



HIGHWAY AUTHORITIES & UTILITIES COMMITTEE

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Guidance Note on Town Centre Redevelopments and Underground Services and Apparatus

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Introduction

This Advice Note is aimed at local planning and highway authorities, design consultants, developers, town planners, architects and all organisations that are involved in town centre redevelopment schemes. Its purpose is to try to reduce the adverse impact that maintenance and other works to underground apparatus can have on new town centre developments and the significantly increased costs and safety risks associated with such activity.

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Background

In recent years, many local authorities have become fearful that, without substantial investment to attract businesses and shoppers, their town centres will wane and die. At the same time, property developers are delivering schemes aimed at enhancing the built environment. These can incorporate pedestrianised shopping malls, contemporary town squares and integrated entertainment complexes.

Whilst recognising the drivers for change, highway authorities and utility companies have become increasingly concerned that, when developing high-quality facilities, some local authorities and developers can sometimes overlook issues that could seriously threaten the attractiveness of such developments in the short, medium and long term

To create an attractive and sustainable urban environment, the design of public realm needs to consider all its different uses and the maintenance requirements from these uses. Examples of uses include: the public space used for both vehicles and pedestrians; event space; routes for service, delivery and emergency vehicles; routes for utility infrastructure; urban parks with associated greenery. Maintenance is required for drainage, cleansing (particularly after events), vehicle over-run and damage, and utility connections, upgrades and maintenance.

To marry both attractiveness of the public realm with function, the design will therefore need to be a compromise. For example, some materials may be hard wearing and will withstand cleaning very well (e.g. close-jointed granite slab/liquid mortar paving systems) but are difficult and expensive to remove and reinstall. If such work is not undertaken by experienced specialist crews, reinstatements may never blend in and always appear as scars.

Advice and solutions

1. Recognition of underground utility apparatus

The failure to recognise the existence of underground apparatus can impact upon the scheme. Developers, local planning authorities and the design organisations from whom they commission town centre redevelopment work must identify and enter into constructive dialogue with all parties likely to be affected by their proposals. This should be done at an early stage when proposals can readily be tailored to avoid problems. The aim should be to ensure that all potential future costs are considered and minimised as far as possible.

A further problem is the increased risk to the safety of highway authority and utility company workmen caused by bedding new paving systems on significant depths of high strength concrete. This makes it particularly difficult for them to comply with national health and safety standards, e.g. HSE Guidance Note 47 (Avoiding Danger from Underground Services) which requires excavating by hand within 0.5m of live gas pipes and power cables.

2. Accurate recording of the location of utility apparatus and identification of future work programmes

It is vital that, at the early planning stage, existing information on the location of buried apparatus is gathered from utility companies and highway authorities and that surveys and investigations are undertaken, where necessary, as part of any town centre redevelopment project. Discussion with apparatus owners will identify any existing planned programmes of maintenance or upgrade work and may highlight the risk of unplanned interventions. In some cases it may be sensible to arrange for any planned upgrading or replacement work to be undertaken in advance of the redevelopment.

3. Use of standard, proportionate specifications

Those designing and developing specifications for materials and methods of working should constantly be checking that their requirements are not only achievable during initial installation, but also for any reinstatement in the future. The future maintenance of the redeveloped area is an important part of any design scheme.

Of particular concern is the growing practice of specification of expensive imported paving materials requiring highly specialised installation and future reinstatement techniques. Such specifications not only make access to, and maintenance of, underground apparatus more difficult and expensive (experience suggests between 3 and 10 times more expensive), but in some cases they can be impossible to achieve. Technical difficulties may be able to be mitigated by the use of qualified personnel employed to undertake the work as required,

although this may not always be a practical approach (e.g. for emergency maintenance works) and costs may be prohibitive.

Contractors should always take care to remove paving carefully in order to reuse as much as possible. But where rare and expensive materials are selected for a redevelopment, clients should ensure they hold a reasonable level of stock, especially where materials cannot be reused. Alternatively, arrangements should be put in place with suppliers to provide materials at very short notice. Consideration should be given to making such materials available to highway authority and utility contractors for future reinstatements at reasonable cost or on the basis of 'free issue'.

Concrete foundations to new paving should not be specified unnecessarily. Often they are needed because, even in "pedestrianised" areas, heavy delivery vehicles are allowed access at certain times of day. A possible solution is to restrict such access to particular areas where there is no buried apparatus

4. Organisation and design of the underground area below the road surface (e.g. ground-use planning)

Understanding and limiting underground constraints is critical to the organisation of the underground space. Having identified the existence of underground apparatus, problems associated with access to it can be minimised if it can be:

- a) Diverted away altogether;
- b) Placed in ducts; or
- c) Diverted to service corridors or other areas where access to it can be less disruptive and costly.

Particular consideration should be given to diverting all high voltage and medium and high pressure apparatus. Where future additional service connections to properties are considered to be likely, it may be possible to install a local service main in a service corridor to pick up such connections whilst diverting major apparatus.

Detailed arrangements relating to the diversion of underground utility apparatus are set out in a Code of Practice "Measures Necessary Where Apparatus Is Affected By Major Works (Diversionary Works)" and an associated Advice Note (No 2010/1 – Diversionary Works), both developed by the Highway Authorities and Utilities Committee (HAUC(UK)).

Where underground apparatus cannot sensibly be diverted away from the redevelopment area, the use of ducting beneath, or service corridors within the redevelopment area should be seriously considered.

Placing apparatus in ducts can allow withdrawal and replacement at a later date without the need to break open the ground above. When installing ducting, spare ducts for future use should be considered.

Delineated service corridors or zones may be provided through, around or along the edges of new areas of resurfacing using materials which are safer and cheaper to excavate and reinstate. These can be sensitively designed in a way that does not detract from the high quality materials and finishes used elsewhere.

Conclusion

Local authorities will continue to seek to improve their town centres to try to safeguard their ongoing vitality. However, they have a responsibility to ensure that the high quality designs they procure will not quickly become disfigured as a result of failure to take into account the need for access to underground infrastructure and the use of inappropriate specifications.