be separated from low voltage electrical cabling by at least 50mm. Our coaxial cable may only be installed adjacent to LV power cabling where LV cables are installed in a separate conduit or are of a mineral insulation or armoured construction.
- For future proofing of your property, we recommend CAT6 cable installation from each point back to the same location as the ITB.
- Blown fibre tubing must be installed with no joints to allow future fibre installation. Care must be taken when installing to ensure no kinks or blockages are created.

- All cable and blown fibre tubing supplied by Virgin Media.
- A minimum of 2 sockets (master bedroom and living room) per property. Further sockets can be agreed with local Virgin Media New Build teams.
- All cabling and tubing must be labelled in the ITB cupboard to highlight its destination.
- All sockets must be installed within 1m of a power outlet.
- Individual cable lengths should not exceed 15m, please seek advice before wiring if this isn’t possible.
- 150mm minimum tails to be left coiled in each back box.
- Cables must be separated from low voltage electrical cabling by at least 50mm. Our coaxial cable may only be installed adjacent to LV power cabling where LV cables are installed in a separate conduit or are of a mineral insulation or armoured construction.
- For future proofing of your property, we recommend CAT6 cable installation from each point back to the same location as the ITB.
- Blown fibre tubing must be installed with no joints to allow future fibre installation. Care must be taken when installing to ensure no kinks or blockages are created.
We supply a range of powder coated galvanised steel distribution boxes for terminating drop cables in an MDU. Available in three sizes depending upon the number of units being supplied:

- **Small** – 400 x 300 x 210 HWD – 16 Units
- **Medium** – 700 x 500 x 260 HWD – 32 Units
- **Large** – 1000 x 800 x 300 HWD – 64 Units

If internal trunk cabling is to be utilised for a larger MDU then this will be installed by Virgin Media cabling engineers, otherwise the RG6 siamese cabling will be run back to the primary distribution box.

The primary distribution cabinet should always be installed directly above or next to the incoming 96mm duct feed, so there is no more than 3m distance between the cable run within a building.

Internal RG6 Siamese cabling run from each primary connection point within each unit back to either a primary or secondary distribution cabinet. Actual cabling termination points to be confirmed on site with your Virgin Media representative.

All cable supplied by Virgin Media.

- A minimum of 2 sockets (master bedroom and living room) per unit. Further sockets can be agreed with local Virgin Media New Build teams.
- All cabling must be labelled in the distribution cabinet to highlight its destination.
- All sockets must be installed within 1m of a power outlet.
- Individual cable lengths should not exceed 15m, please seek advice before wiring if this isn’t possible.
- 150mm minimum tails to be left coiled in each back box.
- Cables must be separated from low voltage electrical cabling by at least 50mm. Our coaxial cable may only be installed adjacent to LV power cabling where LV cables are installed in a separate conduit or are of a mineral insulation or armoured construction.

Primary or secondary Distribution box with feed to primary or external cabling.
Our external trunk cabling will be delivered along reinforced blown fibre micro duct bundles. These cables will be used between our technical sites and all main fibre cabinets in the field.

All internal wiring from either an internal distribution point or in home wiring will be our standard range of blown fibre single micro tubes. With an OD of only 6mm they are easy to install alongside existing cabling runs.

Some New Build sites may only use DD3i or SD1i cabinets and not both, the DD3i supports around 96 customers while the SD1i supports around 48.

Blown fibre tubing from distribution points to Internal MDU boxes will be rated to BS7629 for low smoke fire protection and suitable for internal use within a property. The type and number of blown tubes utilised will depend upon the requirements of the building and what network architecture is being used.

For standard build homes (Non MDU) then each property will have a dedicated blown fibre tube from the nearest serving cabinet directly to the property ingress point.

Please Note - Equipment and tubing images are examples, actual equipment may vary.
Here are all your local New Build contacts, get in touch and we can discuss your site requirements.

If you cannot find a suitable contact then please liaise with our central admin team.

newbuild@virginmedia.co.uk – 0800 408 0088

North
Regional New Build Manager
Jeff Hogan – jeff.hogan@virginmedia.co.uk – 07816 167 052

New Build Officer
North West/Yorkshire - Edwin McLean – edwin.mclean@virginmedia.co.uk – 07989 335 827
Scotland - Alan McLeod – alan.mcleod@virginmedia.co.uk – 07985 805 965
Scotland - Paul McLeod – paul.mcleod@virginmedia.co.uk – 07890 544 791
North East/Cumbria - Stephen Scott – stephen.scott@virginmedia.co.uk – 07581 195 829
North West/Manchester - Gerard Keogh – gerard.keogh@virginmedia.co.uk – 07855 806 462
North West/Lancashire & Merseyside - Amanda Clare – amanda.clare@virginmedia.co.uk – 07890 534 852
Yorkshire - Steve Travers – stephen.travers@virginmedia.co.uk – 07985 806 553

Central
Regional New Build Manager
Andrew Pritchard – andrew.pritchard@virginmedia.co.uk – 07771 600 669

New Build Officer
East Mids - Liam Thompson – liam.thompson@virginmedia.co.uk – 07776 171 553
West Mids/East & Gloucester - Rob Searcy – robert.searcy@virginmedia.co.uk – 07792 290 896
West Mids/West and South Wales - Dave Starkey – david.starkey@virginmedia.co.uk – 07815 060 949
South West - Phil Henderson – phil.henderson@virginmedia.co.uk – 07952 230 461
East Mids/North - Dan Murray – daniel.murray@virginmedia.co.uk – 07813 920 812
East Mids/South - Duane Lewin – duane.lewin@virginmedia.co.uk – 07771 971 177

South
Regional New Build Manager
Anne Marie Smith – anne.smith@virginmedia.co.uk – 07966 833 255

New Build Officer
London West - Paul Rosi – paul.rosi@virginmedia.co.uk – 07985 807 162
London West - Steve Hallam – steve.hallam@virginmedia.co.uk – 07816 141 714
London East - Chris Wood – chris.wood3@virginmedia.co.uk – 07890 526 790
London East - James Ellery – james.ellery@virginmedia.co.uk – 07792 180 133
South East/South Central - Liam Ferguson – liam.ferguson@virginmedia.co.uk – 07976 429 690
South Central - Tom Grant – tom.grant@virginmedia.co.uk – 07816 662 132
South East - Mark Munday – mark.munday@virginmedia.co.uk – 07816 141 790
East Anglia - Neville Thorogood – neville.thorogood@virginmedia.co.uk – 07985 803 663
Herts/Beds - Alex Bunch – alex.bunch@virginmedia.co.uk – 07580 708 398

Business Development
Jessica Valentine-Hagart – jessica.valentine-hagart@virginmedia.co.uk – 07870 380 587
Luke Pinder – luke.pinder@virginmedia.co.uk – 07583 685 415

Site Progress
National New Build Site Progress Manager - Nathan Belfield – nathan.belfield2@virginmedia.co.uk – 07890 545 079