



Economy, Transport and Environment Department

Technical Guidance Note TG20 Technical Guidance Note - Utilities

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1. Introduction

- 1.1. The approach of this document is to provide guidance on the process of identifying and locating utilities within the highway. It also highlights key elements of the design that need to be considered carefully when designing and positioning new services, particularly those associated with new developments.

2. Definitions and Abbreviations

C2	Preliminary Inquiry made to SUs to obtain location of their apparatus
HCC	Hampshire County Council
Inset Company	See NAV
NAV	New Appointment Variation - Where an independent water and wastewater company replaces an incumbent as the water and or wastewater undertaker for a defined piece of geography within England and Wales. The NAV process is laid out in the Water Industry Act 1991 (as amended)
NJUG	National Joint Utilities Group
NRSA	New Roads and Street Works Act 1991
Ofwat	Water Services Regulation Authority - A non-ministerial government department established in 1989 when the water and sewerage industry in England and Wales was privatised.
Statutory Undertaker (SU)	A body or person entitled by virtue of statutory right or street works licence to hold apparatus in the highway and to undertake street works in accordance with NRSWA
SuDS	Sustainable Drainage System(s)
S278	Section 278 of the Highways Act 1980 allows a Developer to carry out works to the public highway
S38	Section 38 of the Highways Act 1980 is a legal agreement to ensure that highway work within a development is undertaken to an adoptable standard.
S50	Section 50 of the Highways Act 1980 allows the Highway Authority to issue a licence to a private individual to install and maintain apparatus in the public highway.

3. Technical Requirements and Guidance

3.1. Initial Investigation

- 3.1.1. The location of any existing services adjacent to or through the site should be sought through a NRSWA C2 Preliminary Inquiry. Refer to Hampshire County Council's [Buried Apparatus Guidance](#).
- 3.1.2. Upon receipt of the C2 inquiry returns, a site visit is essential to review the information relative to the actual location of the covers on the ground. Often the actual location of the utilities and chambers vary from the locations indicated on the C2 returns. Failure to review the actual position of utilities on the ground can result in costly redesigns and delays during construction.
- 3.1.3. For schemes involving significant works within the existing highway it is recommended that a utility survey to PAS128 is undertaken. Utility survey output data to PAS 128 standard categorises each linear section of underground utility with a Quality Level (QL) code to indicate the quality, accuracy and confidence of a utility position and depth. It enables those involved in the planning, design and implementation of works underground to make informed decisions using more complete, up-to-date and accurate data. This reduces conflicts, delays, utility service disruptions, redesigns, personal injuries and even loss of life. There are various utility search services commercially available that can provide such surveys.

3.2. Design and Location of Undertaker Apparatus

- 3.2.1. A design layout of the proposed works must be sufficiently advanced to give an element of certainty before approaching the relevant SU to establish the need for any diversionary works or agree locations for new utility supplies. This should include the highway layout and all proposed connection locations.
- 3.2.2. The following elements of the highway design will all need to be considered carefully together with the location of existing services and the provision of any new services:
 - Existing trees and any proposed landscaping (TG15 – Landscaping)
 - Lighting design and positioning (TG13 – Street Lighting). Details of existing lighting and private street lighting cables within the highway can be obtained from hsl@hants.gov.uk. Designers within HCC can view this information directly themselves on GIS.
 - Traffic signal equipment (TG4 – Intelligent Transport Systems). Details of existing traffic signal/pedestrian crossing equipment positions (eg. signal ducts, signal draw pits, loops) can be obtained by contacting the ITS Group - intelligent.transport.systems@hants.gov.uk or, if applicable, from the ITS engineer working on the scheme.
 - Surface water drainage (TG8 – Drainage Design). Details of existing Highway Authority adopted surface water drainage and other private

apparatus within the highway can be obtained by contacting ete.hoc@hants.gov.uk. Designers within HCC can view this information directly themselves on GIS.

- Road Restraint Systems (TG14 - Road Restraint Systems and Passive Street Furniture)
 - The highway widths required to accommodate all of the elements above.
- 3.2.3. Special attention should also be given to the routing of surface and foul water drains relative to trees to ensure that the trees roots don't compromise the drainage pipes as they grow. The coordination of service provision with planting proposals is essential and a multi-disciplinary approach is required (Refer to NJUG Volume 4)
- 3.2.4. See also TG7 regarding SU's apparatus in relation to structures.
- 3.2.5. Developers must ensure that all utility company apparatus is laid or fixed to lines, levels and positions to be agreed with the Highway Authority and in accordance with NJUG guidance publications (see below), and comply with the requirements of any other relevant statutory Codes or Practice:
- Volume 1 – “Street Works UK Guidance on the Positioning and Colour Coding of Underground Utilities’ Apparatus”
 - Volume 2 - “Guidelines on the positioning of Underground Utilities Apparatus for New Development Sites”
 - Volume 4 – “Guidelines for the Planting, Installation and Maintenance of Utility Apparatus in Proximity to Trees”
- 3.2.6. The classification of a road will have an impact (wherever practicable) on the location of the utilities in relation to the carriageway, footway or verge.
- A Roads Verge/Footway only
 - B Roads Verge/Footway only
 - C Roads Verge/Footway/Potentially carriageway
 - U Roads Verge/Footway/Carriageway
- 3.2.7. If only one footway exists on a length of road, by putting the utility in the footway, any maintenance work to the utility apparatus will require traffic management within the carriageway to provide a replacement pedestrian route during the works.
- 3.2.8. Where there are no footways contiguous with the carriageway, highway margins for services and for the support of the highway should normally be 2.0m minimum width on at least one side of the road, measured from the outer face of the kerb, or edge restraint (see NJUG Volume 1). Generally, service margins should be placed on the side of the road that has the greater number of building frontages, in order to reduce the number of road crossings by services. Where services are to be laid, but this width is not required on the other side of the road, a margin of 1.0m minimum width should be provided. These widths should normally be regarded as

absolute minimum widths, and may need to be increased in special circumstances, for instance, where foul water sewers are to be laid within the service margin or where it is desirable to accommodate existing trees or new highway planting.

- 3.2.9. Where no public utilities are to be laid adjoining a carriageway, a margin of 1.0m minimum width must be provided to give support to the carriageway. Refer also to TG13 – Street Lighting in relation to the minimum clearances and easements for lighting apparatus and also TG2 – Highway Cross Sections.
- 3.2.10. The location of utility covers must be considered at an early stage to avoid them being located on kerb lines, split between footway/verge and at crossing points where tactile paving is present or expected to be installed.
- 3.2.11. If there is no option other than to have utility covers within the carriageway, they must be located out of the wheel track and away from junctions that would necessitate 3- or 4-way temporary traffic lights when maintenance or inspections are carried out.
- 3.2.12. Suitable locations for electricity feeder pillars, sub-stations, gas governors and pumping stations should be identified at an early stage and incorporated in the initial design layout. Sub-stations and governors are typically 4 - 5m² and will require a vehicle hardstanding/maintenance layby nearby. However, pumping stations could exceed 18.0 x 12.0m and will need off road vehicular access for a tanker. Refer to Sewers for Adoption. Such features (including any associated hard standings) must not be located within visibility splays.
- 3.2.13. Installation of apparatus should be avoided in areas of module surfacing or any coloured, high friction or high value surfacing. They should also avoid areas of vehicle braking or acceleration.
- 3.2.14. Where the carriageway surface is constructed in blocks the Highway Authority will request apparatus to be laid in ducts. In all cases apparatus must be laid and trenches reinstated permanently **prior** to application of the final surfacing surface.
- 3.2.15. Where services are to be laid in a service margin which is continuous with 'open plan' type gardens, the utility companies will normally require it to be delineated as public highway and, in special circumstances, may wish to require additional measures to protect their apparatus. The Developer must ensure that the boundary of the Highway, if not otherwise defined by a fence, wall or hedge, is defined by markers (Refer to TG25 - Fencing, Noise Barriers and Demarcation of the Highway Boundary).
- 3.2.16. Developers should make it clear to purchasers that access may be required to service margins at any time and that planting will not be permitted unless agreed with the Highway Authority and/or covered by a cultivation licence. As a further safety precaution utility companies may wish to attach a notice to meters or other apparatus warning against digging or planting in the service margin.

3.3. Inset Companies and the adoption of Sustainable Urban Drainage networks

- 3.3.1. Hampshire County Council will not enter into a Section 38 agreement unless the Developer confirms that they have or will be entering into a Section 104 agreement with the relevant water company for surface and foul water systems. However, some water companies may be reluctant to adopt surface water systems which include swales or other SuDS elements. In this situation the Developer could approach alternative companies to adopt their water and wastewater networks using a New Appointment Variation (NAV). This can be useful where the competing companies are willing to adopt certain SuDS features that the incumbent water company isn't willing to adopt.
- 3.3.2. A NAV is where an independent water and wastewater company replaces an incumbent SU as the water and or wastewater undertaker for a defined piece of geography within England and Wales. The NAV process is laid out in the Water Industry Act 1991 (as amended). The independent company is also often referred to as an "Inset Company".
- 3.3.3. Any development with new properties being built that are not currently connected for water or wastewater services from the incumbent is eligible to use a NAV (known as the Unserved Criterion). A NAV or Inset company may also be used where the existing local monopoly supplier agrees to transfer your site or premises to another company (Consent Criterion). There is also a "Large User Criterion" where you may switch to a NAV if your site uses 50 million litres of water or more per year.
- 3.3.4. A Developer can ask any company to be their supplier, and then the company has to apply to Ofwat for an appointment to serve the Developer's specific site. NAVs can get water from their own source, or buy it wholesale from another water company; likewise, they can either treat sewage themselves or agree to discharge it into another company's sewers.
- 3.3.5. If a Developer chooses a NAV to supply their water and/or wastewater services, the NAV will be responsible for the on-site infrastructure providing these services. This can be useful where the competing companies are willing to adopt certain SuDS features that the incumbent water company isn't willing to adopt.
- 3.3.6. It is important to note that the current legislation does not permit two SU's to serve one site ie Developers cannot appoint a NAV company to adopt surface water and the incumbent SU to adopt wastewater. In order for the roads to be adopted through the S38 process, HCC requires all water pipes under the highway to be formally adopted by a SU so the best approach is for all water and wastewater infrastructure to be adopted by either the NAV or the incumbent.
- 3.3.7. To find out more about using a NAV or Inset Company, visit Ofwat's website: <https://www.ofwat.gov.uk/regulated-companies/markets/nav-market/>

3.4. Programming of Works

- 3.4.1. The timing of the service connections for new developments must be considered at the planning stage in relation to any associated S278/S38 works. Under Section 50 It is not permitted to trench through recently completed highways schemes. Therefore, if the service connections are within the area of the S278/S38 works, the connections must be programmed in advance of the completion of the final surfacing for the S278/S38 works.
- 3.4.2. Due to consumer demand, it should be noted that significant Gas and Water works are unlikely to be undertaken in the winter and summer months respectively.
- 3.4.3. Careful consideration should be given to Planning Conditions that are likely to be placed on the Development in relation to working hours – in residential areas working hours are often restricted to daytime only. However, there may also be restrictions on the local highway network with regard to working hours to avoid unnecessary traffic congestion on critical routes ([Refer to the National Street Gazetteer within the Roadworks.Org](#) reviewing the information contained for the individual street USRN label). If these restrictions are likely to conflict, the Developer should consider the feasibility of installing the new utilities in adjacent third-party land with associated easements.
- 3.4.4. From April 1st 2019 Hampshire County Council will be operating a permit scheme for allocating 'road-space' for all works on the highway. It is the responsibility of the SU to obtain the relevant permits for their works. If the Utility works are part of a major scheme, the road space may already be booked by the Main Contractor. In this instance the SU must still obtain permits for their works in agreement with the Main Contractor. For Developers wishing to undertake S278 works, permitting of the highway works will be undertaken by the HCC S278 Engineer.

3.5. Easements

- 3.5.1. Easements will be required where the SU's plant and equipment is not within the Highway Boundary. Organising easements requires the legal agreement between the land owner and the SU. A significant amount of time is often required for the two legal teams to agree an easement and this should be reflected in the programme. It is the responsibility of the Developer to agree easements with the SUs concerned.
- 3.5.2. SUs will sometimes agree to the utility being laid prior to an easement being signed, however the utility will not be 'made live' until the agreement is signed.

4. Further Support

- 4.1. Should you have a specific query or feedback about any of the content of this Technical Guidance Note, please send an email to Technical.Guidance@hants.gov.uk with the start of the email title as "TG20 – " .
- 4.2. Should you have a query about applying this to your particular project, please contact:
- the Design Audit Engineer dealing with your S278 or S38 application (if you are a Developer or Developer's Consultant)
 - the Technical Guidance Note Specialist(s) (if you are a working within Hampshire County Council)
- 4.3. Associated Technical Guidance Notes:
- TG2 - Highway Cross-Sections
 - TG4 - Intelligent Transport Systems
 - TG7 - Adoption of Structures
 - TG8 - Drainage
 - TG13 - Street Lighting
 - TG14 - Road Restraint Systems and Passive Street Furniture
 - TG15 - Landscaping
 - TG25 - Fencing, Noise Barriers and Demarcation of the Highway Boundary