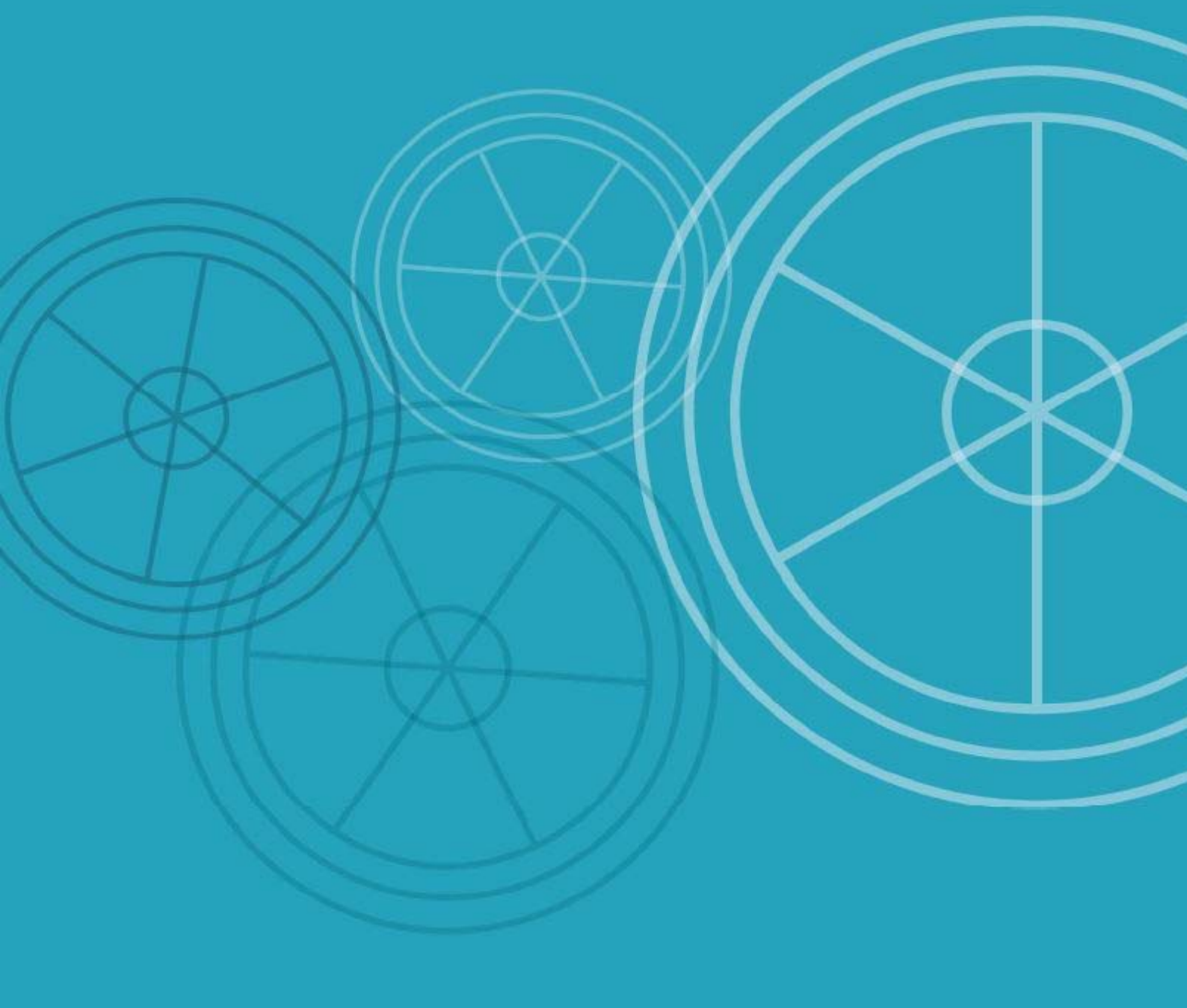


Customer Guide

Guidelines for Proposed Works Over /
Adjacent to Water Corporation Assets up to
and including 225mm diameter



INTRODUCTION

This guide only applies for sewer assets up to and including 225mm diameter.

These guidelines (subject to change) provide an outline of the requirements which need to be considered when planning to construct works over the water corporation's easement or within 1.0 metre of sewer and/or water assets.

This is a legislated requirement under the provisions of the Water Act 1989.

If any works are to be constructed over an easement vested in the water corporation or within 1.0 metre of a water corporation asset, prior approval must be sought from the relevant water corporation. The guidelines establish criteria which assist in protecting sewer and water assets from damage, while ensuring that customers avoid the cost and inconvenience of removing structures which may impede access to an asset for maintenance.

This guide only applies for sewer assets up to and including 225mm diameter.

By following the steps below your application should proceed with minimal delay and inconvenience.

1. Prior to designing any structure or carrying out works, please seek to establish if the proposed structure/or works is to be located over an easement or within 1.0 metre of a sewer or water asset.
2. Request a detailed sewer asset location plan (Size, Depth & Offset) or water asset plan from the relevant water corporation (a standard fee may be applicable).
3. Refer to the guidelines contained within this document to confirm if the proposed works comply with the Water corporation requirements.
4. Lodge an application form with the relevant water corporation along the applicable application fee and a set of building plans. Plans must include a site plan which clearly indicates the type of structure to be built, foundation details and relevant elevation plans.

A standard fee applies for the processing of applications. However, in the event that additional information is required to assess the condition/location of existing assets, the cost is to be borne by the applicant. Costs may include survey and/or Closed Circuit Television (CCTV) investigations.

Note: It is the owner/developers responsibility to confirm the actual location of water corporation assets prior to commencing any works.

For information on how to apply for approval please contact the relevant water corporation.

City West Water – **131 691**

South East Water – **131 694**

Yarra Valley Water – **1300 651 511**

Western Water – **1300 650 422**

TABLE OF CONTENTS

Definitions

PAGE

1

1. ASSETS

Item 1.1	Sewer mains up to and including 225mm diameter less than 3.5m deep (excluding concrete sewers)	3
Item 1.2	Sewer mains up to and including 225mm diameter greater than 3.5m deep	4
Item 1.3	Concrete sewer main less than 3.5m deep	4
Item 1.4	Sewer mains greater than 225mm diameter	5
Item 1.5	Property connection branches servicing an adjoining property	5
Item 1.6	Property connection branches servicing customer's own property	6
Item 1.7	Maintenance holes	7
Item 1.8	Maintenance shafts	7
Item 1.9	Sewer rising mains, vacuum lines and pressure sewers	7
Item 1.10	Water Mains	8
Item 1.11	Easements reserved for sewerage / water purposes containing no assets	8

2. STRUCTURES / WORKS

Item 2.1	Residences / habitable structures	9
Item 2.2	Dependent person's unit - managed by government authority only	14
Item 2.3	Brick garages and brick carports greater than 10m ²	18
Item 2.4	Lightweight garages and carports greater than 10m ²	24
Item 2.5	Carports and sheds less than 10m ²	30
Item 2.6	Brick fences and retaining walls	36
Item 2.7	Excavation and landscaping	41
Item 2.8	Driveways and paving	47
Item 2.9	Swimming pools, spas and saunas	50
Item 2.10	Above ground water tanks	55
Item 2.11	Tennis courts, lawn bowling greens, all surfaces including posts / light poles and fencing	58
Item 2.12	Electrical transmission poles and towers	63
Item 2.13	Utilities – gas, electricity, telecommunication and property drains	67
Item 2.14	Commercial, industrial, public and sporting buildings	70

3. DIAGRAMS

Maintenance hole	74
Maintenance shaft	74
Sewer main invert less than 3.5 metres deep – habitable structure	75
Sewer main invert greater than 3.5 metres – habitable structure	76
Adjoining property sewer branches – residential only	77
Industrial/commercial – property connection branch and sewer mains	78
Retaining walls	79
Excavation – cut & fill	80
Retaining walls – timber or brick property connection branch	81
Ground anchors	81
Decking over sewer	82
Garage traversing sewer main	83
Demountable light weight structure	84
Brick/timber – non demountable structures	85
Pools and spa's	86
Driveways and paving	87
Utilities	88
Structurally independent roofing	89
Ground floor cantilevering	90
Clearances required from assets	91

DEFINITIONS

24 Hour Access	Required for maintenance purposes. Unobstructed entry to the sewer is to be maintained at all times. When a structure is constructed boundary to boundary, access via a doorway or roller door is required.
Adjacent	Includes all works / foundations located within 1.0m of an asset but not over the asset.
All Works	Includes but is not limited to: All types of building works / structures, site works, construction, demolitions, additions, garages, sheds, carports, outhouses, pergolas, verandas, gazebos, sails, decking, saunas, fences, retaining walls, swimming pools, driveways, paving, tennis courts, posts, light poles, excavations/landscaping, footings / foundations (including ground anchors), utilities, telecommunications, above ground water tanks.
Angle of Repose	Line of influence from pipe (Generally an angle of 45 degrees taken from the edge of pipe).
Assets	Includes but not limited to: Sewer mains, water mains, maintenance holes, maintenance shafts, property connection branches, vent shafts and pumping stations
Cantilevering	Structure or beam extended from a wall or foundation to support a balcony or wall.
Demountable	Any structure or roof that can be manually dismantled and removed from its current position by two people within a four hour period. Note: A statement / work plan by a structural engineer supporting this will be required.
Dependant Persons Unit (Relocatable Unit)	Must be maintained / monitored by relevant Government Authority. E.g. Department of Human Services units. All other units will be treated as a permanent residence.
Easement	An area of land, or part of a lot reserved by law for a specific purpose, such as the containment of sewerage / water assets. Note: Corporation assets are not necessarily contained within an easement.
Footings / Foundation	Supporting part of structure below ground level. Includes pier and beam, strip, pad and screw piles.
Ground Anchors	System of tension rods / cables installed during construction which is used to support structures below ground. E.g. Basement walls.
Habitable	Any building that is constructed for or can be readily converted to be used for occupancy.
Height Clearance	Height of structure above ground level that is required to allow for unobstructed access to a sewer main. Is measured from ground level to the height of the structures wall. Applies to eaves, balconies, garages etc.
Lightweight material	PVC material, Steel Sheeting etc.
Maintenance Hole	An underground structure with a removable cover at ground level that allows for human and machine access to a sewer main.
Maintenance Shafts	An access shaft on the sewer main with a removable cover at ground level that allows for machine access only to a sewer main.

DEFINITIONS

Non-structural Infill Slab	Concrete slab which if cut and removed will not compromise the structural integrity of the structure.
Property Connection Branch	A short length of pipe owned and operated by the relevant water corporation that services properties. It connects the properties sewer drain to the sewer main.
Registered Contractor	Trained / accredited personnel authorised to carry out specialist work on water corporation assets.
Sewer Rising Mains, Vacuum Lines and Pressure Sewers.	A pipe that transfers sewerage under pressure from a pumping system.

1. ASSETS

Relevant water corporation's Standard Conditions will apply

ITEM	ASSET	CRITERIA
1.1	Sewer mains up to and including 225mm diameter and less than 3.5m deep (excluding concrete sewers)	RESIDENTIAL PROPERTIES <i>Residential structures are not permitted to be constructed over water corporation sewer mains.</i> Works adjacent to sewer main require: • A minimum 600mm horizontal clearance from the outside edge of the sewer main • Footings required will depend on the type of structure. • 24-hour access is required. Driven piles are not permitted. If the proposed structure is to be situated within 750mm of the sewer main as shown on the relevant water corporation's asset plan, confirmation of the sewer's actual location may need to be determined by the relevant water corporation's approved representative (this is required as existing fences, for example, may not be positioned as per title boundaries). NOTE: If requested, the relevant water corporation can perform this inspection. A standard fee applies. INDUSTRIAL / COMMERCIAL PROPERTIES <i>Industrial / Commercial Buildings are not permitted to be constructed over sewer mains as 24-hour unobstructed access is required.</i> Works adjacent to a sewer main require: • 1.0m horizontal clearance from the outside edge of the sewer main, or to be outside of easement (whichever is greater) • Footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Driven piles are not permitted.

ITEM	ASSET	CRITERIA
1.2	Sewer mains up to and including 225mm diameter greater than 3.5m deep	<i>Works over sewer mains greater than 3.5m deep are not permitted.</i> Works adjacent to sewer mains greater than 3.5m deep require a clearance of: 1.0m horizontal clearance from the outside edge of the sewer main, or to be outside of the easement (whichever is greater) - Footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. 24-hour access is required. Driven piles are not permitted. NOTE: City West Water will consider works being constructed over a sewer main deeper than 3.5m on a case-by-case basis. In these circumstances the footings must be founded to the depth of the sewer or on bedrock. A soil test/geotechnical report will be required verifying this.
1.3	Concrete sewer main less than 3.5m deep	<i>Works over concrete sewer mains are not permitted as concrete sewer mains have a higher risk of failure.</i> RESIDENTIAL PROPERTIES Works adjacent to a concrete sewer main require: - A minimum 600mm horizontal clearance from the outside edge of the sewer main, or to be outside of the easement (whichever is greater) - Footings required will depend on the type of structure. Driven piles are not permitted. NOTE: Applications may be considered on a case-by-case basis where concrete sewer mains can be relined / replaced from maintenance hole to maintenance hole. All works will be at the owner's expense. Details of this option will be investigated upon request. CCTV inspection will be required at the owner's expense. INDUSTRIAL / COMMERCIAL PROPERTIES <i>Works over concrete sewer mains are not permitted as concrete sewer mains have a higher risk of failure.</i> Works adjacent to a concrete sewer main require: 1.0m horizontal clearance from the outside edge of the sewer main, or to be outside of the easement (whichever is greater) - Footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Driven piles are not permitted.

ITEM	ASSET	CRITERIA
1.4	Sewer mains greater than 225mm diameter	<i>Works over sewer mains greater than 225mm in diameter are not permitted.</i> Works adjacent to sewer mains greater than 225mm diameter require: • 1.0m horizontal clearance from the outside edge of the sewer main, or to be outside of the easement (whichever is greater) • Footings required will depend on the type of structure. Driven piles are not permitted.
1.5	Property connection branch servicing an adjoining property	<i>Works over property connection branches servicing adjoining properties are not permitted as it creates an unacceptable risk to the relevant water corporation's obligations in providing a service to a neighbouring customer.</i> Works adjacent to an adjoining property connection branch require: • a minimum 600mm horizontal clearance between the proposed works / foundation and the property connection branch. • Footings required will depend on the type of structure. Driven piles are not permitted.

ITEM	ASSET	CRITERIA										
1.6	Property connection branch servicing customer's own property	RESIDENTIAL PROPERTIES <i>No structures deemed habitable are to be built over a property connection branch.</i> <i>Build over of own property connection branch is not permitted where the branch is servicing more than one property.</i> Works adjacent to a property connection branch require: • a minimum of 600mm horizontal clearance between the proposed works / foundations and the property connection branch. • Footings required will depend on the type of structure. Works traversing a property connection branch require: • Pier and beam foundations traversing the property connection branch must be a minimum of 600mm from the property connection branch but no further away than 1.0m. • Foundations traversing the property connection branch must maintain a minimum 600mm vertical clearance. • Height clearance required, unless demountable. <table><tr><th colspan="2">Height Clearance – height clearance is taken to be height of the walls</th></tr><tr><th>Depth to invert of property connection branch</th><th>Minimum height clearance above floor level</th></tr><tr><td>Less than 2.7m</td><td>2.1m or depth of sewer branch whichever is greater</td></tr><tr><td>2.7m to 3.5m</td><td>2.7m</td></tr><tr><td>Greater than 3.5m</td><td>Construction not allowed</td></tr></table> <i>Driven piles are not permitted.</i> INDUSTRIAL / COMMERCIAL PROPERTIES <i>No structures are to be built over a sewer connection branch.</i> Works adjacent to a property connection branch require: • a minimum of 1.0m horizontal clearance between the proposed works / foundation and the property connection branch. • Footings / foundations must extend a minimum depth to the angle of repose to the invert level of the property connection branch to ensure that no additional load will be placed on the property connection branch by the structure. <i>Driven piles are not permitted.</i>	Height Clearance – height clearance is taken to be height of the walls		Depth to invert of property connection branch	Minimum height clearance above floor level	Less than 2.7m	2.1m or depth of sewer branch whichever is greater	2.7m to 3.5m	2.7m	Greater than 3.5m	Construction not allowed
Height Clearance – height clearance is taken to be height of the walls												
Depth to invert of property connection branch	Minimum height clearance above floor level											
Less than 2.7m	2.1m or depth of sewer branch whichever is greater											
2.7m to 3.5m	2.7m											
Greater than 3.5m	Construction not allowed											

ITEM	ASSET	CRITERIA
1.7	Maintenance hole	<i>Works over maintenance holes is not permitted as 24-hour unobstructed access is required.</i> Works adjacent to a maintenance hole chamber require: • 1.0m horizontal clearance from the outside edge of the cover surround. • Footings required will depend on the type of structure. • Maintenance hole cover levels must match new surface levels. Where alteration works are applicable the works are to be carried out by the relevant water corporation at the owner's expense. • Where a structure is to be constructed boundary to boundary, suitable access (which meets OH & S guidelines) to the sewer maintenance hole must be provided to allow maintenance equipment and personnel access at all times. Driven piles are not permitted. NOTE: Maintenance holes can only be opened by the relevant water corporation's authorised personnel.
1.8	Maintenance shaft	<i>Works over maintenance shafts is not permitted as 24-hour unobstructed access is required.</i> Works adjacent to a maintenance shaft require: • A minimum 800mm horizontal clearance from the centre line of the cover. • Footings required will depend on the type of structure. • Maintenance shaft cover levels must match new surface levels. Where alteration works are applicable the works are to be carried out by the relevant water corporation at the owner's expense. Driven piles are not permitted. NOTE: Maintenance shafts can only be opened by the relevant water corporation's authorised personnel.
1.9	Sewer rising mains, vacuum lines and pressure sewers	<i>Structures over rising mains, vacuum lines and pressure mains are not permitted.</i> NOTE: The relevant water corporation will assess the potential impact of a failed sewer rising main, vacuum line and pressure sewer on individual developments and therefore may require clearances greater than 1.0m. The applicant is required to contact the relevant water corporation at the design stage to obtain requirements.

ITEM	ASSET	CRITERIA
1.10	Water Mains	<i>Works over water mains of any size are not permitted.</i> NOTE: The relevant water corporation will assess the potential impact of a failed water main on individual developments and therefore may require clearances greater than 1.0m. The applicant is required to contact the relevant water corporation at the design stage to obtain requirements.
1.11	Easements reserved for sewerage / water purposes containing no assets	RESIDENTIAL PROPERTIES • Approval will not be given where there is an easement in favour of the relevant water corporation to provide sewer / water for future development. • Minimum horizontal clearances from the outside edge of an asset within an adjoining property will be required or outside of the easement. This will be assessed on a case-by-case basis. • 24-hour access is required. NOTE: Where this easement is no longer required for the provision of sewer / water purposes the relevant water corporation may consider an application to expunge or amend the easement.

2.1 RESIDENCES / HABITABLE STRUCTURES

relevant water corporation's Standard Conditions will apply
(Refer to relevant diagrams)

ITEM	ASSET	CRITERIA
A.	Sewer mains up to and including 225mm diameter and less than 3.5m deep	<i>Residences / habitable structures are not permitted to be constructed over sewer mains.</i> Works adjacent to sewer main require: • A minimum 600mm horizontal clearance from the outside edge of the sewer main. • Footings / foundation must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by structure. • 24-hour access is required. Driven piles are not permitted. If the proposed structure is to be situated within 750mm of the sewer main as shown on the relevant water corporation's asset plan, confirmation of the sewer's actual location may need to be determined by the relevant water corporation's approved representative (this is required as existing fences, for example, may not be positioned as per title boundaries). NOTE: If requested, the relevant water corporation can perform this inspection. A standard fee applies.
B.	Sewer mains up to and including 225mm diameter greater than 3.5m deep	<i>Works over sewer mains greater than 3.5m deep are not permitted.</i> Works adjacent to sewer mains greater than 3.5m deep require a clearance of: • 1.0m horizontal clearance from the outside edge of the sewer main, or to be outside of the easement (whichever is greater). • Footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Driven piles are not permitted.

ITEM	ASSET	CRITERIA
C.	Concrete sewer mains less than 3.5m deep	<i>Works over concrete sewer mains are not permitted as concrete sewer mains have a higher risk of failure.</i> <i>24-hour unobstructed access is required.</i> Works adjacent to a concrete sewer main require: - A minimum 600mm horizontal clearance from the outside edge of the sewer main is required, or to be outside of easement (whichever is greater) - Footings / foundation must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by structure. Driven piles are not permitted.
D.	Property connection branch servicing an adjoining property	<i>Works over property connection branches servicing adjoining properties are not permitted as it creates an unacceptable risk to the relevant water corporation's obligations in providing a service to a neighbouring customer.</i> Works adjacent to an adjoining property connection branch require: - A minimum 600mm horizontal clearance between the proposed works / foundation and the property connection branch. - Footings / foundations must extend a minimum depth to the angle of repose to the invert level of the property connection branch to ensure that no additional load will be placed on the property connection branch by the structure. Driven piles are not permitted.
E.	Property connection branch servicing own property	<i>No structures deemed habitable are to be built over a property connection branch.</i> <i>Build over of own property connection branch is not permitted where the branch is servicing more than one property.</i> Works adjacent to property connection branch require: - A minimum of 600mm horizontal clearance between the proposed works / foundations and the property connection branch. - Footings / foundations must extend a minimum depth to the angle of repose to the invert level of the property connection branch to ensure that no additional load will be placed on the property connection branch by the structure. Driven piles are not permitted.

ITEM	ASSET	CRITERIA
F.	Maintenance hole	<i>Works over maintenance holes is not permitted as 24-hour unobstructed access is required.</i> Works adjacent to a maintenance hole chamber require: • 1.0m horizontal clearance from the outside edge of the cover surround. • Footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. • Where a structure is to be constructed boundary to boundary, suitable access (which meets OH & S guidelines) to the sewer maintenance hole must be provided to allow maintenance equipment and personnel access at all times. Driven piles are not permitted. NOTE: Maintenance holes can only be opened by the relevant water corporation's authorised personnel.
G.	Maintenance shaft	<i>Works over maintenance shafts is not permitted as 24-hour unobstructed access is required.</i> Works adjacent to a maintenance shaft require: • A minimum 800mm horizontal clearance from the centre line of the cover. • Footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the maintenance shaft by the structure. Driven piles are not permitted. NOTE: Maintenance shafts can only be opened by the relevant water corporation's authorised personnel.
H.	Sewer rising mains, vacuum lines and pressure sewers	<i>Structures over sewer rising mains, vacuum lines and pressure mains are not permitted.</i> NOTE: The relevant water corporation will assess the potential impact of a failed sewer rising main, vacuum line and pressure sewer on individual developments and therefore may require clearances greater than 1.0m. The applicant is required to contact the relevant water corporation at the design stage to obtain requirements.

ITEM	ASSET	CRITERIA										
I.	Water Mains	<i>Structures over water mains of any size are not permitted.</i> NOTE: The relevant water corporation will assess the potential impact of a failed water main on individual developments and therefore may require clearances greater than 1.0m. The applicant is required to contact the relevant water corporation at the design stage to obtain requirements.										
J.	Easements reserved for sewerage / water purposes containing no assets	- Approval will not be given where there is an easement in favour of the relevant water corporation to provide sewer / water for future development. - Minimum horizontal clearances from the outside edge of an asset within an adjoining property will be required or outside of the easement. This will be assessed on a case-by-case basis. 24-hour access is required. NOTE: Where an easement is no longer required for the provision of sewer / water purposes, the relevant water corporation may consider an application to expunge or amend the easement.										
K.	Eaves	Maximum width allowed is 600mm.										
L.	Balcony / canopy	May be permitted where height clearance is achieved <table><tr><th colspan="2">Height Clearance – height clearance is taken to be height of the walls</th></tr><tr><th>Depth to invert of sewer main</th><th>Minimum height clearance above floor level</th></tr><tr><td>Less than 2.7m</td><td>2.1m or depth of sewer main whichever is greater.</td></tr><tr><td>2.7m to 3.5m</td><td>2.7m</td></tr><tr><td>Greater than 3.5m</td><td>Construction not allowed</td></tr></table>	Height Clearance – height clearance is taken to be height of the walls		Depth to invert of sewer main	Minimum height clearance above floor level	Less than 2.7m	2.1m or depth of sewer main whichever is greater.	2.7m to 3.5m	2.7m	Greater than 3.5m	Construction not allowed
Height Clearance – height clearance is taken to be height of the walls												
Depth to invert of sewer main	Minimum height clearance above floor level											
Less than 2.7m	2.1m or depth of sewer main whichever is greater.											
2.7m to 3.5m	2.7m											
Greater than 3.5m	Construction not allowed											

ITEM	ASSET	CRITERIA
M.	Ground anchors	Where ground anchors are to be used the following requirements are to be met: A plan showing the sewer main clearly plotted against the cross section and the long section and showing 1.0m clearance is being met between the ground anchors and the sewer main. • 1.0m clearance being met will also need to be shown for any property connection branches, inspection shaft and maintenance holes. • A site plan will be required showing the building in relation to the title boundaries. • Care will need to be exercised when installing these tendons to ensure that these clearances are obtained between the owner's / developer's tendons and the relevant water corporation's assets. • CCTV inspections will be required, one prior to works commencing and a second inspection once works have been completed, both at owner's cost. This will allow the checking of the condition of any sewer assets before and after ground anchors are installed. The CCTV footage before and after works will also provide evidence should repair works be required on the relevant water corporation's assets. NOTE: Any rectification works required due to damage caused by ground anchors will be at owner / developer cost.

2.2 DEPENDENT PERSON'S UNIT - MANAGED BY GOVERNMENT AUTHORITY ONLY

NOTE: NON-GOVERNMENT AUTHORITY DEPENDENT PERSON'S UNIT APPLICATIONS WILL BE TREATED AS A PERMANENT RESIDENCE.

relevant water corporation's Standard Conditions will apply
(Refer relevant diagrams)

ITEM	ASSET	CRITERIA
A.	Sewer mains up to and including 225mm diameter and less than 3.5m deep (excluding concrete sewers)	Works adjacent to sewer main require: • A minimum 600mm horizontal clearance from the outside edge of the sewer main • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. • 24-hour access is required. Works traversing a sewer main require: • Section of structure must not exceed 8m in length. • A minimum 600mm horizontal clearance from the outside edge of the sewer main • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. • 24-hour access is required. Driven piles are not permitted. If the proposed structure is to be situated within 750mm of the sewer main as shown on the relevant water corporation's asset plan, confirmation of the sewer's actual location may need to be determined by the relevant water corporation's approved representative. This is required as existing fences, for example, may not be positioned as per title boundaries. NOTE: If requested, the relevant water corporation can perform this inspection. A standard fee applies.

ITEM	ASSET	CRITERIA
B.	Sewer mains up to and including 225mm diameter greater than 3.5m deep	<i>Works over sewer mains greater than 3.5m deep are not permitted.</i> Works adjacent to sewer mains greater than 3.5m deep require a clearance of: 1.0m horizontal clearance from the outside edge of the sewer main, or to be outside of the easement (whichever is greater). - Pad footings / foundations are permitted. - Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Driven piles are not permitted. NOTE: City West Water will consider works being constructed over a sewer main deeper than 3.5m on a case-by-case basis. In these circumstances the footings must be founded to the depth of the sewer or on bedrock. A soil test / geotechnical report will be required verifying this.
C.	Concrete sewer main less than 3.5m deep	<i>Works over concrete sewer mains are not permitted as concrete sewer mains have a higher risk of failure.</i> <i>24-hour unobstructed access is required.</i> Works adjacent to a concrete sewer main require: - A minimum 600mm horizontal clearance from the outside edge of the sewer main, or to be outside of easement (whichever is greater). - Pad footings / foundations are permitted. - Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Driven piles are not permitted. NOTE: Applications traversing a concrete sewer main may be considered on a case-by-case basis where concrete sewers can be relined from maintenance hole to maintenance hole, at the owner's expense. Details of this option will be investigated upon request. CCTV inspection will be required at the owner's expense.

ITEM	ASSET	CRITERIA
D.	Property connection branch servicing an adjoining property	<i>Works over property connection branches servicing adjoining properties are not permitted as it creates an unacceptable risk to the relevant water corporation's obligations in providing a service to a neighbouring customer.</i> Works adjacent to an adjoining property connection branch require: • A minimum 600mm horizontal clearance between the proposed works / foundation and the property connection branch. • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Driven piles are not permitted.
E.	Property connection branch servicing own property	<i>No structures deemed habitable are to be built over a property connection branch.</i> Works adjacent to a property connection branch require: • A minimum 600mm horizontal clearance between the proposed works / foundation and the property connection branch. • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Driven piles are not permitted.
F.	Maintenance hole	<i>Works over maintenance holes is not permitted as 24-hour unobstructed access is required.</i> Works adjacent to a maintenance hole chamber require: • 1.0m horizontal clearance from the outside edge of the cover surround. • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. • Maintenance hole cover levels must match new surface levels. Where alteration works are applicable the works are to be carried out by the relevant water corporation at the owner's expense. • Where a structure is to be constructed boundary to boundary, suitable access (which meets OH & S guidelines) to the sewer maintenance hole must be provided to allow maintenance equipment and personnel access at all times. Driven piles are not permitted. NOTE: Maintenance holes can only be opened by the relevant water corporation's authorised personnel.

ITEM	ASSET	CRITERIA
G.	Maintenance shaft	<i>Works over maintenance shafts is not permitted as 24-hour unobstructed access is required.</i> Works adjacent to a maintenance shaft require: 800mm horizontal clearance from the centre line of the cover. - Pad footings / foundations are permitted. - Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by structure. - Maintenance shaft cover levels must match new surface levels. Where alteration works are applicable the works are to be carried out by the relevant water corporation at the owner's expense. Driven piles are not permitted. NOTE: Maintenance shafts can only be opened by the relevant water corporation's authorised personnel.
H.	Sewer rising mains, vacuum lines and pressure sewers	<i>Structures over sewer rising mains, vacuum lines and pressure mains are not permitted.</i> NOTE: The relevant water corporation will assess the potential impact of a failed sewer rising main, vacuum line and pressure sewer on individual developments and therefore may require clearances greater than 1.0m. The applicant is required to contact the relevant water corporation at the design stage to obtain requirements.
I.	Water Mains	<i>Structures over water mains of any size are not permitted.</i> NOTE: The relevant water corporation will assess the potential impact of a failed water main on individual developments and therefore may require clearances greater than 1.0m. The applicant is required to contact the relevant water corporation at the design stage to obtain requirements.
J.	Easements reserved for sewerage / water purposes containing no assets	- Approval will not be given where there is an easement in favour of the relevant water corporation to provide sewer / water for future development. - Minimum horizontal clearances from the outside edge of an asset within an adjoining property will be required or outside of the easement. This will be assessed on a case-by-case basis. 24-hour access is required. NOTE: Where this easement is no longer required for the provision of sewer / water purposes, the relevant water corporation may consider an application to expunge or amend the easement.

2.3. BRICK GARAGES AND BRICK CARPORTS GREATER THAN 10M²

relevant water corporation's Standard Conditions will apply
(Refer relevant diagrams)

ITEM	ASSET	CRITERIA
A.	Sewer mains up to and including 225mm diameter and less than 3.5m deep (excluding concrete sewers)	Works adjacent to sewer main require: - A minimum 600mm horizontal clearance from the outside edge of the sewer main - Footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. 24-hour access is required. Driven piles are not permitted. If the proposed structure is to be situated within 750mm of the sewer main as shown on relevant water corporation's asset plan, confirmation of the sewer's actual location may need to be determined by the relevant water corporation's approved representative. This is required as existing fences, for example, may not be positioned as per title boundaries. NOTE: If requested, the relevant water corporation can perform this inspection. A standard fee applies. Residences / habitable structures are not permitted to be constructed over sewer mains. Single storey construction is only permitted where a garage traverses the sewer main. Works traversing a sewer main require: - Section of structure must not exceed 8m in length. - Pier and beam footings / foundations will be required to extend a minimum depth to the angle of repose to the invert level of the sewer. Note: Driven Piles are not permitted - Pier and beam footings / foundations traversing the sewer main must be a minimum 600mm away but no further than 1.0m to the outside edge of the sewer main. - Foundations traversing the sewer main must maintain a minimum 600mm vertical clearance to the sewer main. - Concrete floor is to be of non-structural infill slab only, as, if required to be removed, it would not affect the integrity of the structure. - Foundation design must incorporate (typically) strip footings with an infill pavement slab (footings poured separately to a non-structural pavement). - Construction joints / saw cuts incorporated into the design must be provided at maximum centres of 1.2m, and be centrally located over the sewer to identify the removable section. - A height clearance is required unless demountable. (The engineer's plan must show work method / schedule). - A structurally independent roof must be provided when attached to another structure. (An engineer's plans must be submitted showing the independence of the roof).

ITEM	ASSET	CRITERIA										
A. cont.	Sewer mains up to and including 225mm diameter and less than 3.5m deep (excluding concrete sewers) cont.	- An inspection of the pipes condition, via CCTV, may be required at owner's / applicant's expense prior to final approval. An inspection is required if the pipe was constructed greater than 10 years prior to application and the material is other than UPVC or Polyethylene. If the CCTV inspection confirms that repair work is required on the sewer main, the relevant water corporation will contact the applicant to notify them of any potential delays in approving their application. If any rectification works are required delay may occur prior to formal approval being given. <i>Cantilevered first storey over a garage</i> If a first storey is to partially encroach over a garage, the following additional information will also be required: - No loading from the first storey area can be supported / transferred to the outside ground floor footing / foundation of the garage. - A structural engineer's report / plans must be provided confirming the above. - The first storey must maintain a minimum 600mm horizontal clearance from the outside edge of the sewer main (see diagram). - Height clearance required, unless demountable. <table><tr><th colspan="2">Height clearance – height clearance is taken to be height of the walls</th></tr><tr><th>Depth to invert of sewer main</th><th>Minimum height clearance. above floor level</th></tr><tr><td>Less than 2.7m</td><td>2.1m or depth of sewer main whichever is greater.</td></tr><tr><td>2.7m to 3.5m</td><td>2.7m</td></tr><tr><td>Greater than 3.5m</td><td>Construction not allowed</td></tr></table> No plumbing fixtures, fixed storage / shelving or internal walls that restrict access will be allowed within garage over sewer main or easement. If the proposed structure is to be situated within 750mm of the sewer main, as shown on the relevant water corporation's asset plan, confirmation of the sewer's actual location may need to be determined by the relevant water corporation's approved representative. This is required as existing fences, for example, may not be positioned as per title boundaries. NOTE: If requested, the relevant water corporation can perform this inspection. A standard fee applies.	Height clearance – height clearance is taken to be height of the walls		Depth to invert of sewer main	Minimum height clearance. above floor level	Less than 2.7m	2.1m or depth of sewer main whichever is greater.	2.7m to 3.5m	2.7m	Greater than 3.5m	Construction not allowed
Height clearance – height clearance is taken to be height of the walls												
Depth to invert of sewer main	Minimum height clearance. above floor level											
Less than 2.7m	2.1m or depth of sewer main whichever is greater.											
2.7m to 3.5m	2.7m											
Greater than 3.5m	Construction not allowed											

ITEM	ASSET	CRITERIA
B.	Sewer mains up to and including 225mm diameter greater than 3.5m deep	<i>Works over sewer mains greater than 3.5m deep are not permitted.</i> Works adjacent to sewer mains greater than 3.5m deep require a clearance of: 1.0m horizontal clearance from the outside edge of the sewer main, or to be outside of the easement (whichever is greater), - Footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Driven piles are not permitted. NOTE: City West Water will consider works being constructed over a sewer main deeper than 3.5m on a case-by-case basis. In these circumstances the footings must be founded to the depth of the sewer or on bedrock. A soil test / geotechnical report will be required verifying this.
C.	Concrete sewer main less than 3.5m deep	<i>Works over concrete sewer mains are not permitted as concrete sewer mains have a higher risk of failure.</i> <i>24-hour unobstructed access is required.</i> Works adjacent to a concrete sewer main require: - A minimum 600mm horizontal clearance from the outside edge of the sewer main, or to be outside of easement (whichever is greater). - Footings / foundation must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Driven piles are not permitted. NOTE: Applications traversing a concrete sewer main may be considered on a case-by-case basis where concrete sewers can be relined from maintenance hole to maintenance hole, at the owner's expense. Details of this option will be investigated upon request. CCTV inspection will be required at the owner's expense.

ITEM	ASSET	CRITERIA										
D.	Property connection branch servicing an adjoining property	<i>Works over property connection branches servicing adjoining properties are not permitted as it creates an unacceptable risk to the relevant water corporation's obligations in providing a service to a neighbouring customer.</i> Works adjacent to an adjoining property connection branch require: - A minimum 600mm horizontal clearance between the proposed works / foundation and the property connection branch. - Footings / foundations must extend a minimum depth to the angle of repose to the invert level of the property connection branch to ensure that no additional load will be placed on the property connection branch by the structure. Driven piles are not permitted.										
E.	Property connection branch servicing own property	<i>Build over of own property connection branch is not permitted where the branch will be servicing more than one property.</i> Works adjacent to property connection branch require: - minimum of 600mm horizontal clearance between the proposed works / foundations and the property connection branch. - Footings / foundations must extend a minimum depth to the angle of repose to the invert level of the property connection branch to ensure that no additional load will be placed on the property connection branch by the structure. Works traversing a property connection branch require in addition to the above: - Pier and beam foundations traversing the property connection branch must be a minimum of 600mm from the property connection branch but no further away than 1.0m. - Foundations traversing the property connection branch must maintain a minimum 600mm vertical clearance. - Non-structural infill slab. - Height clearance required, unless demountable. <table><tr><th colspan="2">Height clearance – height clearance is taken to be height of the walls</th></tr><tr><th>Depth to invert of property connection branch</th><th>Minimum height clearance. above floor level</th></tr><tr><td>Less than 2.7m</td><td>2.1m or depth of sewer branch whichever is greater.</td></tr><tr><td>2.7m to 3.5m</td><td>2.7m</td></tr><tr><td>Greater than 3.5m</td><td>Construction not allowed</td></tr></table> Driven piles are not permitted. NOTE: No plumbing fixtures, fixed storage / shelving or internal walls that restrict access will be allowed within garage over property connection branch or easement.	Height clearance – height clearance is taken to be height of the walls		Depth to invert of property connection branch	Minimum height clearance. above floor level	Less than 2.7m	2.1m or depth of sewer branch whichever is greater.	2.7m to 3.5m	2.7m	Greater than 3.5m	Construction not allowed
Height clearance – height clearance is taken to be height of the walls												
Depth to invert of property connection branch	Minimum height clearance. above floor level											
Less than 2.7m	2.1m or depth of sewer branch whichever is greater.											
2.7m to 3.5m	2.7m											
Greater than 3.5m	Construction not allowed											

ITEM	ASSET	CRITERIA
F.	Maintenance hole	<i>Works over maintenance holes is not permitted as 24-hour unobstructed access is required.</i> Works adjacent to a maintenance hole chamber require: • 1.0m horizontal clearance from the outside edge of the cover surround. • Footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. • Where a structure is to be constructed boundary to boundary, suitable access (which meets OH & S guidelines) to the sewer maintenance hole must be provided to allow maintenance equipment and personnel access at all times Driven piles are not permitted. NOTE: Maintenance holes can only be opened by the relevant water corporation's authorised personnel.
G.	Maintenance shaft	<i>Works over maintenance shafts is not permitted as 24-hour unobstructed access is required.</i> Works adjacent to a maintenance shaft require: • 800mm horizontal clearance from the centre line of the cover. • Footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the maintenance shaft by the structure. Driven piles are not permitted. NOTE: Maintenance shafts can only be opened by the relevant water corporation's authorised personnel.
H.	Sewer rising mains, vacuum lines and pressure sewers	<i>Structures over sewer rising mains, vacuum lines and pressure mains are not permitted.</i> NOTE: The relevant water corporation will assess the potential impact of a failed sewer rising main, vacuum line and pressure sewer on individual developments and therefore may require clearances greater than 1.0m. The applicant is required to contact the relevant water corporation at the design stage to obtain requirements.

ITEM	ASSET	CRITERIA
I.	Water Mains	<i>Structures over water mains of any size are not permitted.</i> NOTE: The relevant water corporation will assess the potential impact of a failed water main on individual developments and therefore may require clearances greater than 1.0m. The applicant is required to contact the relevant water corporation at the design stage to obtain requirements.
J.	Easements reserved for sewerage / water purposes containing no assets	• Approval will not be given where there is an easement in favour of the relevant water corporation to provide sewer / water for future development. • Minimum horizontal clearances from the outside edge of an asset within an adjoining property will be required or outside of the easement. This will be assessed on a case-by-case basis. • 24-hour access is required. NOTE: Where this easement is no longer required for the provision of sewer / water purposes the relevant water corporation may consider an application to expunge or amend the easement.
K.	Eaves	• Maximum width allowed is 600mm.

2.4. LIGHTWEIGHT GARAGES AND CARPORTS GREATER THAN 10M² (INCLUDING PERGOLAS, VERANDAS, GAZEBOS, SAILS AND DECKING)

relevant water corporation's Standard Conditions will apply
(Refer relevant diagrams)

ITEM	ASSET	CRITERIA
A.	Sewer mains up to and including 225mm diameter and less than 3.5m deep (excluding concrete sewers)	Works adjacent to sewer main require: • A minimum 600mm horizontal clearance from the outside edge of the sewer main • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. • 24-hour access is required. Driven piles are not permitted. If the proposed structure is to be situated within 750mm of the sewer main as shown on the relevant water corporation's asset plan, confirmation of the sewer's actual location may need to be determined by the relevant water corporation's approved representative. This is required as existing fences, for example, may not be positioned as per title boundaries. NOTE: If requested, the relevant water corporation can perform this inspection. A standard fee applies. Works traversing a sewer main require: • Section of structure must not exceed 8m in length. • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. • Foundations traversing the sewer main must maintain a minimum 600mm vertical clearance to the sewer main. • Concrete floor is to be of non-structural infill slab only, as, if required to be removed, it would not affect the integrity of the structure. • Height clearance required unless demountable. (Engineer's plan must show work method / schedule.) • A structurally independent roof must be provided when attached to another structure. (Engineers plans must be submitted showing the independence of the roof.) • Height clearance required, unless demountable.

ITEM	ASSET	CRITERIA	
A. cont.	Sewer mains up to and including 225mm diameter and less than 3.5m deep (excluding concrete sewers) cont.	Height clearance – height clearance is taken to be height of the walls.	
		Depth to invert of sewer main	Minimum height clearance. above floor level
		Less than 2.7m	2.1m or depth of sewer main whichever is greater.
		2.7m to 3.5m	2.7m
		Greater than 3.5m	Construction not allowed
Driven piles are not permitted.			
If the proposed structure is to be situated within 750mm of the sewer main, as shown on the relevant water corporation’s asset plan, confirmation of the sewer’s actual location may need to be determined by the relevant water corporation’s approved representative. This is required as existing fences, for example, may not be positioned as per title boundaries.			
NOTE: If requested, the relevant water corporation can perform this inspection. A standard fee applies.			
B.	Sewer mains up to and including 225mm diameter greater than 3.5m deep	Works over sewer mains greater than 3.5m deep are not permitted.	
		Works adjacent to sewer mains greater than 3.5m deep require a clearance of: 1.0m horizontal clearance from the outside edge of the sewer main, or to be outside of the easement (whichever is greater), - Pad footings / foundations are permitted. - Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Driven piles are not permitted.	
NOTE: City West Water will consider works being constructed over a sewer main deeper than 3.5m on a case-by-case basis. In these circumstances the footings must be founded to the depth of the sewer or on bedrock. A soil test / geotechnical report will be required verifying this.			

ITEM	ASSET	CRITERIA
C.	Concrete sewer main less than 3.5m deep	<i>Works over concrete sewer mains are not permitted as concrete sewer mains have a higher risk of failure.</i> <i>24-hour unobstructed access is required.</i> Works adjacent to a concrete sewer main require: • A minimum 600mm horizontal clearance from the outside edge of the sewer main, or to be outside of easement (whichever is greater). • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Driven piles are not permitted. NOTE: Applications traversing a concrete sewer main may be considered on a case-by-case basis where concrete sewers can be relined from maintenance hole to maintenance hole, at the owner's expense. Details of this option will be investigated upon request. CCTV inspection will be required at the owner's expense.
D.	Property connection branch servicing an adjoining property	<i>Works over property connection branches servicing adjoining properties are not permitted as it creates an unacceptable risk to the relevant water corporation's obligations in providing a service to a neighbouring customer.</i> Works adjacent to an adjoining property connection branch require: • A minimum 600mm horizontal clearance between the proposed works / foundation and the property connection branch. • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Driven piles are not permitted.

ITEM	ASSET	CRITERIA										
E.	Property connection branch servicing own property	<i>No structures deemed habitable are to be built over a property connection branch.</i> <i>Build over of own property connection branch is not permitted where the branch is servicing more than one property.</i> Works adjacent to property connection branch require: • A minimum of 600mm horizontal clearance between the proposed works / foundations and the property connection branch. • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Works traversing a property connection branch require in addition to the above: • Pier and beam foundations traversing the property connection branch must be a minimum of 600mm from the property connection branch but no further away than 1.0m. • Concrete floor is to be of non structural infill slab only. • Foundations traversing the property connection branch must maintain a minimum 600mm vertical clearance. • Height clearance required, unless demountable. <table><tr><th colspan="2">Height clearance – height clearance is taken to be height of the walls.</th></tr><tr><th>Depth to invert of property connection branch</th><th>Minimum height clearance. above floor level</th></tr><tr><td>Less than 2.7m</td><td>2.1m or depth of sewer branch whichever is greater.</td></tr><tr><td>2.7m to 3.5m</td><td>2.7m</td></tr><tr><td>Greater than 3.5m</td><td>Construction not allowed</td></tr></table> Driven piles are not permitted. For Decking that traverses a sewer main a 1.2m square removable panel must be formed within the decking where it traverses the property connection branch for access. The inspection opening/ boundary trap must be accessible through the removable panel.	Height clearance – height clearance is taken to be height of the walls.		Depth to invert of property connection branch	Minimum height clearance. above floor level	Less than 2.7m	2.1m or depth of sewer branch whichever is greater.	2.7m to 3.5m	2.7m	Greater than 3.5m	Construction not allowed
Height clearance – height clearance is taken to be height of the walls.												
Depth to invert of property connection branch	Minimum height clearance. above floor level											
Less than 2.7m	2.1m or depth of sewer branch whichever is greater.											
2.7m to 3.5m	2.7m											
Greater than 3.5m	Construction not allowed											

ITEM	ASSET	CRITERIA
F.	Maintenance hole	<i>Works over maintenance holes is not permitted as 24-hour unobstructed access is required.</i> Works adjacent to a maintenance hole chamber require: • 1.0m horizontal clearance from the outside edge of the cover surround. • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. • Maintenance hole cover levels must match new surface levels. Where alteration works are applicable the works are to be carried out by the relevant water corporation at the owner's expense. • Where a structure is to be constructed boundary to boundary, suitable access (which meets OH & S guidelines) to the sewer maintenance hole must be provided to allow maintenance equipment and personnel access at all times. Driven piles are not permitted. NOTE: Maintenance holes can only be opened by the relevant water corporation's authorised personnel.
G.	Maintenance Shaft	<i>Works over maintenance shafts are not permitted as 24-hour unobstructed access is required.</i> Works adjacent to a maintenance shaft require: • A minimum 800mm horizontal clearance from the centre line of the cover. • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by structure. • Maintenance shaft cover levels must match new surface levels. Where alteration works are applicable the works are to be carried out by the relevant water corporation at the owner's expense. Driven piles are not permitted. NOTE: Maintenance shafts can only be opened by the relevant water corporation's authorised personnel.

ITEM	ASSET	CRITERIA
H.	Sewer rising mains, vacuum lines and pressure sewers	<i>Structures over rising mains, vacuum lines and pressure mains are not permitted.</i> NOTE: The relevant water corporation will assess the potential impact of a failed sewer rising main, vacuum line and pressure sewer on individual developments and therefore may require clearances greater than 1.0m. The applicant is required to contact the relevant water corporation at the design stage to obtain requirements.
I.	Water Mains	<i>Structures over water mains of any size are not permitted.</i> NOTE: The relevant water corporation will assess the potential impact of a failed water main on individual developments and therefore may require clearances greater than 1.0m. The applicant is required to contact the relevant water corporation at the design stage to obtain requirements.
J.	Easements reserved for sewerage / water purposes containing no assets	- Approval will not be given where there is an easement in favour of the relevant water corporation to provide sewer / water for future development. - Minimum horizontal clearances from the outside edge of an asset within an adjoining property will be required <i>or</i> outside of the easement. This will be assessed on a case-by-case basis. NOTE: Where this easement is no longer required for the provision of sewer / water purposes the relevant water corporation may consider an application to expunge or amend the easement.
K.	Eaves	Maximum width allowed is 600mm.

2.5. CARPORTS AND SHEDS LESS THAN 10M²

relevant water corporation's Standard Conditions will apply
(Refer relevant diagrams)

ITEM	ASSET	CRITERIA
A.	Sewer mains up to and including 225mm diameter and less than 3.5m deep (excluding concrete sewers)	Works adjacent to sewer main require: • A minimum 600mm horizontal clearance from the outside edge of the sewer main. • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. • 24-hour access is required. Driven piles are not permitted. If the proposed structure is to be situated within 750mm of the sewer main as shown on relevant water corporation's asset plan, confirmation of the sewer's actual location may need to be determined by relevant water corporation's approved representative. This is required as existing fences, for example, may not be positioned as per title boundaries. NOTE: If requested, the relevant water corporation can perform this inspection. A standard fee applies. Works traversing a sewer main require: • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by structure. • Foundations traversing the sewer main must maintain a minimum 600mm vertical clearance to the sewer main. • Concrete floor is to be of non-structural infill slab only, as, if required to be removed, it would not affect the integrity of the structure. • Height clearance required unless demountable. • A structurally independent roof must be provided when attached to another structure. (Engineer's plans must be submitted showing the independence of the roof.) • Height clearance required, unless demountable.

ITEM	ASSET	CRITERIA
A. cont.	Sewer mains up to and including 225mm diameter and less than 3.5m deep (excluding concrete sewers) cont.	Height clearance – height clearance is taken to be height of the walls.
		Depth to invert of sewer main
		Minimum height clearance. above floor level
		Less than 2.7m
		2.1m or depth of sewer main whichever is greater.
		2.7m to 3.5m
		2.7m
		Greater than 3.5m
		Construction not allowed
B.	Sewer mains up to and including 225mm diameter greater than 3.5m deep	Driven piles are not permitted.
		If the proposed structure is to be situated within 750mm of the sewer main, as shown on the relevant water corporation's asset plan, confirmation of the sewer's actual location may need to be determined by the relevant water corporation's approved representative. This is required as existing fences, for example, may not be positioned as per title boundaries.
		NOTE: If requested, the relevant water corporation can perform this inspection. A standard fee applies.
		Works over sewer mains greater than 3.5m deep are not permitted.
		Works adjacent to sewer mains greater than 3.5m deep require a clearance of:
		1.0m horizontal clearance from the outside edge of the sewer main, or to be outside of the easement (whichever is greater). - Pad footings / foundations are permitted. - Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure.
		Driven piles are not permitted.
		NOTE: City West Water will consider works being constructed over a sewer main deeper than 3.5m on a case-by-case basis.

ITEM	ASSET	CRITERIA
C.	Concrete sewer main less than 3.5m deep	<i>Works over concrete sewer mains are not permitted as concrete sewer mains have a higher risk of failure.</i> <i>24-hour unobstructed access is required.</i> Works adjacent to a concrete sewer main require: • A minimum 600mm horizontal clearance from the outside edge of the sewer main is required, <i>or</i> to be outside of easement (whichever is greater). • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Driven piles are not permitted. NOTE: Applications traversing a concrete sewer main may be considered on a case-by-case basis where concrete sewers can be relined from maintenance hole to maintenance hole, at the owner's expense. Details of this option will be investigated upon request. CCTV inspection will be required at the owner's expense
D.	Property connection branch servicing an adjoining property	<i>Works over property connection branches servicing adjoining properties are not permitted as it creates an unacceptable risk to the relevant water corporation's obligations in providing a service to a neighbouring customer.</i> Works adjacent to an adjoining property connection branch require: • A minimum 600mm horizontal clearance between the proposed works / foundation and the property connection branch. • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Driven piles are not permitted.

ITEM	ASSET	CRITERIA										
E.	Property connection branch servicing own property	<i>No structures deemed habitable are to be built over a property connection branch.</i> <i>Build over of own property connection branch is not permitted where the branch is servicing more than one property.</i> Works adjacent to property connection branch require: • Maintaining a minimum of 600mm horizontal clearance between the proposed works / foundations and the property connection branch. • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Works traversing a property connection branch require in addition to the above: • Minimum 600mm vertical clearance. • Height clearance required, unless demountable. <table><tr><th colspan="2">Height clearance – height clearance is taken to be height of the walls.</th></tr><tr><th>Depth to invert of property connection branch</th><th>Minimum height clearance. above floor level</th></tr><tr><td>Less than 2.7m</td><td>2.1m or depth of sewer branch whichever is greater.</td></tr><tr><td>2.7m to 3.5m</td><td>2.7m</td></tr><tr><td>Greater than 3.5m</td><td>Construction not allowed</td></tr></table> Driven piles are not permitted. NOTE: City West Water will consider works being constructed over a sewer main deeper than 3.5m on a case-by-case basis.	Height clearance – height clearance is taken to be height of the walls.		Depth to invert of property connection branch	Minimum height clearance. above floor level	Less than 2.7m	2.1m or depth of sewer branch whichever is greater.	2.7m to 3.5m	2.7m	Greater than 3.5m	Construction not allowed
Height clearance – height clearance is taken to be height of the walls.												
Depth to invert of property connection branch	Minimum height clearance. above floor level											
Less than 2.7m	2.1m or depth of sewer branch whichever is greater.											
2.7m to 3.5m	2.7m											
Greater than 3.5m	Construction not allowed											

ITEM	ASSET	CRITERIA
F.	Maintenance hole	<i>Works over maintenance holes is not permitted as 24-hour unobstructed access is required.</i> Works adjacent to a maintenance hole chamber require: • 1.0m horizontal clearance from the outside edge of the cover surround. • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure • Maintenance hole cover levels must match new surface levels. Where alteration works are applicable the works are to be carried out by the relevant water corporation at the owner's expense. • Where a structure is to be constructed boundary to boundary, suitable access (which meets OH & S guidelines) to the sewer maintenance hole must be provided to allow maintenance equipment and personnel access at all times. Driven piles are not permitted. NOTE: Maintenance holes can only be opened by the relevant water corporation's authorised personnel.
G.	Maintenance shaft	<i>Works over maintenance shafts is not permitted as 24-hour unobstructed access is required.</i> Works adjacent to a maintenance shaft require: • A minimum 800mm horizontal clearance from the centre line of the cover. • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure • Maintenance shaft cover levels must match new surface levels. Where alteration works are applicable the works are to be carried out by the relevant water corporation at the owner's expense. Driven piles are not permitted. Note: Maintenance shafts can only be opened by the relevant water corporation's authorised personnel.

ITEM	ASSET	CRITERIA
H.	Sewer rising mains, vacuum lines and pressure sewers	<i>Structures over sewer rising mains, vacuum lines / pressure mains are not permitted.</i> NOTE: The relevant water corporation will assess the potential impact of a failed sewer rising main, vacuum line and pressure sewer on individual developments and therefore may require clearances greater than 1.0m. The applicant is required to contact the relevant water corporation at the design stage to obtain requirements.
I.	Water Mains	<i>Structures over water mains of any size are not permitted.</i> NOTE: Relevant water corporation will assess the potential impact of a failed water main on individual developments and therefore may require clearances greater than 1.0m. The applicant is required to contact the relevant water corporation at the design stage to obtain requirements.
J.	Easements reserved for sewerage / water purposes containing no assets	- Approval will not be given where there is an easement in favour of the relevant water corporation to provide sewer / water for future development. - Minimum horizontal clearances from the outside edge of an asset within an adjoining property will be required or outside of the easement. This will be assessed on a case-by-case basis. 24-hour access is required. NOTE: Where this easement is no longer required for the provision of sewer / water purposes the relevant water corporation may consider an application to expunge or amend the easement.

2.6. BRICK FENCES AND RETAINING WALLS (INCLUDING INTERLOCKING BLOCK WALLS)

relevant water corporation's Standard Conditions will apply
(Refer relevant diagrams)

ITEM	ASSET	CRITERIA
A.	Sewer mains up to and including 225mm diameter and less than 3.5m deep (excluding concrete sewers)	<i>Maximum fill allowed over sewer main is 1.0m.</i> <i>A minimum vertical cover of 600mm over the sewer main is required. (A cross sectional plan may be required. Must be drawn to AHD levels.)</i> <i>Plans for site cuts need to show finished surface levels.</i> Works adjacent to a sewer main will require • A minimum 600mm horizontal clearance from the outside edge of the sewer main • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. • 24-hour access is required. Driven piles are not permitted. If the proposed structure is to be situated within 750mm of the sewer main as shown on the relevant water corporation's asset plan, confirmation of the sewer's actual location may need to be determined by relevant water corporation's approved representative. This is required as existing fences, for example, may not be positioned as per title boundaries. NOTE: If requested, the relevant water corporation can perform this inspection. A standard fee applies. Works traversing a sewer main require: • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by structure. • Pier and beam footings / foundation traversing the sewer main must be a minimum 600mm away but no further than 1.0m. • Foundations traversing the sewer main must maintain a minimum 600mm vertical clearance to the sewer main. • Retaining walls are to traverse the sewer main at a 90 degree ☐ angle. • No additional load to be placed on sewer Driven piles are not permitted.

ITEM	ASSET	CRITERIA
A. cont.	Sewer mains up to and including 225mm diameter and less than 3.5m deep (excluding concrete sewers) cont.	If the proposed structure is to be situated within 750mm of the sewer main, as shown on the relevant water corporation's asset plan, confirmation of the sewer's actual location may need to be determined by the relevant water corporation's approved representative. This is required as existing fences, for example, may not be positioned as per title boundaries. NOTE: If requested, the relevant water corporation can perform this inspection. A standard fee applies.
B.	Sewer mains up to and including 225mm diameter greater than 3.5m deep	<i>Works over sewer mains greater than 3.5m deep are not permitted.</i> <i>Maximum fill allowed over sewer main is 1.0m.</i> <i>A minimum vertical cover of 600mm over the sewer main is required.</i> Works adjacent to sewer mains deeper than 3.5m require a clearance of: • 1.0m horizontal clearance from the outside edge of the sewer main, or to be outside of the easement (whichever is greater). • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Driven piles are not permitted. NOTE: City West Water will consider works being constructed over a sewer main deeper than 3.5m on a case-by-case basis.

ITEM	ASSET	CRITERIA
C.	Concrete sewer main less than 3.5m deep	<i>Works over concrete sewer mains are not permitted as concrete sewer mains have a higher risk of failure.</i> <i>24-hour unobstructed access is required.</i> <i>Additional fill over concrete sewer mains is not permitted.</i> <i>A minimum vertical cover of 600mm over the sewer main is required.</i> <i>Plans for site cuts need to show finished surface levels.</i> Works adjacent to a concrete sewer main require: • A minimum 600mm horizontal clearance from the outside edge of the sewer main is required, or to be outside of easement (whichever is greater). • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Driven piles are not permitted. NOTE: Applications traversing a concrete sewer main may be considered on a case-by-case basis where concrete sewers can be relined from maintenance hole to maintenance hole, at the owner's expense. Details of this option will be investigated upon request. CCTV inspection will be required at owner's expense.
D.	Property connection branch servicing an adjoining property	<i>Works over property connection branches servicing adjoining properties are not permitted as it creates an unacceptable risk to the relevant water corporation's obligations in providing a service to a neighbouring customer.</i> Works adjacent to an adjoining property connection branch require: • A minimum 600mm horizontal clearance between the proposed works / foundation and the property connection branch. • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Driven piles are not permitted.

ITEM	ASSET	CRITERIA
E.	Property connection branch servicing own property	Works adjacent to property connection branch require: • A minimum of 600mm horizontal clearance between the proposed works / foundations and the property connection branch. • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Works traversing a property connection branch require in addition to the above: • Pier and beam footings / foundation traversing the sewer main must be a minimum 600mm away but no further than 1.0m. • Foundations traversing the property connection branch must maintain a minimum 600mm vertical clearance. Driven piles are not permitted.
F.	Maintenance hole	<i>Works over maintenance holes is not permitted as 24-hour unobstructed access is required.</i> Works adjacent to a maintenance hole chamber require: • 1.0m horizontal clearance from the outside edge of the cover surround. • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. • Maintenance hole cover levels must match new surface levels. Where alteration works are applicable the works are to be carried out by the relevant water corporation at the owner's expense. • Where a structure is to be constructed boundary to boundary, suitable access (which meets OH & S guidelines) to the sewer maintenance hole must be provided to allow maintenance equipment and personnel access at all times. Driven piles are not permitted. NOTE: Maintenance holes can only be opened by the relevant water corporation's authorised personnel.

ITEM	ASSET	CRITERIA
G.	Maintenance Shaft	<i>Works over maintenance shafts is not permitted as 24-hour unobstructed access is required.</i> Works adjacent to a maintenance shaft require: • A minimum 800mm horizontal clearance from the centre line of the cover. • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by structure. • Maintenance shaft cover levels must match new surface levels. Where alteration works are applicable the works are to be carried out by the relevant water corporation at the owner's expense. Driven piles are not permitted. NOTE: Maintenance shafts can only be opened by the relevant water corporation's authorised personnel.
H.	Sewer rising mains, vacuum lines and pressure sewers	<i>Structures over rising mains, vacuum lines and pressure mains are not permitted.</i> NOTE: The relevant water corporation will assess the potential impact of a failed sewer rising main, vacuum line and pressure sewer on individual developments and therefore may require clearances greater than 1.0m. The applicant is required to contact the relevant water corporation at the design stage to obtain requirements.
I.	Water Mains	<i>Structures over water mains of any size are not permitted.</i> NOTE: Relevant water corporation will assess the potential impact of a failed water main on individual developments and therefore may require clearances greater than 1.0m. The applicant is required to contact the relevant water corporation at the design stage to obtain requirements.
J.	Easements reserved for sewerage / water purposes containing no assets	• Approval will not be given where there is an easement in favour of the relevant water corporation to provide sewer / water for future development. • Minimum horizontal clearances from the outside edge of an asset within an adjoining property will be required or outside of the easement. This will be assessed on a case-by-case basis. • 24-hour access is required. NOTE: Where this easement is no longer required for the provision of sewer / water purposes the relevant water corporation may consider an application to expunge or amend the easement.

2.7. EXCAVATION AND LANDSCAPING

relevant water corporation's Standard Conditions will apply
(Refer relevant diagrams)

ITEM	ASSET	CRITERIA
A.	Sewer mains up to and including 225mm diameter and less than 3.5m deep (excluding concrete sewers)	<i>Maximum fill allowed over sewer main is 1.0m.</i> <i>A minimum vertical cover of 600mm over the sewer main is required. (A cross sectional plan may be required. Must be drawn to AHD levels.)</i> <i>Plans for site cuts need to show finished surface levels.</i> Works adjacent to sewer main require: • A minimum 600mm horizontal clearance from the outside edge of the sewer main • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Driven piles are not permitted. If the proposed structure is to be situated within 750mm of the sewer main as shown on the relevant water corporation's asset plan, confirmation of the sewer's actual location may need to be determined by the relevant water corporation's approved representative. This is required as existing fences, for example, may not be positioned as per title boundaries. NOTE: If requested, the relevant water corporation can perform this inspection. A standard fee applies. Works traversing a sewer main require: • Consent for the placement of rockeries and other garden ornamentation. • Feature works must be easily relocatable. • Below ground ponds are not permitted. NOTE: The owner will be responsible for the emptying and refilling of water features. This must comply with the current water restrictions in place.

ITEM	ASSET	CRITERIA
B.	Sewer mains up to and including 225mm diameter greater than 3.5m deep	<i>Maximum fill allowed over sewer main is 1.0m.</i> <i>A minimum vertical cover of 600mm over the sewer main is required. (A cross sectional plan may be required. Must be drawn to AHD levels.)</i> <i>Plans for site cuts need to show finished surface levels.</i> <i>Works over sewer mains greater than 3.5m deep are not permitted.</i> Works adjacent to sewer mains greater than 3.5m deep require a clearance of: • 1.0m horizontal clearance from the outside edge of the sewer main, or to be outside of the easement (whichever is greater). • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Driven piles are not permitted. NOTE: City West Water will consider works being constructed over a sewer main deeper than 3.5 metres deep on a case by case basis

ITEM	ASSET	CRITERIA
C.	Concrete sewer main less than 3.5m deep	<i>Works over concrete sewer mains are not permitted as concrete sewer mains have a higher risk of failure.</i> <i>24-hour unobstructed access is required.</i> <i>Additional fill over concrete sewer mains is not permitted.</i> <i>A minimum vertical cover of 600mm over the sewer main is required.</i> <i>Site cuts need to show finished surface levels.</i> Works adjacent to a concrete sewer main require: • A minimum 600mm horizontal clearance from the outside edge of the sewer main is required, or to be outside of easement (whichever is greater). • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Driven piles are not permitted. NOTE: Applications may be considered on a case-by-case basis where concrete sewers can be relined from maintenance hole to maintenance hole, at the owner's expense. Details of this option will be investigated upon request. CCTV inspection will be required at the owner's expense.
D.	Property connection branch servicing an adjoining property	<i>Works over property connection branches servicing adjoining properties are not permitted as it creates an unacceptable risk to the relevant water corporation's obligations in providing a service to a neighbouring customer.</i> Works adjacent to an adjoining property connection branch require: • A minimum 600mm horizontal clearance between the proposed works / foundation and the property connection branch. • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Driven piles are not permitted.

ITEM	ASSET	CRITERIA
E.	Property connection branch servicing own property	RESIDENTIAL <i>Maximum fill allowed over property connection branch is 1.0m.</i> <i>A minimum vertical cover of 600mm over the property connection branch is required. (A cross sectional plan may be required. Must be drawn to AHD levels.)</i> <i>Plans for site cuts need to show finished surface levels.</i> Works adjacent to a property connection branch require: • A minimum 600mm horizontal clearance between the proposed works / foundations and the property connection branch. • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. • Pier and beam foundations traversing the property connection branch must be a minimum of 600mm from the property connection branch but no further away than 1.0m. <i>Driven piles are not permitted.</i> INDUSTRIAL / COMMERCIAL <i>No structures are to be built over a sewer connection branch.</i> <i>Maximum fill allowed over property connection branch is 1.0m.</i> <i>A minimum vertical cover of 600mm over the property connection branch is required. (A cross sectional plan may be required. Must be drawn to AHD levels.)</i> <i>Plans for site cuts need to show finished surface levels.</i> Works adjacent to a property connection branch require: • A minimum 1.0m horizontal clearance between the proposed works / foundation and the property connection branch. • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. <i>Driven piles are not permitted.</i>

ITEM	ASSET	CRITERIA
F.	Maintenance hole	<i>Works over maintenance holes are not permitted as 24-hour unobstructed access is required.</i> Works adjacent to a maintenance hole chamber require: • 1.0m horizontal clearance from the outside edge of the cover surround. • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. • Maintenance hole cover levels must match new surface levels. Where alteration works are applicable the works are to be carried out by the relevant water corporation at the owner's expense. • Where a structure is to be constructed boundary to boundary, suitable access (which meets OH & S guidelines) to the sewer maintenance hole must be provided to allow maintenance equipment and personnel access at all times. Driven piles are not permitted. NOTE: Maintenance holes can only be opened by the relevant water corporation's authorised personnel.
G.	Maintenance shaft	<i>Works over maintenance shafts is not permitted as 24-hour unobstructed access is required.</i> Works adjacent to a maintenance shaft require: • A minimum 800mm horizontal clearance from the centre line of the cover. • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by structure. • Maintenance shaft cover levels must match new surface levels. Where alteration works are required, the works are to be carried out by the relevant water corporation at the owner's expense. Driven piles are not permitted. NOTE: Maintenance shafts can only be opened by the relevant water corporation's authorised personnel.

ITEM	ASSET	CRITERIA
H.	Sewer rising mains, vacuum lines and pressure sewers	<i>Works over rising mains, vacuum lines and pressure mains are not permitted.</i> NOTE: The relevant water corporation will assess the potential impact of a failed sewer rising main, vacuum line and pressure sewer on individual developments and therefore may require clearances greater than 1.0m. The applicant is required to contact the relevant water corporation at the design stage to obtain requirements.
I.	Water Mains	<i>Works over water mains of any size are not permitted.</i> NOTE: Relevant water corporation will assess the potential impact of a failed water main on individual developments and therefore may require clearances greater than 1.0m. The applicant is required to contact the relevant water corporation at the design stage to obtain requirements.
J.	Easements reserved for sewerage / water purposes containing no assets	• Approval will not be given where there is an easement in favour of the relevant water corporation to provide sewer / water for future development. • Minimum horizontal clearances from the outside edge of an asset within an adjoining property will be required or outside of the easement. This will be assessed on a case-by-case basis. • 24-hour access is required. NOTE: Where this easement is no longer required for the provision of sewer / water purposes the relevant water corporation may consider an application to expunge or amend the easement.

2.8. DRIVEWAYS AND PAVING (PLAIN CONCRETE ONLY)

NOTE: RAMPS OVER SEWER MAINS WILL NOT BE ALLOWED

relevant water corporation's Standard Conditions will apply

(Refer relevant diagrams)

ITEM	ASSET	CRITERIA
A.	Sewer mains up to and including 225mm diameter and less than 3.5m deep.	RESIDENTIAL - A minimum 750mm vertical cover is to be maintained over the property connection branch. - No additional load is to be placed on the sewer main by the works. COMMERCIAL - A minimum 900mm vertical cover is to be maintained over the sewer main. - No additional load is to be placed on the sewer main by the works.
B.	Sewer mains up to and including 225mm diameter greater than 3.5m deep	<i>Applications for driveways will be assessed on a case-by-case basis.</i>
C.	Concrete sewer main less than 3.5m deep	RESIDENTIAL - A minimum 750mm vertical cover is to be maintained over the sewer main. - No additional load is to be placed on the sewer main by the works. COMMERCIAL - A minimum 900mm vertical cover is to be maintained over the sewer main. - No additional load is to be placed on the sewer main by the works.
D.	Property connection branch servicing an adjoining property	RESIDENTIAL - A minimum 750mm vertical cover is to be maintained over the property connection branch. - No additional load is to be placed on the property connection branch by the works. COMMERCIAL - A minimum 900mm vertical cover is to be maintained over the property connection branch. - No additional load is to be placed on the property connection branch by the works.

ITEM	ASSET	CRITERIA
E.	Property connection branch servicing own property	RESIDENTIAL - A minimum 750mm vertical cover is to be maintained over the property connection branch. - No additional load is to be placed on the property connection branch by the works. COMMERCIAL - A minimum 900mm vertical cover is to be maintained over the property connection. - No additional load is to be placed on the property connection branch by the works.
F.	Maintenance hole	<i>Paving not allowed over maintenance hole.</i> Driveways over a maintenance hole chamber require: - Maintenance hole cover levels must match new surface levels. Where alteration works are applicable the works are to be carried out by the relevant water corporation at the owner's expense. - Where heavy covers are required to be fitted to comply with the relevant water corporation requirements, works must be carried out by the relevant water corporation at the owner's expense. NOTE: Maintenance holes can only be opened by the relevant water corporation's authorised personnel.
G.	Maintenance shaft	<i>Paving not allowed over maintenance shaft.</i> Driveways over a maintenance shaft require: - Maintenance shaft cover levels must match new surface levels. Where alteration works are applicable the works are to be carried out by the relevant water corporation at the owner's expense. - Where heavy covers are required to be fitted to comply with the relevant water corporation requirements, works must be carried out by the relevant water corporation at the owner's expense. NOTE: Maintenance shafts can only be opened by the relevant water corporation's authorised personnel.

ITEM	ASSET	CRITERIA
H.	Sewer rising mains, vacuum lines and pressure sewers	<i>Applications for driveways will be assessed on a case-by-case basis.</i> NOTE: The relevant water corporation will assess the potential impact of a failed sewer rising main, vacuum line and pressure sewer on individual developments and therefore may require clearances greater than 1.0m. The applicant is required to contact the relevant water corporation at the design stage to obtain requirements.
I.	Water Mains	<i>Applications for driveways will be assessed on a case-by-case basis.</i> NOTE: Relevant water corporation will assess the potential impact of a failed water main on individual developments and therefore may require clearances greater than 1.0m. The applicant is required to contact the relevant water corporation at the design stage to obtain requirements.
J.	Easements reserved for sewerage / water purposes containing no assets	<i>Applications for driveways will be assessed on a case-by-case basis.</i> NOTE: Where this easement is no longer required for the provision of sewer / water purposes the relevant water corporation may consider an application to expunge or amend the easement.

2.9. SWIMMING POOLS, SPAS AND SAUNAS (INCLUDING PUMPS AND PIPEWORK)

relevant water corporation's Standard Conditions will apply
(Refer relevant diagrams)

ITEM	ASSET	CRITERIA
A.	Sewer mains up to and including 225mm diameter and less than 3.5m deep (excluding concrete sewers)	Above ground demountable swimming pools / spas - A minimum 600mm vertical clearance over the sewer main is to be maintained. NOTE: Owner will be responsible for the emptying and refilling of swimming pool. This must comply with the current water restrictions in place. Below ground swimming pools / spas over any sewer main are not permitted. Construction adjacent to a sewer main requires: - A minimum of 1.0m horizontal clearance between the proposed swimming pool / spa (including coping) and the outside edge of the sewer main. - Footings / foundation must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by structure or - An Engineer's report must be provided stating: "No additional load will be placed on the sewer main by the structure". Driven piles are not permitted. Saunas - A minimum of 1.0m horizontal clearance between the proposed outdoor sauna and the outside edge of the sewer main is to be maintained. Driven piles are not permitted.

ITEM	ASSET	CRITERIA
B.	Sewer mains up to and including 225mm diameter greater than 3.5m deep	<i>Works over sewer mains greater than 3.5m deep are not permitted.</i> Works adjacent to sewer mains greater than 3.5m deep require a clearance of: • 1.0m horizontal clearance from the outside edge of the sewer main, or to be outside of the easement (whichever is greater). • Pad footings / foundations are permitted (not for below ground pools) • Where pad footings / foundations are not structurally acceptable footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. • 24-hour access is required. <i>Driven piles are not permitted.</i> City West Water will consider works being constructed over a sewer main deeper than 3.5m on a case-by-case basis.
C.	Concrete sewer main less than 3.5m deep	<i>Works over concrete sewer mains are not permitted as concrete sewer mains have a higher risk of failure.</i> <i>24-hour unobstructed access is required.</i> Works adjacent to a concrete sewer main require: • A minimum 1.0m horizontal clearance from the outside edge of the sewer main is required, or to be outside of easement (whichever is greater). • Pad footings / foundations are permitted (not for below ground pools) • Where pad footings / foundations are not structurally acceptable footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. <i>Driven piles are not permitted.</i>
D.	Property connection branch servicing an adjoining property	<i>Works over property connection branches servicing adjoining properties are not permitted as it creates an unacceptable risk to the relevant water corporation's obligations in providing a service to a neighbouring customer.</i> Works adjacent to an adjoining property connection branch require: • A minimum 600mm horizontal clearance between the proposed works / foundation and the property connection branch. • Pad footings / foundations are permitted (not for below ground pools) • Where pad footings / foundations are not structurally acceptable footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. <i>Driven piles are not permitted.</i>

ITEM	ASSET	CRITERIA
E.	Property connection branch servicing own property	Works adjacent to a property connection branch require: - A minimum 600mm horizontal clearance between the proposed works / foundations and the property connection branch. <i>Below ground swimming pools / spas</i> Works adjacent to a property connection branch require: - A minimum 600mm horizontal clearance between the proposed works / foundations and the property connection branch. - Footings / foundations must extend a minimum depth to the angle of repose to the invert level of the property connection branch to ensure that no additional load will be placed on the property connection branch by the structure. Driven piles are not permitted.
F.	Maintenance hole	<i>Works over maintenance holes is not permitted as 24-hour unobstructed access is required.</i> Works adjacent to a maintenance hole chamber require: 1.0m horizontal clearance from the outside edge of the cover surround. - Pad footings / foundations are permitted (not for below ground pools) - Where pad footings / foundations are not structurally acceptable footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. - Maintenance hole cover levels must match new surface levels. Where alteration works are applicable the works are to be carried out by the relevant water corporation at the owner's expense. - Where a structure is to be constructed boundary to boundary, suitable access (which meets OH & S guidelines) to the sewer maintenance hole must be provided to allow maintenance equipment and personnel access at all times. Driven piles are not permitted. NOTE: Maintenance holes can only be opened by the relevant water corporation's authorised personnel.

ITEM	ASSET	CRITERIA
G.	Maintenance Shaft	<i>Works over maintenance shafts are not permitted as 24-hour unobstructed access is required.</i> Works adjacent to a maintenance shaft require: • A minimum 800mm horizontal clearance from the centre line of the cover. • Pad footings / foundations are permitted (not for below ground pools) • Where pad footings / foundations are not structurally acceptable footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. • Maintenance shaft cover levels must match new surface levels. Where alteration works are applicable the works are to be carried out by the relevant water corporation at the owner's expense. Driven piles are not permitted. NOTE: Maintenance shafts can only be opened by the relevant water corporation's authorised personnel.
H.	Sewer rising mains, vacuum lines and pressure sewers	<i>Structures over sewer rising mains, vacuum lines and pressure mains are not permitted.</i> NOTE: The relevant water corporation will assess the potential impact of a failed sewer rising main, vacuum line and pressure sewer on individual developments and therefore may require clearances greater than 1.0m. The applicant is required to contact the relevant water corporation at the design stage to obtain requirements.
I.	Water Mains	<i>Structures over water mains of any size are not permitted.</i> NOTE: The relevant water corporation will assess the potential impact of a failed water main on individual developments and therefore may require clearances greater than 1.0m. The applicant is required to contact the relevant water corporation at the design stage to obtain requirements.

ITEM	ASSET	CRITERIA
J.	Easements reserved for sewerage / water purposes containing no assets	• Approval will not be given where there is an easement in favour of the relevant water corporation to provide sewer / water for future development. • Minimum horizontal clearances from the outside edge of an asset within an adjoining property will be required or outside of the easement. This will be assessed on a case-by-case basis. • 24-hour access is required. NOTE: Where this easement is no longer required for the provision of sewer / water purposes the relevant water corporation may consider an application to expunge or amend the easement.

2.10. ABOVE GROUND WATER TANKS – LIGHTWEIGHT (5,000 LITRES MAX)

relevant water corporation's Standard Conditions will apply
(Refer relevant diagrams)

ITEM	ASSET	CRITERIA
A.	Sewer mains up to and including 225mm diameter and less than 3.5m deep (excluding concrete sewers)	- A minimum 600mm vertical clearance over the sewer main is to be maintained. - Must be supported on the existing ground or plain concrete only. - Tanks are to be movable, i.e. constructed of prefabricated and lightweight material. NOTE: Owner will be responsible for the emptying and refilling of water tank. This must comply with the current water restrictions in place.
B.	Sewer mains up to and including 225mm diameter greater than 3.5m deep	<i>Works over sewer mains greater than 3.5m deep are not permitted.</i> Works adjacent to sewer mains greater than 3.5m deep require a clearance of: 1.0m horizontal clearance from the outside edge of the sewer main, or to be outside of the easement (whichever is greater). - Must be supported on the existing ground or plain concrete only. City West Water will consider works being constructed over a sewer main deeper than 3.5m on a case-by-case basis.
C.	Concrete sewer main less than 3.5m deep	<i>Works over concrete sewer mains are not permitted as concrete sewer mains have a higher risk of failure.</i> <i>24-hour unobstructed access is required.</i> Works adjacent to a concrete sewer main require: - A minimum 600mm horizontal clearance from the outside edge of the sewer main, or to be outside of easement (whichever is greater). - Must be supported on the existing ground or plain concrete only. NOTE: The owner will be responsible for the emptying and refilling of the water tank. This must comply with the current water restrictions in place.

ITEM	ASSET	CRITERIA
D.	Property connection branch servicing an adjoining property	<i>Works over property connection branches servicing adjoining properties are not permitted as it creates an unacceptable risk to the relevant water corporation's obligations in providing a service to a neighbouring customer.</i> Works adjacent to an adjoining property connection branch require: • A minimum 600mm horizontal clearance between the proposed works / foundation and the property connection branch. • Must be supported on the existing ground or plain concrete only.
E.	Property connection branch servicing own property	<i>Water Tanks are not permitted to be placed over a property connection branch.</i> Works adjacent to a property connection branch require: • A minimum 600mm horizontal clearance between the proposed works / foundations and the property connection branch. • Must be supported on the existing ground or plain concrete only.
F.	Maintenance hole	<i>Works over maintenance holes is not permitted as 24-hour unobstructed access is required.</i> Works adjacent to a maintenance hole chamber require: • 1.0m horizontal clearance from the outside edge of the cover surround. • Must be supported on the existing ground or plain concrete only. NOTE: Maintenance holes can only be opened by the relevant water corporation's authorised personnel.
G.	Maintenance shaft	<i>Works over maintenance shafts is not permitted as 24-hour unobstructed access is required.</i> Works adjacent to a maintenance shaft require: • A minimum 800mm horizontal clearance from the centre line of the cover. • Must be supported on the existing ground or plain concrete only. NOTE: Maintenance shafts can only be opened by the relevant water corporation's authorised personnel.

ITEM	ASSET	CRITERIA
H.	Sewer rising mains, vacuum lines and pressure sewers	<i>Structures over sewer rising mains, vacuum lines and pressure mains are not permitted.</i> NOTE: The relevant water corporation will assess the potential impact of a failed sewer rising main, vacuum line and pressure sewer on individual developments and therefore may require clearances greater than 1.0m. The applicant is required to contact the relevant water corporation at the design stage to obtain requirements.
I.	Water Mains	<i>Structures over water mains of any size are not permitted.</i> NOTE: The relevant water corporation will assess the potential impact of a failed water main on individual developments and therefore may require clearances greater than 1.0m. The applicant is required to contact the relevant water corporation at the design stage to obtain requirements.
J.	Easements reserved for sewerage / water purposes containing no assets	• Approval will not be given where there is an easement in favour of the relevant water corporation to provide sewer / water for future development. • Minimum horizontal clearances from the outside edge of an asset within an adjoining property will be required or outside of the easement. This will be assessed on a case-by-case basis. • 24-hour access is required. NOTE: Where this easement is no longer required for the provision of sewer / water purposes the relevant water corporation may consider an application to expunge or amend the easement.

2.11 TENNIS COURTS, LAWN BOWLING GREENS, ALL SURFACES INCLUDING POSTS / LIGHT POLES AND FENCING

relevant water corporation's Standard Conditions will apply
(Refer relevant diagrams)

ITEM	ASSET	CRITERIA
A.	Sewer mains up to and including 225mm diameter and less than 3.5m deep (excluding concrete sewers)	Works adjacent to sewer main require: • A minimum 600mm horizontal clearance from the outside edge of the sewer main • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. • 24-hour access is required. Driven piles are not permitted. If the proposed structure is to be situated within 750mm of the sewer main as shown on relevant water corporation's asset plan, confirmation of the sewer's actual location may need to be determined by relevant water corporation's approved representative. This is required as existing fences, for example, may not be positioned as per title boundaries. NOTE: If requested, relevant water corporation can perform this inspection. A standard fee applies. Works traversing a sewer main require: • Details for reinforced concrete slab • Slab plan to scale indicating the location of full depth saw cuts / breakup slab sections or construction / expansion joint sections where traversing a sewer main. • Construction joints must have a minimum clearance of 600mm offset on each side of sewer main. • A cross section plan showing a minimum 600mm vertical clearance from underside of foundation to the top of sewer main. • Tennis Company to provide a detailed work method for accessing sewer main if maintenance work is required. • A minimum horizontal clearance of 600mm between the posts / light poles and the outside edge of the sewer main is to be maintained. • Footings / foundations must extend a minimum depth to invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. • An inspection of the pipes condition, via CCTV, will be required at owner's / applicant's expense prior to final approval. • Artificial tennis court surfaces must have a separate removable / roll off section with a minimum 600mm offset on each side of the sewer. Driven piles are not permitted.

ITEM	ASSET	CRITERIA
A. cont.	Sewer mains up to and including 225mm diameter and less than 3.5m deep (excluding concrete sewers) cont.	If the proposed structure is to be situated within 750mm of the sewer main, as shown on relevant water corporation's asset plan, confirmation of the sewer's actual location may need to be determined by the relevant water corporation's approved representative. This is required as existing fences, for example, may not be positioned as per title boundaries). NOTE: If requested, the relevant water corporation can perform this inspection. A standard fee applies.
B.	Sewer mains up to and including 225mm diameter greater than 3.5m deep	<i>Works over sewer mains greater than 3.5m deep are not permitted.</i> Works adjacent to sewer mains deeper than 3.5m require a clearance of: 1.0m horizontal clearance from the outside edge of the sewer main, or to be outside of the easement (whichever is greater). - Pad footings / foundations are permitted. - Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Driven piles are not permitted. City West Water will consider works being constructed over a sewer main deeper than 3.5m on a case-by-case basis.
C.	Concrete sewer main less than 3.5m deep	<i>Works over concrete sewer mains are not permitted as concrete sewer mains have a higher risk of failure.</i> <i>24-hour unobstructed access is required.</i> Works adjacent to a concrete sewer main require: - A minimum 600mm horizontal clearance from the outside edge of the sewer main is required, or to be outside of easement (whichever is greater). - Pad footings / foundations are permitted. - Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Driven piles are not permitted. NOTE: Applications to traverse a concrete sewer main may be considered on a case-by-case basis where concrete sewers can be relined from maintenance hole to maintenance hole, at the owner's expense. Details of this option will be investigated upon request. CCTV inspection will be required at the owner's expense.

ITEM	ASSET	CRITERIA
D.	Property connection branch servicing an adjoining property	<i>Works over property connection branches servicing adjoining properties are not permitted as it creates an unacceptable risk to the relevant water corporation's obligations in providing a service to a neighbouring customer.</i> Works adjacent to an adjoining property connection branch require: • A minimum 600mm horizontal clearance between the proposed works / foundation and the property connection branch is to be maintained. • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Driven piles are not permitted.
E.	Property connection branch servicing own property	Works adjacent to property connection branch require: • A minimum 600mm horizontal clearance between the proposed works / foundations and the property connection branch is to be maintained. • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Works traversing a property connection branch require in addition to the above: • A minimum 600mm horizontal clearance between the proposed structure / foundations and the outside edge of the sewer branch is to be maintained. • The tennis company to provide a detailed work method for accessing property connection branch if maintenance work is required. • Slab plan to scale indicating the location of full depth saw cuts / breakup slab sections or construction / expansion joint sections where traversing a property connection branch. • Pier and beam footings / foundation traversing the sewer main must be a minimum 600mm away but no further than 1.0m. • Foundations traversing the property connection branch must maintain a minimum 600mm vertical clearance. • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, the footings / foundations must extend a minimum depth to the angle of repose to the invert level of the sewer main. Driven piles are not permitted.

ITEM	ASSET	CRITERIA
F.	Maintenance hole	<i>Works over maintenance holes are not permitted as 24-hour unobstructed access is required.</i> Works adjacent to a maintenance hole chamber require: • 1.0m horizontal clearance from the outside edge of the cover surround. • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. • Maintenance hole cover levels must match new surface levels. Where alteration works are applicable the works are to be carried out by the relevant water corporation at the owner's expense. • Where a structure is to be constructed boundary to boundary, suitable access (which meets OH & S guidelines) to the sewer maintenance hole must be provided to allow maintenance equipment and personnel access at all times. Driven piles are not permitted. NOTE: Maintenance holes can only be opened by the relevant water corporation's authorised personnel.
G.	Maintenance shaft	<i>Works over maintenance shafts are not permitted as 24-hour unobstructed access is required.</i> Works adjacent to a maintenance shaft require: • A minimum 800mm horizontal clearance from the centre line of the cover. • Pad footings / foundations are permitted. • Where pad footings are not structurally acceptable, footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by structure. • Maintenance shaft cover levels must match new surface levels. Where alteration works are applicable the works are to be carried out by the relevant water corporation at the owner's expense. Driven piles are not permitted. NOTE: Maintenance shafts can only be opened by the relevant water corporation's authorised personnel.

ITEM	ASSET	CRITERIA
H.	Sewer rising mains, vacuum lines and pressure sewers	<i>Works over rising mains, vacuum lines and pressure mains are not permitted.</i> NOTE: The relevant water corporation will assess the potential impact of a failed sewer rising main, vacuum line and pressure sewer on individual developments and therefore may require clearances greater than 1.0m. The applicant is required to contact the relevant water corporation at the design stage to obtain requirements.
I.	Water Mains	<i>Works over water mains of any size are not permitted.</i> NOTE: The relevant water corporation will assess the potential impact of a failed water main on individual developments and therefore may require clearances greater than 1.0m. The applicant is required to contact the relevant water corporation at the design stage to obtain requirements.
J.	Easements reserved for sewerage / water purposes containing no assets	• Approval will not be given where there is an easement in favour of the relevant water corporation to provide sewer / water for future development. • Minimum horizontal clearances from the outside edge of an asset within an adjoining property will be required or outside of the easement. This will be assessed on a case-by-case basis. • 24-hour access is required. NOTE: Where this easement is no longer required for the provision of sewer / water purposes the relevant water corporation may consider an application to expunge or amend the easement.

2.12. ELECTRICAL TRANSMISSION POLES AND TOWERS

relevant water corporation's Standard Conditions will apply
(Refer relevant diagrams)

ITEM	ASSET	CRITERIA
A.	Sewer mains up to and including 225mm diameter and less than 3.5m deep (excluding concrete sewers)	<i>Works over sewer mains are not permitted.</i> Works adjacent to sewer mains require a clearance of: 1.0m horizontal clearance from the outside edge of the sewer main is required, or to be outside of easement (whichever is greater). Footings / foundation must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. <i>Driven piles are not permitted.</i>
B.	Sewer mains up to and including 225mm diameter greater than 3.5m deep	<i>Works over sewer mains greater than 3.5m deep are not permitted.</i> Works adjacent to sewer mains greater than 3.5m deep require a clearance of: 1.0m horizontal clearance from the outside edge of the sewer main, or to be outside of the easement (whichever is greater) - Footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. 24-hour access is required. <i>Driven piles are not permitted.</i>
C.	Concrete sewer main less than 3.5m deep	<i>Works over concrete sewer mains are not permitted as concrete sewer mains have a higher risk of failure.</i> <i>24-hour unobstructed access is required.</i> Works adjacent to a concrete sewer main require: - A minimum 600mm horizontal clearance from the outside edge of the sewer main is required, or to be outside of easement (whichever is greater). - Footings / foundation must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by structure. <i>Driven piles are not permitted.</i>

ITEM	ASSET	CRITERIA
D.	Property connection branch servicing an adjoining property	Works adjacent to an adjoining property connection branch require: • A minimum 600mm horizontal clearance between the proposed works / foundation and the property connection branch is to be maintained. • Footings / foundations must extend a minimum depth to the angle of repose to the invert level of the property connection branch to ensure that no additional load will be placed on the property connection branch by the structure. Driven piles are not permitted.
E.	Property connection branch servicing own property	Works adjacent to property connection branch require: • A minimum 600mm horizontal clearance between the proposed works / foundation and the property connection branch is to be maintained. • Footings / foundations must extend a minimum depth to the angle of repose to the invert level of the property connection branch to ensure that no additional load will be placed on the property connection branch by the structure. Driven piles are not permitted.
F.	Maintenance hole	<i>Works over maintenance holes is not permitted as 24-hour unobstructed access is required.</i> Works adjacent to a maintenance hole chamber require: • 1.0m horizontal clearance from the outside edge of the cover surround. • Footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. • Maintenance hole cover levels must match new surface levels. Where alteration works are applicable the works are to be carried out by the relevant water corporation at the owner's expense. • Where a structure is to be constructed boundary to boundary, suitable access (which meets OH & S guidelines) to the sewer maintenance hole must be provided to allow maintenance equipment and personnel access at all times. Driven piles are not permitted. NOTE: Maintenance holes can only be opened by the relevant water corporation's authorised personnel.

ITEM	ASSET	CRITERIA
G.	Maintenance shaft	<i>Works over maintenance shafts is not permitted as 24-hour unobstructed access is required.</i> Works adjacent to a maintenance shaft require: • A minimum 800mm horizontal clearance from the centre line of the cover. • Footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. • Maintenance shaft cover levels must match new surface levels. Where alteration works are applicable the works are to be carried out by the relevant water corporation at the owner's expense. Driven piles are not permitted. NOTE: Maintenance shafts can only be opened by the relevant water corporation's authorised personnel.
H.	Sewer rising mains, vacuum lines and pressure sewers	<i>Works over rising mains, vacuum lines and pressure mains are not permitted.</i> NOTE: The relevant water corporation will assess the potential impact of a failed sewer rising main, vacuum line and pressure sewer on individual developments and therefore may require clearances greater than 1.0m. The applicant is required to contact the relevant water corporation at the design stage to obtain requirements.
I.	Water Mains	<i>Works over water mains of any size are not permitted.</i> NOTE: The relevant water corporation will assess the potential impact of a failed water main on individual developments and therefore may require clearances greater than 1.0m. The applicant is required to contact the relevant water corporation at the design stage to obtain requirements.

ITEM	ASSET	CRITERIA
J.	Easements reserved for sewerage / water purposes containing no assets	- Approval will not be given where there is an easement in favour of the relevant water corporation to provide sewer / water for future development. - Minimum horizontal clearances from the outside edge of an asset within an adjoining property will be required or to be outside of easement (whichever is greater). This will be assessed on a case-by-case basis. - Footings / foundation must extend a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. 24-hour access is required. Driven piles are not permitted. NOTE: Where this easement is no longer required for the provision of sewer / water purposes the relevant water corporation may consider an application to expunge or amend the easement.

2.13. UTILITIES – GAS, ELECTRICITY, TELECOMMUNICATIONS AND PROPERTY DRAINS

relevant water corporation's Standard Conditions will apply
(Refer relevant diagrams)

ITEM	ASSET	CRITERIA
A.	Sewer mains up to and including 225mm diameter and less than 3.5m deep (excluding concrete sewers)	RESIDENTIAL PROPERTIES Works adjacent to sewer mains require a clearance of: - A minimum 600mm horizontal clearance from the outside edge of the sewer main. INDUSTRIAL/ COMMERCIAL PROPERTIES Works adjacent to a sewer main require: 1.0m horizontal clearance from the outside edge of the sewer main Works traversing sewer a main require: - Services traversing the sewer main must maintain a minimum vertical clearance of 150mm. - Services are to traverse the sewer main at a 90 degree angle. - No additional load is to be placed on the sewer main by the services.
B.	Sewer mains up to and including 225mm diameter greater than 3.5m deep	Works adjacent to sewer mains require a clearance of: 1.0m horizontal clearance from the outside edge of the sewer main. Works traversing sewer mains require: - Services traversing the sewer main must maintain a minimum vertical clearance of 150mm. - Services are to traverse the sewer main at a 90 degree angle. - No additional load is to be placed on the sewer main by the services.
C.	Concrete sewer main less than 3.5m deep	Works adjacent to concrete sewer mains require a clearance of: 1.0m horizontal clearance from the outside edge of the sewer main. Works traversing concrete sewer mains require: - Services traversing the sewer main must maintain a minimum vertical clearance of 150mm. - Services are to traverse the sewer main at a 90 degree angle. - No additional load is to be placed on the sewer main by the services.

ITEM	ASSET	CRITERIA
D.	Property connection branch servicing an adjoining property	RESIDENTIAL Works adjacent to an adjoining property connection branch require: • A minimum 600mm horizontal clearance from the edge of the property connection branch. INDUSTRIAL / COMMERCIAL Works adjacent to an adjoining property connection branch require: • 1.0m horizontal clearance from the outside edge of the sewer main. Works traversing an adjoining property connection branch require: • Services traversing the sewer main must maintain a minimum vertical clearance of 150mm. • Services are to traverse the sewer main at a 90 degree angle. • No additional load is to be placed on the property connection branch by the services.
E.	Property connection branch servicing own property	RESIDENTIAL Works adjacent to property connection branch require: • A minimum 600mm horizontal clearance from the edge of the property connection branch. INDUSTRIAL / COMMERCIAL Works adjacent to an adjoining property connection branch require: • 1.0m horizontal clearance from the edge of connection branch. Works traversing property connection branch require: • Services traversing the sewer main must maintain a minimum vertical clearance of 150mm. • Services are to traverse the sewer main at a 90 degree angle. • No additional load is to be placed on the property connection branch by the services.
F.	Maintenance hole	<i>Works over maintenance holes are not permitted as 24-hour unobstructed access is required.</i> Works adjacent to a maintenance hole chamber require: • 1.0m horizontal clearance from the outside edge of the cover surround. NOTE: Maintenance holes can only be opened by the relevant water corporation's authorised personnel.

ITEM	ASSET	CRITERIA
G.	Maintenance Shaft	<i>Works over maintenance shafts are not permitted as 24-hour unobstructed access is required.</i> Works adjacent to a maintenance shaft require: A minimum 800mm horizontal clearance from the centre line of the cover. NOTE: Maintenance shafts can only be opened by the relevant water corporation's authorised personnel.
H.	Sewer rising mains, vacuum lines and pressure sewers	<i>Works over rising mains, vacuum lines and pressure mains are not permitted.</i> NOTE: The relevant water corporation will assess the potential impact of a failed sewer rising main, vacuum line and pressure sewer on individual developments and therefore may require clearances greater than 1.0m. The applicant is required to contact the relevant water corporation at the design stage to obtain requirements.
I.	Water Mains	<i>Works over water mains of any size are not permitted.</i> NOTE: relevant water corporation will assess the potential impact of a failed water main on individual developments and therefore may require clearances greater than 1.0m. The applicant is required to contact the relevant water corporation at the design stage to obtain requirements.
J.	Easements reserved for sewerage / water purposes containing no assets	RESIDENTIAL - Approval will not be given where there is an easement in favour of the relevant water corporation to provide sewer / water for future development. - Minimum horizontal clearances from the outside edge of an asset within an adjoining property will be required or outside of the easement. This will be assessed on a case-by-case basis. 24-hour access is required. NOTE: Where this easement is no longer required for the provision of sewer / water purposes the relevant water corporation may consider an application to expunge or amend the easement.

2.14. COMMERCIAL, INDUSTRIAL, PUBLIC AND SPORTING BUILDINGS

relevant water corporation's Standard Conditions will apply
(Refer relevant diagrams)

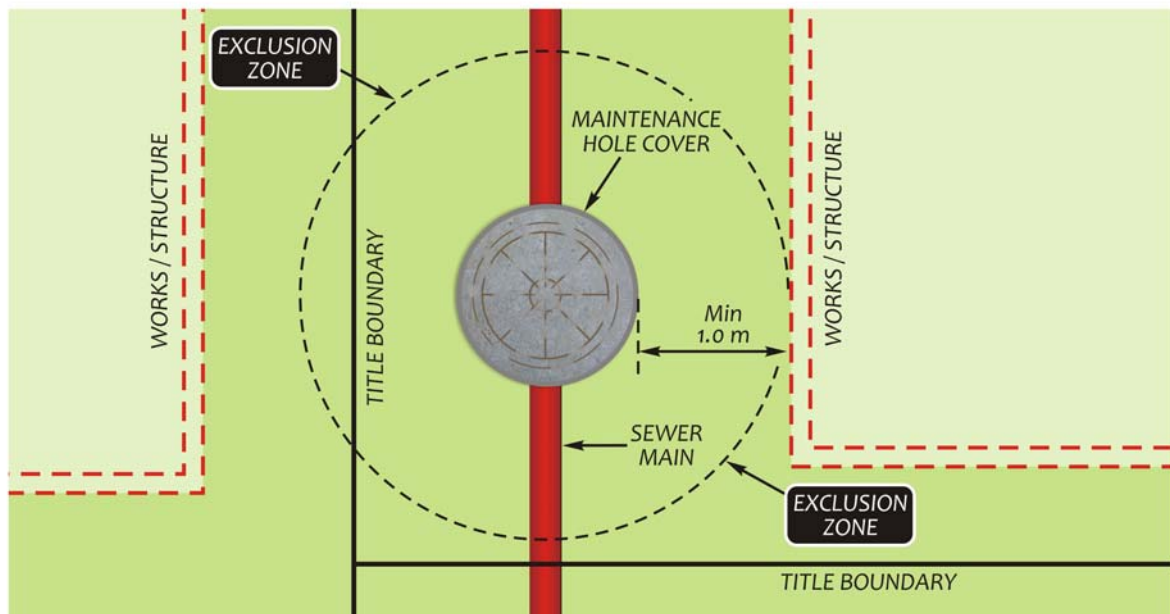
ITEM	ASSET	CRITERIA
A.	Sewer mains up to and including 225mm diameter and less than 3.5m deep	<i>Works over sewer mains are not permitted.</i> Works adjacent to sewer main require: 1.0m horizontal clearance from the outside edge of the sewer main. - Footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. Driven piles are not permitted. If the proposed structure is to be situated within 750mm of the sewer main as shown on relevant water corporation's asset plan, confirmation of the sewer's actual location may need to be determined by relevant water corporation's approved representative. This is required as existing fences, for example, may not be positioned as per title boundaries. NOTE: If requested, the relevant water corporation can perform this inspection. A standard fee applies.
B.	Sewer mains up to and including 225mm diameter greater than 3.5m deep	<i>Works over sewer mains are not permitted.</i> Works adjacent to sewer mains greater than 3.5m deep require a clearance of: 1.0m horizontal clearance from the outside edge of the sewer main, or to be outside of the easement (whichever is greater). Footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. 24-hour access is required. Driven piles are not permitted.
C.	Concrete sewer main less than 3.5m deep	<i>Works over concrete sewer mains are not permitted</i> Works adjacent to a concrete sewer main require: 1.0m horizontal clearance from the outside edge of the sewer main is required, or to be outside of easement (whichever is greater). - Footings / foundations must extend a minimum depth to the angle of repose to the invert level of the property connection branch to ensure that no additional load will be placed on the property connection branch by the structure. Driven piles are not permitted.

ITEM	ASSET	CRITERIA
D.	Property connection branch servicing an adjoining property	<i>Works over property connection branches servicing adjoining properties are not permitted as it creates an unacceptable risk to the relevant water corporation's obligations in providing a service to a neighbouring customer.</i> Works adjacent to an adjoining property connection branch require: 1.0m horizontal clearance between the proposed works / foundation and the property connection branch is to be maintained. - Footings / foundations must extend a minimum depth to the angle of repose to the invert level of the property connection branch to ensure that no additional load will be placed on the property connection branch by the structure. Driven piles are not permitted.
E.	Property connection branch servicing own property	<i>Works over property connection branch are not permitted.</i> Works adjacent to a property connection branch require: 1.0m horizontal clearance between the proposed works / foundations and the property connection branch is to be maintained. - Footings / foundations must extend a minimum depth to the angle of repose to the invert level of the property connection branch to ensure that no additional load will be placed on the property connection branch by the structure. Driven piles are not permitted.
F.	Maintenance hole	<i>Works over maintenance holes are not permitted as 24-hour unobstructed access is required.</i> Works adjacent to a maintenance hole chamber require: 1.0m horizontal clearance from the outside edge of the cover surround. - Footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. - Maintenance hole cover levels must match new surface levels. Where alteration works are applicable the works are to be carried out by the relevant water corporation at the owner's expense. - Where a structure is to be constructed boundary to boundary, suitable access (which meets OH & S guidelines) to the sewer maintenance hole must be provided to allow maintenance equipment and personnel access at all times. Driven piles are not permitted. NOTE: Maintenance holes can only be opened by the relevant water corporation's authorised personnel.

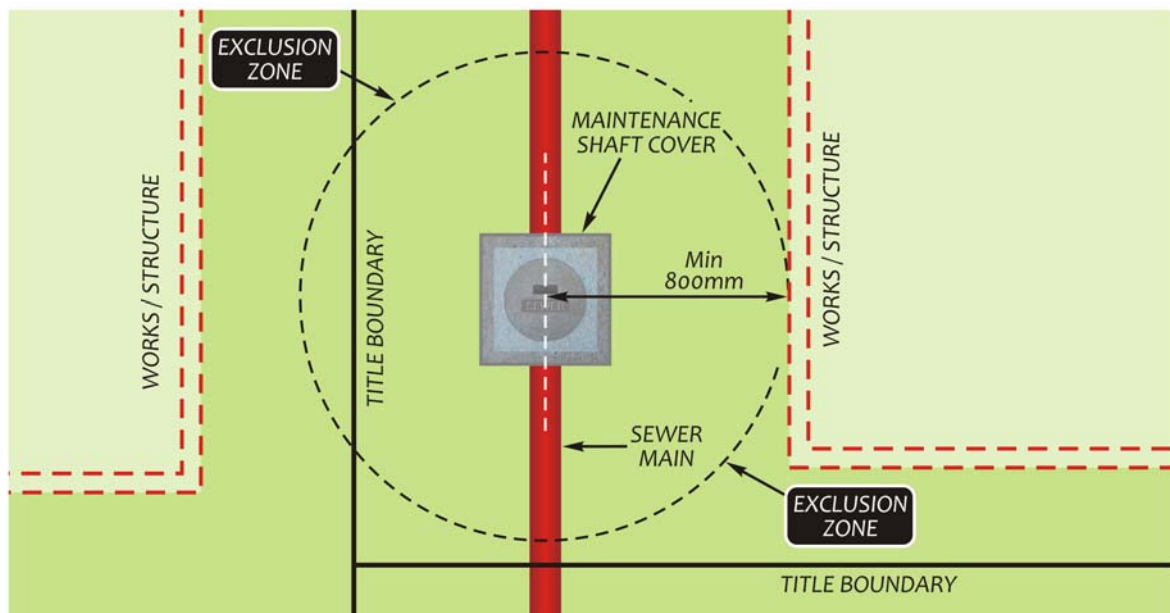
ITEM	ASSET	CRITERIA
G.	Maintenance Shaft	<i>Works over maintenance shafts is not permitted as 24-hour unobstructed access is required.</i> Works adjacent to a maintenance shaft require: • A minimum 800mm horizontal clearance from the centre line of the cover. • Footings / foundations must extend to a minimum depth to the angle of repose to the invert level of the sewer main, to ensure that no additional load will be placed on the sewer by the structure. • Maintenance shaft cover levels must match new surface levels. Where alteration works are applicable the works are to be carried out by the relevant water corporation at the owner's expense. Driven piles are not permitted. NOTE: Maintenance shafts can only be opened by the relevant water corporation's authorised personnel.
H.	Sewer rising mains, vacuum lines and pressure sewers	<i>Works over rising mains, vacuum lines and pressure mains are not permitted.</i> NOTE: The relevant water corporation will assess the potential impact of a failed sewer rising main, vacuum line and pressure sewer on individual developments and therefore may require clearances greater than 1.0m. The applicant is required to contact the relevant water corporation at the design stage to obtain requirements.
I.	Water Mains	<i>Works over water mains of any size are not permitted.</i> NOTE: The relevant water corporation will assess the potential impact of a failed water main on individual developments and therefore may require clearances greater than 1.0m. The applicant is required to contact the relevant water corporation at the design stage to obtain requirements.
J.	Easements reserved for sewerage / water purposes containing no assets	Approval will not be given where there is an easement in favour of the relevant water corporation to provide sewer / water for future development. • A minimum 1.0m horizontal clearance from the outside edge of an asset within an adjoining property will be required or outside of the easement. This will be assessed on a case-by-case basis. • 24-hour access is required. NOTE: Where this easement is no longer required for the provision of sewer / water purposes the relevant water corporation may consider an application to expunge or amend the easement.

ITEM	ASSET	CRITERIA										
K.	Balcony / Canopy	- May be permitted where height clearance is achieved - Height clearance required. <table><tr><td colspan="2">Height clearance – height clearance is taken to be height of the walls.</td></tr><tr><td>Depth to invert of sewer main</td><td>Minimum height clearance. above floor level</td></tr><tr><td>Less than 2.7m</td><td>2.1m or depth of sewer main whichever is greater.</td></tr><tr><td>2.7m to 3.5m</td><td>2.7m</td></tr><tr><td>Greater than 3.5m</td><td>Construction not allowed</td></tr></table>	Height clearance – height clearance is taken to be height of the walls.		Depth to invert of sewer main	Minimum height clearance. above floor level	Less than 2.7m	2.1m or depth of sewer main whichever is greater.	2.7m to 3.5m	2.7m	Greater than 3.5m	Construction not allowed
Height clearance – height clearance is taken to be height of the walls.												
Depth to invert of sewer main	Minimum height clearance. above floor level											
Less than 2.7m	2.1m or depth of sewer main whichever is greater.											
2.7m to 3.5m	2.7m											
Greater than 3.5m	Construction not allowed											
L.	Ground anchors	GROUND ANCHORS Where ground anchors are to be used the following requirements are to be met: A plan showing the sewer main clearly plotted against the cross section and the long section showing 1.0m clearance is being met between the ground anchors and the sewer main 1.0m clearance being met will also need to be shown for any property connection branches, inspection shaft and maintenance holes. - A site plan will be required showing the building in relation to the title boundaries. - Care will need to be taken when installing these tendons to ensure that these clearances are obtained between the owner’s tendons and the relevant water corporation’s assets. - CCTV inspections will be required, one prior to works commencing and a second inspection once works have been completed both at owners cost. This will allow the checking of the condition of any sewer assets before ground anchors are installed and one after installation. The CCTV footage before and after works will also provide evidence should repair works be required on the relevant water corporation’s assets. NOTE: Any rectification works required due to damage caused by ground anchors will be at owner / developer cost.										

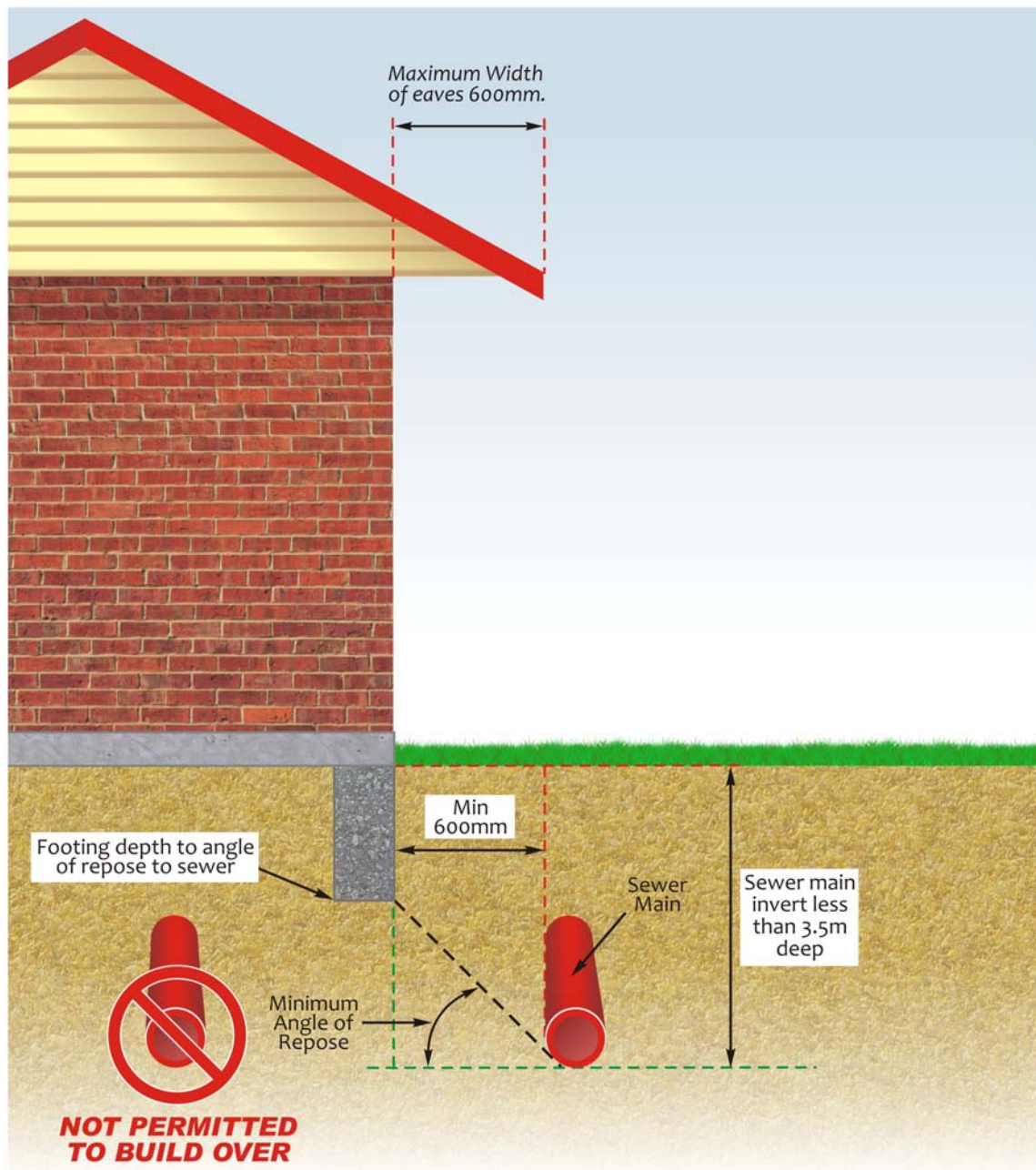
MAINTENANCE HOLE



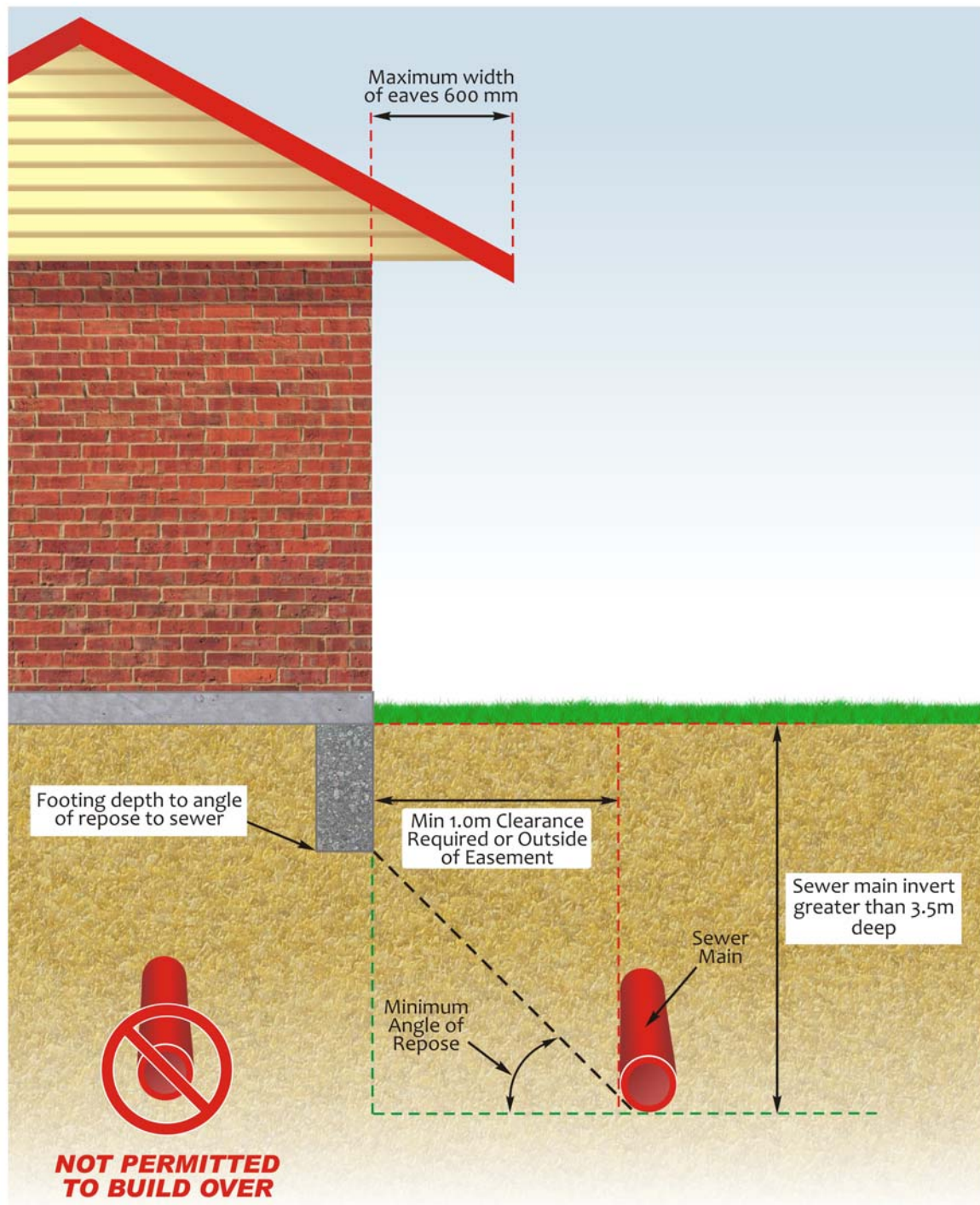
MAINTENANCE SHAFT



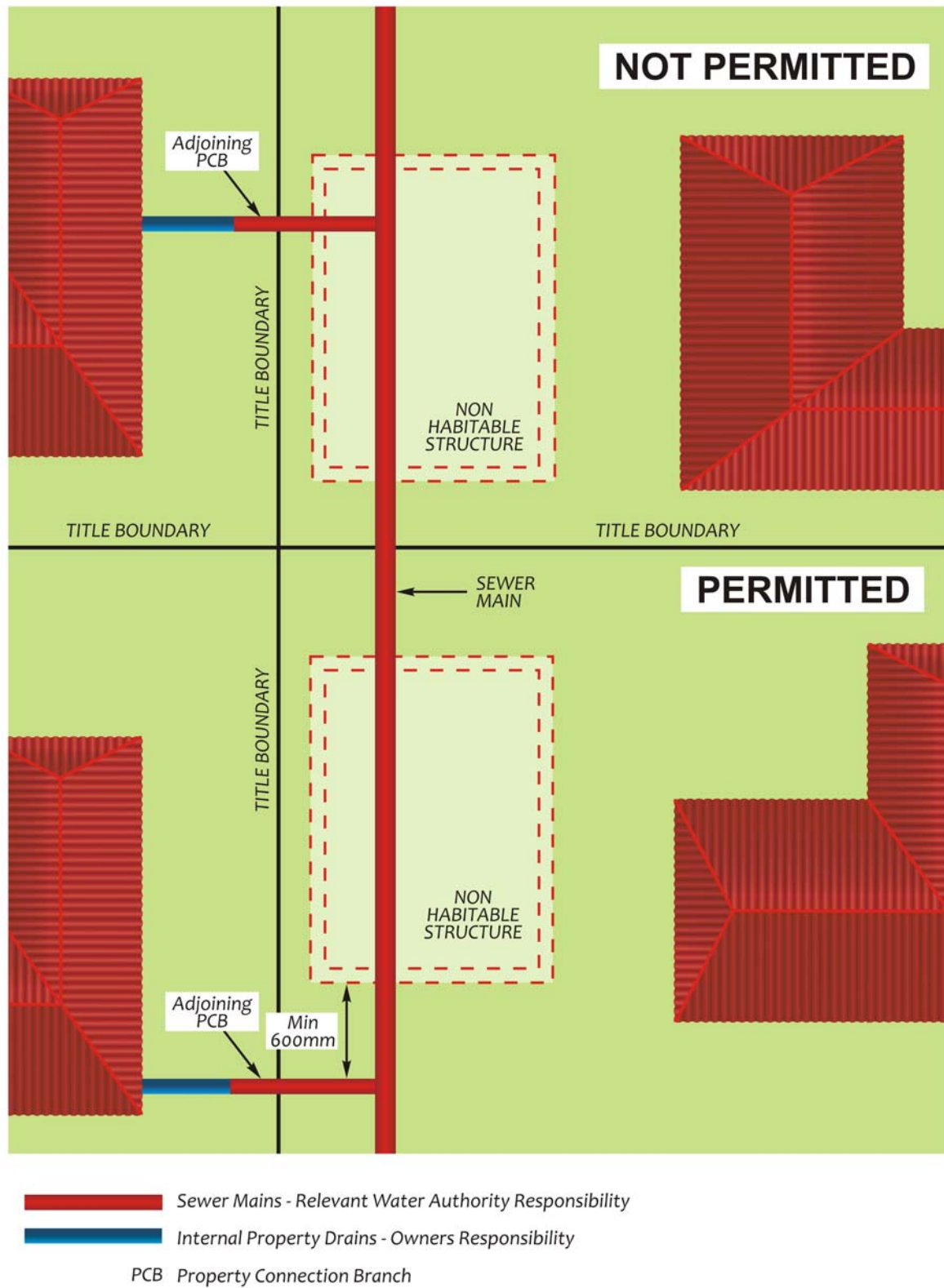
SEWER MAIN INVERT LESS THAN 3.5 METRES DEEP - HABITABLE STRUCTURE



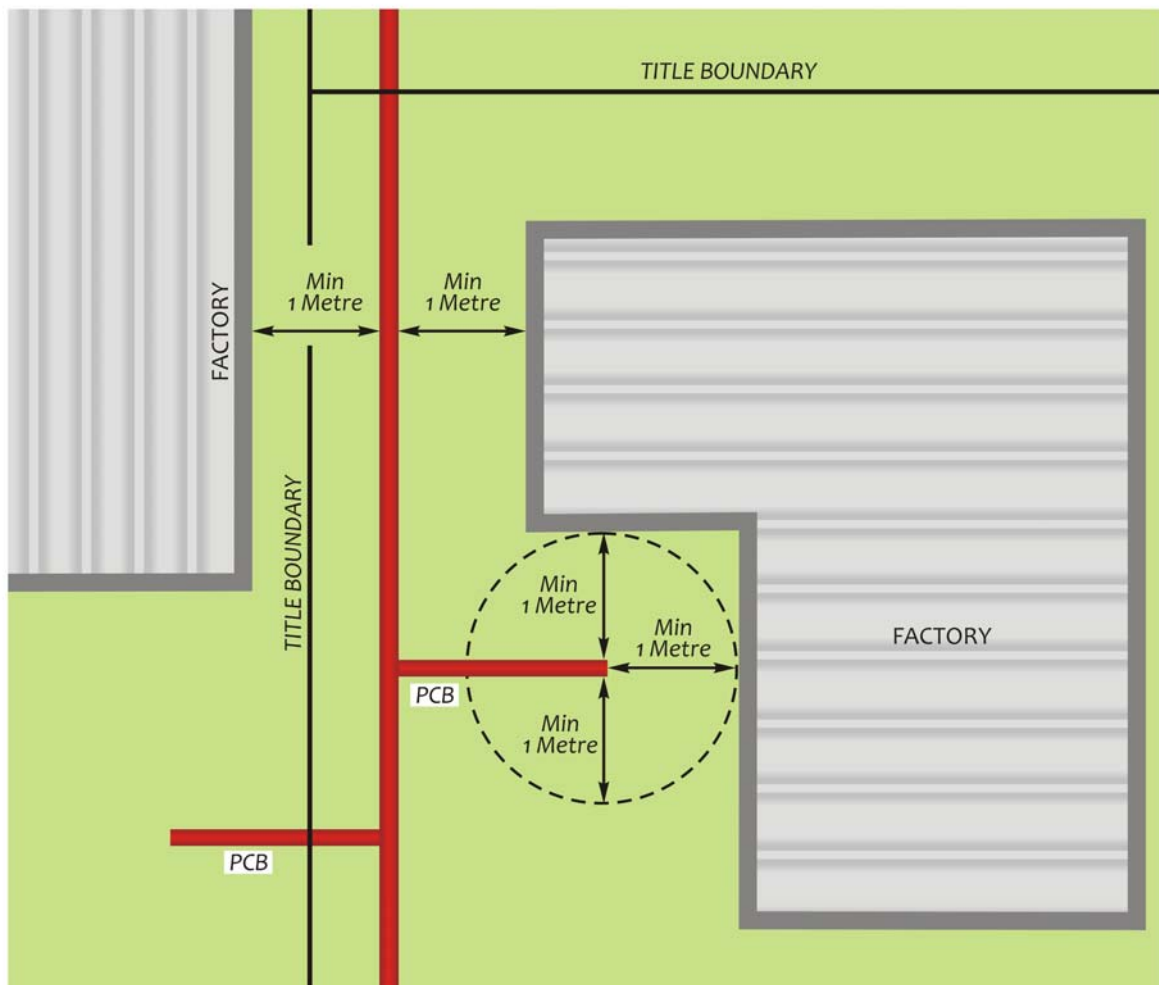
SEWER MAIN INVERT GREATER THAN 3.5 METRES - HABITABLE STRUCTURE



ADJOINING PROPERTY SEWER BRANCHES - RESIDENTIAL ONLY



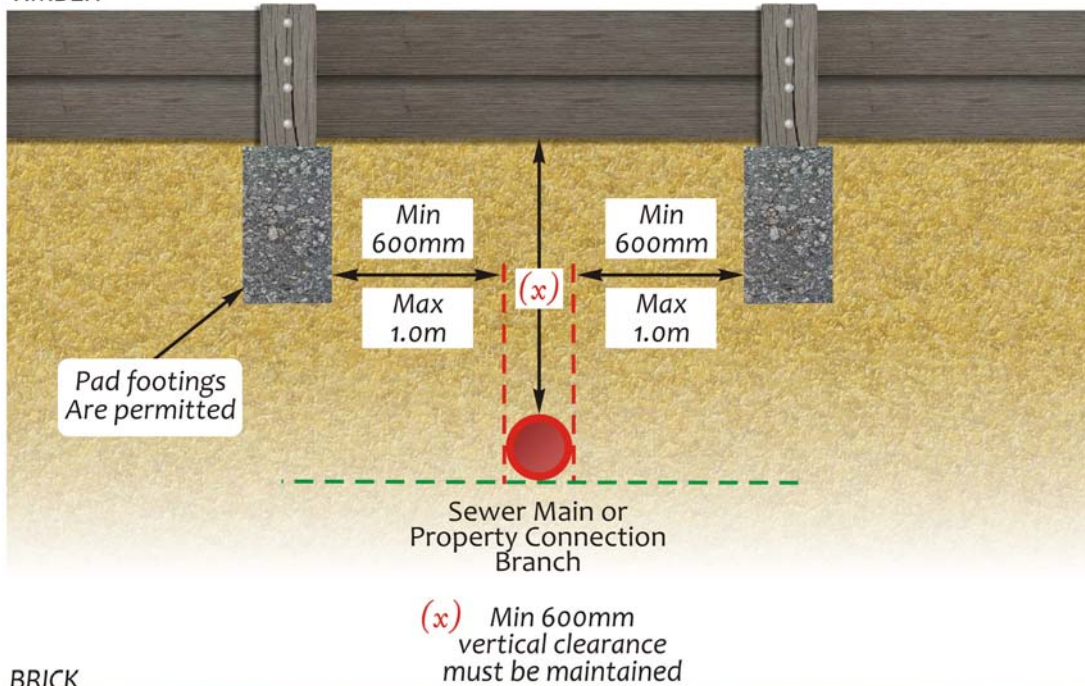
INDUSTRIAL / COMMERCIAL - PROPERTY CONNECTION BRANCH AND SEWER MAINS



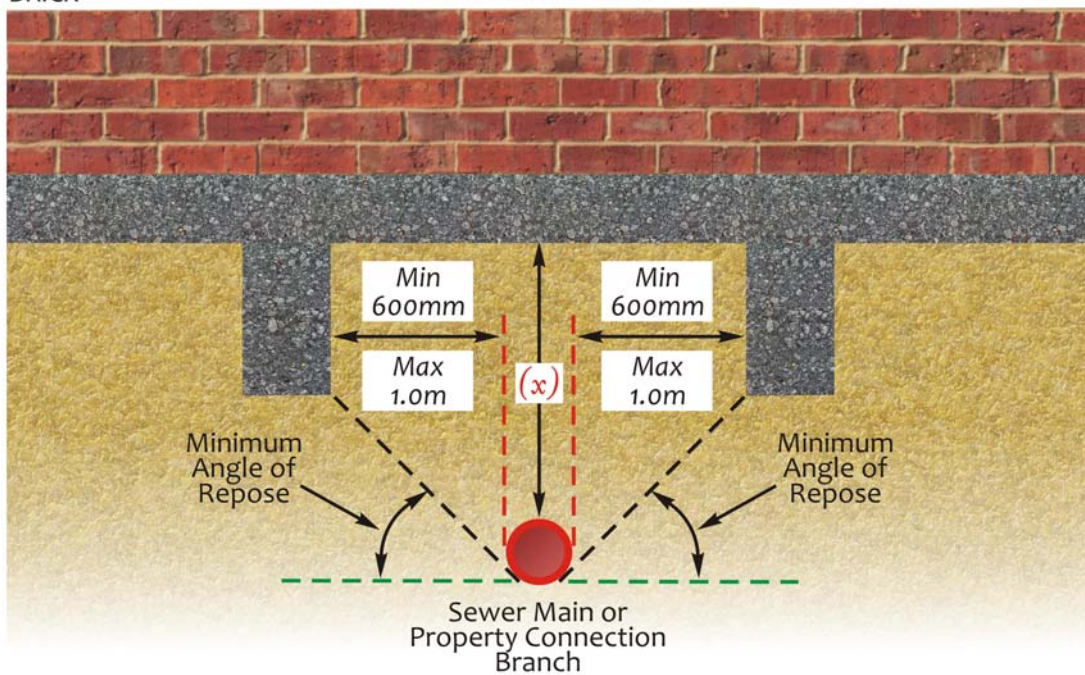
PCB - Property Connection Branch

RETAINING WALLS

TIMBER

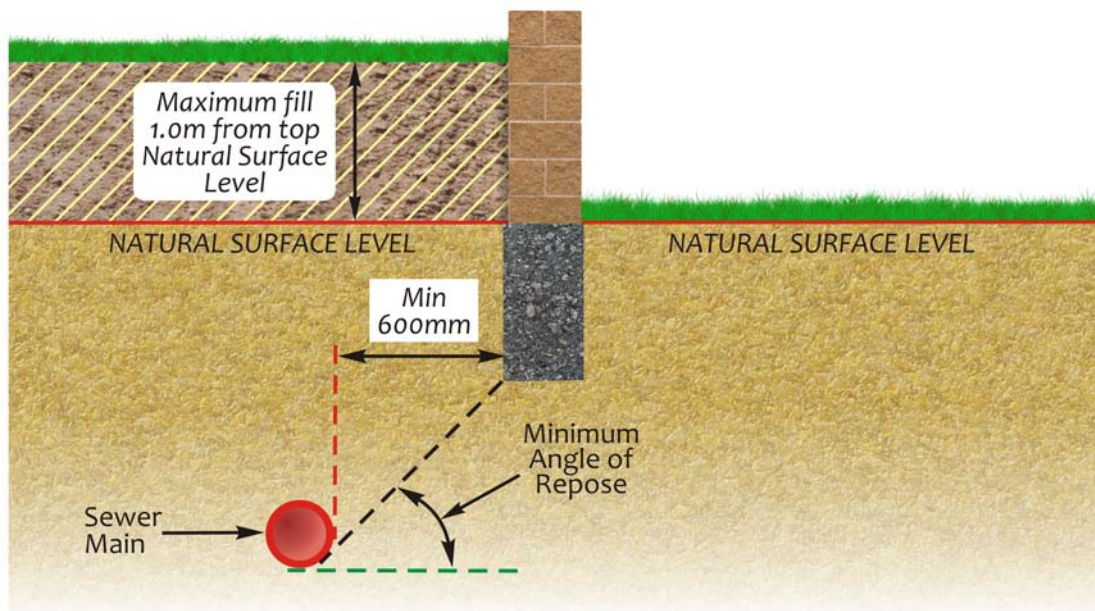
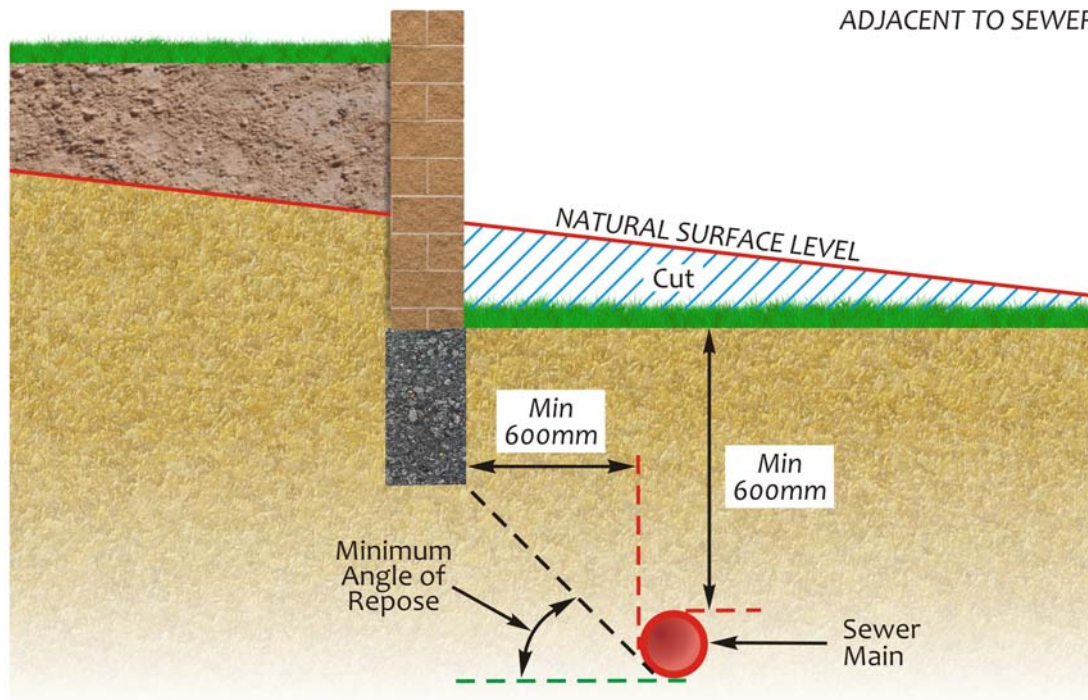


BRICK

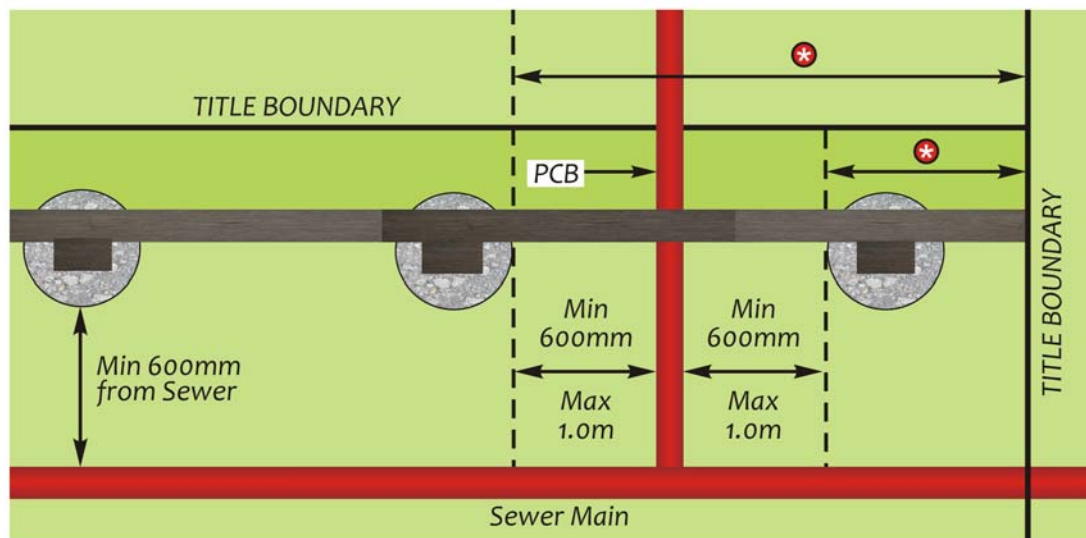


EXCAVATION - CUT & FILL

ADJACENT TO SEWER



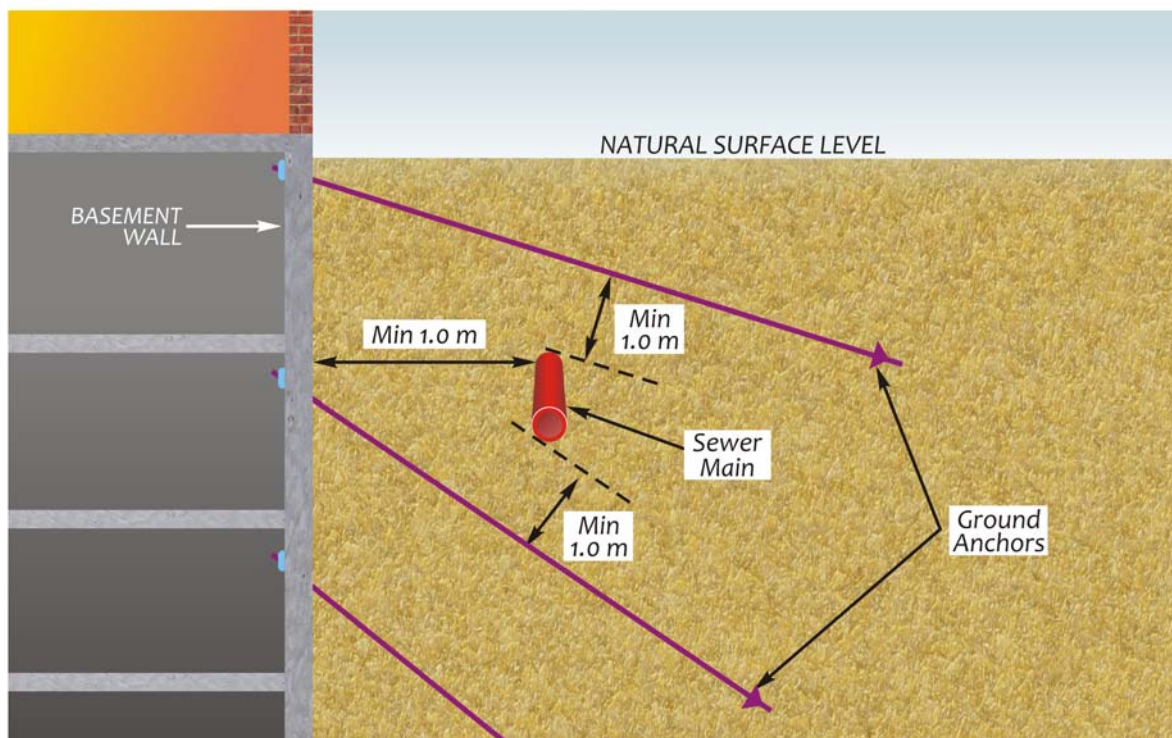
RETAINING WALLS - TIMBER OR BRICK PROPERTY CONNECTION BRANCH



PCB - Property Connection Branch

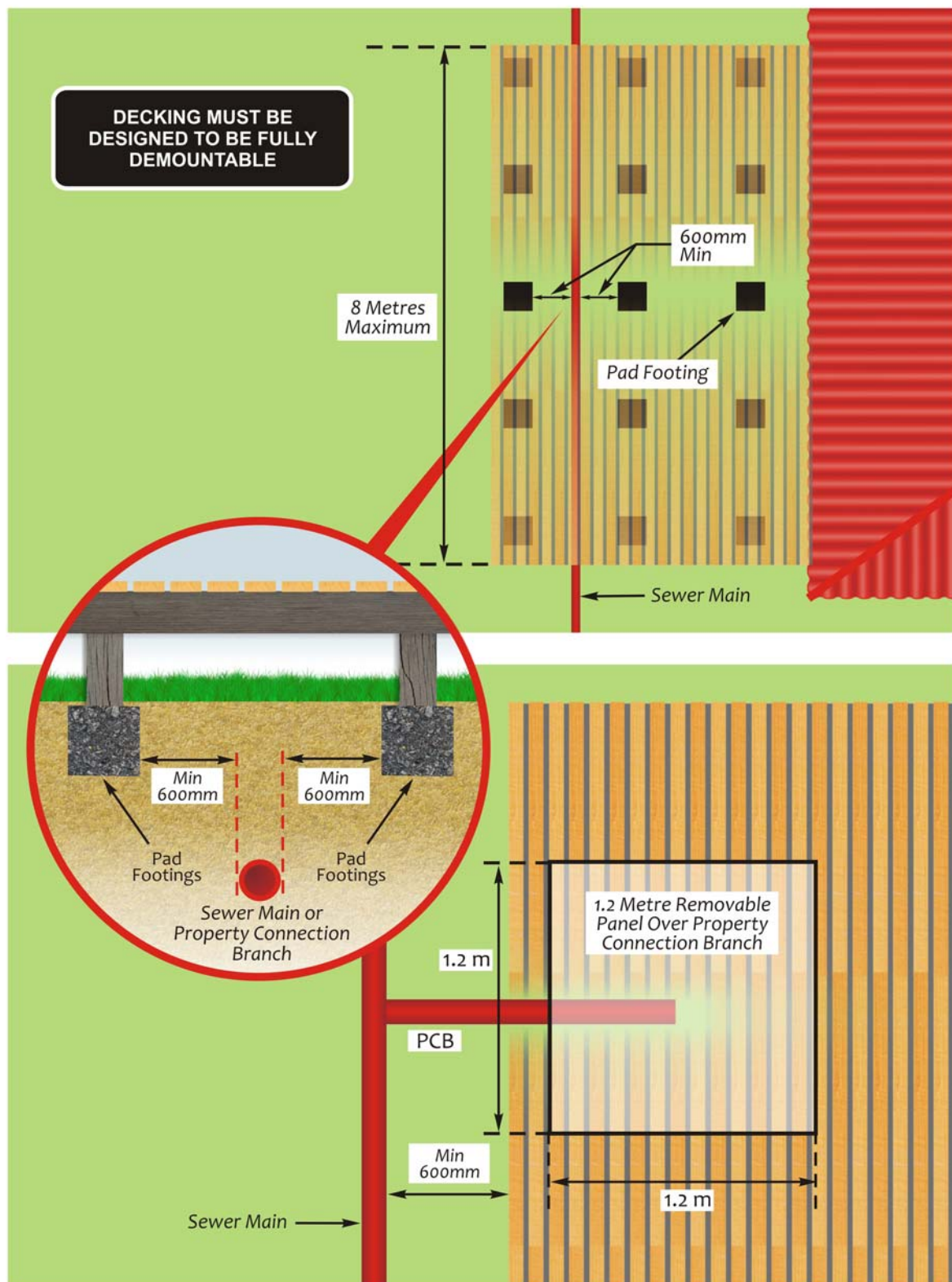
* - Measurements required with plans submitted

GROUND ANCHORS

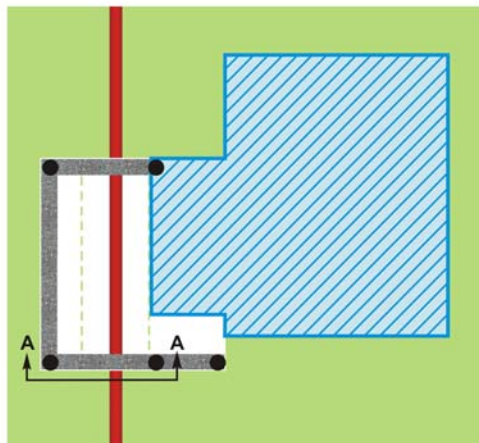


NOTE: Plans must show actual minimum clearances at all points that the sewer is crossed by ground anchors.

DECKING OVER SEWER

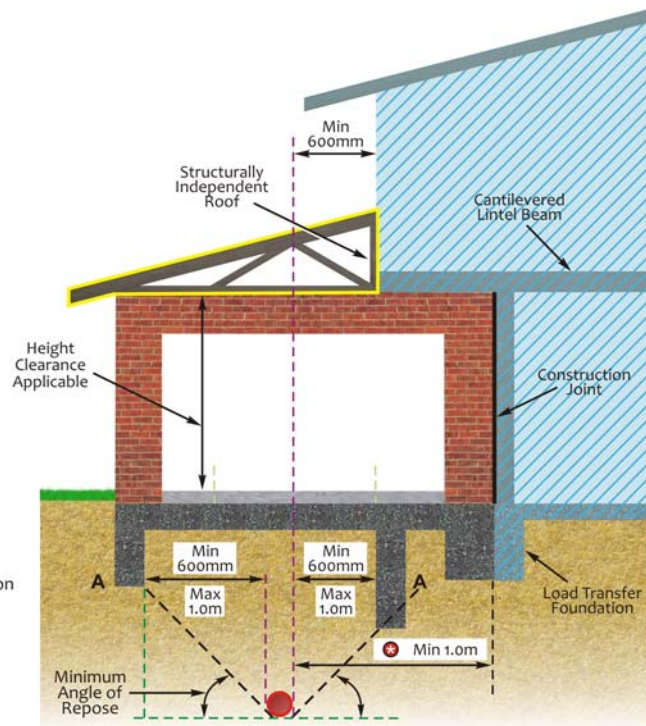


GARAGE TRAVERSING SEWER MAIN



- First storey must maintain a minimum 600mm horizontal clearance from outside edge of sewer main.
- No loading from the first storey area can be supported / transferred to the outside ground floor footing/ foundation of the garage. Height clearance will be applicable.
- Non Structural In Fill Concrete Slab.
- Bored or excavated piers to engineers design.
- - - Saw cut/const joint 1.2m wide centrally located over sewer.

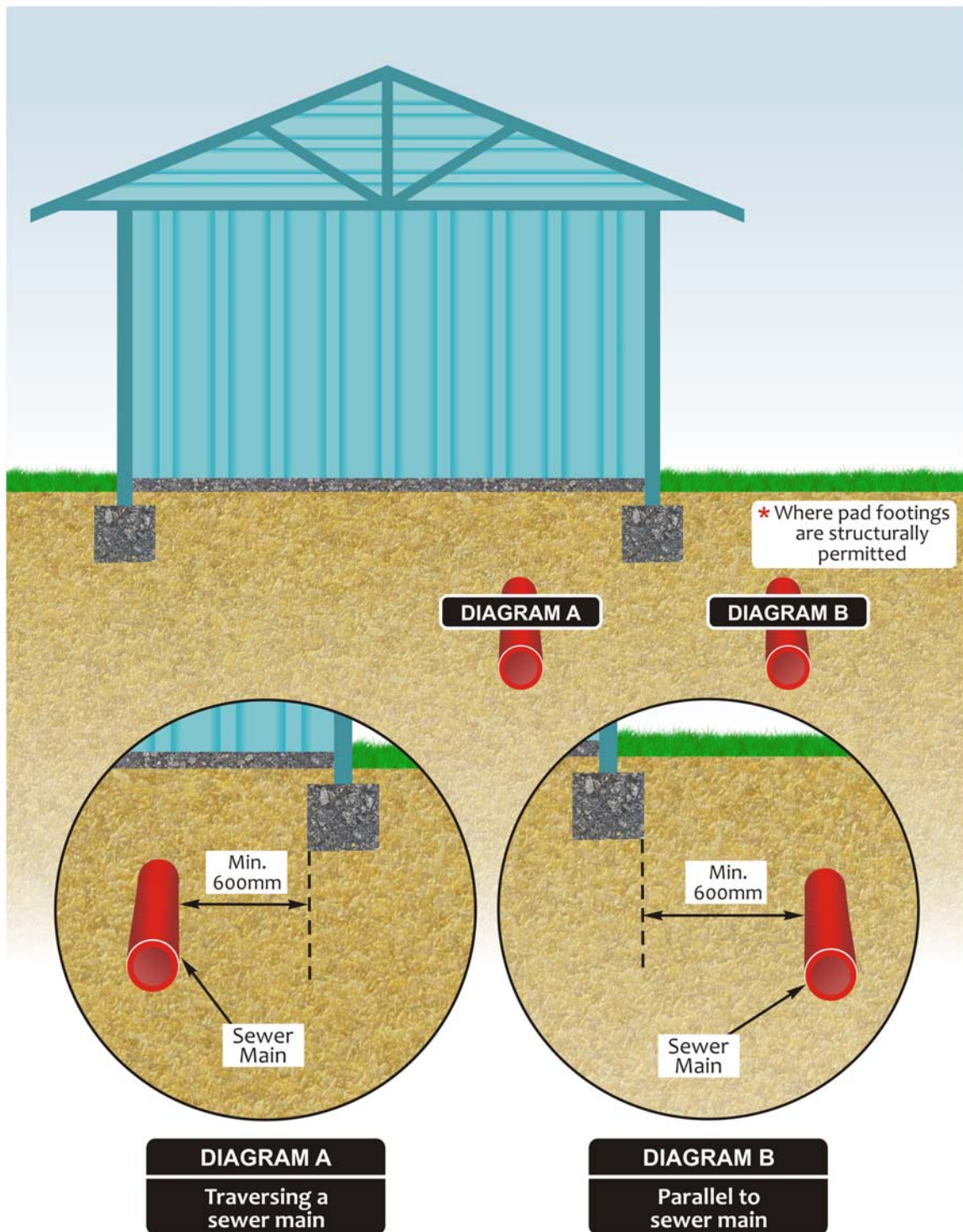
NOTE: All foundation design to be in accordance with Structural Engineer design/local council requirements. Drawings & written confirmation by an engineer must be submitted confirming the above.



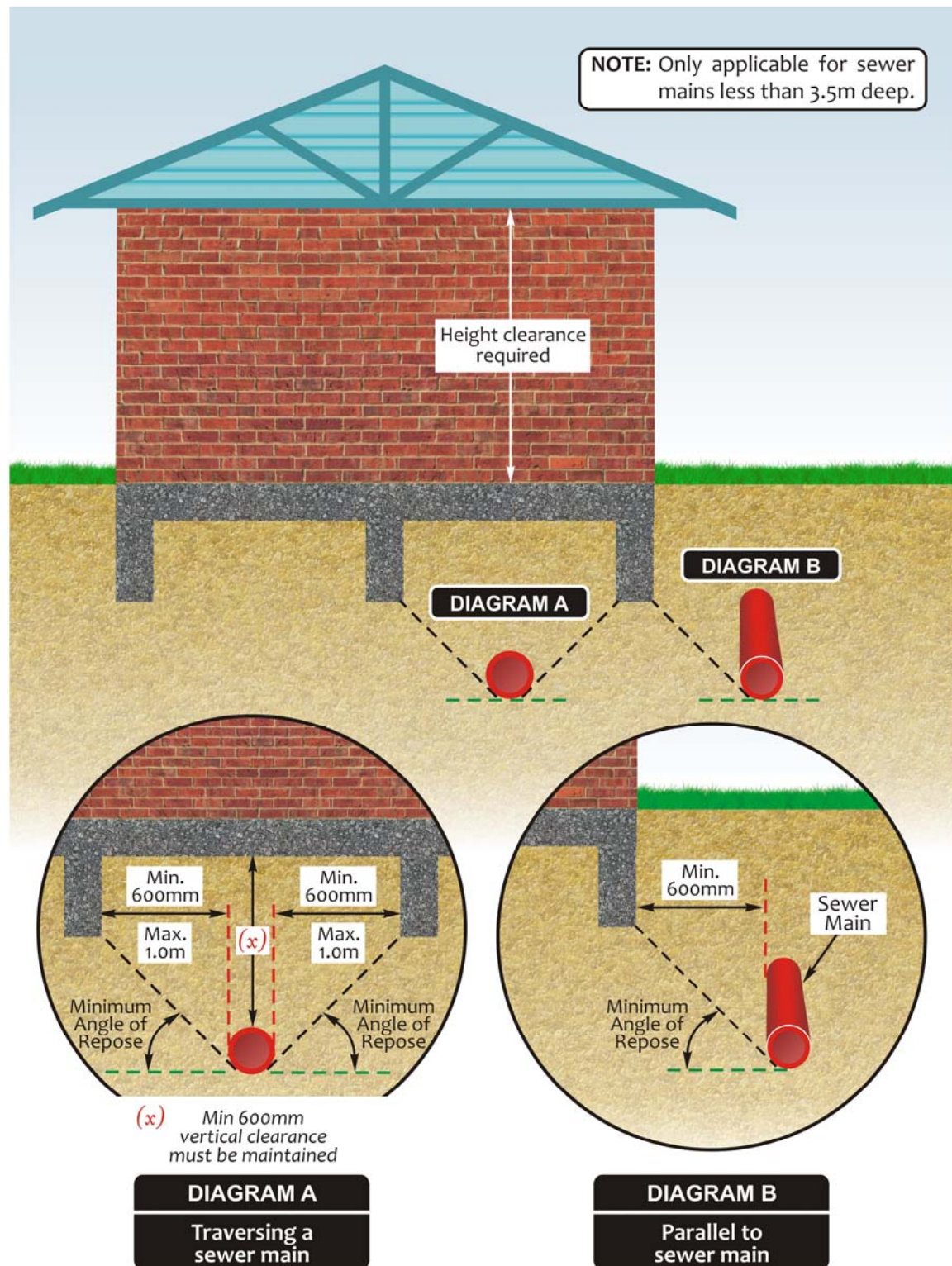
SECTION A-A

⊕ Load bearing foundation must be minimum of 1.0 metre horizontal clearance from edge of sewer main or outside of easement whichever is greater.

DEMOUNTABLE LIGHT WEIGHT STRUCTURE

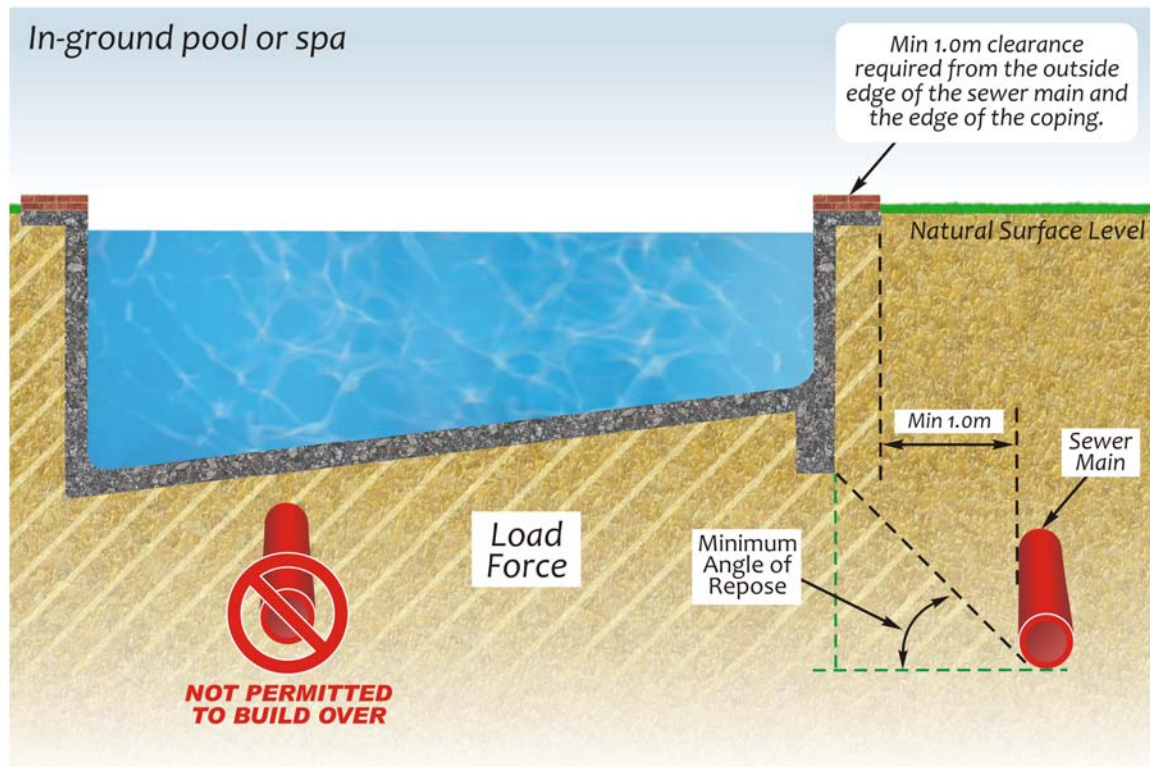


BRICK/TIMBER - NON DEMOUNTABLE STRUCTURES

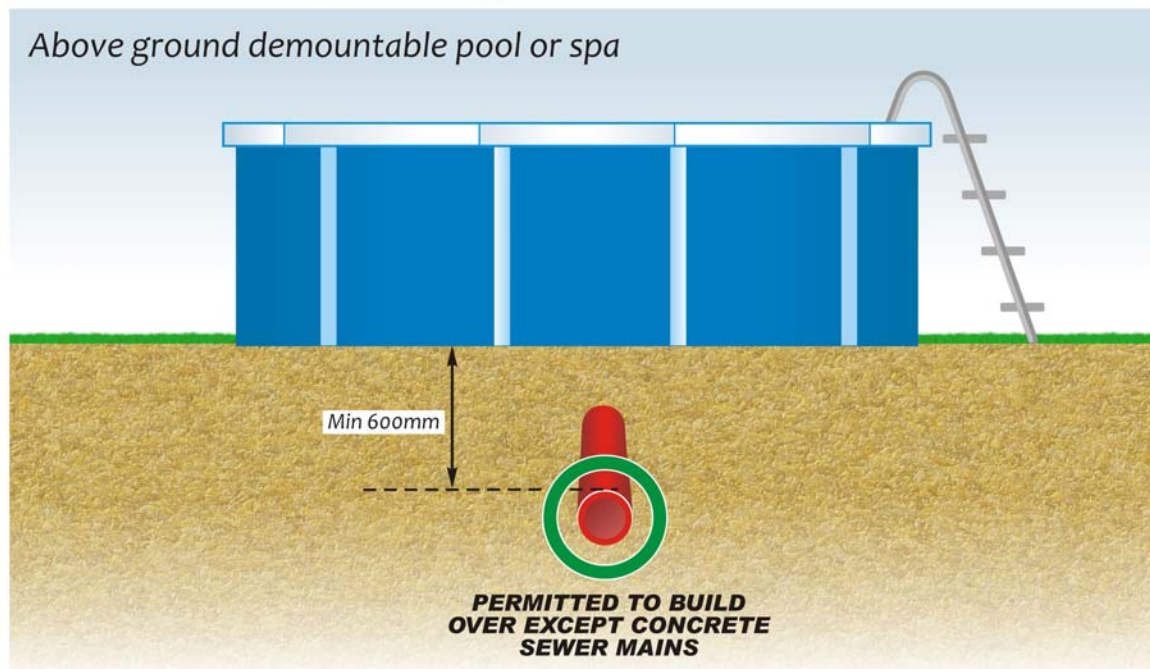


Note: Foundations bridging over sewer main may be of concrete pier, screw piles or strip type

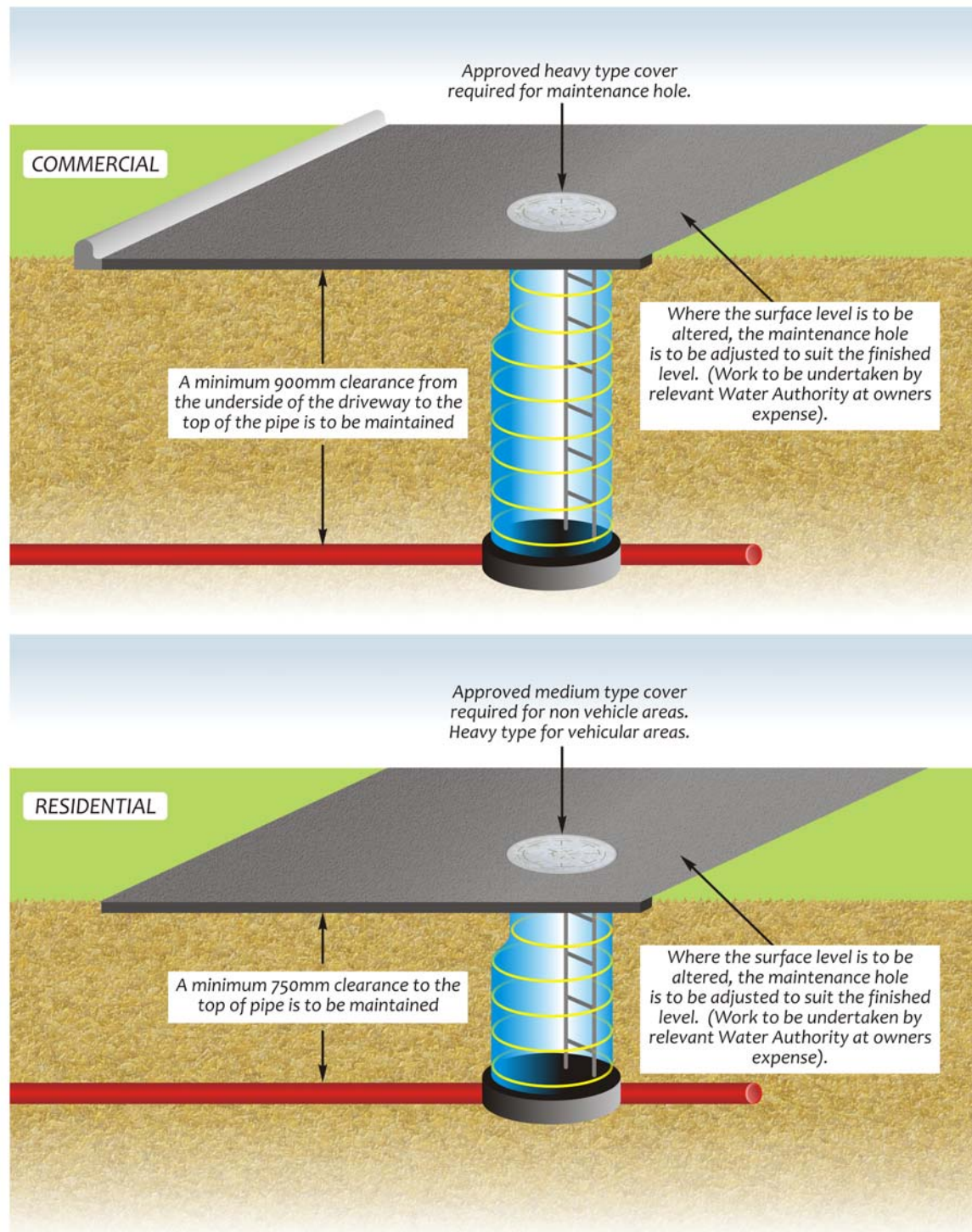
POOLS AND SPA'S



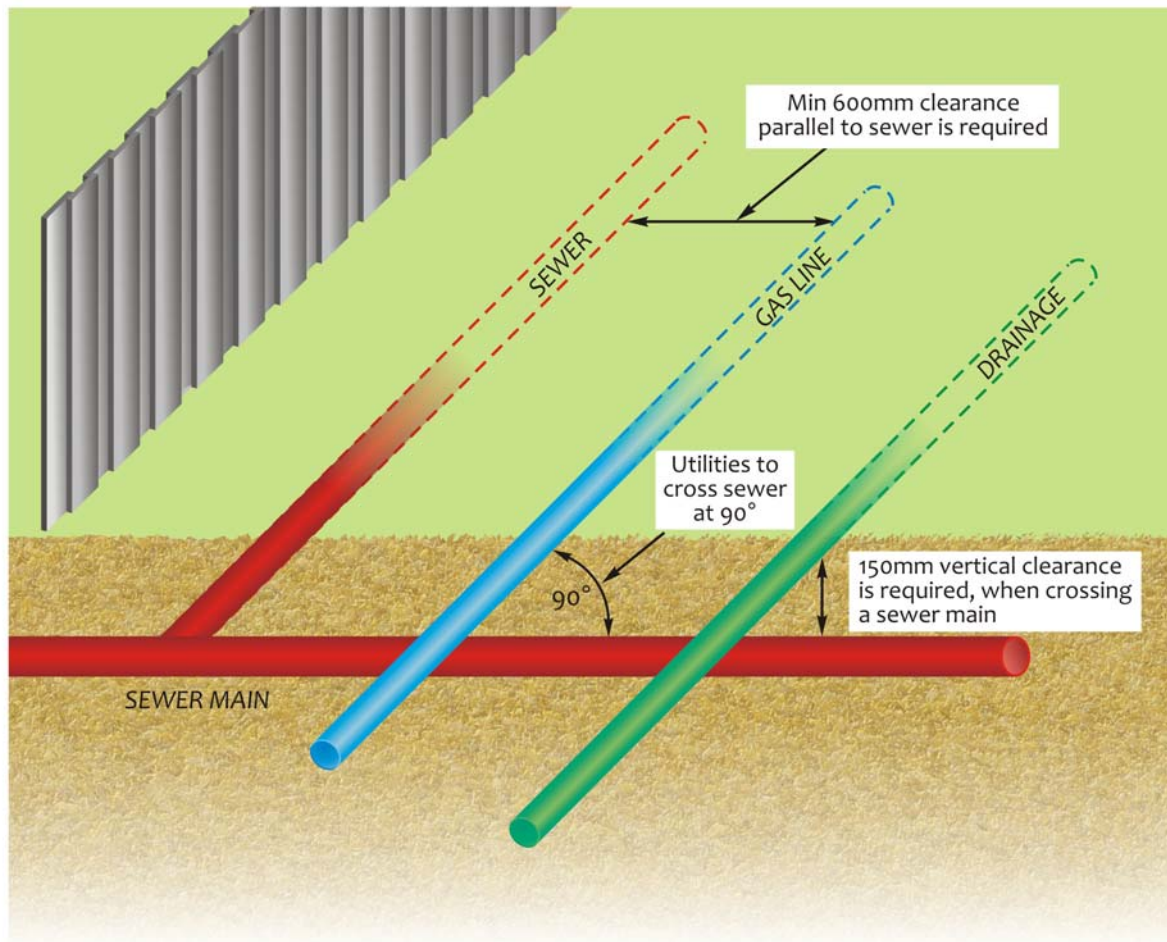
Note: Engineer's report must be provided stating that **NO ADDITIONAL LOAD** will be placed on the sewer main by the swimming pool.



DRIVEWAYS AND PAVING

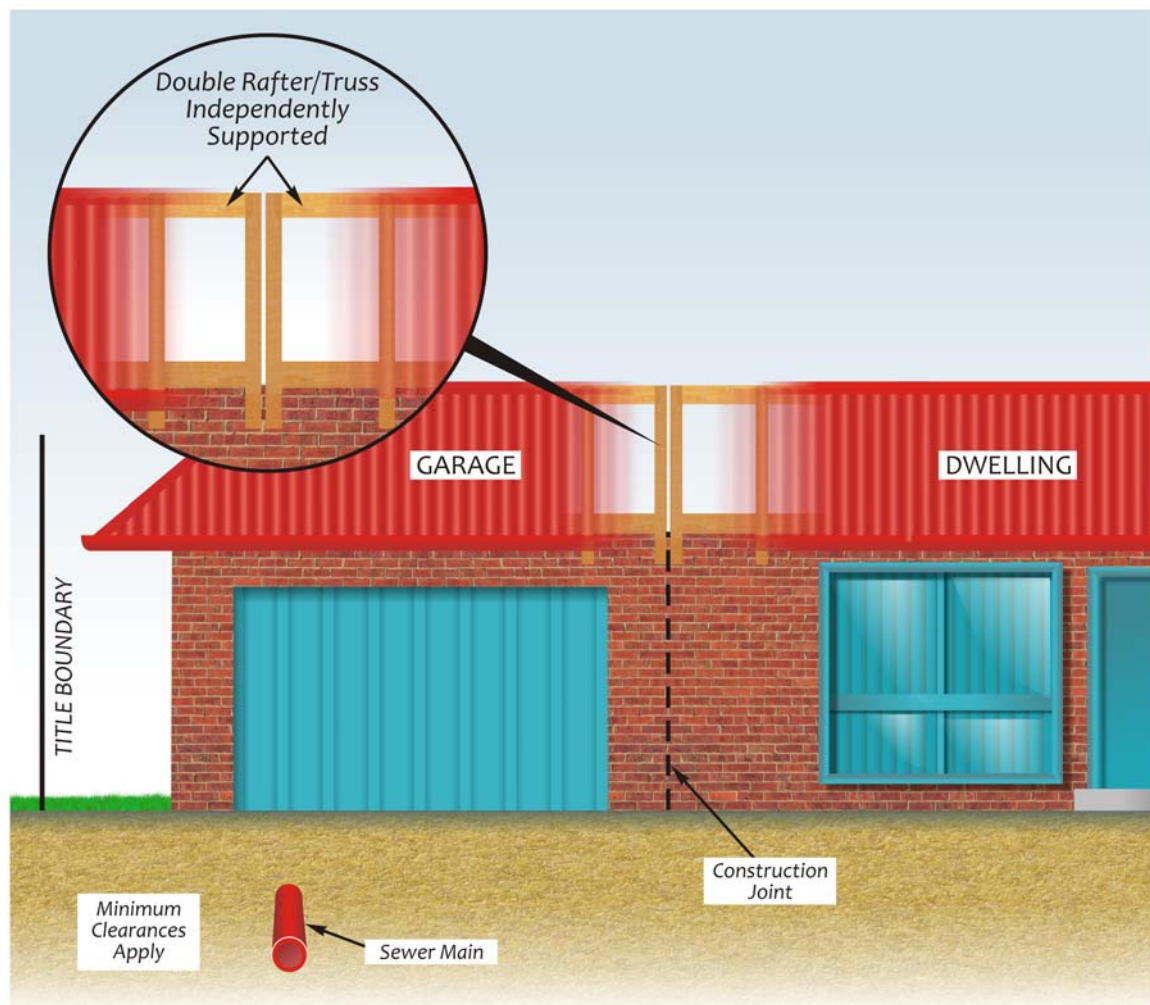


UTILITIES

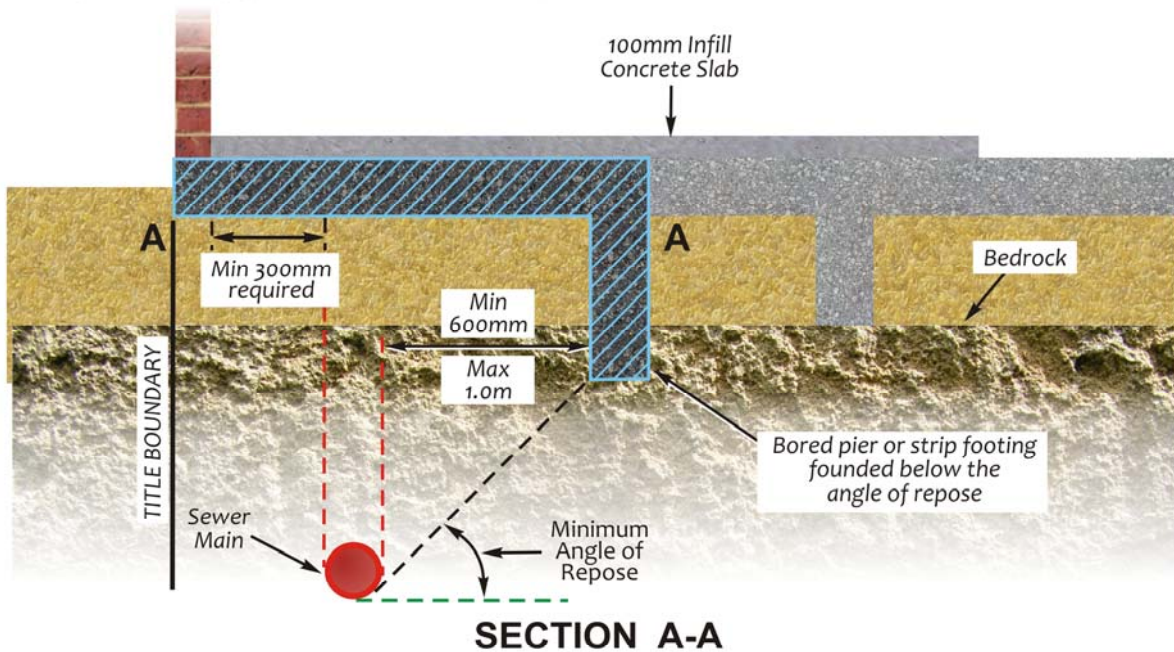


NOTE: Clearances also apply to Property Service Drains

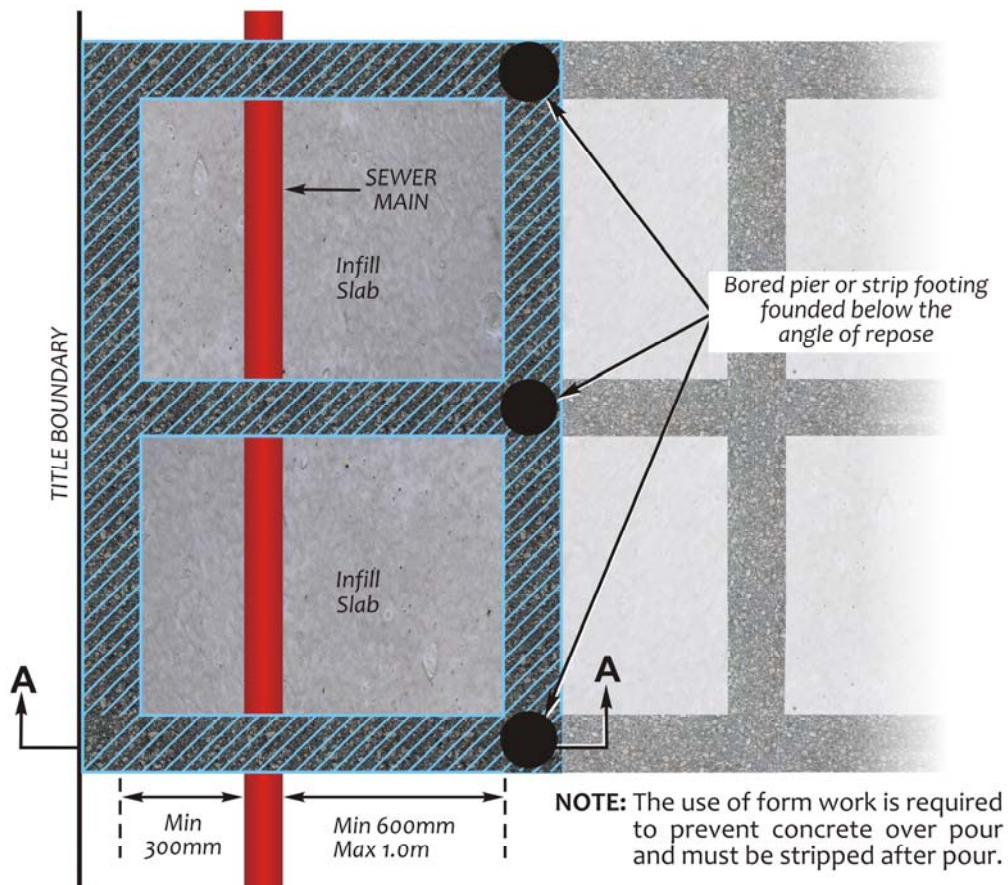
STRUCTURALLY INDEPENDENT ROOFING



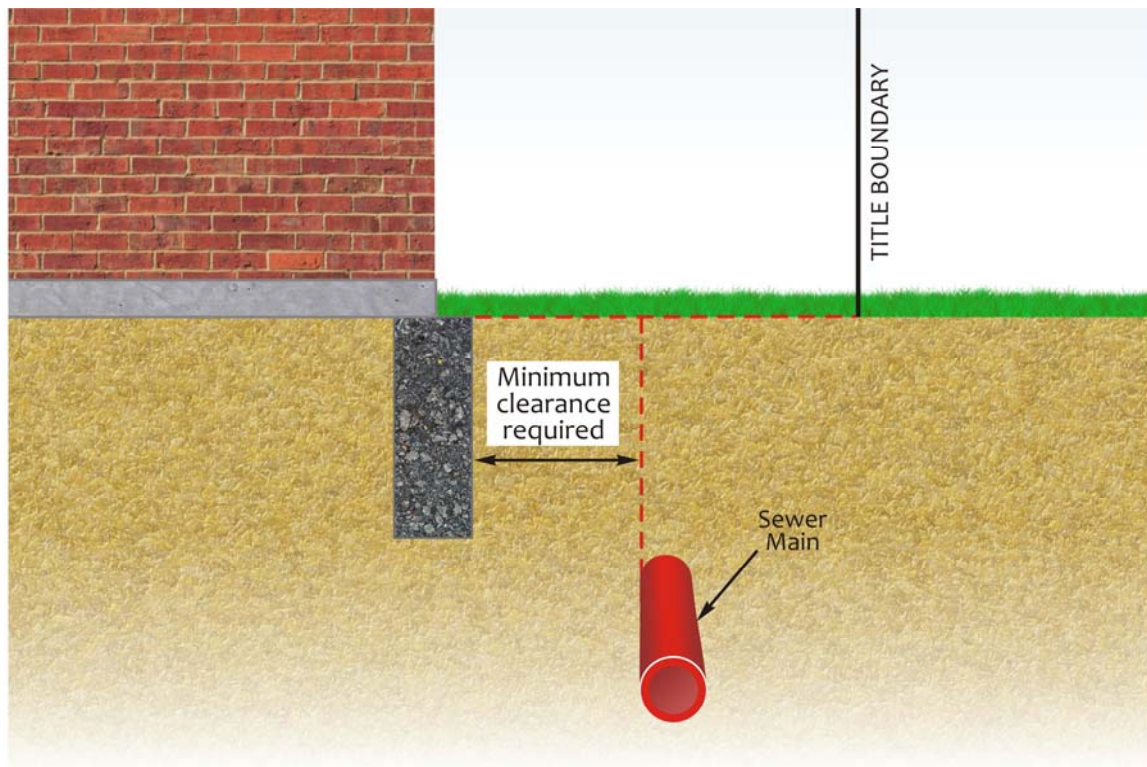
GROUND FLOOR CANTILEVERING



 Ground Floor cantilevered suspended beam to Engineer's design must be on verified bedrock. A Geotechnical report confirming this will be required.



CLEARANCES REQUIRED FROM ASSETS



THE CLEARANCE IS TAKEN TO THE CLOSEST PART OF THE WORKS, BE IT FOUNDATION OR WALL

