12. Construction Traffic

Where existing roads cannot be used, heavy construction traffic must only cross the pipeline at previously agreed locations. All crossing points over a pipeline must be fenced on both sides with a post and wire fence and with the fence returned along the easement for a distance of 6 metres. A minimum distance of 3 meters must be maintained between a crossing point and any fittings, valves or branches, where possible a distance of 10 meters is preferred.

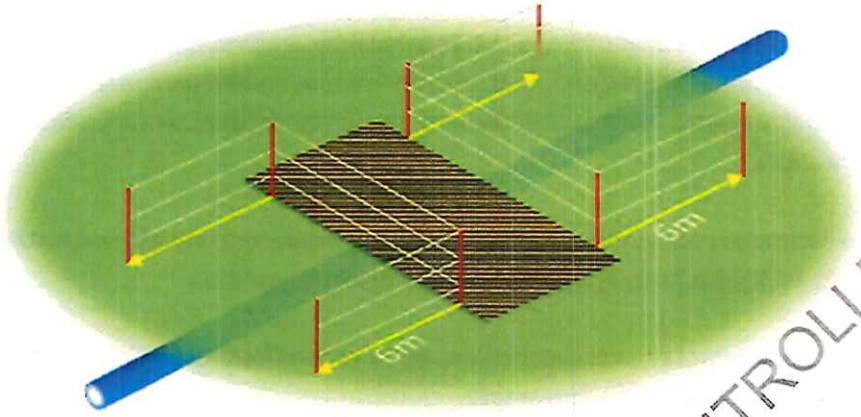


Figure 6. Example Crossing Layout

These crossing points must have suitable temporary surfaces to prevent ground penetration. This can include heavy duty timber, roadway plates, or reinforced concrete construction, constructed at ground level.

The AE must review ground conditions, vehicle types and crossing frequency to determine the type and construction of the raft required. For sites with high levels of heavy industrial plant and vehicles crossing the pipeline, the AE should consult the Asset Manager.

Notices directing traffic to the crossing points must be erected.

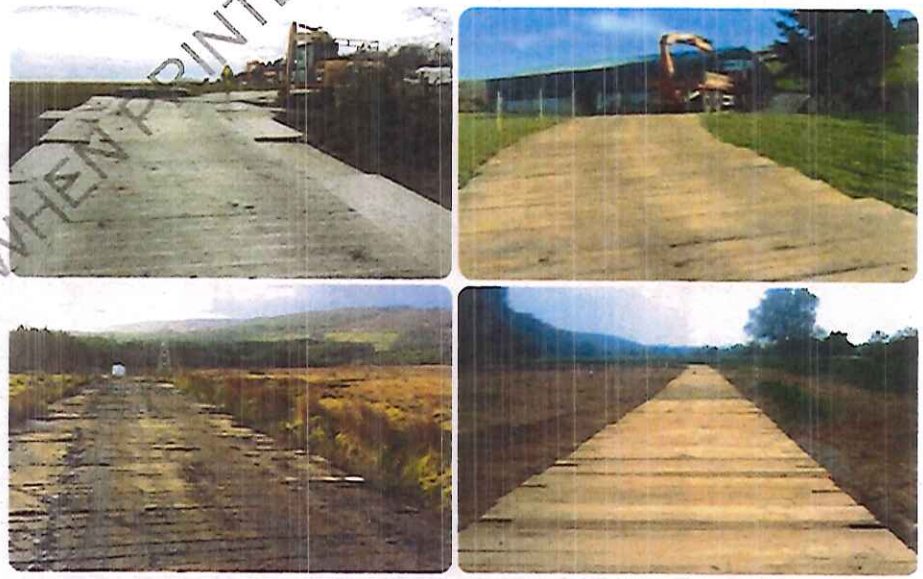


Figure 7. Example Temporary Rafts

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13. Hazard and Danger Zones

These zones dictate what activity is allowed and what is not allowed. When works requiring a PTW in these zones are being carried out, the SW/2 Technician **must** be on site to monitor and ensure safe working.

The following diagrams illustrate the inner and outer hazard zones and the danger zone in relation to a high pressure gas pipeline. Different restrictions and requirements for Permits to Work apply depending on the activity being carried out. These are described further in the relevant sections of this procedure.

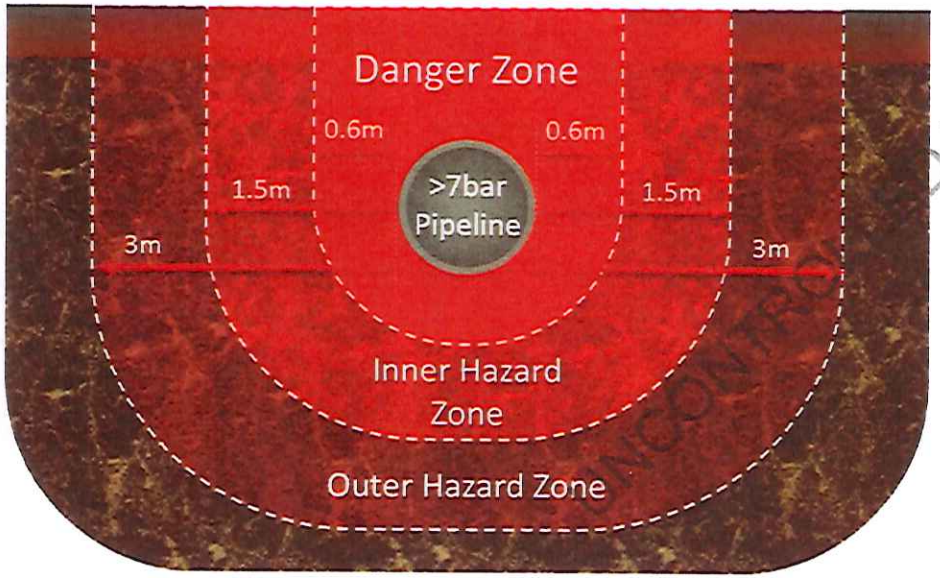


Figure 8. Hazard and Danger Zones

The Danger Zone is 0.6m either side of the pipeline rising to ground level and 0.6m underneath the pipeline.

The Inner Hazard Zone extends from the Danger Zone to 1.5m from the pipeline, rising to ground level and 1.5m below the pipeline.

The Outer Hazard Zone extends from the Inner Hazard Zone to 3.0m from the pipeline, rising to ground level and 3.0m below the pipeline.

The SW/2 Technician must explain these markings and zones to the Controller of the Works [on site] to ensure they are understood prior to planning the works and confirm them to the CP/team leader on site before work starts.

The hazard and danger zones must be marked on site and maintained by the SW/2 Technician, to avoid confusion with pipeline markers.

For further information on restrictions applying to different activities see the following sections of this procedure:

- Mechanical Excavation
- Use of Vacuum Excavators
- Trenchless Techniques
- Powered Hand Tools
- Highway Surface Maintenance
- Mechanical Assistance
- Lifting Operations
- Backfilling
- Top soil stripping

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14. Fittings and Standpipes

Fittings and standpipes on a high pressure gas pipeline are particularly vulnerable to damage. Additional safety margins should be given when these are in proximity to works.

Mechanical excavators (see Mechanical Excavation) **must not be used** within a 1.5m radius of fittings and standpipes.

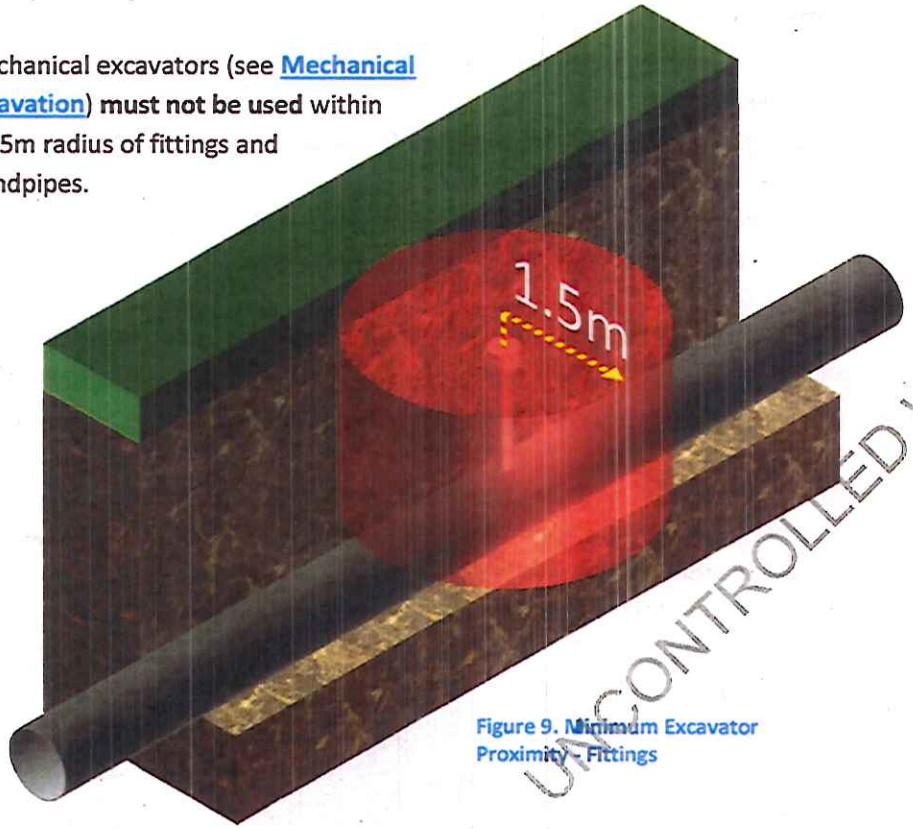


Figure 9. Minimum Excavator Proximity - Fittings

Records must be checked by the SW/2 Technician to identify if fittings and standpipes, including those not extended to ground level, are present on the pipeline in the vicinity of works, and at proposed traffic crossing points.

Fittings and standpipes **must** be hand excavated. A PTW is required if Powered Hand Tools need to be used. Trial holes must be undertaken to locate and confirm the position of fittings and standpipes if a mechanical excavator is to be used within the hazard zones.

15. Powered Hand Tools

The use of Powered Hand Tools in the Inner Hazard Zone & Danger Zone requires a PTW, and the SW/2 Technician must be on site at all times when these tools are being used in these zones. Powered hand tools should only be used in the danger zone if it is necessary and the AE must specify the permitted depth and proximity to the pipe that they can be used to on the PTW.

A PTW is not required for using powered hand tools in the outer hazard zone.

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16. Mechanical Excavation

In relation to this section of this procedure a mechanical excavator is a powered tracked or wheeled machine with an extending arm and bucket or attachments for assisting excavation such as 'peckers' or concrete breakers. It includes mini-excavators and large excavators. Mechanical excavation is using these machines to excavate or assist excavation (see Mechanical Assistance).

Mechanical excavators have been the cause of the most serious pipeline damage incidents. They are the most likely cause of damage to a pipeline.

Mechanical excavators must not be used in the Danger Zone or within a 1.5m radius of fittings and standpipes on the pipeline.

Mechanical excavators must always be positioned far enough away from the excavations/trenches to prevent trench wall collapse, taking into account the laden weight and the ground conditions on site.

Mechanical excavators must **not** dig on one side of the pipeline with the cab of the excavator positioned on the other side. This is to prevent the digging arm pulling towards the pipe or any fittings increasing the risk of damaging the pipe, or, causing damage to the pipe by lifting over the pipe. Under no circumstances is this permitted.

The digging bucket must be toothless when used in the hazard zone and when excavating, a narrow bucket [up to 0.6m width] should be used when excavating unless specifically otherwise authorised on the PTW.

A banksman must be used to assist the mechanical excavator operator as it is likely that the operator will have restricted visibility in deep excavations.

Measures must be in place to ensure workers are not at risk of being injured by the mechanical excavator. Machine operators should not work for longer than 2 hours in the hazard zone without a break.

A PTW is required for:

- Using a mechanical excavator to excavate within the outer and inner hazard zones
- Using a mechanical excavator to assist hand digging within the outer and inner hazard zones
- Using a mechanical excavator to assist with any lifting operations within the hazard and danger zones (Lifting Operations).

A mechanical excavator is not permitted to excavate or to assist directly over a pipeline, **within the 0.6m danger zone at any depth from ground level** (with the exception of authorised Top Soil Stripping).

Particular attention must be given to the presence of Fittings and Standpipes in the vicinity of the works and additional precautions are described within this procedure in (Mechanical Excavation – Additional Control Measures).

Where available in line inspection (ILI) data must be used as part of risk assessment to identify connections, fittings and or standpipes in the vicinity of the works.



Figure 10. Excavator Positioning

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A mechanical excavator is **not** permitted to excavate or to provide Mechanical Assistance within the Danger Zone or within a 1.5m radius of any fittings or standpipes.

A SW/2 Technician is not authorised to permit the use of a mechanical excavator within the hazard zones or amend any requirements detailed in a PTW or to a Method Statement associated with the PTW. Only the AE can permit the use of a mechanical excavator inside the hazard zones.

Mechanical excavators cannot be used to excavate within the 3.0m inner and outer hazard zones of a high pressure gas pipeline, unless authorised by an SCO registered AE. The use of mechanical excavators within the hazard zones can only be authorised subject to the following requirements:

- A valid justification to reduce the proximity distance must be identified. If approved, the proximity must not default to 0.6m and appropriate distances greater than 1m should be considered to minimise the risk of damage to the pipeline
- The pipeline location and depth must be confirmed by hand excavated trial holes and fittings and stabbings must be located
- A site specific risk assessment, as described in Section Risk Assessment, must be completed
- A site specific Method Statement for the work, must be submitted to and accepted by the AE who must attend site before authorising the use of a mechanical excavator within 3.0m hazard zone of the pipeline.
- A PTW must be issued as described in Safe Control of Operations [SCO].
- The AE is satisfied that those undertaking the work are suitably competent and experienced and that a team leader or supervisor who understands his/her role and responsibilities will be on site at all times [in addition to the SW/2 Technician]

The SW/2 Technician must consider the **environmental conditions** in which the works are taking place, for example adverse weather conditions such as snow or low natural light conditions. Work must be stopped in the hazard zone if the visibility of excavator operators is affected such that there is an increased risk of causing damage. These considerations should form part of the Risk Assessment.

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17. Mechanical Assistance

A PTW is required for mechanical assistance in the outer and inner hazard zones. It is not permitted in the danger zone.

Mechanical assistance is, for example, using a mechanical tracked digger to assist with removing already excavated/loosened ground material or to assist with lifting operations. For example, if a mechanical excavator is prohibited from being used to excavate within the danger zone, it might be acceptable for it to assist manual hand digging by operating outside of the danger zone where hand dug material can be shovelled to a safe distance enabling the mechanical excavator to safely remove the loosened soil.

Powered Hand Tools including hand held air lances can be used to loosen soil and ground material and displace it to a safe distance outside of the 0.6m danger zone.

If connections, fittings or standpipes are present there is a significant risk of accidental damage through unauthorised or unintended movement of the machine bucket. In such circumstances **mechanical assistance is not permitted within the 1.5m inner hazard zone** and damage prevention measures must be applied to protect them from accidental damage by the bucket. Preventative measures include a protective barrier and slew locks/chains that restrict the movement of the excavator arm and bucket. See Mechanical Excavation – Additional Control Measures.

A mechanical excavator can also be used to lift/lower trench support materials etc. Lifting is a good example of a hazard to a standpipe, even though the machine is not being used to dig, as the standpipe could accidentally be knocked by the bucket/arm or load being lifted if the lift is close to an exposed unprotected standpipe. Refer to the Lifting Operations section of this procedure for lifting operations.



Figure 11. Example of Mechanical Assistance

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18. Top soil stripping

Top soil stripping is the removal of top soil over a large area for a temporary works or construction site; it does not mean the removal of the first 250mm depth of ground for discrete excavations. Top soil stripping within pipeline easements and across the hazard and danger zones using mechanical excavators can be permitted by the SW/2 Technician up to a depth of 250mm providing hand excavated trial holes have confirmed it is safe to do so.



Figure 12. Top Soil Stripping

Standpipes and fittings are vulnerable to damage during topsoil stripping so they must be located by hand excavated trial holes before top soil stripping starts. Top soil stripping using a mechanical excavator is not permitted within 3.0m of standpipes and fittings and the SW/2 Technician must ensure that the restricted area is clearly marked and that barriers are erected to demarcate the position of the standpipes and fittings.

A PTW (Safe Control of Operations [SCO]) is not required for top soil stripping. If top soil stripping has been undertaken, no further excavation by mechanical excavator is permitted within the Hazard Zone, unless approved by the AE (see Mechanical Excavation).

An SW/2 Technician must be on site to monitor all top soil stripping, and the pipeline route and hazard & danger zones should be remarked following top soil stripping.

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19. Highway Surface Maintenance

This section relates only to highway surface maintenance work. It does not apply to, or as part of, works below the road surface structure.

High pressure gas pipelines are designed to operate safely beneath roadway structures, and provided there are not any standpipes or fittings present on the pipe, the pipeline should be safe from surface activity. Surface maintenance includes the use of surface planes to mechanically remove the wearing courses of roadways [not to exceed 300mm] and this is permitted within the hazard and danger zones subject to the requirements described below. Hand powered tools and mechanical excavators must be used within the hazard zones for depths greater than 300mm as described in the Mechanical Excavation and Powered Hand Tools sections of this procedure of this procedure.



Figure 13. Road Planer

For depths of cover up to 1.5m trial holes must be hand excavated to confirm the position and depth of high pressure pipelines prior to surface removal. If a concrete protective slab has been installed, it is only necessary to locate and confirm the depth of the concrete slab. If pipeline records and pipeline locators indicate the pipeline is deeper than 1.5m cover and the highway surface removal will not exceed 300mm, it is not mandatory to locate the pipe by trial hole, subject to approval by the AE. Consideration must be given as to whether there has been development that has altered ground levels since the pipeline was constructed.

A PTW is required for mechanical highway surface removal within 3.0m of the pipeline and it must be issued to a CP.

The SW/2 Technician must be on site to monitor surface removal within the hazard and danger zones and must take regular measurements to ensure the maximum depth of 300mm (or less if instructed by the AE) is not exceeded.

A road surface plane must not be used within 3m of standpipes and fittings, even if these are not at surface level. If there are any standpipes or fittings on the pipe they must be located and the position must be confirmed and marked clearly. Mechanical excavators and hand powered tools can be used as described in the Mechanical Excavation and Powered Hand Tools sections of this procedure.

Where surface maintenance or removal is to be carried out across the hazard zones and danger zones or along the route of a pipeline, an SW/2 Technician must make contact with the undertaker of the works and establish who the Controller of the Works is, to discuss the scope of the works and equipment

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to be used, and most importantly the depth of surface removal and how this will be controlled.

The SW/2 Technician must check pipeline records including In-Line Inspection (ILI) data, which can provide valuable information regarding the presence of fittings on the pipeline that may not be shown on drawings.

In some circumstances records might confirm or indicate that additional protection has been provided to the pipeline such as a protective sleeve or a protective slab. A protective slab must not be removed as part of surface renewal.

In all circumstances, the SW/2 Technician must inform the Controller of the Works of the pipeline route and areas where restrictions apply.

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20. Mechanical Excavation – Additional Control Measures

It is understood that there will be instances in which the use of mechanical excavators are requested to operate within 3m of a pipeline, fittings or associated installations. There must be valid justification to request a reduction in proximity distances.

The risk of damage or incident greatly increases with plant operating in such close proximity to pipelines. Fittings such as branches and small diameter stabbings are particularly vulnerable and where these are present, a mechanical excavator is **not** permitted to excavate or to assist hand digging within 1.5m of the fittings and standpipes [i.e. in the inner hazard zone]. Slew locks and/or chains must also be used to control movement of the machine.

If pipelines are exposed or fittings/standpipes are within 3.0m of where mechanical excavators are operating, control measures as described in this section must be applied to protect against/prevent damage from improper or unintended movement of machines. It is not necessary to apply all of the described control measures, but it is necessary to apply those that are most suitable to **prevent** damage to the pipeline and any fittings or standpipes. Applicable control measures must be detailed within the Method Statement.

Examples of additional Control Measures to reduce the risk of damage to pipelines or to limit unintended movement of mechanical excavators/buckets are listed below.

- **Physical Protective Barriers**

Temporary structures constructed around the pipeline to create a physical barrier between excavators and pipelines, preventing any direct contact and to protect the pipeline whist work is carried out in the area. All temporary structures must be removed prior to backfilling the excavation.



Figure 14. Example Protective Measures

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- **Excavator Safety Systems / Movement Limiting Devices**



Figure 15. Electronic Movement Limiter

Excavators fitted with Mechanical or Electronic Slew, Height and Reach limiters give an increased level of control and should be used inside the 3.0m hazard zone if there is a risk of damage to the pipeline or fittings and standpipes. These include slew locks and chains to restrict the movement and reach of the machines arm, and Electronic movement control devices.

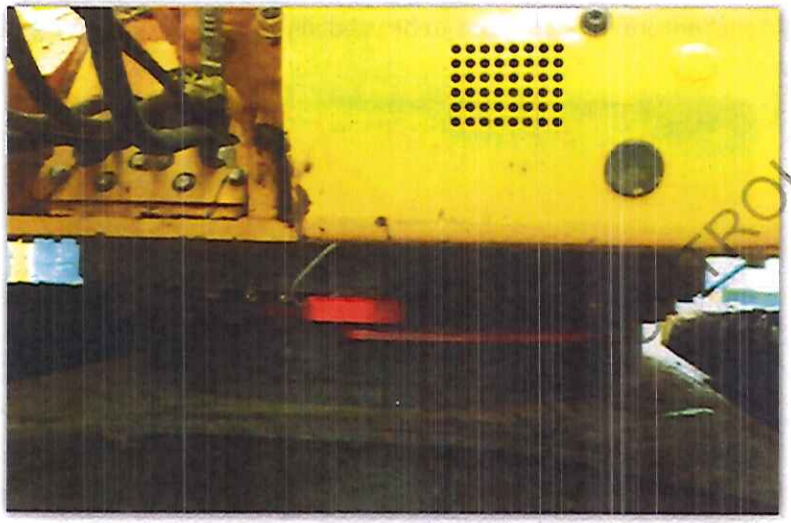


Figure 16. Mechanical Slew Lock

21. Deep Excavation Safety

Deep excavations are vulnerable to trench collapse and create fall from height hazards. T/PR/SW/1 details the correct working practices for deep excavations and must be followed at all times during deep excavation works.

It is recognised that there are practical difficulties in carrying out hand excavation at depths greater than 1.5m, however a mechanical excavator must not be used within the 3m Hazard Zone until the location and depth of the pipeline and any fittings/standpipes have been confirmed by hand excavated trial holes – See Trial Holes Requiring Deep Excavations.

Mechanical excavators and other plant traffic must be positioned far enough away from the excavation to prevent trench wall collapse, appropriate access and egress from excavations must be established. A PTW is required for all deep excavation works.

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22. Use of Vacuum Excavators

Vacuum Excavators can be used in the Hazard and Danger Zones subject to a PTW. Before a permit is issued Trial Holes must be carried out to confirm the position and depth of the pipeline and to locate fittings and standpipes. Vacuum excavators must not be used within 1.5m of any standpipes or fittings.



Figure 17. Large Vacuum Excavator

The weight of the excavators must be taken into account, the weight will increase as the excavator is in use. Vacuum excavators can pose a risk of causing trench collapse if used near to unsupported excavations or trenches. A suitable and sufficient risk assessment must be undertaken if the vacuum excavator is positioned within 3.0m of an unsupported excavation [for deep excavations this distance may have to be increased].

The design of trench support must take into consideration the proximity of vacuum excavators, 'stop blocks' should be used to prevent creep towards an excavation.

Damage can be caused to the pipe coating by toothed hoses that are used for loosening ground material, so preference should be given to using toothless hoses in conjunction with air lances or hand powered tools; this is particular important in the inner hazard zone and danger zone.

The SW/2 Technician must be on site when vacuum excavators are used within the hazard and danger zones.

23. Chain Trenchers

Chain trenchers are not permitted to be used in the hazard zones or danger zone.



Figure 18. Chain Trencher

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24. Slabbing & Protective Measures

The design and construction of permanent protective measures, such as installation of concrete slabs is specified in SGN/SP/CE/12 and must be controlled by the use of SGN/PM/PS/5 using either standard or bespoke designs as required. The method of installation must be confirmed through the submission of a formal written Method Statement approved by the AE.

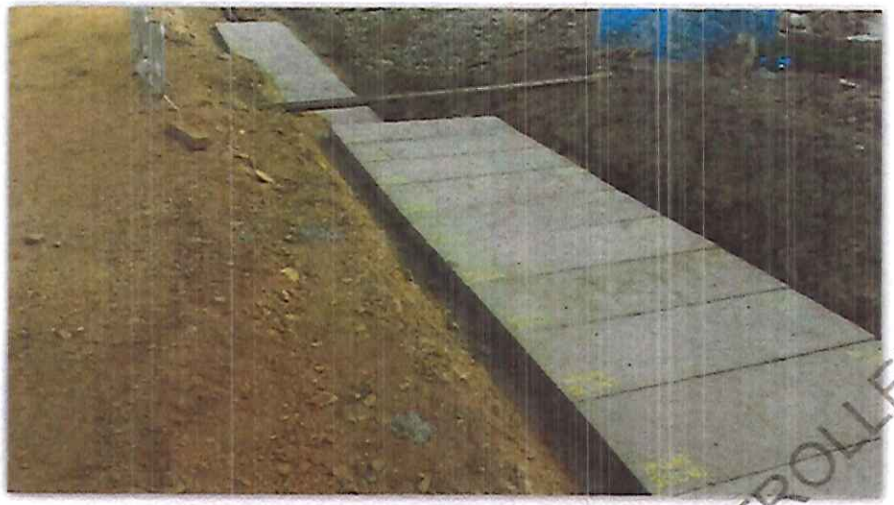


Figure 19. Protective Slabs

Where permanent slab protection is to be applied over the pipeline SGN must carry out a coating defect survey of the pipeline to check that there is no existing damage to the coating of the pipeline prior to the slab protection being installed. The SW/2 Technician must therefore request that the contractor contact the Asset Manager prior to the laying of any slab protection to arrange this survey.

25. Exposed Pipeline

Any exposed pipeline must be suitably supported. Where lengths of pipeline greater than 5m are to be exposed and unsupported the Asset Manager must be consulted and a stress analysis must be carried out in order to establish the necessary support requirements.



Figure 20. Pipeline Supports

The stress analysis must be carried out in accordance with IGEM/TD/12 by individuals with demonstrated expertise in this area. Any pipeline supports installed must be removed before backfilling. The exposed pipeline must be protected by matting and suitable timber cladding. Consideration must be given to T/SP/P/18 when pipelines are exposed.

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26. Lifting Operations

All lifting operations over the Hazard and Danger Zones must be fully detailed in a Method Statement which must be accepted by the AE and must be monitored by the SW/2 Technician.

All lifting operations over the hazard and danger zones must be authorised by a PTW in accordance with Safe Control of Operations [SCO]. Lifting operations should only be permitted in the danger zone for works on the pipeline such as hot tap and stopple operations, or where it is necessary to install trench support. Consideration must be given to avoiding or minimising lifting operations in the danger zone where it is practicable. Standpipes and fittings are particularly vulnerable to damage during lifting operations, including the lifting of trench support equipment and materials and damage prevention measures must be taken [i.e. barriers to prevent damage and/or restraints on the lifted load to restrict its movement].

Lifting operations includes the lifting of pipes, fittings, valves, stopple equipment, tools and equipment, trench support materials or frames etc. whether by crane, Hiab vehicles, mechanical excavators or other.

Lifting operations must be carried out in accordance with SGN/PM/DIS/3.6. For guidance on lifting Protective Slabs refer to SGN/SP/CE/12.

Those overseeing and assisting lifting operations and operating lifting equipment must be competent and experienced.

The free movement of suspended loads must be restrained and controlled. A slinger/signaller/banksman must assist.

Lifting operations should be planned to avoid, where possible, lifting over pipelines and especially fittings and standpipes by **having the lifting equipment on the same side of the pipeline as the lift.**



Figure 21. Example Lifting Operation

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27. Cathodic Protection

All pipelines are cathodically protected in accordance with SGN/PM/ECP/2. Where a new service is to be laid and similarly protected, the SW/2 Technician must arrange with the SGN Maintenance department for interference tests to be carried out to determine whether SGN's own system is adversely affected. If any cathodic protection posts or associated apparatus need to be moved to facilitate third party works SGN require reasonable notice, typically 7 days.

SGN must undertake this work and any associated costs should be borne by the third party

28. New Services Crossings

Where a new service is to cross over or under a pipeline a minimum clearance distance of 600mm must be maintained between the nearest point of the pipeline and the new service.

In special circumstances this distance may be reduced after consultation and written agreement with the SGN Asset Manager.

Ordinarily any new service crossing over a pipeline should be done by hand excavation. To limit the length of interaction between a pipeline and any new service the angle that a new service is permitted to cross a pipeline must be between ≥75°.

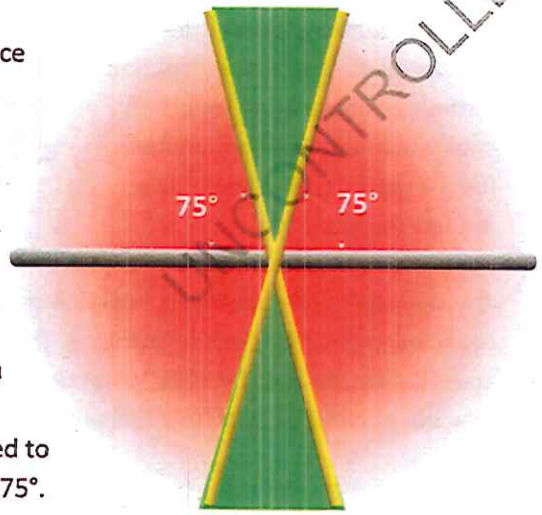


Figure 22. Crossing Angles

29. Trenchless Techniques

Trenchless techniques include moling operations; Horizontal Directional Drilling (HDD); auger boring; impact boring; pipe bursting; hand and powered tunnelling operations; etc. These activities can be highly hazardous to high pressure gas pipelines and can cause catastrophic damage to them.

Trial holes must be hand excavated to confirm the position and depth of the pipeline (Trial Holes) and any associated fittings, standpipes or connections, if any of these activities are to be carried out through or under the hazard and danger zones or in the vicinity of the hazard zones.

A PTW issued by an SGN AE is required for all trenchless techniques carried out within the hazard zones or for passing under a high pressure gas pipeline at any depth.

Any proposal to use trenchless technologies in the hazard zones or under the pipeline at any depth must be referred to the Asset Manager who will review the risk assessments and method statements and will, where necessary, seek specialist advice.

The Head of Network Management (Transmission) must be consulted and must authorise the use of trenchless techniques through or within the inner hazard zone.



Figure 23. Horizontal Directional Drill

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A site specific Method Statement must be provided by the Controller of the Works. The potential harm to the pipe or its coating from vibration must be considered.

An SW/2 Technician must observe any work within or through the pipeline easement and hazard zones to monitor compliance with the agreed method statement and PTW.

30. Backfilling

All backfilling in the Hazard and Danger Zones must be carried out in accordance with SGN/SP/P/10 and must be supervised by the SW/2 Technician. If backfilling works are to be carried out by a third party SGN require a minimum of 48 hours' notice prior to any backfilling works being carried out. This should be communicated to any contractors working on the pipeline by the SW/2 Technician. This is applicable for any works over, under or parallel to the pipeline, within 3m. Safe Control of Operations [SCO] & Construction Traffic should be observed when manoeuvring plant in close proximity to the pipeline.



Figure 24. Vibro-Tamper

Mechanical excavators must not be used in the danger zone to assist backfilling. A mechanical excavator can only be used to assist backfilling within the Inner and Outer Hazard Zones (Hazard and Danger Zones) if authorised by a PTW. A mechanical excavator **must not** be used to compact ground in the Inner Hazard and Danger Zones.

Hand operated vibro-tampers require a PTW for use in the Inner Hazard Zone and Danger Zone unless the following conditions are met;

- 300mm of fine sand is placed over the pipeline
- A further 200mm of suitable backfill is hand compacted
- No fittings or standpipes within 1.5m
- SW/2 Technician monitors the work

Vibrating Rollers can be used in the Hazard and Danger Zones, subject to a PTW providing there is at least **600mm** of hand compacted / hand operated vibro-tamper compacted material over the pipe, and there are no fittings or standpipes present. Lifting Operations should be considered if the unit needs to be lifted into the excavation.

If the pipeline has been backfilled without the knowledge of the SW/2 Technician then he/she **must** insist the material is re-excavated to enable the condition of the pipeline coating to be checked and to confirm suitable fine fill material has been used around the pipeline.

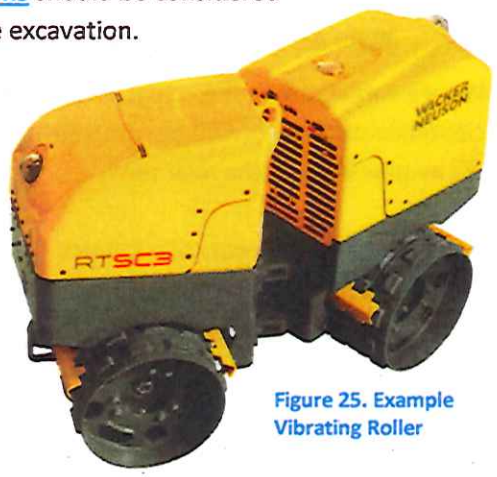


Figure 25. Example Vibrating Roller

Any damage to the pipeline or pipeline coating, however minor, **must** be reported to the AE prior to backfilling. The damage must then be assessed and suitably repaired by SGN. Minor damage to pipe coating and test leads may be repaired by SGN free of charge.

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31. Damage to the Pipeline

If the SGN pipeline is damaged, even slightly, and even if no gas leak has occurred then the relevant SGN Gas Control Centre **must** be contacted immediately and informed that the pipeline has been damaged along with the geographical location of the damage.

The Control Room must be asked to confirm that the pressure in the pipeline will not be increased until an assessment of the damage has been carried out in line with SGN procedure SGN/PR/P/11. The Control Room must also be asked to make preparations to reduce pressure whilst the assessment of damage is being carried out.

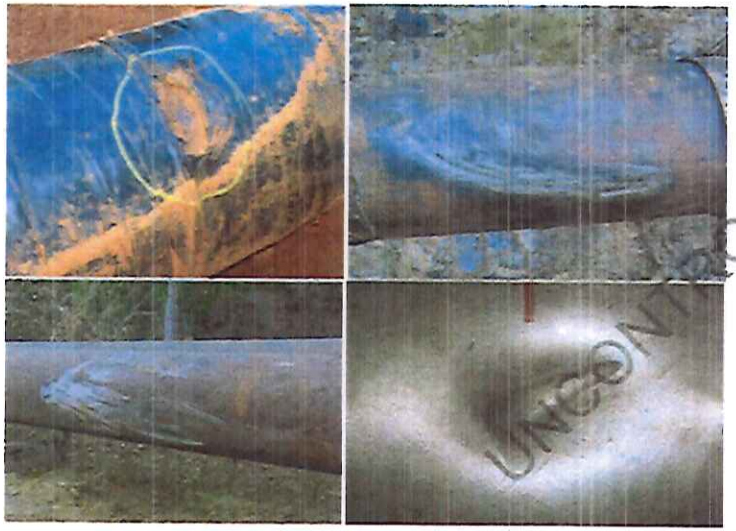


Figure 26. Examples of Severe Damage to Pipelines

In addition the contractor must be told to follow the advice in SGN/PM/EM/76, namely:-

- Shut down all plant and machinery and extinguish any potential sources of ignition.
- Evacuate all personnel from the vicinity of the pipeline.
- Report any emergency to using the emergency number 0800 111 999.
- Notify the AE or his office immediately using the contact telephone number provided.
- Ensure no one approaches the pipeline.
- Do NOT try to stop any leak.
- T/SP/P/18 & T/SP/P/9 must be observed when making any repair to the pipeline.

32. Document Control

All documents handed to contractors or landowners on site must be recorded and signed for by the recipient on the Site Document Control Form. Lack of information, and the lack of clear instruction is a major contributing factor in many pipeline damage incidents. It is the responsibility of the SW/2 Technician to ensure that all the required information is available and provided to the Controller of the Works.

33. Encroachment Reporting

Details of all third party activities and SGN non-routine operations carried out within the easement, together with any activity outside of the easement which could have a detrimental influence on the integrity of the pipeline must be recorded on the standard encroachment form shown in Appendix C of this procedure (SGN Encroachment Reporting Form). On completion of the work the encroachment form must be signed by the AE and retained in the Pipeline File.

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34. References

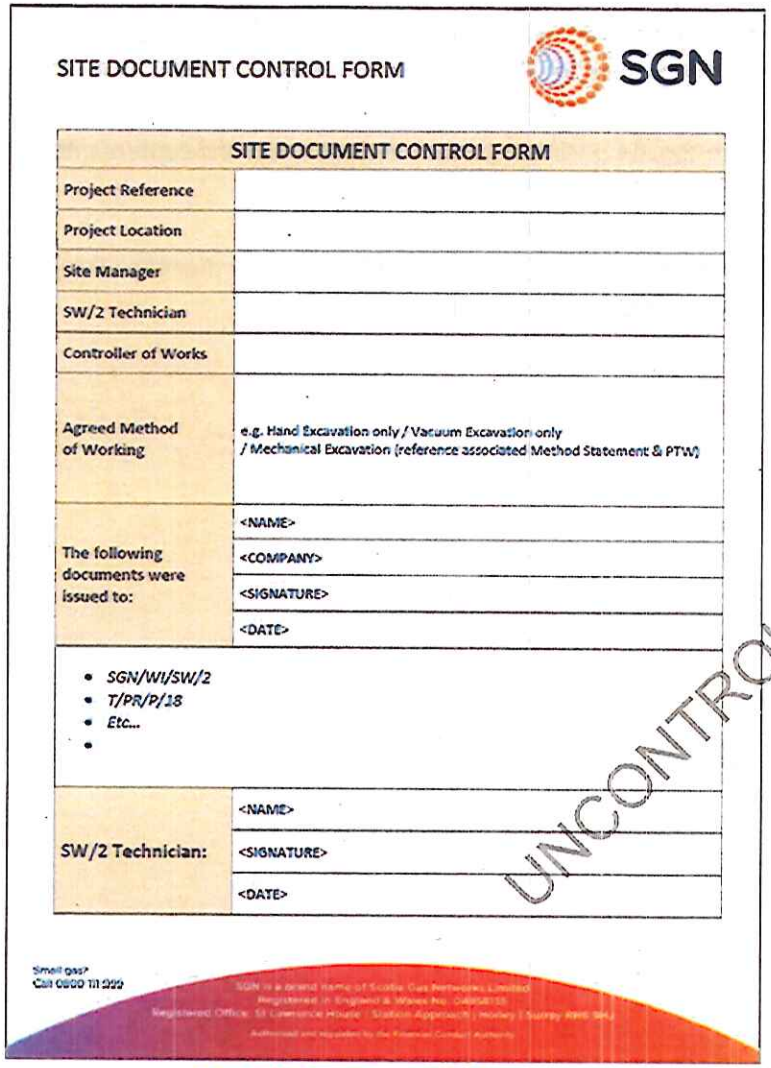
Internal Documents

SGN/PM/MAINT/5	-	Management Procedure for Maintenance of Pipelines Operating Above 7 Bar
SGN/PM/SW/3	-	Management Procedure For Use Of Mechanical Plant In Close Proximity To Utility Apparatus
SGN/PM/EM/76	-	Management Procedure for Managing Gas Release Emergencies and Damage on the Above 7 Bar Gas Transmission System
GDN/PM/SCO/1-5	-	Management Procedures for Safe Control of Operations
SGN/PM/DP/1	-	Management Procedure for the Prevention of Damage to SGN's <7bar Distribution System
T/PR/SSE/8	-	Work Procedure for Working on un-odorised gas installations
T/PR/P/18	-	Work Procedure for Working On Pipelines Containing Defective Girth Welds Or Girth Welds Of Unknown Quality
T/PR/SW/1	-	Work Procedure for Excavations
SGN/PM/ECP/2	-	Management Procedure for Cathodic Protection of Buried Steel Systems
T/SP/P/2	-	Specification for Welding of Land Pipelines and Installations Designed to Operate at Pressures greater than 7 bar (Supplementary to BS 4515-1)
T/SP/P/9	-	Specification For The Welding Of Fittings To Pipelines Operating Under Pressure (Supplementary to BS 6990).
SGN/SP/GM/4	-	Specification for the protection of steel pipelines operating at pressures above 7 bar subjected to vibrations caused by blasting, piling or demolition
T/SP/GM/1	-	Specification for The Protection of Pipelines From Ground Movement and External Loading. External Loading on Steel Pipelines and Buried Piping at Installations
T/PR/P/11	-	Work Procedure for Inspection and repair of damaged steel pipelines designed to operate at pressures greater than 2 bar
SGN/SP/P/10	-	Specification for general pipelining designed to operate at pressures greater than 7barg
SGN/SP/CE/12	-	Specification for the Design, Construction and Testing of Civil & Structural Works Part 12: Pipeline Protection Slabs
SGN/PM/DIS/3.6	-	Management Procedure for Lifting Operations

External Documents

HS(G) 47	-	Avoiding Danger from Underground Services
NRSWA	-	New Roads and Street Works Act 1991
GS(M)R	-	Gas Safety (Management) Regulations 1996
IGE/TD/1	-	Steel pipelines and associated installations for gas pressure transmission

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SITE DOCUMENT CONTROL FORM

SGN

SITE DOCUMENT CONTROL FORM	
Project Reference	
Project Location	
Site Manager	
SW/2 Technician	
Controller of Works	
Agreed Method of Working	e.g. Hand Excavation only / Vacuum Excavation only / Mechanical Excavation (reference associated Method Statement & PTW)
The following documents were issued to:	<NAME>
	<COMPANY>
	<SIGNATURE>
	<DATE>
• SGN/WI/SW/2 • T/PR/P/18 • Etc... •	
SW/2 Technician:	<NAME>
	<SIGNATURE>
	<DATE>

Smell gas?
Call 0800 111 999

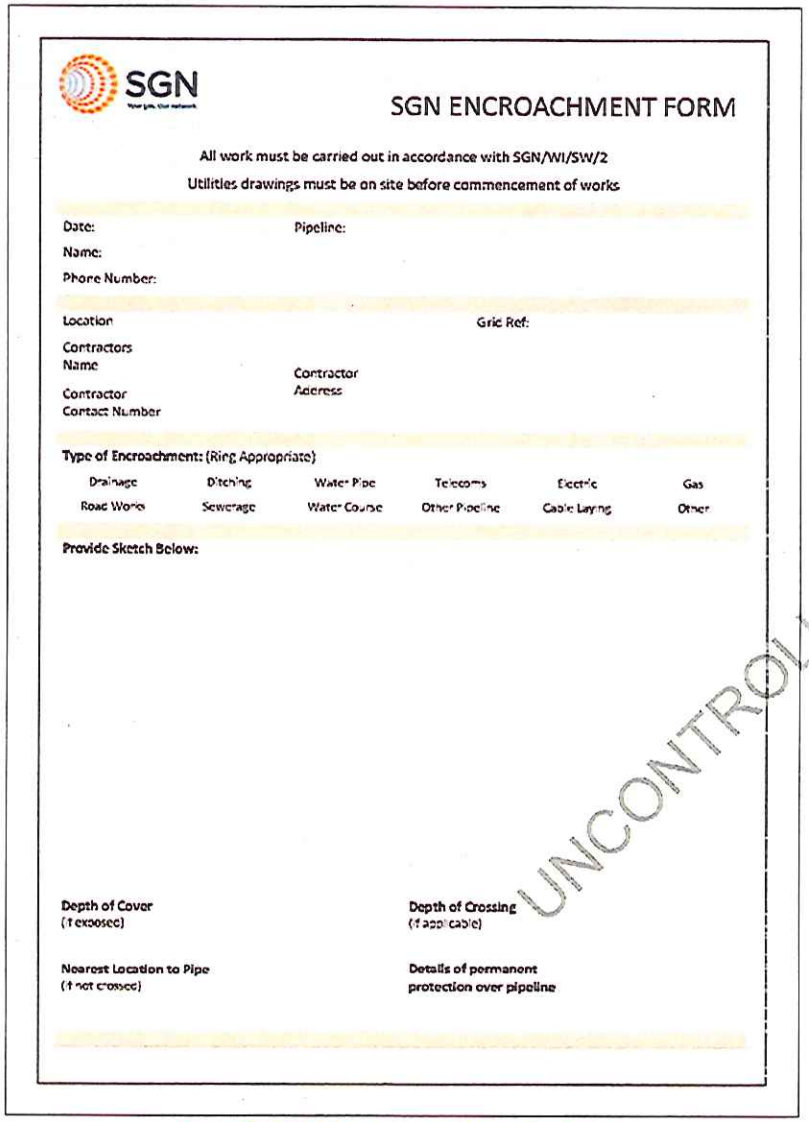
Figure 27. Site Document Control Form

The Site Document Control form must be used to record all transfer of documents and instruction to the undertaker of works. This is a fundamental element of the safe working process, and provides a record of the interaction between the SW/2 Technician and the undertaker of works.

A blank version of this form can be downloaded from the following link:
http://sgnnet/DownloadItem.axd?ID=1899970

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Appendix B Encroachment Reporting Form



SGN

SGN ENCROACHMENT FORM

All work must be carried out in accordance with SGN/WI/SW/2

Utilities drawings must be on site before commencement of works

Date: Pipeline:

Name:

Phone Number:

Location Gric Ref:

Contractors Name

Contractor Address

Contractor Contact Number

Type of Encroachment: (Ring Appropriate)

Drainage	Ditching	Water Pipe	Telecoms	Electric	Gas
Road Works	Sewerage	Water Course	Other Pipeline	Cable Laying	Other

Provide Sketch Below:

Depth of Cover (If exposed)

Depth of Crossing (If applicable)

Nearest Location to Pipe (If not crossed)

Details of permanent protection over pipeline

Figure 28. SGN Encroachment Reporting Form

The Encroachment form must be used to record encroachment on SGN assets, the form must be filled out with detailed descriptions and sketches to show the nature of the encroachment. The completed form should then be returned to the Auhorising Engineer for assessment and capture into the pipeline records system.

A blank version of this form can be downloaded from the following link:
http://sgnnet/DownloadItem.axd?ID=1899971

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Appendix C | Mechanical Assistance Request Form – Trial Holes Requiring Deep Excavation

Approval form for use of 'mechanical assistance' (see section 17 - SGN/WI/SW/2) for excavation of trial holes onto pipelines where the depth is greater than 1.5m

Location:

Grid co-ordinates: E_____; N_____

Asset details:

Pipeline:_____

Depth of cover:_____m

Diameter:_____mm

Wall thickness:_____mm

Max. Operating Pressure:_____barg

Checklist of information required for assessment: Tick as appropriate ✓

- Details of activity (reason for excavation) including timescales ☐
- Key parties: ☐
  - Client ☐
  - Principal Contractor ☐
  - Other ☐
- Details of observed ground conditions ☐
- Details of all available asset data: ☐
  - ILI Pipe tally for section ☐
  - Construction strip map extracts ☐
  - Other pipe records ☐
- Results of initial pipeline location survey ☐
  - Measured depth of cover ☐

Pipeline Technician undertaking survey:

Name:_____;

Title:_____; Date:_____

- Risk assessments ☐
- Full method statements ☐
  - Details of all mechanical plant ☐
  - Details of precautions to avoid entry into the 'danger zone' ☐
  - Details of other hazard mitigation measures e.g. pressure reduction ☐

Key personnel:

Authorising Engineer:_____; Title:_____

Competent Person:_____; Title:_____

SW/2 Technician:_____; Title:_____

Approval:

Signed:_____: Date:_____

Head of Network Management (Transmission)

Figure 29. Mechanical Assistance Request Form

The attached form must be used to support any request to utilise Mechanical Assistance whilst carrying out deep excavation trial holes. All available information, including ILI information must be sought and a detailed method statement produced before submitting to the Head of Network (Transmission) for approval.

A blank version of this form can be downloaded from the following link:
http://sgnnet/DownloadItem.axd?ID=1899972

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Appendix D | SW/2 Pipeline Technician – Roles and Responsibilities and Competency Requirements

The SW/2 pipelines Technician described below fulfils the role set out in this procedure for safe working and development in the vicinity of high pressure pipelines and associated installation operating >7barg. The role requires the pipeline technician to:

- Interface with undertakers of works in the vicinity of high pressure pipelines to advise them on the presence and position of pipelines; restrictions on working within pipeline easements; the hazards and dangers of damaging high pressure pipelines; and, safe working practices in the vicinity of high pressure pipelines and associated installations
- Understand and interpret gas engineering plans and maps
- Locate and mark out pipelines, bends and fittings using pipe location equipment
- Establish safe working proximities to high pressure pipelines
- Oversee hand excavation of trial holes to confirm the position and depth of high pressure pipelines
- Monitor works using mechanical excavators within 3.0m of high pressure pipelines, when such works have been authorised by an SGN AE, and intervene if agreed safe systems of work (including, but not limited to permits to work, risk assessments, Method Statements, and other written instructions) are not complied with, or there is a danger of damaging a high pressure pipeline

This role is not an exclusive role and is usually part of an employee's wider job role for which additional training and competency will be required.

Minimum Training Requirements

D.1 Minimum Training

Evidence of suitable and sufficient training is required for the following elements:

a. Implementing SGNs procedure SGN/PM/SW/2 for safe working and development in the vicinity of high pressure pipelines and associated installation operating >7barg. This training is [will be] a company standard training course which will include:
   - The consequences of damaging high pressure pipelines
   - Factors that lead to an increase in risk
   - The risks associated with mechanical excavation and the use of mechanical excavators in the vicinity of high pressure pipelines
   - The procedural requirements and safety rules prescribed in the procedure
   - Safe working methods
   - The role and responsibilities of the SW/2 Technician
b. Use of pipe locators and cable locators
c. Understanding an interpreting maps and engineering drawings [relating to pipelines]
d. Safe Control of Operations [SCO/1 and SCO/2]
e. Deep excavations safety
f. Lifting operations [relevant to typical lifting operations on pipeline activities]
g. Legal training [easements and wayleaves]
h. IOSH managing safely [or similar]
i. Behavioural training [i.e. influencing safety behaviours training and dealing with conflict etc.]

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D.2 On-the-job Experience

Persons undertaking the SW/2 Technician role must have on-the-job experience to complement formal training. This must be provided using a suitably competent mentor (someone who is a competent SW/2 pipeline technician). On-the-job experience shall include:

- Understanding interpreting plans, using pipe location equipment and marking out pipelines
- Overseeing hand excavated trial holes
- Monitoring the use of vacuum excavators and mechanical excavators in the vicinity of high pressure pipelines
- Monitoring works applying 'mechanical assistance' as described in this procedure
- Monitoring works under Permit to Work conditions [i.e. using mechanical excavators in the hazard zone]
- Works involving deep excavations
- Dealing with people positively and assertively

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APPROVAL

This Work Instruction was approved by the Engineering Safety Committee on 10/09/2015 for use by managers, engineers and supervisors throughout Scotia Gas Networks (SGN).

SGN documents are revised, when necessary, by the issue of new editions. Users must ensure that they are in possession of the latest edition by referring to the SHE & Engineering Document Library available on SGNnet.

Compliance with this safety and engineering document does not confer immunity from prosecution for breach of statutory or other legal obligations.

BRIEF HISTORY

This topic previously covered by SGN/SP/SSW/2, T/PM/SSW/22 & Safety Engineering Instruction 599, following a comprehensive review, this document represents the guidance on safe working practices, the guidance previously contained in the above listed document on the management of enquires will be contained in an additional new document SGN/WI/DP/4.

KEY CHANGES

Section	Amendments
New Document	New document

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DISCLAIMER

This safety and engineering document is provided for use by SGN and such of its contractors as are obliged by the terms and conditions of their contracts to comply with this document. Where this document is used by any other party it is the responsibility of that party to ensure that this document is correctly applied.

MANDATORY AND NON-MANDATORY REQUIREMENTS

In this document:

Must: Indicates a mandatory requirement.

Should: Indicates best practice and is the preferred option. If an alternative method is used then a suitable and sufficient risk assessment must be completed to show that the alternative method delivers the same, or better, level of protection.

END NOTE

Comments

Comments and queries regarding the technical content of this safety and engineering document should be directed to The SHE and Engineering Registrar at: engineering.registrar@sgn.co.uk

Buying documents

Contractors and other users external to SGN should direct their requests for further copies of SGN safety and engineering documents to the department or group responsible for the initial issue of their contract documentation.

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9 January 2018

Our Ref: 1525914
Your Ref: BSO/E4519

SGN Connections
St Lawrence House
Station Approach
Horley
Surrey
RH6 9HJ

Customer Service **0800 912 1700***

Rogers Cory Partnership Limited
The Old School
Old School Road
Hook
Hampshire
RG27 9NJ

Dear Rogers Cory Partnership Limited,

Development @ Forty Acres, Havant Road, Havant, Hampshire, PO9 3LW

Thank you for choosing us to give you a budget indication for a new connection at the above site, and please find our estimate below.

Work to be carried out
SGN Connections to connect from existing 180mm PE Low Pressure Main in Havant Road and install an appropriately sized gas infrastructure to a suitable locations for 322 x new domestic properties and 1 x non domestic unit.
SGN Connections will provide all excavation and reinstatement of the trenches up to your site boundary. No meter/ housing or meter work is included.

Your budget indication is £ (Not Incl. VAT)

Please note that this figure is a budget indication only, it is based upon hourly load of 3,543kwh and annually quantity of 3,298,796.00kwh along with any other information you've given us, and doesn't represent an offer to carry out the work.

Reinforcement of the existing network will be required to accommodate this development. Additional lead times for the reinforcement are approximately 285 days. This is based upon current network model data which is subject to change. Upon receipt of a firm request, we will evaluate the actual work required and let you know if reinforcement is required and what the associated costs are.

We won't be able to give you a more accurate quote until a full design study has been carried out, and there's a charge for this. We will be able to tell you how much the study will be once you ask us for the firm quote.

No easement costs have been included within this quotation. If it is found that an easements are required, additional cost will be incurred to you.

If any unknown obstructions are found hindering the proposed supply route, then an alternative route may have to be arranged, which may incur additional costs.

Please note that this budget indication doesn't allow for any diversion of our existing infrastructure if we find it's necessary. You can get further detail on this by calling our customer service line on the number at the top of this page and asking to speak with the Mains Diversions and Isolations team.

Please note it is SGN's policy to locate gas meters externally wherever possible. Internal meter positions should only be considered as a last resort if no external locations are available.

If you have any further questions, please feel free to contact me by calling our customer service team on the number at the top of this letter and asking to speak with the undersigned.

Yours sincerely

Lizbeth Timarchi
Technical Assistant

* All calls are recorded and may be monitored

Appendix (I)

Telecommunications Mapping and Correspondence

ATKINS CHECKED
AH

openreach
a BT Group business

Our Ref: Ref shown on map

email: DBYD@openreach.co.uk
Phone: 0800 023 2023. Option 5

Date of issue shown on map

Dear Customer,

NR & SW ACT 1991 – PROPOSED WORKS AT:

Prior to commencement of work: for free onsite guidance and accurate up to date location of BT plant please contact our Plant Protection Service by the following methods
Email Dial before you dig DBYD@openreach.co.uk
Visit the website www.dialbeforeyoudig.com

Thank you for your request of describing the above proposals.

Enclosed are copies of our drawing marked up to show the approximate locations of BT apparatus which is present in the immediate vicinity of your works. It is intended for general guidance only. No guarantee is given of its accuracy.

It should not be relied upon in the event of excavations or other works made near to British Telecommunications plc apparatus which may exist at various depths and may deviate from the marked route.

To avoid damage it is recommended that mechanical excavators or borers are not used within 600mm of British Telecommunications plc plant. If scaffolding is erected, please ensure that our equipment is not enclosed, blocked, covered or otherwise obstructed by the scaffolding.

In the event of BT apparatus being in the area of works we recommend that your plant/vehicle crossing is either resited, or apply for a budget estimate by submitting detailed plans to the above address, these will be forwarded to the appropriate department for their comments.

Please ensure you quote our reference on any future correspondence.

Yours faithfully,

ATKINS CHECKED

KG

ATKINS
500 Park Avenue
Bristol
BS32 4RZ

Virgin Media
Field Services
Units 1-12
Broad Lane
Mayfair Business Park
Bradford
Yorkshire
BD4 8PW

Tel: 0870 888 3116 Opt 2

Plant Enquiry Ref:	VM.152019
Letter Date	04.07.2016
Your Ref:	47216
Date:	05.07.2016

Hello,

Enquiry Location: Site off A27, A2030 Havant Road and Westways, Havant

Thank you for your enquiry regarding work at the above location.

I enclose a copy of our above referenced drawing, marked to show the approximate position of plant owned and operated by Virgin Media.

You will be aware that you have a duty to ensure that no damage results to this equipment as a result of your proposed works. Please note that this apparatus may contain Fibre Optic, Coaxial and/or 240v Power Cables and as such, special care must be taken when excavating this area.

Should you require Virgin Media apparatus to be diverted to accommodate your works and require a detailed estimate, please send a cheque to the value of £720.00 (Bus) / £240.00 (Res) Inc VAT to:

Diversionary Works, Virgin Media, 1 Dove Wynd, Strathclyde Business Park Bellshill ML4 3AL

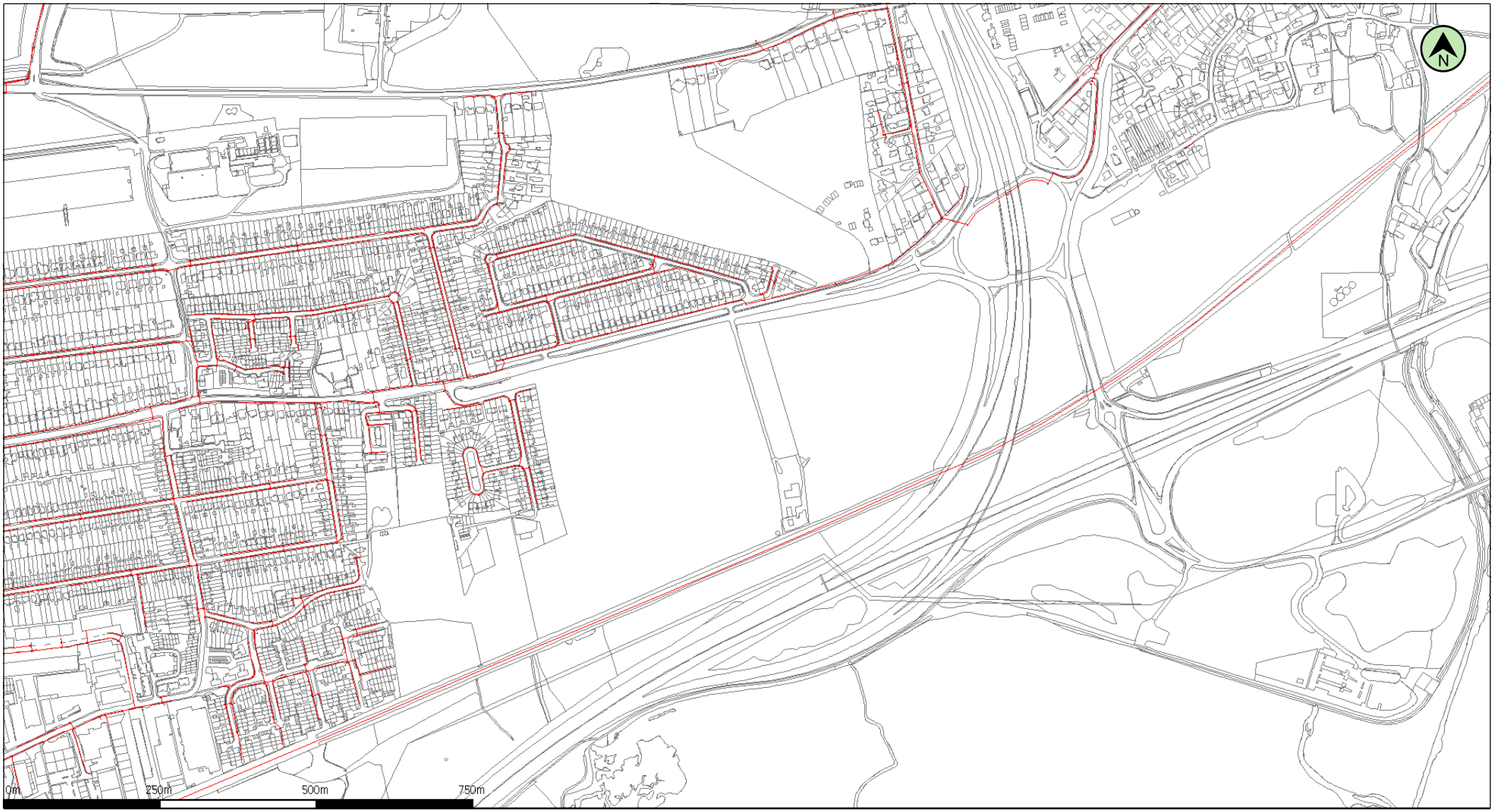
Or Call the Diversionary Team on: 0800 408 0088 Option 1

Should your request be in relation to a new development and you require an estimate to be prepared for Virgin Media to service your proposed development, please submit this request for costs along with site drawings (scale 1:500) to the New Build Team also at the above address.

Yours faithfully

National Plant Enquiries Team, email: plant.enquiries.team@virginmedia.co.uk

Please note: National Plant Enquiries are now able to accept all major cards with the exception of American Express for credit/debit card payments. If you wish to use this facility please contact us at the above telephone number. Please note: National Plant Enquiries Team (Bradford) cover and respond to plant enquiries for all ex ntl:Telewest franchise areas.



(c) Crown copyright and database rights 2016 Ordnance Survey 100019209 Date: 05/07/16 Scale: 1:8587 Map Centre: 469225,105787 Data updated: 01/05/16 Telecoms Plan A4

Important Information - please read The purpose of this plan is to identify Virgin Media apparatus. We have tried to make it as accurate as possible but we cannot warrant its accuracy. In addition, we caution that within Virgin Media apparatus there may be instances where mains voltage power cables have been placed inside green, rather than black ducting. Further details can be found using the 'Affected Postcodes.pdf', which can be downloaded from this website. Therefore, you must not rely solely on this plan if you are carrying out any excavation or other works in the vicinity of Virgin Media apparatus. The actual position of any underground service must be verified by cable detection equipment, etc. and established on site before any mechanical plant is used. Accordingly, unless it is due to the negligence of Virgin Media, its employees or agents, Virgin Media will not have any liability for any omissions or inaccuracies in the plan or for any loss or damage caused or arising from the use of and/or any reliance on this plan. This plan is produced by Virgin Media Limited (c) Crown copyright and database rights 2016 Ordnance Survey 100019209.

Duct, Trench

Chamber

Cabinet

sultan.mohammed@virginmedia.co.uk

VM.152019

ATKINS CHECKED
AH

Hariharan, Adarssh

From: Kumar, Krishnaraj
Sent: 28 June 2016 10:45
To: Statutory Enquiries
Subject: RE: Plant Enquiry - 47216 - Site off A27, A2030 Havant Road and Westways, Havant - Please respond by 27/06/2016
Attachments: 47216 - 3.pdf; 47216 - 2.pdf; 47216.pdf; Data Key + Special Requirements.pdf

Please accept this email as confirmation that Vodafone: Fixed **does** have apparatus within the vicinity of your proposed works.

Please see attached network information.

Also please note, unfortunately we do not hold mapping background records for some of the areas where our network is present. It would appear that the cable should be within the Network Rail troughing route.

Please consider the Purple dashed lines on the attached map as Affected. These lines represents the same as the Green dashed lines on the attached Data Key, ie Planned & Approved Route.

Note: Only affected parts are printed.

IMPORTANT - PLEASE READ = Your Next Step?:-
Where apparatus is affected and requires diversion, please send all the scheme related proposals that affects the Vodafone Network to c3requests@vodafone.com with a request for a 'C3 Budget Estimate'. Please ensure you include a plan showing proposed works. (A location plan is insufficient for Vodafone to provide a costing). These estimates will be provided by Vodafone directly, normally within 20 working days from receipt of your request. Please include proof of this C2 response when requesting a C3 (*using the 'forward' option*). Diversionary works may be necessary if the existing line of the highway/railway or its levels are altered.

Kind regards,

Plant Enquiries Team
T: 01454 662881
E: osm.enquiries@atkinsglobal.com

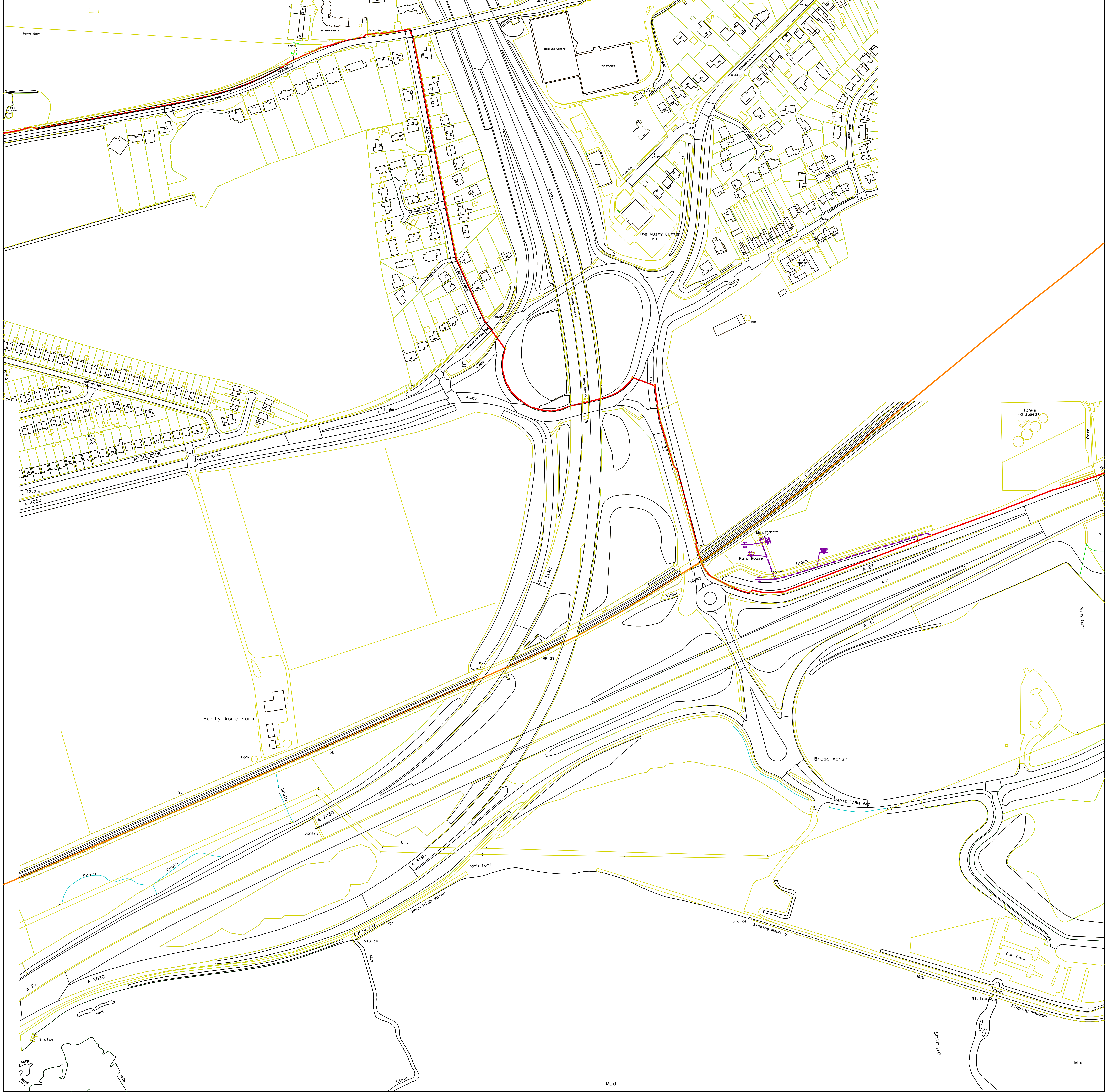
ATKINS working on behalf of Vodafone: Fixed

vodafone

This response is made only in respect to electronic communications apparatus forming part of the Vodafone: Fixed electronic communications network formerly being part of the electronic communications networks of Cable & Wireless UK, Energis Communications Limited, Thus Group Holdings Plc and Your Communications Limited.

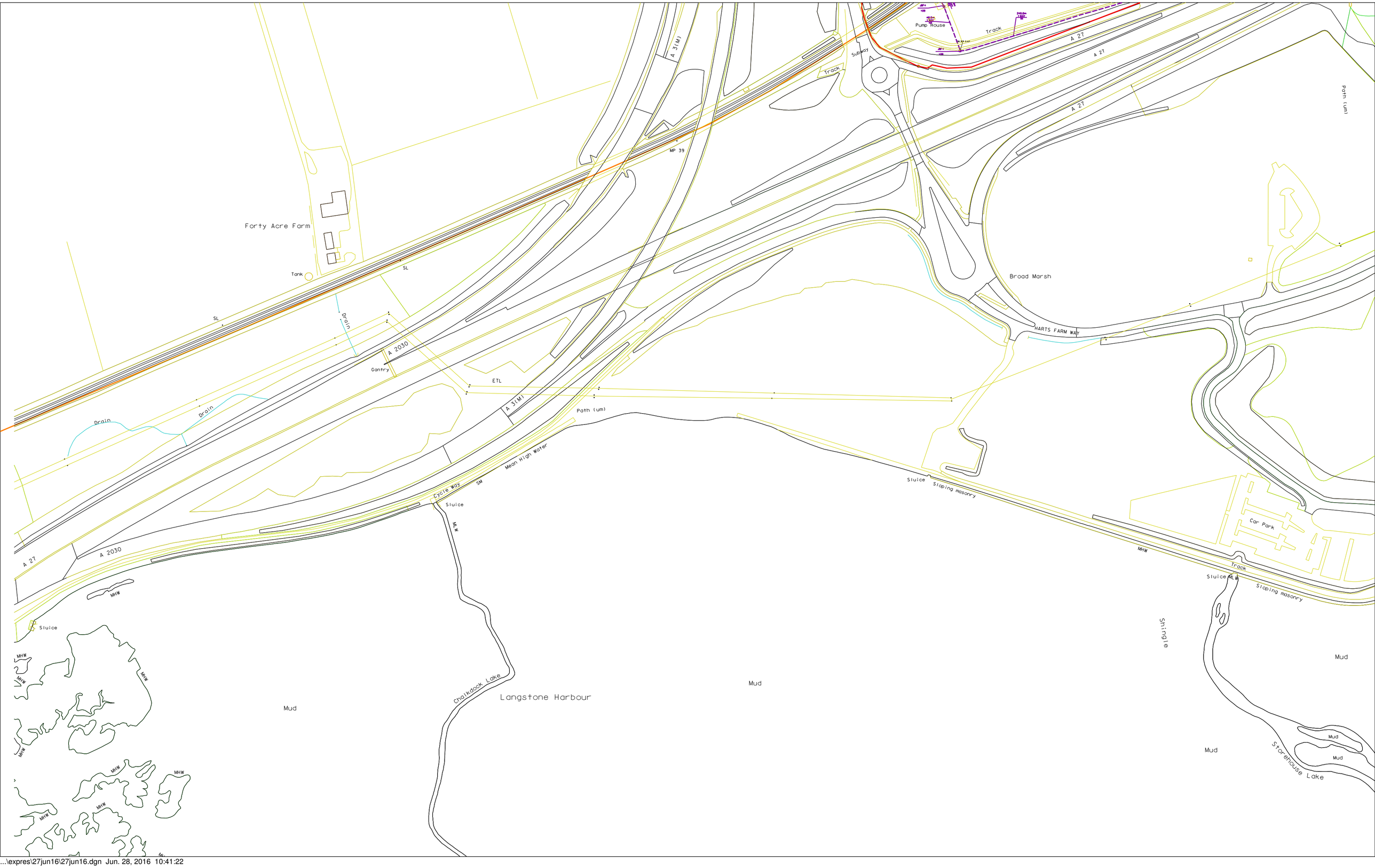
PLEASE NOTE: The information given is indicative only. No warranty is made as to its accuracy. This information must not be solely relied upon in the event of excavation or other works carried out in the vicinity of Vodafone plant. No liability of any kind whatsoever is accepted by Vodafone, its servants, or agents, for any error or omission in respect of information contained on this information. The actual position of underground services must be verified and established on site before any mechanical plant is used. Authorities and contractors will be held liable for the full cost of repairs to Vodafone's apparatus and all claims made against them by Third parties as a result of any interference or damage.

Please consider the environment before printing this e-mail


Ports Down
Pit (disused)
Portsdown Hill Road
Belmont Castle
El Sub Sta
Stone
+ 45.6m
Glebe Park Avenue
Spinnaker View
Firlands Rise
Bedhampton Hill Road
+ 15.5m
Fortunes Way
Auriol Drive
El Sub Sta
Havant Road
+ 11.9m
+ 12.2m
A 2030
Bowling Centre
Warehouse
Motel
+ 21.6m
The Rusty Cutter (PH)
Bedhampton Hill
+ 22.6m
+ 20.4m
Maple Wood
Lodge Road
Lower Road
+ 9.4m
Farm Cottages
Old Manor Farm
Tank
A 3(M)
Sloping masonry
SM
A 27
Mast
Pump House
Track
Subway
Tanks (disused)
Path
MP 39
Forty Acre Farm
Tank
SL
Drain
Gantry
ETL
Path (um)
Mean High Water
Cycle Way
Sluice
MLW
MHW
Lake
Mud
Broad Marsh
HARTS FARM WAY
Path (um)
Car Park
Track
Sloping masonry
Shingle
Mud

Ports Down
Comp Down
Pit (disused)
PORTSDOWN HILL ROAD
Belmont Castle
Ei Sub Sta
Stone
45.4m
Bowling Centre
Warehouse
Motel
The Rusty Cutter (PH)
20.4m
RIDGMARTON HILL
22.6m
21.6m
LOWER ROAD
9.4m
2 Ford Cottages
Old Manor Farm
CLOSE PARK AVENUE
SPINNAKER VIEW
LEDMORE RISE
15.5m
A 3(M)
Stubbington Avenue
Tank
A 2030
11.9m
FORTUNES WAY
AURIOL DRIVE
HAVANT ROAD
12.2m
SM
A 27
Tanks (disused)
Path
Mast
Pump House
Track
Subway
Path (um

...\expres\27jun16\27jun16.dgn Jun. 28, 2016 10:40:56



...\expres\27jun16\27jun16.dgn Jun. 28, 2016 10:41:22

Vodafone Network Colour:

Ex-Cable&Wireless UK Network (now Vodafone)

Planned & Approved Route

Planned Route – Awaiting Approval

Other Licensed Operator (OLO)

Ex-Thus Network (now Vodafone)

Ex-Energis Network (now Vodafone)

OLO

Other:

Overhead Electricity Line (non Vodafone)

Network Rail

Other Licensed Operator (OLO).

= Ex-Cable&Wireless UK, Energis and Thus fibre-optic cable within an OLO duct. Please contact all other operators for further details of their apparatus within that area.

Fibre Services
Special Requirements relating to the External Plant Network of Vodafone

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16. About this Document 9

1. Introduction

This document sets out the procedure that will apply when Other Parties intend or are undertaking works in the vicinity of Vodafone apparatus.

2. Purpose of document

This document provides a means by which the Vodafone specific special requirements relating to their apparatus, regardless of it being situated in the public highway / road, private street, land or any other areas, is made aware to Other Parties.

3. Scope

This document will be presented to Other Parties or Contractors to encourage those undertaking works within the vicinity of Vodafone apparatus to refer to and comply with. This is in order to protect where necessary the Vodafone apparatus and to avoid damage to the apparatus and loss of service.

A National Joint Utilities Group (NJUG) document NJUG 9 titled "Recommendations for the Exchange of Records of Apparatus between Utilities" provides useful reference material.

It should be noted that, where appropriate, additional information on avoiding danger from underground apparatus is contained within the HSG47 guidance book titled "Avoiding Danger from Underground Services."

4. Vodafone Network and Apparatus

Damage to Vodafone apparatus is extremely disruptive and can be expensive to repair, especially where long lengths of cable have to be replaced.

In order to maintain the network integrity and minimise disruption to service, it is essential that disturbances are absolutely minimal. When working within the vicinity of Vodafone apparatus, extreme care is necessary in order to avoid costly repairs. The Other Parties / Contractor shall make every effort to ensure that disturbance of Vodafone apparatus is no more than is absolutely necessary for the completion of the works in accordance with their contract.

5. Plant records

It is the responsibility of the Other Parties undertaking works which may affect Vodafone apparatus to obtain all relevant Vodafone plant records from our agent Atkins Global prior to works commencing. This may be done by contacting the Atkins Global Plant Enquiries Team listed in Appendix B.

Plant records for such enquiries will generally be provided within 10 working days of receipt and in compliance with the New Roads and Street Works Act 1991 [NRSWA] requirements. If Vodafone plant is affected, the response will contain reference to this document. Other Parties and Contractors are advised to refer to the National Joint Utilities Group [NJUG] 9 Document which outlines recommendations for the exchange of records of apparatus between utilities.

6. Definitions

The following definitions are applicable in this document:

a) **Apparatus** means all electronic communications apparatus above surface, at the surface or sub-surface apparatus, Cable, Jointing Chamber and plant formerly being apparatus owned or used by the Code Operators Cable & Wireless UK, Energis Communications Limited, Thus Group Holdings Plc and Your Communications Limited including any associated cables or ducts owned, leased or rented by the said Code Operators now owned and used by the Code Operator Vodafone Limited ("Vodafone").

b) **Cable** means any polythene or other sheath containing optical fibres or metallic conductors.

c) **Depth of cover** means the depth from the surface to the topmost barrel of the duct nest, in the case of ducts encased in concrete, to the top of the concrete, and in the case of directly buried cable, the top of the cable.

d) **Jointing chamber** means any manhole, surface box or other chamber giving access to Vodafone apparatus or their network.

e) **Utility** means an organisation licensed to provide gas, water, electricity, Cable TV or telecommunications services.

f) **Developer** means an organisation licensed to develop industrial/residential premises or given license to connect to utility apparatus.

g) **Contractor** means the individual, firm or company contracted to undertake the work for a Utility or Other Parties.

h) **Other Parties** means the Utilities, Highway Authorities, Developers, Street Authority (Roads Authority - Scotland).

i) **Site** means the location of, or in the vicinity of, the various works.

7. Requirements

Prior to commencing any work or moving heavy plant or equipment over any portion of the site, the Other Parties or Contractor shall notify Vodafone of their intentions. This may be done by contacting Atkins Global, contact listed in Appendix B.

Upon receipt of this notification, Atkins Global will identify if Vodafone apparatus is affected. If any Vodafone apparatus is affected by the works then Atkins Global will provide necessary records and confirm details of Vodafone apparatus and network operated within the affected area or adjacent to the proposed work site.

7.1 Location of Plant

It is the responsibility of the Other Parties or Contractors to undertake adequate plant location procedures. These may include searches for metallic cables which must be performed by actively inducing a signal in a cable conductor via a transmitter. A passive search is not considered sufficient.

Before applying a tracing signal to the Vodafone apparatus, the Other Parties or Contractors shall seek confirmation from Atkins Global that the Vodafone apparatus will not suffer any disruption to its networks normal workings as a result of the nature of the signal being induced.

7.2 Trial excavations

Optic fibre cables are very susceptible to damage from excavation tools. They are not electrically conductive and cannot be located by radio induction methods. Once an approximate location is known, the exact location must be ascertained by means of hand dug pilot holes. Where the work to be carried out by the Other Party or Contractor involves excavation in the vicinity of our apparatus, the Other Party or Contractor shall, by trial excavation at his own expense, determine the exact location and depth of the Cable& Wireless Worldwide apparatus. All excavations adjacent to the Vodafone apparatus are to be carried out by hand until the extent and /or location of the apparatus is known.

All excavation work shall be executed in accordance with the current issue of Health and Safety series booklet HSG47, Avoiding danger from underground services.

8. Depths of cover

The Other Party or Contractor should note that the minimum depths of cover for Vodafone apparatus shall be maintained together with specified separation requirements. Where the minimum depths of cover specified by Vodafone cannot be maintained, the Other Party or Contractor shall at their own expense, carry out the instructions of Vodafone requirements for the protection or diversion of their apparatus.

The Other Party or Contractor should have particular regard to the possibility of encountering Vodafone apparatus (including ducts and cables), at depths of cover other than that reported.

Surface cables (such as cables on bridges or walls) which are liable to be placed in danger from the Other Parties or Contractors works shall be protected, at the Other Parties expense, as directed by the Vodafone representative.

9. Separation

Reference should be made to HSG47 to ensure that adequate separation is achieved. The following details outline the specific requirements of Vodafone and capture the HSG47 requirements.

9.1 High voltage cables

High voltage single core cables of 1000 V and above shall have a minimum clearance from Company Apparatus of 500 mm.

High voltage multi-core cables of 1000 V and above shall have a minimum clearance from Company Apparatus of 350 mm.

In exceptional circumstances where the above clearances cannot be maintained, the separating distance may be reduced to a minimum of 175 mm. In such circumstances, concrete, of a quality as directed by the Company Representative, must be inserted to completely fill the space between the High Voltage cable and the Company Apparatus, in accordance with the requirements of the Company Representative. Any further services must have a minimum clearance of 250 mm from the concrete.

9.2 Low voltage cables

Low voltage cables of less than 1000 V shall have a minimum clearance from Company Apparatus of 180 mm. In exceptional circumstances where the above clearance cannot be maintained, the separating distance may be reduced to a minimum of 75 mm. In such circumstances, concrete, of a quality as directed by the Company Representative, must be inserted to completely fill the space between the services, in accordance with the requirements of the Company Representative. Any further services must have a minimum clearance of 250 mm from the concrete.

9.3 Ancillary electrical apparatus

Lamp posts, traffic posts and other such ancillary electrical apparatus shall have a minimum clearance of 150 mm from underground Company Apparatus and 600mm clearance from above ground Company Apparatus.

9.4 High pressure gas mains and other Undertakers plant/equipment

High pressure gas mains shall have a minimum clearance of 450 mm from Company Apparatus. All other undertakers' plant and equipment, when running in parallel with Company Apparatus, shall have a minimum clearance of 200mm. Where gas mains cross Company Apparatus, the minimum clearance shall be 200mm. All other undertakers' plant and equipment, when running across Company Apparatus, shall have a minimum clearance of 100 mm.

9.5 Other Undertakers plant

Other undertakers' plant and equipment which runs in parallel with Company Apparatus shall have a minimum clearance of 200mm. All other undertakers' plant and equipment when running across Company Apparatus shall have a minimum clearance of 100mm.

9.6 Tramways

Each separating distance shall be individually agreed with the Company Representative.

10. Jointing chambers

10.1 Protection

Footway type jointing chambers are not designed to withstand carriageway loadings.

Where such chambers are liable to be placed at risk, either temporarily or permanently, from vehicular traffic or from the movement of plant and/or equipment, they will need to be adequately protected. Alternatively, they may have to be demolished and rebuilt to carriageway standards, at the Other Parties or Contractors expense under supervision of Vodafone representative.

All Vodafone jointing chambers and / or other access points shall be kept clear and unobstructed. Access for vehicles, winches, cable drums and / or any further equipment required by Vodafone for the maintenance of its apparatus, must be maintained at all reasonable times.

10.2 Access

The covers to Vodafone jointing chambers and / or apparatus shall only be lifted by means of the appropriate keys and under the direct supervision of a Cable& Wireless Worldwide representative. Other Parties or Contractors shall not enter any Vodafone jointing chamber and / or apparatus unless under the supervision of a Vodafone representative and in any case not before the mandatory gas test has been carried out in the presence of Vodafone representative and such checks have shown it to be safe to enter the Vodafone chamber and / or apparatus. The Other Parties or Contractors shall be given reasonable access to Vodafone apparatus and chambers when required.

11. Notification periods

Where the Other Parties or Contractors works or the movement of plant or equipment may endanger Vodafone apparatus, the Other Party or Contractor shall give the Vodafone agent Atkins Global [as indicated at Appendix B] at least 7 working days notice in writing of the intended date to commence operations.

No excavation should be made without first consulting the relevant Vodafone apparatus layout drawings, which will be made available from the Vodafone agent Atkins Global on request and allowing 28 working days for processing the relevant drawings. However, should this not be possible, direct contact should be made to the Atkins Global Bristol Plant Enquiries Team as soon as possible to assess the situation.

When excavating, moving or backfilling (including use of Foamed Concrete for Reinstatements – FCR) around Vodafone apparatus, Atkins Global (as agent for Vodafone) shall be given adequate prior written notice of the Other Parties or Contractors intentions, in order that the works may be adequately supervised. Such notice shall not be less than 3 working days.

12. Excavation and backfill

All excavations adjacent to Vodafone apparatus are to be carried out by hand until the extent and or location of the Vodafone apparatus is known.

Use of mechanical borers and / or excavators shall not be used without the supervisory presence of a Vodafone representative or a given exemption.

Shuttering of the excavation or support to Vodafone apparatus, at the Other Parties or Contractors expense, shall be used as directed by the Vodafone representative.

At least 7 working days notice must be given to Vodafone in order that any special protective measures which may be required to protect Vodafone apparatus, at the Other Parties or Contractors expense, when equipment such as pile driving, explosives, laser cutting high powered RF equipment or RF test gear, is to be used in conjunction with the works.

Other Parties or Contractors are advised to refer to the National Joint Utilities Group [NJUG] 4 Document which outlines the identification of small buried mains and services.

13. Foam concrete

If foam concrete is being used as the backfill material, it shall not be used either above or within 500 mm of any Company Apparatus. A suitable material in accordance with the specification for the Reinstatement of Openings in Highways shall be substituted.

14. Attendance of Company Representative

If a situation requires the attendance on site of a Vodafone representative for a continuous period of more than 6 hours, suitable facilities shall be provided by the Other Party or Contractor, at their expense, to meet the office and ablution requirements.

15. Damage reports

In the event of any damage whatsoever occurring to Vodafone apparatus, the Other Party or Contractor shall immediately inform Vodafone by contacting Julia Burgoyne, (for contact details please refer to Appendix B).

All relevant costs of any subsequent repair and / or removal of the Vodafone apparatus shall be charged to the Other Party or Contractor, irrespective of who affects the repair.

The above requirements do not relieve the Other Party or Contractor of any of their obligations under their contract.

Appendix A - office address details

Glasgow Office

Vodafone
Pavillion 1
1 – 2 Berkeley Square
99 Berkeley Street
Glasgow
G3 7HR

Bristol Office

Vodafone
Unit 1,
Tamar Road
St Philips
Bristol
BS2 0TY

Manchester Office

Vodafone
Unit M
Atlas Business Park
Wythenshawe
Manchester
M22 5RR

Appendix B – Street Works Team Contacts for Vodafone

Function	Name	Job Title	Address	Phone	Mobile	Fax	Email Address
Co-ordination	Sandra Semple	National Street Works Manager	Glasgow Office (see above)	0141 303 2857	07775 792133	0141 300 9611	sandra.semple@cw.com
Customer Complaints	CMC	Customer Management Centre	n/a	08456 021585	n/a	n/a	n/a
Liability Claims	Julia Burgoyne	Major Incident Resolution Coordinator	Bristol Office (see above)	01454 895114	07803 259857	n/a	julia.burgoyne@cw.com
Diversionary Works	Samantha Wilkinson	C3 Diversionary Works Project Controller	Manchester Office (see above)	0161 423 2740	n/a	n/a	samantha.wilkinson@cw.com
Emergencies (24 Hour)	CMC	Customer Management Centre	n/a	08456 021585	n/a	n/a	n/a
Plant Enquiries- Including Thus Plc, (formerly Scottish Telecom), Your Comms (formerly Norweb), Energis & Mercury Communications	Plant Enquiries Team	n/a	Atkins Global PO Box 290 500 Aztec West, Almondsbury, Bristol, BS32 4RZ	01454 662881	n/a	01454 663330	Osm.Enquiries@atkinsglobal.com

16. About this Document

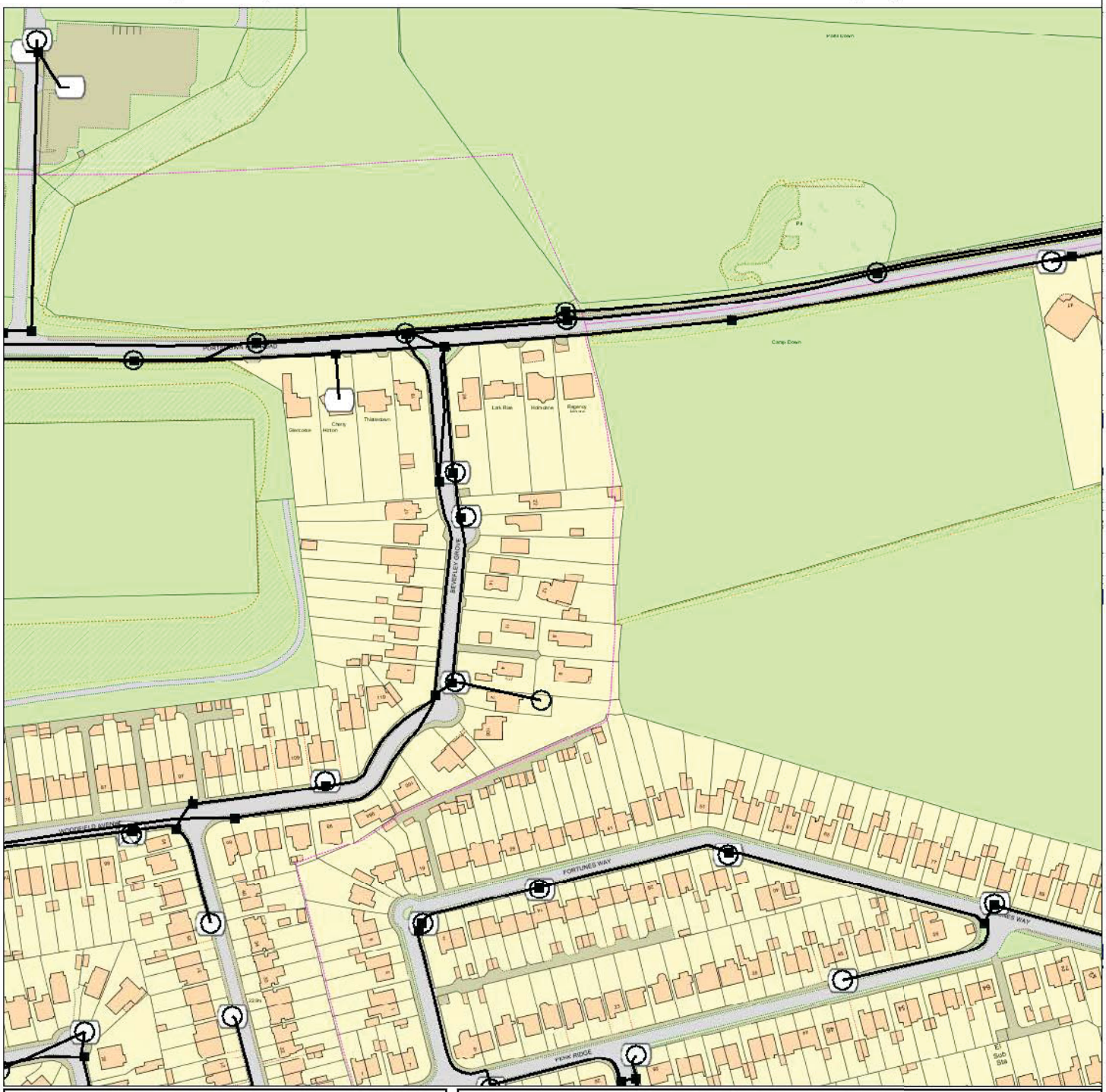
Content Owner
Price, David J

Changes since last version
Reformatted using the current Vodafone template.

End of Document

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Maps by email Plant Information Reply



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DIAL BEFORE YOU DIG

FOR PROFESSIONAL ON SITE ASSISTANCE PRIOR TO COMMENCEMENT OF EXCAVATION WORKS

ADVANCE NOTICE REQUIRED
(Office hours: Monday-Friday 08.00 to 17.00)

Tel: 0800 9173993
E-mail: dbyd@openreach.co.uk
Website: www.dialbeforeyoudig.com

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KEY TO BT SYMBOLS

- UNDERGROUND PLANT
- OVERHEAD PLANT (A/C, D/W or W)
- JOINT BOX
- DISTRIBUTION POINT (456 OR 456)
- MANHOLE (OR 72)
- DP BOUNDARY
- OTHER BT BOUNDARY (OR)
- POLE
- CABINET
- BURIED JOINT
- JOINTING POST (J)
- PROPOSED U/G
- PROPOSED O/H (A/C, D/W or W)
- PROPOSED BOX

Other proposed plant is shown using dashed lines. BT symbols not listed above may be disregarded. Existing BT plant may not be recorded. Information valid at the time of preparation.

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BT Ref : TRG05471C
Map Reference : (centre) SU6888006192
Easting/Northing : (centre) 468880,106192
Issued : 28/06/2016 05:48:01

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KEY TO BT SYMBOLS

UNDERGROUND PLANT		POLE	
A/C, D/W or W OVERHEAD PLANT		CABINET	
JOINT BOX		BURIED JOINT	
456 OR 456 DISTRIBUTION POINT		J JOINTING POST	
MANHOLE OR 72		PROPOSED U/G	
DP BOUNDARY		A/C, D/W or W PROPOSED O/H	
OTHER BT BOUNDARY OR		PROPOSED BOX	

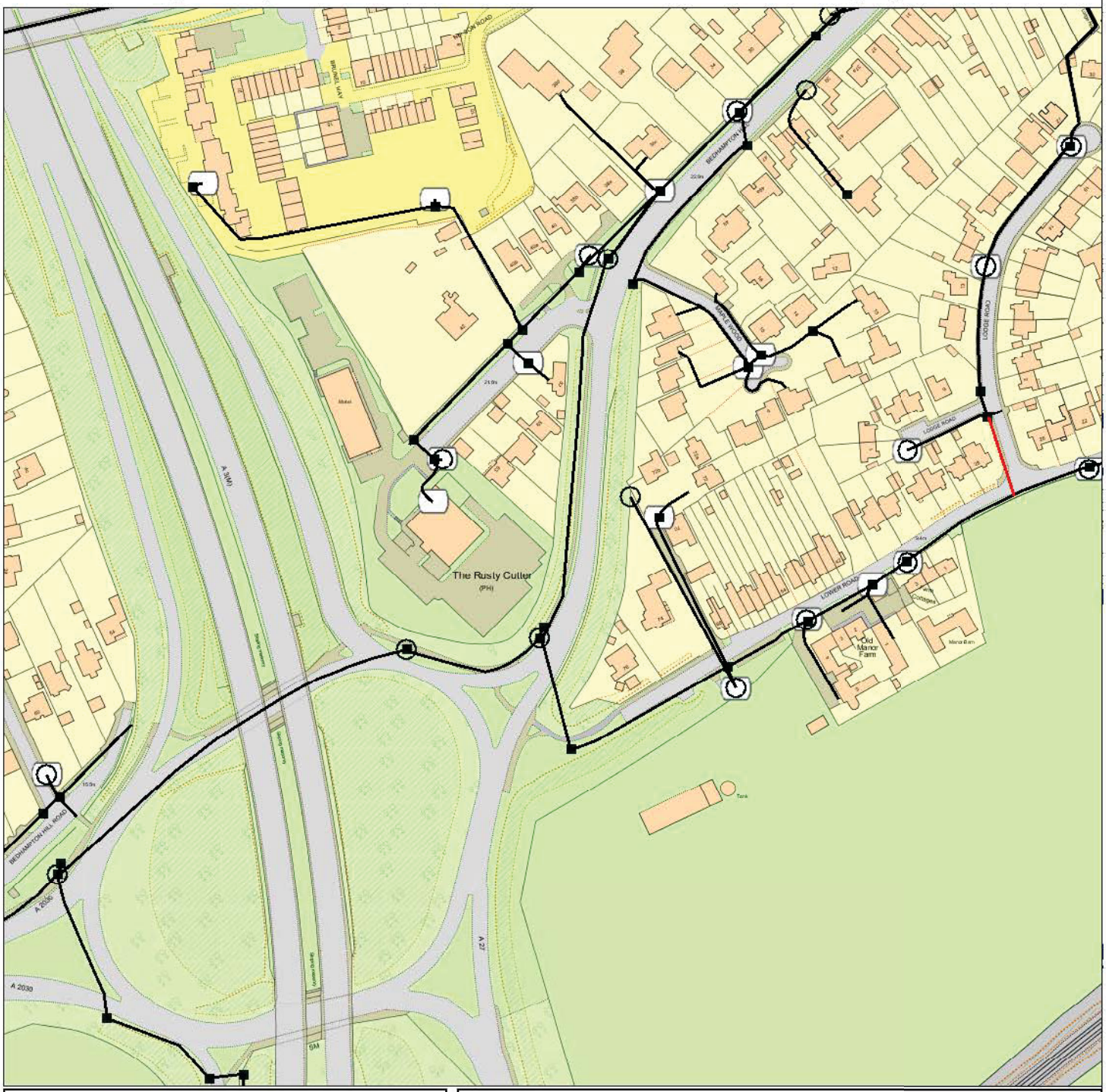
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BT Ref : WLI05478G
Map Reference : (centre) SU6933006198
Easting/Northing : (centre) 469330,106198
Issued : 28/06/2016 05:48:18

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KEY TO BT SYMBOLS

UNDERGROUND PLANT		POLE	
A/C, D/W or W OVERHEAD PLANT		CABINET	
JOINT BOX		BURIED JOINT	
456 OR 456 DISTRIBUTION POINT		J JOINTING POST	
MANHOLE OR 72		PROPOSED U/G	
DP BOUNDARY		A/C, D/W or W PROPOSED O/H	
OTHER BT BOUNDARY OR		PROPOSED BOX	

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BT Ref : IJK05484E
Map Reference : (centre) SU6976806209
Easting/Northing : (centre) 469768,106209
Issued : 28/06/2016 05:48:24

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KEY TO BT SYMBOLS

UNDERGROUND PLANT		POLE	
A/C, D/W or W OVERHEAD PLANT		CABINET	
JOINT BOX		BURIED JOINT	
456 OR 456 DISTRIBUTION POINT		J JOINTING POST	
MANHOLE OR 72		PROPOSED U/G	
DP BOUNDARY		A/C, D/W or W PROPOSED O/H	
OR OTHER BT BOUNDARY		PROPOSED BOX	

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BT Ref : IQH05488Y
Map Reference : (centre) SU6888605734
Easting/Northing : (centre) 468886,10573
Issued : 28/06/2016 05:48:42

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KEY TO BT SYMBOLS

UNDERGROUND PLANT		POLE	
A/C, D/W or W	OVERHEAD PLANT	CABINET	
JOINT BOX		BURIED JOINT	
456 OR 456	DISTRIBUTION POINT	J	JOINTING POST
OR 72	MANHOLE	PROPOSED U/G	
DP BOUNDARY		A/C, D/W or W	PROPOSED O/H
OR	OTHER BT BOUNDARY		PROPOSED BOX

Other proposed plant is shown using dashed lines. BT symbols not listed above may be disregarded. Existing BT plant may not be recorded. Information valid at the time of preparation.

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BT Ref : NAO05484I
Map Reference : (centre) SU6933605748
Easting/Northing : (centre) 469336,105748
Issued : 28/06/2016 05:48:56

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KEY TO BT SYMBOLS

UNDERGROUND PLANT		POLE	
A/C, D/W or W	OVERHEAD PLANT	CABINET	
JOINT BOX		BURIED JOINT	
456 OR 456	DISTRIBUTION POINT	J	JOINTING POST
OR 72	MANHOLE		PROPOSED U/G
	DP BOUNDARY	A/C, D/W or W	PROPOSED O/H
OR	OTHER BT BOUNDARY		PROPOSED BOX

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BT Ref : IEM054941
Map Reference : (centre) SU6977405751
Easting/Northing : (centre) 469774,10575
Issued : 28/06/2016 05:49:19

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DP BOUNDARY		A/C, D/W or W	PROPOSED O/H
OR	OTHER BT BOUNDARY		PROPOSED BOX

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BT Ref : NQY05491L
Map Reference : (centre) SU6889805285
Easting/Northing : (centre) 468898,105285
Issued : 28/06/2016 05:49:24

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redcentric
business technology. managed.

ATKINS CHECKED
AH

External Networks Group
Newton House
Cambridge Business Pk.
Cowley Rd
Cambridge. CB4 0WZ

t: 01223 791 670
f: 01223 472 409
e: plant-enquiries@redcentricplc.com
www.redcentricplc.com

REDCENTRIC COMMUNICATIONS LTD
FORMERLY REDSTONE COMMUNICATIONS LTD

FAO Praveen Chavan
Atkins

Your Ref: 47216

Our Ref: RS/STN 1678 / 16

The Hub
500 Park Avenue
Aztec West
Alomndsbury
Bristol

BS32 4RZ

27 June 2016

Dear Sir/Madam,

Re: New Roads and Street Works Act 1991

Site off A27, A2030 Havant Road and Westways, Havant

Thank you for your recent communication concerning the above.

From our latest records, your proposed works may affect Redcentric (formerly Redstone) plant, and for your information a copy of our plan, marked with its approximate location, is enclosed.

A site meeting can be arranged, giving at least 5 working days notice, to discuss the effect of your proposed works by contacting our Planning Department on the above telephone number. Should you carry out your works without notifying us and subsequently alter the depth or damage Redcentric (formerly Redstone) Plant, we reserve the right to reroute/repair the plant at your expense under the NRSW Act 1991.

Should you have any queries regarding this, please do not hesitate to contact me.

Yours faithfully,

Redcentric Communications,
Plant Enquiries Team.

+44 (0)1423 850 000

info@redcentricplc.com
www.redcentricplc.com

Redcentric Solutions Limited. Registered Office: Central House, Beckwith Knowle, Harrogate HG3 1UG. Registered in England No. 08322856.

bsi. ISO 9001 Quality Management FS603185
ISO/IEC 27001 Information Security Management IS603187



Plant locations shown on this map are indicative only and should not be used for construction purposes.

Key

	Existing	Proposed
Duct	2	
Jointing Chamber		

Nominal Standard Depth of Cover

Footway	350 mm
Carriageway	600 mm

Redcentric for
Redcentric Communications Ltd
Newton House
Cambridge Business Park
Cowley Road
Cambridge CB4 0WZ
T: 01223 791670
F: 01223 472409

Location

Site off A27, A2030
Havant Rd and Westways
Havant

Title

NRSWA 1991
Plant Enquiry

Drawing Number	Sheet	Scale
RS/STN 1678/16	1 of 4	N/A

Issue	Date	Drawn By
A	27/06/16	PMR



Plant locations shown on this map are indicative only and should not be used for construction purposes.

Key

	Existing	Proposed
Duct	2	
Jointing Chamber		

Nominal Standard Depth of Cover

Footway	350 mm
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Redcentric for
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Newton House
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Cowley Road
Cambridge CB4 0WZ
T: 01223 791670
F: 01223 472409

Location

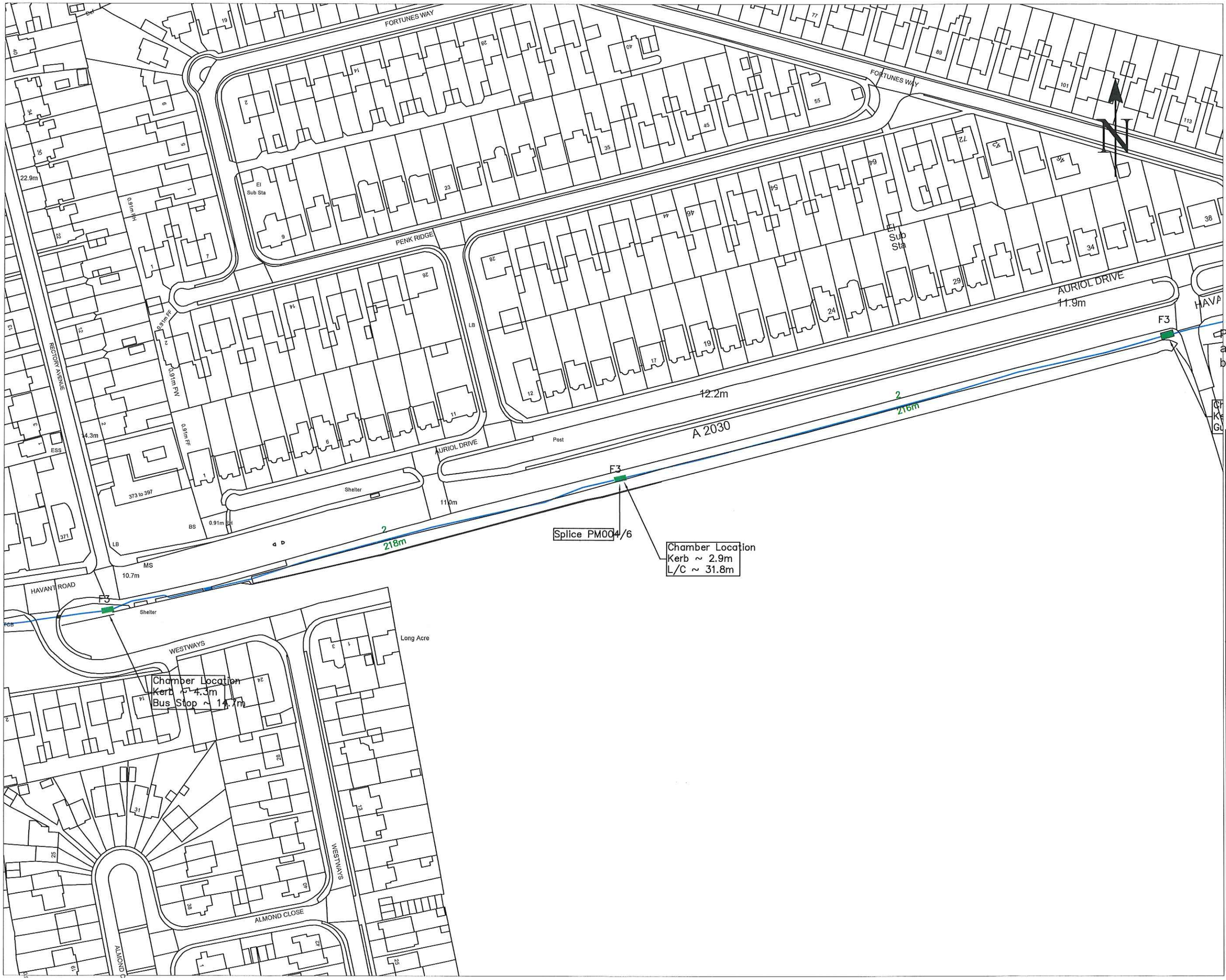
Site off A27, A2030
Havant Rd and Westways
Havant

Title

NRSWA 1991
Plant Enquiry

Drawing Number	Sheet	Scale
RS/STN 1678/16	2 of 4	N/A

Issue	Date	Drawn By
A	27/06/16	PMR



Plant locations shown on this map are indicative only and should not be used for construction purposes.

Key

	Existing	Proposed
Duct	2	
Jointing Chamber		

Nominal Standard Depth of Cover

Footway	350 mm
Carriageway	600 mm

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Cambridge Business Park
Cowley Road
Cambridge CB4 0WZ
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F: 01223 472409

Location

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Havant Rd and Westways
Havant

Title

NRSWA 1991
Plant Enquiry

Drawing Number	Sheet	Scale
RS/STN 1678/16	3 of 4	N/A

Issue	Date	Drawn By
A	27/06/16	PMR