

Method Statement for Cadent Gas Mains Replacement Work – IMG232003 - 97 KING HENRYS ROAD

LBHF Tree Officer: Nick Bell

CMO Environmental Advisor: Brad Worrell

Summary

Cadent Gas Multi occupancy building team (MOB'S) has been instructed to commission an installation of a new service into the cellar of the property at 97 KING HENRYS ROAD, LONDON, NW3 3QX.

In order to complete the required work, Cadent need to excavate back to the gas main in the public footpath in the vicinity of the existing gas service. The digging area is within the canopy of a large tree adjacent to the block located within Elsworthy conservation area.

Plan of the affected trees which are located within the Elsworthy conservation area can be found in Appendix 1.

Site Control Measures

Cadent work to NJUG Volume 4 Standards and therefore the following measures have been put in place to minimise the impact on the tree:

Prohibited Zone of a Tree RPZ (0-1m from Trunk):

- Where an excavation is required within the Prohibited Zone, this will be completed via **hand-dig** and supervised by an Arborist.
- In the event where a root >25mm diameter is found and Cadent Operations may impact on the root, works will cease immediately and consultation with an Arborist will take place. Roots will only be severed if the Arborist confirms that the severance is unlikely to impact on the tree's health and stability.
- If the severance of roots <25mm diameter is required, this will be cut back using a sharp tool to leave the smallest wound.
- If possible, clumps of roots <25mm diameter (including fibrous roots) will be retained in situ without damage. Care will be taken to protect the bark around the roots.
- In an attempt to protect any roots against desiccation and temperature change, any exposed roots location in a trench which is to be left open overnight, will be wrapped with dry sacking. The sacking will be removed prior to backfilling.
- There will be no storage of plant, soil, fuel or machinery within the Prohibited Zone.

Precautionary Zone of a Tree RPZ (1m from Trunk – 4 x Tree Circumference):

- Where an excavation is required within the Precautionary Zone, this will be completed by either **hand-dig, a blow-out air lance or vacuum excavator**.
- In the event where a root >25mm diameter is found and Cadent Operations may impact on the root, works will cease immediately and consultation with an Arborist will take place. Roots will only be severed if the Arborist confirms that the severance is unlikely to impact on the trees health and stability.
- If the severance of roots <25mm diameter is required, this will be cut back using a sharp tool to leave the smallest wound.
- If possible, clumps of roots <25mm diameter (including fibrous roots) will be retained in situ without damage. Care will be taken to protect the bark around the roots.

- In an attempt to protect any roots against desiccation and temperature change, any exposed roots location in a trench which is to be left open overnight, will be wrapped with dry sacking. The sacking will be removed prior to backfilling.
- There will be no storage of plant, soil, fuel or machinery within the Precautionary Zone.

Permitted Zone of a Tree RPZ

- Where an excavation is required within the Permitted Zone, this will be completed with by either **hand-dig, a blow-out air lance or vacuum excavator**.
- In the event where a root >25mm diameter is found and Cadent Operations may impact on the root, works will cease immediately and consultation with an Arborist will take place. Roots will only be severed if the Arborist confirms that the severance is unlikely to impact on the trees health and stability.
- If the severance of roots <25mm diameter is required, this will be cut back using a sharp tool to leave the smallest wound.
- If possible, clumps of roots <25mm diameter (including fibrous roots) will be retained in situ without damage. Care will be taken to protect the bark around the roots.
- In an attempt to protect any roots against desiccation and temperature change, any exposed roots location in a trench which is to be left open overnight, will be wrapped with dry sacking. The sacking will be removed prior to backfilling.

Please note the following:

- As per Cadent Operating Procedures, there will be no cutting down, topping or looping of third party trees without prior approval from the stakeholder. Any vegetation clearance taking place between 1st March – 30th September must have Bird Nesting check completed by an authorised ecologist.
- In the event in which a Nesting Bird is found within an excavation, plant or machinery or if Protected Species are found on site, works will cease immediately and the incident reported to the CMO Incident Line.
- In the event of an environmental incident on site, works will cease immediately and the incident reported to the CMO Incident Line.

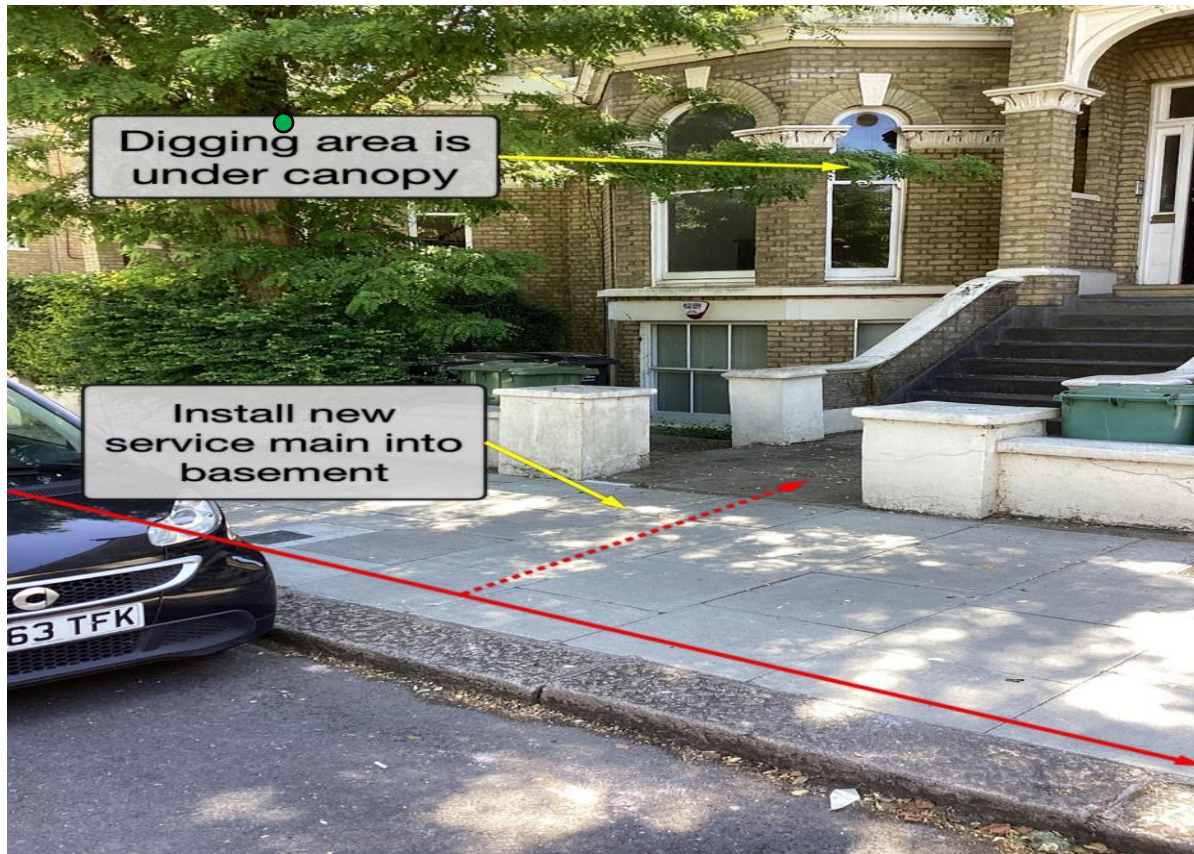
Appendix 1 – Affected Trees

Tree to be affected by gas mains replacement works are highlighted below. This purely consists of severing roots to access the existing gas mains which are located within the public highway/footpath and lay new gas service. No above-ground works (ie. pruning/felling) will take place to any trees.

● = Trees Affected Protected by Conservation Area Status

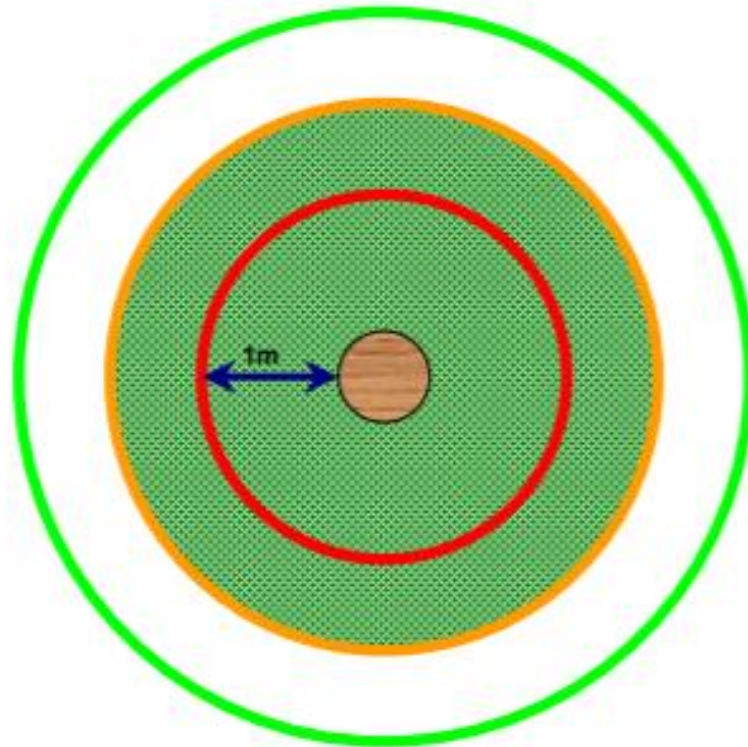
— = Location of Existing Gas Main

97 KING HENRYS ROAD, LONDON, NW3 3QX



NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees

FIGURE 1 – Tree Protection Zone



Key



Trunk of tree



Canopy or branch spread



PROHIBITED ZONE – 1m from trunk. Excavations of any kind must not be undertaken within this zone unless full consultation with the local authority Tree Officer is undertaken. Materials, plant and spoil must not be stored within this zone.



PRECAUTIONARY ZONE – 4 x tree circumference. Where excavations must be undertaken within this zone the use of mechanical excavation plant should be prohibited. Precautions should be undertaken to protect any exposed roots. Materials, plant and spoil should not be stored within this zone. Consult with the local authority Tree Officer if in any doubt.



PERMITTED ZONE – outside of the precautionary zone. Excavation works may be undertaken within this zone, however caution must be applied and the use of mechanical plant limited. Any exposed roots should be protected.

Business Area: KLT Operations			Department: Operational Sites			Ref Name & Number: RA E005 Trees and Hedgerows				
Risk Assessor: Leeanne Young			Customer: Internal			Date: 23 June 2022				
Summary Description of tasks to be undertaken:			Operational teams working near Trees and Hedge rows							
Ensuring the risk assessment is suitable and sufficient is the function and responsibility of line management, however, this task may be delegated to *competent person(s).										
*Individual(s) who possess the necessary skills, knowledge and experience of the task being assessed.										
Persons at Risk: A: Employee/Agency staff, B: Young Person/Trainee, C: New/Expectant Mother, D: Contractor/Maintenance, E: Visitors and others in vicinity, F: Other (environment; land, water and animals)										
Ref:	Identify	Evaluate			Eliminate/Reduce/Mitigate/Action			Re - Evaluate	Review/Action/Owner	
	Identified Hazards and Associated Risks	Those at Risk A B C D E F	Risk Rating			Control Measures	Risk Rating			Further Actions
			L	S	R		L	S	R	
1.	Death of all or part of the tree, caused by the placement/ replacement of underground apparatus.	A B C D E F	2	5	10	<ul style="list-style-type: none"> Planning takes paramount. Liaison with the local authority tree officer should take place to enable consideration tree position, future growth potential and guidance on how best to execute the works. 	2	2	4	<p>Agree the location and installation of services at design stage.</p> <p>Consideration should be given to the creation of dedicated service routes wherever possible.</p>
2.	<p>Root severance / bark damage</p> <p>Trenching, mechanical digging etc.</p> <p>The tree may fall over if the damage circles the root (leading to death of the root beyond that point).</p> <p>The larger the root the greater the impact on the tree;</p> <ul style="list-style-type: none"> bark bruising, bark removal, damage to the wood, <p>damage to buttress roots, and/or, abrasion to trunk.</p>	A B C D E F	3	4	12	<ul style="list-style-type: none"> Do not use mechanical machinery to strip the topsoil within the Precautionary Zone. Vehicles must not access, and plant must not be sited within the Precautionary Zone. Use vacuum excavator, air lance or hand dig methods within the Precautionary Zone. Work carefully around roots. Do not cut roots over 25mm in diameter without referring to the local authority tree officer. For roots less than 25mm in diameter use a sharp tool and make a clean cut leaving as small a wound as possible. Excavations must not be executed within the prohibited zone. Surround the trunk with protective free-standing barrier. Ensure sufficient clearance of cables or ropes. 	1	5	5	<p>Ensure trenching, mechanical digging etc.is eliminated in the precautionary zone.</p> <p>Avoid:</p> <ul style="list-style-type: none"> physically attaching signs or hoardings to tree trunks, storing materials at the base of trees, and rubbing by winch or pulling cables around trees.

3.	<p>Impact by vehicle or plant rubbing by overhead cables</p> <ul style="list-style-type: none"> Broken, split branches or branches suffering abrasion. 	A F	3	2	6	<ul style="list-style-type: none"> Vehicles must not access, and plant must not be sited within the Precautionary Zone. Ensure sufficient clearance of cables or ropes. Any pruning must be carried out in accordance with BS3998 should only occur after landowner and council permissions have been obtained. Only prune affected branches to give appropriate clearance from cables. 	1	1	1	
4.	<p>Soil compaction & water saturation owing to vehicle movement, plant use and material storage within the precautionary zone.</p>	A F	2	3	6	<ul style="list-style-type: none"> Vehicles must not access, and plant must not be sited within the Precautionary Zone. 	1	1	1	Ensure there is no restriction or prevention of passage of gaseous diffusion through soil.
5.	<p>Alterations in soil level causing compaction or exposure of roots.</p> <ul style="list-style-type: none"> Topsoil scouring, excavation or banking up. 	A F	2	2	4	<ul style="list-style-type: none"> Avoid altering or disturbing soil levels within the Precautionary Zone 	1	1	1	<p>Lowering levels of soil strips out the mass of roots over a wide area.</p> <p>Raising soil levels asphyxiates roots and has the same effect as soil compaction.</p>
6.	<p>Contamination of soil</p> <ul style="list-style-type: none"> Spillage of oils or other materials. Toxic and asphyxiation effects of chemicals, oils, building materials (cement, plaster, additives etc.) on the root system could cause death to trees. 	A B C D E F	1	5	5	<ul style="list-style-type: none"> Material storage – including oils and other substances/chemicals, must be sited in a safe space – ideally with some level of containment, and away from the Precautionary Zone. 	1	1	1	
7.	<p>Complete tree removal</p> <ul style="list-style-type: none"> The tree is removed unnecessarily. 	F	1	2	2	<ul style="list-style-type: none"> Agree the location and installation of services at the design stage. Consideration should be given to the creation of dedicated service routes wherever possible. 	1	1	1	Include as internal / external personnel as required to prevent lack of forethought in design and location of apparatus and services entries on existing or new developments
8.	<p>Working near Protected Trees; where tree preservation orders are in place and within conservation areas.</p>	F	3	3	9	<ul style="list-style-type: none"> IPO to identify Tree Preservation Orders (TPO) and conservation areas prior to works commencing on-site. Consent/Consultation with the Local Authority is required for any works within precautionary zone of protected trees. Severance of ANY roots of a TPO or tree within Conservation Area is strictly prohibited unless consent has been granted from Local Authority. 	2	1	2	<p>Local Authority is required if uprooting, topping, lopping or felling of a TPO or tree within Conservation Area is required.</p> <p>In the event on an Environmental Incident on site, operatives must follow the company specific emergency contingency plan as defined within the project pack.</p>

						<ul style="list-style-type: none"> Site Manager to inform Team Leader & Operatives of any trees protected by a TPO or located in a Conservation Area prior to works commencing so that engineering controls can be implemented, or conditions of consent can be briefed. 				
9.	Working near Highway Maintained or Private Trees	F	4	3	12	<ul style="list-style-type: none"> Operatives must be briefed on safe working practices using NJUG guidance – which must be followed. <p>This comprises the following:</p> <p>Prohibited Zone (within 1m of Trunk):</p> <ul style="list-style-type: none"> Excavations of any kind is prohibited unless authorisation has been granted from the Local Authority Tree Officer. If approved by the Local Authority Tree Officer, this must be completed via Hand-Dig only. Materials, plant and soil must not be stored within this zone. <p>Precautionary Zone (4 x Tree Circumference):</p> <ul style="list-style-type: none"> Excavations must only be undertaken via Hand-Dig, Vacuum Excavator or Air Lance. If tree roots <25mm diameter are to be severed, this must be completed via a clean, sharp blade. If tree roots >25mm diameter are to be cut, work must cease and the Local Authority Tree Officer sought for approval. Materials, plant and soil must not be stored within this zone. Any exposed roots left overnight should be protected with Hessian sacking (wet Hessian sacking during the Summer). <p>Permitted Zone (Outside Canopy of Tree):</p> <ul style="list-style-type: none"> Excavations should be completed with a Vacuum Excavator or Air Lance. Where this is not possible, excavations will be completed with mechanical plant. If tree roots <25mm diameter are to be severed, this must be completed via a clean, sharp blade. 	2	2	4	In the event on an Environmental Incident on site, operatives must follow the company specific emergency contingency plan as defined within the project pack.

						<ul style="list-style-type: none"> • If tree roots >25mm diameter are to be cut, work must cease, and the Local Authority Tree Officer sought for approval. • Any exposed roots left overnight should be protected with Hessian sacking (wet Hessian sacking during the Summer). • During site set-up, the Prohibited Zone should be marked out with utility marker to prevent encroachment during works. • Any vegetation clearance must be authorised from the Local Authority. If taking place between 1st March – 30th September, a bird nesting check must be completed prior by a licensed ecologist. Contact Client for support. 				
10.	Working Near Hedgerows	F	3	3	9	<ul style="list-style-type: none"> • Any Hedgerow removal must be authorised in consultation with all internal / external parties. • Hedgerow Removal Consent may be required from the Local Authority. 	2	1	2	In the event on an Environmental incident on site, operatives must follow the company specific emergency contingency plan as defined within the project pack.
Reviewed by: Leeanne Young		Position: Head of SHEQ			Signed: <i>L.Young</i>			Date: 23/06/2022		

Risk Rating Matrix

Severity	Consequences				Likelihood				
	People	Assets	Reputation		Certain	Very Likely	Likely	Possible	Unlikely
					5	4	3	2	1
	Death	Severe Damage	Severe Impact	5	25	20	15	10	5
	Major Injury	Major Damage	Major Impact	4	20	16	12	8	4
	Reportable LTI > 7 Days Lost	Moderate Damage	Moderate Impact	3	15	12	9	6	3
	Non reportable NLTI < 7 Days Lost	Slight Damage	Slight Impact	2	10	8	6	4	2
	Minor Injury No Lost Time	No Damage	No Impact	1	5	4	3	2	1

Risk Rating (L x S)	1-5 LOW	TOLERABLE no further action required	6-11 MED	REDUCE – introduce further controls and/or monitoring specified above	12-25 HIGH	INTOLERABLE stop process or activity until further controls are implemented
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