

# ICC Code of Practice for Subdivision, Land Use, and Development Consultation 2023

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## Standard drawings

- D12-21 – ladder rungs are included in the standard drawings. There is increasing industry concern over promotion of untrained and unaware individuals entering a confined space. This is also highlighted in section 6.3.11.1 of the proposed CoP. Suggested removal of ladder rungs from all standard drawings.
- D12 – mass concrete pours are less common due to precast manhole base structures. Mass pours are commonly misunderstood and consequently adequate strength / connection to the manhole is not guaranteed. This would be more appropriate as specified corbels. For watertightness, corbels should be reinforced with starters into the manhole wall.
- D12-D21 shows a flexible joint within 1m of manholes. This does not align with section 7.3.6.2. refer to discussion of this section below.
- R2 – Typical placement of foul sewer is not shown on the road centreline. This increases the likelihood of stormwater ingress during peak flows and increased likelihood that manhole lids end up in vehicle wheel tracks. Suggest consideration of typical placement of sewer on road centreline.
- R3A – local road 20m width. There is limited advantage from infrastructure and/or city planning, can this therefore be reduced to 15m to align with higher density targets within urban zoning?
- R3A – private ROW requirement of 6 x 6 m entrance promotes high speed entry and/or point of conflict across cycle lanes and footpaths. This is particularly exasperated when the driver is focused on entry while anticipating the movement of an existing driver. Drivers are best forced to wait for exiting vehicles and then consider other road users before proceeding. In addition, the requirement of this rule creates poor lot shape. Sight lines could be improved with lot chamfer requirements if desired. Suggest removal of the entry 6 x 6 requirement.
- R4 – pram crossing on a radius as shown does not meet RTS14 requirements and will struggle to do so in the arrangement shown. When radius are large such as 10m, footpaths where possible should be located away from the kerb and the crossings aligned on each tangent. This ensures waiting pedestrians are less vulnerable to side swipe and ensures that the crossing can align with the opposite side. Consider updating this diagram to align with RTS14.

- R13 / 13A / 16 – pipework shown at back of sump is not desirable. This takes up space in the berm, crosses under kerbs unnecessarily, makes infrastructure alignment more difficult to trace and provides excess bends with no direct access for maintenance. Y junctions that end immediately before sumps with the straight pipe screw capped, provide hydrocarbon entrapment and maintain a direct pipe run between structures that can easily be inspected and cleaned. Examples can be found in the NZBC E1 and neighbouring TA CoPs.
- R31 – pram crossings are promoting walking in front of the pedestrian island placing pedestrians within /near the parallel live line for the duration of the crossing. Pram crossings would ideally be behind the splitter islands and provide adequate stall depth where practical.

### CoP

- Section 1.4 – The second paragraph explains the need to comply with the Building Act. Public vested structures, and in particular stormwater structures are designed far in excess of the Building Act, therefore are only appropriately certified by Council Engineering in accordance with the engineering review and the CoP. Provision should be made for exemptions in place of Building Consent.
- Section 5.3.3.4 – Vertical grade of roads shown to a minimum of 0.5%. Significant areas of southland are flat in nature, particularly within residential zoning. Designers often need the flexibility to reduce road grade in order to rationalise earthworks and infrastructure. 1:300 (0.33%) has been proven adequate and accepted in a number locally adjacent locations, provided secondary flows are checked and confirmed. Suggest a reduction in minimum grade to 0.33%.
- Table 5-4 – ROWs are limited to 6 lots. This is restrictive particularly in rural environments where the next available option is to vest road. This unnecessarily increases public infrastructure in some circumstances. Propose to allow dispensations of higher lot numbers particularly in rural areas.
- Table 5-4 – kerb is shown to be required for ROWs of 1 to 3 lots. This is onerous and in most cases unnecessary as limited flows can be dealt with in landscape areas and or in low point centrally placed sumps. Section 5.3.17.2 supports removal of kerb and channel.
- Section 5.3.17.2 is in contrary to table 5-4 and supports the removal of kerb and channel for low yield ROWs. This section also requires all ROWs to be sealed. Metaled ROWs can be constructed with appropriate lifespans and life cycle costs. Furthermore sealing increasing impermeable coverage which increases stormwater discharge from site.
- Section 5.3.17.3 – the requirement of pavement design for private is excessive in most cases. The requirement for design will also trigger the need for Engineer sign off, placing higher burden on otherwise simplistic developments. I propose a standard suggested design which may be detailed separately for ICC and SDC environments. A further solution could be to require design for a single ROW serving more than 4 lots. This is implemented by the likes of Christchurch City Council.

- Section 5.4.12 – standard drawing reference is incorrect, is the correct reference R11? Reference to CBR 5 is not clear, is this the subgrade? The majority of silts within Southland will not pass CBR 5, therefore a standard solution should make allowance for this. Please clarify this section.
- Section 6.2.8 – The adjustment of standardised tables for climate change is over complicated and subsequently liable to inaccuracy. If using Niwa HIRDS V4 for location based results, the RCP is specifically designed to allow for climate change scenarios and their pathways, therefore does not need addition or modification. A further point, 6hr storm duration as a blanket over the multiple catchments throughout southland is unlikely to yield appropriate mitigation through design. Suggest that a minimum duration is set for small catchments (previous calculation within the region indicates some catchments are as short as 2hrs), and each catchment duration confirmed with Council.
- Section 6.3.4 Primary Stormwater Systems states “In addition, depending upon the site, there is normally a requirement to limit the discharge from the site to a particular flow rate. Defined as the pre-development flow rate. This is normally achieved by the provision of attenuation storage.” This paragraph is overstated and does not provide context or clarity. In addition, the location of this wording suggests that this is control of primary stormwater only which I understand is not the intention of Council? This may be more appropriately discussed in a section heading of its own.
- Section 6.3.5 – standard formula for calculating “I” appears to override investigation and derivation of data from section 6.2.8 and or 6.3.6. There is no need for this to be formulaic when using the rational method manual calculation.
- Section 6.3.8.9 – States “ Council require a geotechnical assessment to be carried out by an appropriately qualified geoprofessional to determine the suitability of soil and groundwater characteristics for any proposed soakage system.”- Site investigation and testing may be appropriately undertaken by an individual suitably experienced and qualified in soil investigation and stormwater design. Unless issues of lateral spread or interaction with modified soils become apparent, I see no reason that the suitability of the site and soil to receive stormwater should be limited to a geoprofessional.
- Table 6-5 - selection not displaying correctly. Assuming squares are ticks, then selection seems appropriate.
- Section 7.3.4.2 – pipes are required to extend past legal boundary of a development. This is not legal or enforceable. Suggest section is removed.
- Section 7.3.6.2 – “Rocker” or more commonly known as “shorts” are requested, although this is not reflected in D12 – D21. Shorts would typically come off starters that join immediately after the corbel (not within 1m as shown on the standard drawings). The detail around the desired length of these short pipes is lacking. This may be best addressed in revision of the standard drawings.
- Section 7.3.10.3 – option (b) for common services not in a body corporate the solution is to vest. Vesting infrastructure captures every proposed ROW as it is not practical or desirable to enforce body corporates over what is already a shared easement. For a ROW up to 6 lots, the alternate solution is to provide 6 x laterals which then require connection to a single manhole. This is not practical or often possible under good engineering practice and related codes. Is it Councils intention that all common wastewater lines are vested? If not, I believe that there needs to be a dispensation for the use of common drains.

- Section 7.4 (a) – if a connection is anticipated within 10 years and onsite disposal cannot be utilised, this precludes development until that time. This does not support development and should be removed.
- Table 8-2 – Standardizing of water mains is misleading and liable to significant error. The adequate flows through main pipes is highly dynamic on placement and sequencing of hydrants, the available peak flows, and circulating connections. Further to this, single end feeds should not be promoted for principal mains. Suggest that this table is not included in the CoP.
- Table 8-3 – The number of lots serviced appears more in line with that expected of a DN63 rider main? Please confirm selection. Otherwise, table is useful.
- Section 8.3.5.8 – Review sentence double up
- Section 8.3.5.12 (a) – if a connection is anticipated within 10 years, this precludes development until that time. This does not support development and should be removed.
- Section 8.3.7.1 – The table showing pipe sizes should remove reference to “nominal” for internal diameter. DN stands for Diameter Nominal which is the industry listing of that pipe size, and in the case of PE is more closely related to the external diameter. The use of nominal wording for both internal and external diameters is conflicting and liable to error. The wording of section 8.3.7.1 should also refer to “internal diameters only” in place of “nominal diameters only” as this is conflicting information.
- Section 8.3.7.2 – as above, review the use of “Nominal Diameter”

Note: this submission does not directly specify items that I am in support of as the proposed changes are wholesale and not easily isolated. In general, if not listed above, I am in support of the additional information which helps to provide clarity of Councils’ desired outcomes.