



**Advice Note No. 2009/07**

**Special Engineering Difficulty**  
**Section 63 and Schedule 4**

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# **Guidance for dealing with streets with special engineering difficulty**

## **Introduction**

Whenever a utility company or highway authority (or any other body) is working in a street, work must be carried out with due care. Among other things, consideration needs to be given

- to the safety of road users, the operatives on site and the general public
- to the safety of adjacent property
- to the safety and integrity of the infrastructure of the street itself including any associated structures
- to the safety and integrity of any apparatus carried under or over the street

While many works will be straightforward, and standard techniques can be applied, streets can contain a wide variety of features where extra care and attention is required. One category of streets where such extra attention is required is when they are designated as having Special Engineering Difficulty (SED).

This guide has been produced in consultation with the Highway Authorities and Utilities Committee (HAUC). Its purpose is to explain the working of the provisions in the New Roads and Street Works Act (NRSWA) for SEDs, and describe best practice which will prevent unnecessary damage to the more vulnerable elements of the highway infrastructure. It should be helpful to highway authorities, utilities and other undertakers, contractors and anyone involved in excavating in the highway. It should be read in conjunction with the Code of Practice for the Co-ordination of Street Works and Works for Road Purposes and Related Matters (CoP) Third Edition published in March 2008.

## **Legislation**

The notice and co-ordination system balances the need to reduce the bureaucracy involved in managing street works with the importance of minimising delay and inconvenience to road users, whilst protecting the integrity of the street and any apparatus in it. To achieve this, NRSWA, in sections 61 – 64, provides for three categories of streets to be subject to special controls. These are Protected Streets, Streets with Special Engineering Difficulty and Traffic Sensitive Streets. Section 63 and Schedule 4 of the Act and the associated regulations contain the provisions for certain streets to be designated as SED, where

- they contain structures, special construction features or other features which are such that .....
- works must be carefully planned and executed to avoid damage to, or failure of, the street itself or the associated structure or feature .....
- where that damage or failure would bring attendant danger to persons or property.

This potential danger to person and property underlies additional processes that must be completed to agree with the street authority, and any other relevant bodies with an interest in or responsible for the structure or feature, what works are to be carried out and how they should be done. These processes are set out in legislation and the code of practice, and require the submission, under Schedule 4 of the Act, of a plan and section for approval by the street authority before street works may be undertaken. The authority has the power to require modifications to the proposed works if it considers them to be necessary to achieve the objectives of designation.

The criteria for designation of a street or structure as SED points to the risk of very serious consequences if damaged. By way of example, that could be the collapse of a structure or major loss of supply of utility services; that would have a direct effect on many people from the collapse or loss of supply, but there would also be significant delays to road users while the problem is sorted out and repairs completed.

***Features that could be SED***

*Include bridges, retaining walls, cuttings, shallow subways, tramway tracks, culverts, undertakers' apparatus and pipelines.*

***Examples of other relevant bodies***

*include bridge authorities, transport authorities, sewer authorities, utility companies.*

Although the legislation is binding on undertakers' works, as per the relevant part of NRSWA, the SED designation will also be important for highway authorities or anyone else who may be carrying out works in these streets.

The designation of SED is made by the street/highway authority but this may be done at the request of the party responsible for the relevant structure or feature e.g. a bridge owned by a transport authority or a sewer owned by a utility company. That party would have a role in approving any works that take place which could potentially affect its structure.

There are other categories of features which merit particular attention which are not classified as SED. Some of these relate to less sensitive or critical structures and may be covered by other requirements of NRSWA (section 88); others to features of the highway surface or traffic controls. Although the statutory requirements for these features are less onerous than for SEDs, many of the same principles apply, especially in relation to structures.

***Examples of other features from CoP which may be subject to restrictions***

*include environmentally sensitive areas, structures (non SED), Special surfaces, Pipelines, Priority Lanes, Level crossing precautionary areas, Special construction needs, Parking bays and restrictions, Pedestrian*

*crossings and traffic signals, Speed limits, Transport authority critical apparatus, Special events.*

## **General Principles of Good Practice (Aims and Overview of Recommended Procedures)**

As with many areas of best practice for all those involved in working in the street, the general principles in relation to SEDs are:

- raising awareness: appreciating the significance of SEDs and the need to take them seriously
- good forward planning: the early identification of any SED feature allowing time to put appropriate plans in place
- good communication; allowing full discussion of the issues and ensuring all the relevant information is available
- good cooperation: working together to develop practical solutions

There are several stages to dealing with works in streets designated as SED:

- Ensuring that SEDs are identified and flagged
- Completing the approval process for works in SED streets
- Commissioning the works
- Carrying out the works on site

These are covered in the subsequent sections with recommendations for best practice in each stage.

Local knowledge within utilities and authorities can be very useful in dealing with SEDs. However that is not a sufficient basis solely on which to operate; personnel can change or simply be not available at the critical time. Systems and processes must be in place to ensure that SEDs are identified and appropriate action is taken, whoever is dealing with the works involved. Local knowledge should supplement rather than displace sound processes.

## **Identifying and flagging streets with SED**

The designation of a street as having SED should be recorded as Additional Street Data (ASD) for the relevant street on the local authority's street gazetteer by submitting a Type 23 record to the National Street Gazetteer (NSG) concessionaire. NB Please not that with effect from 1 April 2010 the Type 23 record will become a Type 63 record

The designation of streets may have been done many years ago and may not have been updated since. It is recommended that authorities should review their SED designations on a regular basis. The review being carried out in the context of moving to a level 3 gazetteer would provide a suitable opportunity to review designations at the same time. Authorities will need to involve the other interested parties, such as bridge or transport authorities, as appropriate,

In carrying out their review, authorities should consider the consistency of their classification of structures in particular, so that there is a clear distinction between SED and streets that may be designated as requiring consultation with a bridge authority under section 88 of NRSWA.

Promoters are more likely to respond to an SED designation if they know why the designation is there. Authorities should therefore put more rather than less information on the ASD when designated SED. The Type 23 record has the capability for showing whether all or only part of the street is SED and if part, then defining the section which is SED; describing the nature of the SED; and identifying any other parties whose approval is required or with an interest in the SED street. Including the location of the SED designation on the ASD, taken together with the requirements to use national grid references for locating works, will make it easier for utilities and authorities to see when the works could affect the SED feature and the extra SED procedures invoked.

Cellars can be a particular problem. Cellars could be designated as of SED (or more typically as structures but not SED) in the ASD. While it is recognised that it may not be realistic for authorities to actively seek out information on all cellars under their streets, it is recommended that authorities designate streets where they are aware, or become aware, of cellars under the street, so that a more comprehensive picture can be built up over time. It must however be understood that the absence of designation of a cellar does not guarantee that there is no cellar.

There may be other structures or features that authorities do not know about but which may be uncovered while someone is working in the street. Those discovering a structure or feature should always report it to the street authority. Where subsequent investigations indicate that this should be designated as SED (or as non SED structures) then this designation should be added to the ASD at the next update opportunity.

Where authorities add SED designations at the request of other parties, then this should also be done at the earliest opportunity so that the ASD is as up to date as possible.

## **The Approval Process**

When utilities are planning works the first step in avoiding any problems with SEDs is to identify whether or not the street involved is flagged as SED. Utilities must always check the ASD to see if a SED is flagged on the street where they are planning to work. This should happen well before any proposed start dates, and well before any start of works notice; the SED procedures require the works to be agreed with the relevant authorities before works start.

Unless the information on the ASD explicitly makes it clear that the SED feature would be unaffected by the proposed works (e.g. if the SED is deep and the works are near the surface, or if the works are at one end of a street and SED feature is at the other), the utility

must contact the authority. A suitable form for serving this notice is included in Annex 2 to Appendix D of the CoP (Third edition). The authority should confirm whether the SED feature could affect the works and hence whether a plan and section is needed. To avoid any later uncertainty there should be a positive confirmation either way.

Authorities should have a designated point of contact to which SED queries are directed. This needs to be well publicised within the authority as well as among the utilities. This should avoid the potential for utilities talking to someone in the authority and thinking that they have an agreement when in fact that person does not have all the necessary knowledge or information to deal with the query. A reference number system such as used for Notice Extensions [TMA] would help ensure that the correct person had been contacted and would give assurances to both parties.

Where a SED is flagged a plan and section (or an alternative set of information determined by the relevant authority) is needed. It is recommended that a joint site visit (and if necessary further meetings) take place. This enables checks to be made on the precise location of the works in relation to the SED feature and any other features which haven't shown up on ASD. Options for tackling the works can be discussed and the precise plans and sections or other information to be provided to the authority can be decided. It will often be beneficial to involve any contractors at those meetings and discussions; they will be able to bring their expertise as to different ways of carrying out the works as well as raising their awareness of the care needed on site.

The responsibility is on utilities to put forward their proposed ways of carrying out the works, but they will need to have appropriate information about the SED feature. In practice structure owners would have to identify the boundaries of what would be acceptable, which could influence the approach to be taken. Even the fuller ASD information described above may not be sufficient, especially if the works or the SED feature is particularly complicated, so the authority may need to provide additional information.

Authorities have discretion as to the detailed requirements for plans and sections. It will help utilities if information about their requirements is available in advance, for example through a link to their web site. There may be scope for authorities to collaborate to produce more consistent requirements for plans and sections (or alternatives). This would avoid wide variations in requirements between authorities, making it easier for utilities.

Once the plans and sections (or the agreed alternative) has been settled, there should be a positive written sign off. This could include a statement that the signatory has the necessary authority to sign to help ensure that the right person in the authority has been involved. Even if there is a verbal agreement, the authority should send a record of the agreement. Schedule 4 of NRSWA provides for that record.

Underpinning the effective operation of this process is good dialogue and communication between the authority and the utility. That way issues can be dealt with as they arise and practical solutions arrived at.

## **Commissioning work**

When contractors or direct labour organisations (DLO) are commissioned to carry out works involving SEDs, it is important that information about any agreement relating to the works be passed on to the contractor or DLO so that they understand the methods and constraints on

them when executing the works. As indicated above, the involvement of the contractor in discussions and meetings earlier in the process will help ensure the key points are conveyed. As in other contexts above, even if a verbal briefing is given, relevant information and material should be confirmed in writing for later reference and to avoid doubt. Most, if not all, of this should be readily available from the approval process.

Given the sensitivity of working near features of SED, utility companies and their contractors should visit the site before starting work, if that has not already happened as part of the discussions with the authority. Training can be given to representatives making such visits about the sort of features to look out for so that any constraints can be properly understood and problems avoided. Tools such as ground penetrating radar can also be used to check or obtain as much information about the site as possible; plans can then be made accordingly.

Many contracts will have explicit inbuilt incentives or will be structured in a way that drives certain behaviours. This could apply to contracts with works contractors and with customers. Some of the behaviours, for example if they encourage undue haste or encourage the contractor to press on regardless, even if they run into problems, may not be suitable for works involving SEDs where special care is needed. Utilities may wish to consider including specific clauses in their contracts to encourage safe working methods appropriate for SED related works.

## **On Site**

Once the agreement is reached between the undertaker and the relevant authority (or authorities) the undertaker must carry out the works in accordance with that agreement. Failure to do so is an offence. It will be beneficial to have a higher level of supervision for SED related works than for normal works, not just to avoid committing an offence but more importantly to avoid damaging the SED feature.

This does not preclude variations completely but variations must be agreed with the relevant authorities. If variations are contemplated at any stage of the process, but especially when work has already started, then the utility should alert the authority immediately and start a dialogue about what could and should be done. Good communication will expedite any new agreement that needs to be made.

Contractors should be briefed to look before they start work for any possible structures or other SED features, even where none are recorded, as the ASD is not guaranteed as completely comprehensive. If any are seen then a check should be made with the authority before starting work.

Contractors should have clear instructions to stop work and seek advice if they encounter problems or something unexpected. This relates back to having the appropriate contract in place. Continuing to work close to SED features in such circumstances could risk very serious consequences. For their part the relevant authorities should publicise to the utilities – and should keep up to date - who the contact should be in such a situation and should arrange that they can be contacted at any time while the works are taking place.

## **Emergencies**

The principle of best practice should apply as much to emergency works as to planned works. However it is recognised that the pre-planning associated with the approval process will not have taken place.

A key to avoiding problems with SEDs at emergency works, therefore, will be to identify any SED features at or near the works location as quickly as possible. That in turn is dependent on the ASD being up to date and informative but also on the ability of teams in the field knowing when a SED may be involved. Technology that will allow the ASD to be interrogated from site will help in this regard as it becomes more widely available.

## **General**

To reduce the fragmented nature of how SEDs are dealt with, there should be someone identified within each organisation to have an overview of the whole SED process and responsible for ensuring that SEDs are properly dealt with at all stages of the process.

This document sets out advice for all who may be involved in highway works when dealing with SEDs. It is not possible to cover all eventualities and situations in a short Advice Note such as this. It is imperative therefore that all parties involved in the process work together to ensure safe working practices and avoid damage to buried elements of infrastructure. Cooperation and working in partnership will eradicate many problems before they arise.

Even after following procedures, precautions and the advice in this note, there may be occasions when damage occurs. If this happens it is essential that the owner of the damaged asset is advised without delay so that repairs can be made in good time. Minor damage can sometimes remain undetected for years. In the meantime the serviceable life and safety of the asset will deteriorate and ultimately repairs may prove much more extensive and costly than if they were carried out immediately.

**END.**