WDC Engineering Plan Checklist

All references to NZS4404 should be read in conjunction with Whanganui District Council Supplement Document 2016.
Please strike-out what is not applicable to the application

Roading

(Reference Section 3 NZS4404:2010 and Whanganui District Council Supplement Document 2016)

The submitted engineering plans should include all existing and proposed utilities

Layout
1. Plan and Long-section
   a. Grade
   b. Kerbline
   c. Centre of Road
   d. Subsoil drains
   e. Vehicle Crossings shown on plans (Appendix B)
   f. Turning head details
   g. Horizontal and Vertical Curves

2. Cross-section
   a. Crossfall
   b. Services locations within the legal or proposed road
   c. Carriageway Width
   d. Berms
   e. Footpaths
   f. Detailed paving structure
   g. Subsoil drains
   h. Kerb and Channel

Items to be considered for inclusion in Roading Design
3. Intersection details
4. Streetlights
5. Street trees
6. Road markings
7. Street signs
8. Pedestrian Links

Pavement
9. Pavement design (Section 3.3 NZS4404:2010)
10. CBR – Pavement depth
11. Road pavement materials
12. Subsoil drains
13. Kerb and Channel type

Testing
14. Road formation testing schedule submitted (Appendix L)
Stormwater

(Reference Section 4 NZS4404:2010 and WDC Supplement Document 2016)

The submitted engineering plans should include all existing and proposed utilities

Layout
1. Plan and Long-section
   a. Grades
   b. Positioning in relation to other services
2. Manholes
   a. Size and type.
   b. Lid Level and Invert Level, all connection invert levels (Appendix B; CM-WDC-003 Supplement Document 2016)
   c. Drops through MH
   d. Change in direction
   e. Losses through MH’s
   f. Haunching
3. Sumps in Right of Way or Road
4. Laterals to each lot direct to a reticulated system
5. Overland Flow Paths / Secondary Flow Paths shown on plans (Section 4.3 & 4.4 NZS4404:2010)
6. Existing drains (open drains/ culvert drains)

Design
7. Pipe size sufficient to serve design
8. Pipe material/class
9. Stormwater calculation sheets (Section 4.3 & 4.4 NZS4404:2010)
11. Is on site attenuation a requirement for this catchment (Refer to TA Engineer)
12. Swale design (if required)

Testing
13. CCTV of existing mains prior to site work commencing
   a. Schedule of all testing requirements
   b. Specify Accredited Laboratory
15. Post construction CCTV
Wastewater

(Reference Section 5 NZS4404:2010 and WDC Supplement Document 2016)

The submitted engineering plans should include all existing and proposed utilities

**Layout**

1. Plan and Long-section
   a. Grades
   b. Positioning in relation to other services
2. Manholes *(Section 5.3 & 5.4 NZS4404:2010)*
   a. Size and type.
   b. Lid Level and Invert Level, all connection invert levels *(Section 5.3 & 5.4 NZS4404:2010)*
   c. Drops through MH
   d. Change in direction
   e. Losses through MH’s
   f. Haunching
3. Future Catchment Design taken into account *(Section 5.3 & 5.4 NZS4404:2010)*
4. Laterals to each lot

**Design**

5. Pipe size sufficient to serve design *(Section 5.3 & 5.4 NZS4404:2010)*
6. Pipe material/class
7. Adequate grades
   a. Self-cleaning
   b. Provide gravity line
8. Bedding Material
9. Layout
   a. Minimum clearances *(NZS4404:2010)*
10. Pump station design calculations
11. Rising mains, specific design required *(Section 5.3 & 5.4 NZS4404:2010)*

**Testing**

12. CCTV of existing mains prior to site work commencing
   a. Schedule of all testing requirements
   b. Specify Accredited Laboratory
14. Post Construction CCTV
Water

(Reference Section 6 NZS4404:2010 and WDC Supplement Document 2016)

The submitted engineering plans should include all existing and proposed utilities

Layout

1. Mains Layout and depths (Section 6.3 & 6.4 NZS4404:2010)
2. Property service connection and toby
3. Approved material identified (Appendix A Supplement Document 2016)
4. Types and Locations of appurtenances (Section 6.3 & 6.4 NZS4404:2010)
   a. Stop Valves
   b. Pressure Reducing Valves
   c. Hydrant and Fire Services (refer to NZS 4509)
   d. Scours and Pump out branches
   e. Termination details
   f. Backflow preventers (Appendix B; WS-WDC-011 Supplement Document 2016), alternative design can be discussed with TA
5. Water Meters in Commercial/Industrial development
6. Location and Details of Trust Blocks and Anchor (NZS4404:2010)

Design

7. Adequate Hydraulics proven in design
8. Pipe size sufficient for design
9. Material and class of pipe
10. Bedding Material (Appendix I, Section 5.5 Supplement Document 2016)

Testing

12. Disinfection (Appendix D NZS4404:210)