



*Whanganui District Council - Plan Change –
Scoping Document*

Appendix I: Whanganui District Engineering Document 2016



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Appendix I: Whanganui District Engineering Document 2016



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1 Introduction

The purpose of this scoping report is to provide clear information to key stakeholders during pre-notification engagement and consultation. It is also intended to assist the general public when the plan change is notified. The scoping report sets out and provides a clear summary and reasoning of the changes proposed.

The Whanganui District Engineering Document included as Appendix I of the District Plan was last revised in 2012. The document provides additional requirements over and above NZS4404 – Land Development and Subdivision Engineering. The 2012 Engineering Document referenced NZS4404:2004, but attempted to include many of the new approaches and specifications incorporated in the NZS4404:2010.

Council recently revised and updated its Engineering Document 2012 to reference NZS4404:2010 and this has enabled deletion of much of the Engineering Code 2012 where it was an exact duplicate of the NZS4404:2010.

The 2016 version of the Engineering Document deletes those duplications resulting from the inclusion of provisions contained in the 2012 council Engineering Document into the NZS4404:2010. This largely incorporates:

1. Deletion of provisions that are contained or covered off in NZS4404:2010;
2. Re-ordering of sections to be consistent with the order in NZS4404:2010;
3. Removal of sections which were in NZS4404:2004 but are no longer in NZS4404:2010; and
4. New Whanganui specific requirements to update the engineering document to be applied in addition to NZS4404:2010.

A summary of changes to each part of the Engineering Document 2012 is set out below, and will assist the public to appreciate what Plan change 54 to the Whanganui District Plan proposes to change and why:

2 Part 1: General Requirements and Procedures

- NZS4404:2010 now includes the majority of the definitions previously detailed in the 2012 document. Those now included have been deleted, leaving eight definitions in the 2016 document. No changes to these definitions are proposed.
- All abbreviations contained in the 2012 document are now included in NZS4404:2010, and therefore these have been deleted from the 2016 document.
- Discussion regarding related legislation has been deleted from the 2016 document as they are now contained in NZS4404:2010.
- A number of sections which were additional to the NZS4404:2004 standard, have now been included into NZS4404:2010, and have therefore been deleted.
- With regards to climate change, the new section has a new provision which references the now operative New Zealand Coastal Policy Statement 2010.
- A note which was previously included relating to recognised datums (Moturiki 00 + City Datum 100.06 so Moturiki level + City level – 100.06) has been deleted.

- Reference to reference to the WDC Ten Year Plan and Annual Plan in the context of the Levels of Service section has been deleted.

3 Part 2: Land Stability, Foundations and Earthworks

- A number of provisions have been deleted due to their inclusion in NZS4404:2010. A number of sections which were in NZS4404:2004 and no longer in NZS4404:2010 have been removed.
- Section 2.5.1 is a new provision regarding plant pest management during construction/earthworks. This new provision is a result of recent concerns from Whanganui District Council in preventing the spread of pest plants.

4 Part 3: Roads

- Changes to documents used by Whanganui District Council has resulted in a number of updates to document references within Part 3: Roads.
- Reference to NZS4404:2010 has resulted in the re-numbering and re-ordering of a number of provisions in Part 3.
- Provisions that are now contained in NZS4404:2010, which were in the Engineering Appendix have been deleted.
- Provisions requiring Chapter 12 of the District Plan to be met appear in multiple locations within this part, and other parts of the Appendix. This is a new general requirement throughout the document to ensure linkages back to the appropriate section of the District Plan.
- The following new sections are as a result of provisions which were included in NZS4404:2004 being removed from NZS4404:2010. Whanganui District Council wish to retain these provisions, so they have been added to this document:
 - Section 3.3.7 Intersection and alignment design – minimum kerb radius, local road intersection and design of roundabouts.
 - Section 3.3.8 No exit roads – sump provision at the head of cul-de-sacs.
 - Section 3.3.11 – Footpaths, pedestrian access ways, cycle ways, berms – thickness of loam topsoil on berms and stormwater disposal and lighting to be provided.
 - Section 3.3.11.4 – Berms - rural areas provision of bicycles, pedestrians and motorised traffic, no less than 2m width between road side channel and road reserve boundary, and rural berms to be top soiled to same standard as urban unless already grassed undisturbed ground.
 - Section 3.3.12 Traffic signs, marking and road furniture – all road markings and traffic signs to comply with TNZ Manual.
 - Section 3.1.16 Private ways, private roads and other private accesses –, fencing requirements for rear/multi-unit or comprehensive developments. For individual lots, ensure it is possible to form an access to each lot and safely traversed. Commercial and industrial accessways.

- Section 3.3.19.7.5 Sump location – design capacity of a single back entry sump with standard grating limited to about 28 L/s unless specific capacity known or derived. Double sumps to be used as a minimum at all low points.
- Section 3.3.19.7.2 Sump design – side entry systems.
- Section 3.4.5 Subgrade checking – subgrade to be inspected by designer to assess suitability of exposed subgrade, design to be modified where necessary and soft spots removed.
- Section 3.4.17.2 Paths and accessways – concrete paths and accessways to be laid with construction joints at not more than 3m centres, crossfalls of 3% to be provided.
- Reference documents have been updated throughout Part 3: Roads.
- Section 3.3.14 Road lighting has a new clause (d), which requires poles to retain a stainless steel finish (not painted).
- Section 3.4.1.1 is new and relates to plant pest management during construction/earthworks. This new provision is a result of recent concerns from Whanganui District Council in preventing the spread of pest plants.
- Section 3.4.17.2 – there has been a change in crossfalls of 3-4% to 3%. Provision for 3-4% cross fall was provided for in NZS4404:2004, but this has been removed from NZS4404:2010. Whanganui District Council wishes to retain this provision but amend it to 3%.

5 Part 4: Stormwater

- Reference to NZS4404:2010 has resulted in the re-numbering and re-ordering of a number of sections in Part 4.
- Provisions that are now contained in NZS4404:2010, which were in the Engineering Document 2012 (District Plan Appendix I) have been deleted.
- The previous provision relating to culverts in section 4.3.3.9 has been deleted. This is due to NZS4404:2010 sufficiently covering this aspect, along with the detail on the relevant drawings.
- Section 4.3.9.3 Minimum pipe sizes – this section provides updated minimum pipe sizes for single sump outlets and public mains.

6 Part 5: Wastewater

- Reference to NZS4404:2010 has resulted in the re-numbering and re-ordering of a number of sections in Part 5.
- Provisions that are now contained in NZS4404:2010, which were in the Engineering Document 2012 (District Plan Appendix I) have been deleted.
- A new clause is included in Section 5.3.7.4 – Pipes in private property. This clause advises that building over pipelines are not recommended. Approval to build over pipelines is to be obtained from TA, who may set conditions. Alternative options such as relocating building or diverting pipeline should always be considered. This clause was previously in NZS4404:2004 in Wastewater section 4.3.3.3.
- Section 5.3.10.5 – Connection depth – rodding point is now to be constructed in the road reserve. Previously the rodding point was to be inside the property boundary. The revised configuration of the connection rodding point allows for better network management. The

move has the added benefit of allowing easier detection of council assets by any future trenchless technology.

7 Part 6: Water Supply

- Reference to NZS4404:2010 has resulted in the re-numbering and re-ordering of a number of sections in Part 6. Cross referencing has consequentially been updated.
- Provisions that are now contained in NZS4404:2010, which were in the Engineering Document 2012 (District Plan Appendix I) have been deleted.
- The following new sections are as a result of clauses which were included in NZS4404:2004 being removed from NZS4404:2010. Whanganui District Council wish to retain these clauses, so they have been added to this document:
 - Section 6.2.3 – System review requirements.
 - Section 6.3.5.2.1 – Impact of consequential change. Requirement for an assessment and risk analysis to evaluate and assess the impact of environmental and property damage in the event of a major water main failure.
- Section 6.5.4 – Pressure testing of water mains– NZS4404 directs the reader to Appendix C for the appropriate testing procedure. This section provides a replacement calculation to be used in place of the equation located in (c) in the standard. The reason behind this inclusion is that the previous calculation was incorrect, and had a missing component. This clause corrects that mistake.

8 Part 7: Landscape

Reference to NZS4404:2010 has resulted in the re-numbering and re-ordering of a number of sections in Part 7. Cross referencing has consequentially been updated.

Provisions that are now contained in NZS4404:2010, which were in the Engineering Document 2012 (District Plan Appendix I) have been deleted.

Changes to Part 7 are largely a result of new documents set out in section 7.1. The contents of these new documents have been extracted and included in the Engineering Document 2016 (District Plan Appendix I) for consistency across documents. Consistency between the Tree Strategy and the Engineering Document 2016 is the reasoning behind the new sections and clauses detailed below:

- Section 7.2.1 – Concept stage requires that consultation with the TA on landscape design and construction at an early stage is required, rather than as recommended as per NZS4404:2010.
- Section 7.2.4 – Ecological, functional and aesthetic opportunities – new introduction paragraph that expands on the introduction sentence contained in NZS4404:2010.
- Section 7.2.6 – Street landscaping – new clause requiring layout and density of planting to be approved by TA as per 7.2.1, and advising that where specimen trees are to be planted, there shall be no fewer than at least one tree per two properties. These requirements were previously required in this section but in different wording and included new cross reference to 7.2.1.
- Section 7.3.1 – Location, removes edible gardens from the list of planting. Edible gardens are included in NZS4404:2010.

- Section 7.3.4 – new trees and road geometry – new provision requiring a minimum berm width of 1.5m to allow for sufficient root development.
- Section 7.3.5 – planted grass areas, berms, swales or rain gardens – new provision advising that when swales are used in conjunction with tree planting, that the berm need not be off a sufficient width to allow for trees to reach maturity without affected the water drainage capabilities of the swale.
- Section 7.3.6 – species selection – deletion of two matters to be considered that were added into NZS4404:2010 – (a) suitability of eco-sourced native plants with respect to local biodiversity, and (h) safety such as toxicity. (a) has been removed as it is not an overriding principal, and (h) has been removed as it is too limiting.
- Section 7.4.4.2 – planting grass areas – two new clauses. Heavily compacted soil to be ripped prior to the laying of topsoil, and other special purpose grass seed and plant species may be used in special areas.
- Sections 7.4.6.1-3 – specimen tree planting – new provisions over three sub-sections. These include measurement of specimen trees, reference to the Tree Strategy, recommended height for specimen trees and ground cultivation.

9 Part 8: Network Utility Services

Part 8 was previously 'Reserves'. It is now Network Utility Services, and contains entirely new provisions. The contents of this chapter has originated from the Power, Telecommunications and Gas chapter.

New provisions include:

- Requirement to install fibre cabling (Sections 8.2.3 and 8.4.1). This requirement is formalising a requirement which has been placed upon all urban developments through consent conditions since ultrafast fibre began installing ducting in Wanganui.
- Additional reference documents and requirements to be considered in the preparation of engineering plans. These relate to gas distribution, transport corridors and electrical safe distances (Section 8.3.1.1). This was a requirement in previous section 9.2 (c), but in different wording. The new wording improves clarity and is similar to that used by New Plymouth District Council.
- All services to be installed to the utility's satisfaction, and the need to supply a completion certificate prior to applying for a Section 224 certificate. This is already required, but this has been expanded to ensure that Council is confident that the utility serve providers are happy with the location, quality and as-built information provided by the developer. Utility companies have expressed concerns to Council that the current document only requires telecommunication certificates and not sign off by other providers.

10 Appendices

Appendices of the Engineering Appendix have been re-ordered in line with NZS4404:2010 as follows:

- New appendix A comes from old appendix G.
- New appendix B comes from old appendix A.
- New appendix C is new.
- New appendix D comes from old appendix C
- Contents of new appendix E are new.
- New appendix F comes from old appendix E.
- New appendix G comes from old appendix F.
- New appendix L comes from old appendix N.
- New appendix M comes from old appendix O.
- New appendix N comes from old appendix Q.

Appendix A has had the addition of Hansen as an approved medium density poly ethylene pipe.

Appendix B has had the following changes:

- An additional Rural Residential roading drawing, and then the subsequent renumbering of other drawings.
- A new drawing relating to new sanitary lateral connection to main 1.5m deep or less (common details), and then the subsequent renumber of other drawings.

Appendix C contains new provisions.

The old provisions from appendix B have been deleted as NSZ4404:2010 contains all of this information.

Appendix D has had an existing clause (which has was copied from previous appendix c) amended. This amendment relates to the deletion of instructions for actions to be taken after flushing of the main to remove debris and air. This removal is a result of the greater detail on testing information in NZS4404:2010 than the previous version. The wording of the added note D4 is for clarity.

Appendix E is a new section in NZS4404:2010. Only clause included is 'no change'.

The following Appendices have had no material changes:

- Appendix F
- Appendix G
- Appendix H – only change is the title of the appendix. No change to contents.
- Appendix J
- Appendix K
- Appendix N

Appendix I has a number of new clauses. These are:

- Section 1.5 Access and works on private property: in summary, this section requires the construction access to be of a condition to ensure that no debris is deposited onto adjacent roads during construction. The developer is to be responsible for all costs (direct and in-

direct) for any clean-up work required. This has been added to provide detail around common construction issues not previously addressed.

- Section 1.7 Developer's amenities and establishment: the developer shall provide details of the management of a number of points. This has been added to tidy up site management issued which have occurred since the last update.
- Section 1.9 Normal working hours: WDC may restrict hours of work and normal hours are 7.30am-6.00pm Monday – Saturday. This provides the ability for Council to limit the hours of works if it creates a negative impact on the surrounding area.
- Section 2.6 Temporary drainage and erosion control: requirement that the developer provides a detailed sediment and erosion control plan prior to the commencement of works on site. This is a minimum requirement to ensure compliance with Horizons Regional Council's requirements.
- Section 4.8 Pipeline construction – Drainage: Where conflict exists between the NZS4404:2010 Appendix C and the technical specification Section 4.8, the WDC development engineer shall determine which takes precedence. This provides clarity around decision making in the event of a clash in requirements.
- Section 5 Pipeline construction – Water supply: Where conflict exists between NZS4404:2010 and the technical specification, the WDC development engineer shall determine which takes precedence. This provides clarity around decision making in the event of a clash in requirements.
- Section 11.5.4 - Kerb and channel, footpath and vehicle crossing construction: Inspection and testing – the prepared base shall have a minimum CIV of 35 and be tested at 5m intervals. This has been included to address a quality control point insufficiently explained in the current engineering document.

Appendix L has one new clause, with regards to testing - Kerb base CIV 35 at 5m centres along length. This has been added to address a quality control point insufficiently explained in the current supplement.

Appendix M has a number of changes, which update references and cross references. These include:

- Addition of instruction that all references to NZS4404 should be read in conjunction with WDC Supplement Document 2016.
- Updating of reference from NZS4404:2004 to NZS4404:2010.
- Updating of reference from WDC Supplement Document 2012 to WDC Supplement Document 2016.
- Updating of section references from NZS4404:2004 numbering to NZS4404:2010 numbering.
- Updating of section references from WDC Supplement Document 2012 to WDC Supplement Document 2016 numbering.

The following appendices have been deleted:

- Appendix O. Engineering checklist has been moved to appendix M.
- Appendix P has been deleted in its entirety. This appendix did not previously contain any contents.
- Appendix Q. Performance standards have been moved to appendix N.

11 Drawing Register and Drawings

11.1 Drawing Register

The only changes to the drawing register is the updating of new section and appendices headings.

11.2 Drawings

Changes to the drawings include:

- All drawings have had Council logo and Council name updates.
- RD-WDC Path 1.5m wide, previous version was 1.4m (width adjustments to match specifications).
- Revised rodding point (as detailed above).



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