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## Appendix P

### **BUILDING OVER OR CLOSE TO PUBLIC STORMWATER AND OR WASTEWATER PIPELINES AND INFRASTRUCTURE**

This document sets out the conditions under which Building Over or Close to public infrastructure is dealt with. Public infrastructure by its very nature is required to be long-lived, be easily maintained and repaired and cost effective. Activities which diminish those criteria such as Building Over or Close to need to be analysed with the principal focus being on maintaining the long term integrity of the infrastructure. Transferring costs from the Private to Public sector merely to enable one particular building footprint to be developed is not acceptable. This document sets out obligations and responsibilities on both the property owner and the network operator to ensure as far as is possible that the reasonable needs of both can be met.

1.1 Building over or Close to will only be permitted if diversion of the pipeline or modification of the building footprint is not practicable or where significant additional infrastructure will be created. See RDC 18000 P 1 Preferred Options

1.2 Building over or close to structures can and does restrict the ability of the network operator to maintain the network. The costs of maintaining the network can be very significantly increased particularly where the pipeline is at some depth and/or the soils on the site are difficult to work in. In consequence design and installation of temporary or permanent sheet piling of trenches may be necessary where it is essential to excavate down to the pipeline. Similarly the use of concrete slab construction on hardfill places different constraints on subsequent excavation to pipelines. For this reason the minimum or in some specific instances greater separation distances will **be applied**. Refer to:-

- RDC 18000 P 2 Build Over – Pile and Floor Slab Minimum Requirement
- RDC 18000 P 3 Build Close To - Minimum Separation Distances
- RDC 18000 P 4 Build Close to - Minimum Separation Distance to Structures
- RDC 18000 P 5 Build Over or Close to -Minimum separation distances in the case of Cantilever Structures.

1.3 Where build over or close to are approved a note will be placed on the Land Information Memorandum file to the effect that the dwelling has been constructed over a wastewater or stormwater pipeline. The purpose of this notation will be to advise prospective purchasers of the fact and to alert cultural sensitivities particularly to the issue of wastewater passing under the dwelling. The notation will also indicate that in the event of failure or major problem in the pipeline that repair works may involve more extensive property disruption than otherwise might be the case.

2.1 Any diversion of public wastewater or storm water pipelines shall be carried out in accordance with the Rodney District Council's Standards for Engineering Design and Construction. Drawings of the work must be provided for approval prior to the work being carried out. A fee will be charged for processing the application.

2.2 Building over or Close to Public Storm water or Wastewater pipelines and related infrastructure will **NOT** generally be permitted for:

- a) Wastewater gravity pipelines greater than 150 mm internal diameter.
- b) Storm water pipelines greater than 375 mm internal diameter.
- c) Any wastewater rising main.
- d) Any storm water or wastewater manhole or other structure.
- e) Any connection

Storm water and Wastewater Pipelines of lesser diameter will not automatically be approved for Build Over or Close to. Each case will be determined on the basis of the site and local network conditions.

2.3 The minimum separation distance required when building Close to is set out below, and shown in diagrammatic form on RDC 18000 P3 Minimum pipeline separation distances for Build Close to. Note it relates to the difference between finished ground level and the invert level of the pipeline at any point along the affected length of the pipeline. For this reason final levels must be included in the application

**Table 1 Minimum Separation Distances**

Depth to invert from finished Ground level "D"	Minimum Separation Distance "x" from centerline of pipeline diameter "d" to building line or outside of drilled pile whichever is closer to pipeline
< two metres	Half pipe diameter plus 200 mm plus 1.3 metres
> two metres < two and a half metres	$d/2 + 200 + 1.60$ metres
>two and a half and < three metres	$d/2 + 200 + 1.90$ metres
> three metres	Subject to specific design and conditions

### 3. Exclusions

3.1 The policy will not apply to non-habitable temporary or portable ( i.e. building consent not required ) residential structures such as single storey light frame structures and garden sheds provided that the extent of build over does not exceed eight ( 8.0 ) metres and that manholes and other structures are not affected. These buildings will however be required to be isolated from the pipeline as per the relevant RDC 18000 P series Standard Drawings.

3.2 Where consent is given to build over a storm water pipeline the applicant will be required to provide an analysis of the upstream Catchment and design and construct an overland flow path in terms of the RDC Standards for Engineering Design and Construction. The applicant will be required to show the continuity of the flow path from a viable upstream point to the logical downstream discharge point. The finished floor level of the building shall comply with Section 403 of these Standards.

### 4. Approval to build over pipelines subject to the following

4.1 A mandatory assessment of the condition of the pipeline and the effects of the build over is required **prior** to any approval being given. The information to be supplied as part of the assessment may include:

- a) As built information supplied by the applicant including site contour levels, proposed floor levels and invert levels and location of affected pipelines in relation to the proposed building. All levels to be in terms of the standard LINZ datum. Assumed datums are not acceptable.
- b) A statement on the nature and respective depth of soils on the site.
- c) A statement on the construction methodology to be used for the construction of the building i.e. whether the floor is supported above ground on piles or directly supported by the subgrade of the soils.
- d) Access to the site if replacement is contemplated.
- e) Need to increase length of replacement to link to adjacent manholes either up or downstream.
- f) Location of existing connections both to the site and to adjoining sites.
- g) A CCTV inspection using a pan and tilt camera, to permit a 360 degree inspection, is to be carried out by the applicant of the whole portion of affected pipeline from upstream manhole to downstream manhole. This inspection is to be repeated after the piles have been drilled and concreted and **prior** to the pouring of the concrete for the slab. A DVD and copy of the inspection sheet complying with the NZ Pipe Inspection Manual of the inspections is to be supplied to RDC Water Services Centreway Road for assessment and sign off. Approval to pour concrete will then be given.

4.2 The DVD shall be assessed by the Operations and Maintenance Manager who shall determine the necessity or otherwise to replace the pipe or other affected infrastructure.

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- 4.3 Any replacement of pipelines or other items of infrastructure affected by the work shall be replaced at the applicants expense.
- 4.4 Where the network affected by the proposal has been constructed using earthenware, vitreous clay, asbestos cement, reinforced concrete, concrete lined mild steel pipes, and the gradient is greater than one per cent, the affected section of pipeline shall be replaced using PE 80B SDR 17 pipe. Where the gradient is less than one per cent uPVC SN 16 solid wall pipe shall be used. Where the length of the build over exceeds the nominal single length of pipe – twelve metres – and it is necessary to join the pipe this shall be carried out as specified in the RDC SEDC. Particular care is to be paid to the bedding and haunching of the replacement pipeline and to the width of trench to avoid putting the pipeline in an embankment condition.
- 4.5 The pipe shall be reconnected to the existing pipeline using approved shear band couplers. These couplers must have components manufactured from 316 Stainless Steel and Type B EPDM rubber.
- 4.6 The minimum length of pipeline to be replaced is the full length under the building footprint – including decks – plus a minimum of two metres extending either side beyond the footprint.
- 4.7 All buildings but especially raft foundation structures shall be protected and isolated from the effects of the trench and any damage caused by future pipe bursting construction techniques. Special consideration must be given to the migration of material from under the floor slab into any excavation in close proximity to the structure. The use of shock absorbing layers between the floor slab and the sub grade of the slab is required. Depending on soil conditions a protective skirt wall may be required to be installed to prevent migration of material into the trench area. This would be the case particularly with the build close to option where the dwelling runs substantially the full wall length along the pipeline.
- 4.8 Foundation piles must be taken at least 500 mm below estimated invert of the pipeline.
- 4.9 Foundation piles must be drilled .
- 4.10 Where connections are under the proposed footprint of the building they shall be relocated outside the footprint a minimum of 2.0 times the depth of the pipeline clear of the footprint at the owners expense. If the pipeline is not to be replaced the cost of the new connection including capping of the old connection shall be met by the applicant.
- 4.11 Where a connection to an adjoining site is located under the proposed footprint, the cost of relocating the connection and diverting the service back to the boundary line to reconnect the existing service is to be borne by the applicant. This section of pipeline is deemed to be public and shall be constructed in materials specified in the Rodney District Council's Standards for Engineering Design and Construction and not to the lesser standards permitted under the Building Code.

## **5.0 Retaining walls**

5.1 Where it is intended to construct a retaining wall of any description within five metres of a storm water or wastewater pipeline the details must be submitted to Council for approval prior to the construction of the wall. Whether the wall requires a building consent or not is irrelevant as the constraints imposed on the infrastructure will need to be assessed.

In the case of drilled piles the separation distance will be measured from the invert of the pile encasement extended vertically to the outside wall of the pipeline.

5.2. Matters to be considered will include but not be confined to:-

- a) Type of wall i.e. cantilevered timber, gravity, cantilevered masonry.
- b) In the case of cantilevered walls consideration is to be taken on the impact of trenching to the pipeline on the fixity of the walls vertical members.
- c) Separation distance from pipeline.
- d) Existing depth of the pipeline.
- e) Surcharge placed on pipeline.
- f) Whether the wall crosses the pipeline diagonally or at right-angles.
- g) Pipe material.
- h) Pipe class.

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**BUILDING OVER OR CLOSE TO PUBLIC WASTEWATER AND STORMWATER PIPELINES****CHECK LIST – refer to Policy guide for details**

ABA.....

Street name and number .....

Lot ..... DP .....

1. A fee is payable to enable an assessment of potential pipeline building over or close to be made. A deposit will be charged and final costs will depend on complexity of proposal.
2. The applicant must provide:
  - a) a site plan showing the as built of the pipeline(s)
  - b) the plan is to show the proposed building footprint
  - c) existing and finished ground levels to LINZ datum
  - d) a CCTV inspection of the pipeline(s) complete with inspection sheets and DVD or Video tape
3. Once approved the applicant must prove the actual location of the pipeline(s) for confirmation by Rodney District Council prior to building works commencing.
4. A second CCTV inspection must be carried out prior to concreting of the floor slab as set out in 4.1. (g) of this Appendix.
5. Any damage to the pipeline(s) or ancillary structures shall be repaired to the satisfaction of RDC Water Services Manager under the supervision of RDC and at the applicants cost.
6. All design and construction works shall comply with the Rodney District Council Standards for Engineering Design and Construction. All relevant consents must be obtained by the applicant.
7. Specific circumstances outside the coverage of this Policy and the Rodney District Council Standards for Engineering Design and Construction will be considered upon receipt of written application to the Water Services Manager.
8. All costs associated with meeting the above conditions shall be borne by the applicant.

**Conditions Accepted**.....  
Property Owner(s) signature(s)

Date

.....  
Property Owner(s) Name(s)

**Note the term owner and applicant are synonymous. Any agent acting on behalf of the owner will be deemed to have the owner's authority to enter into a binding contract under this policy.**