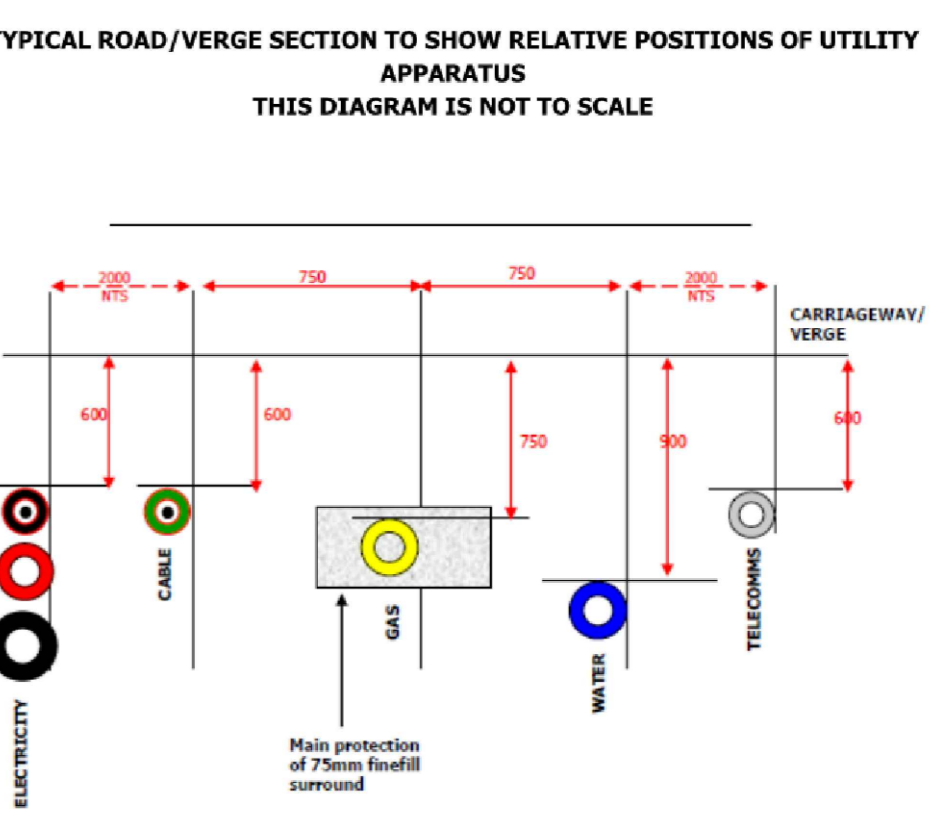
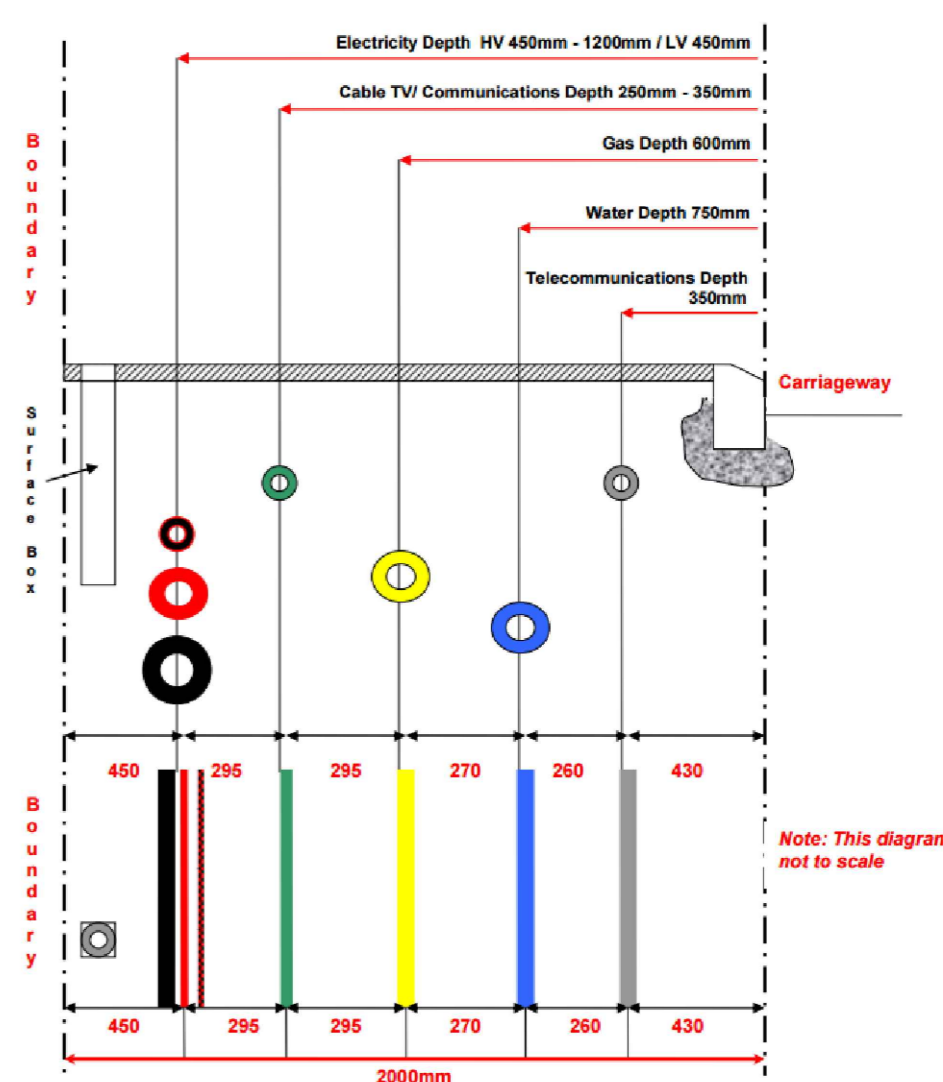


FIGURE 1 - Recommended Positioning of Utility Apparatus in a 2 metre Footway
 This diagram shows the recommended positioning of utility apparatus in a 2 metre footway. The diagram is not to scale. The diagram shows the relative positions of utility apparatus in a 2 metre footway. The diagram is not to scale.



LEGEND

	Water main (See Water Notes Section)
	Gas main (See Gas Notes Section)
	Electricity main (See Electric Notes Section)
	Electricity Private distribution circuit (100 # Orange ENATS 12-24 duct)
	Electric service-pole/lighting (within 30mm OD Block ENATS 12-24 duct)
	Electricity HV main (See Electric notes Section)
	Electrical - Spare road crossing duct reqd (See Electric notes Section)
	Electrical - Additional ducting to mains where in; verge, footpath, or parking area, plot frontage (125mm I.D.), Start & end points depicted
	Electrical HV main Cable draw pit chamber to UKPN details
	Openreach fibre 90mm PVC distribution ducts route (ducts free issue) - (See Notes)
	Openreach 50mm PVC fibre service duct - free issue (See Notes)
	Openreach Fibre pit/chamber (lids and frames free issue) - (F104 denotes footpath chamber type 104 / blackbox, C104=Carriageway chamber)
	Indicates drainage/sewer manhole
	Indicates Gas meter position (E = External Wet Mixture O = External Meter - semi covered)
	Indicates Elect meter position (E = External Wet Mixture O = Internal Meter)
	Indicates water meter position
	Light Bollard (as DW Windsor manufacture)
	Lighting Feeder Pillar - Back finish (as Thom & Derek or equal, size determined by Elect Contractor to house all control gear, cutouts, sensor and by pass switching)

- NOTES**
- 1) NJUG guidance to be followed in reference to depths and typical spacings. Settings out by utility & groundworks contractor. All trenching and ducting by groundworks contractor.
 - 2) Water, Elect & Gas to be ducted where crossing beneath roadways for any water course if applicable to utility requirements within utility specific type & colour service ducts and marker tape cover. Utility distribution routes are generally and where feasible in verge zones or footpaths, as applicable to the sites of development to be developed. Ducting to be smooth internal bore. Install draw ropes to all ducting. Marker tape cover for identification. Provide draw ropes to all ducts.
 - 3) By Groundworker: Electric ducts back ENATS 12-24 spec 100mm I.D. smooth internal bore beneath roads for mains and apartment block entries. 30mm O.D single service duct. Block ENATS 12-24 smooth internal, from point of network connection (main into house & F104 pits). Marker tape cover for identification. 30mm O.D Block ENATS 12-24, smooth internal bore, ducts from network into light columns/boxes where applicable 30mm O.D beneath roads. Marker tape cover for identification. Provide draw ropes to all ducts.
 - 4) By Groundworker: Gas ducts which are solid yellow non-perforated smooth internal bore type, where crossing beneath estate roads, which shall be as utility type grade. 100mm I.D. yellow perforated smooth bore type gas duct type outside road (see Gas Notes Section) to plots from the Footpath mains to the plot service gas meter. On services between the meter outlet and the plot internal meter service location (within plot structure lines) install a continuous non-perforated, smooth internal bore gas duct with 100 joints (i.e. continuous from entering the structure line to any internal meter point). Marker tape cover over any gas ropes for identification.
- Note: Gas Mains/Services ducting for 90mm dia. Pipes & Over shall be as follows:
 Up to & end 60mm pipe = 100mm I.D. duct
 90mm pipe = 100mm I.D. duct
 120mm pipe = 200mm I.D. duct
 150mm pipe = 200mm I.D. duct
 180mm pipe = 300mm I.D. duct
 210mm pipe = 400mm I.D. duct
 240mm pipe = 400mm I.D. duct
 315mm pipe = 400mm I.D. duct
- IMPORTANT - See guidance notes above to ascertain where duct is perforated, or non-perforated type.
- On any ducts install draw ropes.
- 5) By Groundworker: Water ducts to plots for pipe sizes less than 63mm O.D. will be 100mm I.D. solid blue water duct, smooth internal, as utility spec beneath roads and 100mm I.D. blue water duct from meter to water meter and from water meter into house etc. All ducts to be marked crossing beneath roads to be the solid blue ducts smooth internal to utility spec.
- Up to & end 60mm pipe = 100mm I.D. duct
 90mm pipe = 100mm I.D. duct
 120mm pipe = 200mm I.D. duct
 150mm pipe = 200mm I.D. duct
 180mm pipe = 300mm I.D. duct
 210mm pipe = 400mm I.D. duct
 240mm pipe = 400mm I.D. duct
 315mm pipe = 400mm I.D. duct
- 6) Openreach Fibre / Copper Developers Guide as applicable to supply and installation work. Groundwork contractor to supply and install. Openreach approved standards and general workmanship requirements. Install draw ropes. Coordinate with the PWS, P4, meters and align with lids and frames and appropriate markings and marker posts as required.
- 7) Any Street light columns/bollards to be erected by ground worker. Racking to Local Authority standards on main/corridorways. Install Thom & Derek meter lids. Feeder pillar (back finish) provided free issue by the electrical contractor when required and depicted with applicable foundation base details and ducted entries. Refer to the drawing & lighting scheme design drawings for light column / bollard fitting, and feeder pillar location. 30mm O.D ENATS 12-24 ducts for cable entries into light columns in footpath area where duct crosses road 100mm I.D. Block ENATS 12-24, change over lighting duct to provide solid draw ropes & marker tape.
- 8) Allowance to be made by groundworker for coordinating directly with both utilities and Dandara in programming, sequencing utility installation works. Free issue materials procurement, call-offs and installation inspection and sign-offs with utility representatives. Ensure any applicable utility site distribution or connection forms to enable Dandara to secure any payment due on installation work where they apply e.g. Openreach.
- 9) Refer to notes, F104 and apartment block type Foundation detail drawings to ascertain grouping / setting out of service entries into each plot. These are indicative as it may not be possible to always group all services into a single trench / point of entry to the plot due to plot internal layout, plot boundaries & the plots site situation. See Dandara Foundation services drawings.
- 10) Include draw lines/ropes to all ducts include for gas/water/light seals to facing ducts.
- 11) Groundworker to lay free issue Water poly service pipe from network main VA ducting into house ramp location, including crossing beneath road, where main is on the opposite side of the road. The Groundworker will supply and install draw rope thermal insulation to the service pipe from 1 meter prior to passing through external wall underfoot. Then below the plot property boundary through to the internal ramp location in accordance with the Water Regulations. Seal both duct ends.
- 12) The Gas Utility/Services installer will lay the Gas poly service pipe from main VA duct to meter in house location, including crossing beneath the duct, where main is on the opposite side of the road.
- 13) Ducts to be laid in position during any job coating, as setting out as mentioned. Double check to be made and sign off prior to casting commencement. Dandara construction team sign off as mentioned.
- 14) Installed ducts to be temporarily sealed to prevent water, dust & debris ingress during construction.
- 15) Refer to Dandara Foundation series design for plot specific ductservice entry routes.
- 16) Important note - In instances where a project drawing exists depicting Tree root locations by existing trees root protection the contractor is to follow the recommendations of BS5837 and NUGA V4 Issue 2 (N1) in regards to works along utility lines. Generally any project works for this scenario will need to be done in coordination as required with any arboricultural and arboricultural consultant in relation works to any trees and to agree methods & timings. Please refer to any project Tree Protection Plans that may exist.
- 17) RECORD INFORMATION - The groundwork contractor will record mains & services actual installed plotted routes as they are laid during the progress of construction. The information will be accurately augmented into a finalised formal drawing plans and made freely available for health & safety use. The drawings will be laid up site during the course of construction and released periodically and as requested, so parties possess correct information regarding health & safety, and with a view to development as laid records upon project completion.
- IMPORTANT NOTE**
 THIS DRAWING IS PRELIMINARY & INDICATIVE AND SUBJECT TO THE FINAL RECEIPT OF ALL UTILITY FIXED DESIGNS. USE DANDARA TBS SERIES DRCS FOR COORDINATE INFORMATION. REFER TO UTILITY SPECIFIC DRAWINGS FOR OUTLINE DESIGN DISTRIBUTION PRINCIPLES, COMPONENTS, SIZES, COVER LEVELS & DUCTING REQUIREMENTS etc.
- GAS & ELECT DRAWINGS:**
 For outline design info refer to the most current versions of:

REV.	DESCRIPTION	DATE	BY
C1	CONTRACT ISSUE - Final design for 2 plots + Plot House from SEV and FRS hydrants shown	28.11.19	JF
T6	TENDER ISSUE - Openreach Agreed Design	05.07.19	JF
T5	TENDER ISSUE - Cabins & Materials compound UKPN TBS notes & scope updated. Openreach at Bank of Plot House shown Above Get Gas Gov & gas an agreed GTC route	19.06.19	JF
T4	TENDER ISSUE - Above Get Gas Gov, as reqd by GTC. One Plot of Comm. option from 164/165	11.06.19	JF
T3	TENDER ISSUE - update to notes 4 & 11 reference water scope pits & insulation	09.05.19	JF
T2	TENDER ISSUE - Spare Elect & BT ducts added for possible services at junction of development & Claygate Rd	12.04.19	JF
T1	TENDER ISSUE	30.05.18	JF
P2	Feeds to Plot House Added	30.01.18	JF
P1	OUTLINE FOR UTILITY QUOTES / SCHEMES	29.01.18	JF
REV.	AMENDMENT	DATE	BY

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TEL: 01893 898822 Email: sales@dandara.co.uk Website: www.dandara.co.uk

CLIENT: LADDINGFORD DEVELOPMENTS LTD

PROJECT: CLAYGATE YARD, LADDINGFORD KENT

DRAWING: COORDINATED UTILITIES

STATUS: TENDER

SCALE: 1:250 @AO DATE: Jan 2018

JOB NO: LN35 NAME: JRF

DRAWING NO: 1700.02 (Sht 2 of 2) REV: C1

IMPORTANT NOTE:
 ARRANGEMENTS ARE INDICATIVE. FOLLOW NJUG & UTILITY DEVELOPER GUIDES FOR FULL INSTALLATION REQUIREMENTS & COORDINATE DIRECTLY WITH UTILITY APPOINTED SITE REPRESENTATIVES / PROJECT MANAGERS / DEPTS FOR PROJECT SPECIFICS, WORKS & CONNECTIONS BOOKINGS.
 REFER TO DANDARA ARCHITECTURAL PLOT FOUNDATION SERIES DRAWINGS FOR LOCATIONS OF UTILITY POP-UP ROUTING LOCAL TO/WITHIN INDIVIDUAL PLOTS

