

Attachment C: Submissions Tracker

Public Consultation Tracker and Register

Following close of 'Lets Talk' feedback process - finishing 4th October 2024

Submission							QLDC Review and Response		
Item #	Submitter	COP Section	Related COP Clause or Appendix	Submitter Commenting On	Submitter's Proposed Amendment	Submitter Reasoning	QLDC Change	QLDC Reasoning	QLDC Ammendment
1	Aurum	Roads	Clause 3.3.16.3		Private ways etc. Construction crossfall tolerance of +/- 0.5% seems excessive. ie +/- 15mm crossfall tolerance on on a 3m wide private access is very limiting, especially as they are often pushing maximum grade and having to blend with driveways etc		No	No change, this is tolerance for a minumum crossfall. This is a baseline, and then engineers judgement to flag where not practical and this could be accepted as a deviation	N/A
2	Aurum	Stormwater	Clause 4.3	Stormwater design	General comment is the amendment is not well written, with odd headings and random criteria placement. For example consider the headings 4.3.4.1 Primary and Secondary Systems, and then 4.3.4.2 Secondary Systems, with important design criteria for secondary systems under the first heading. It just isn't very logical. I get the impression the amendments have been rushed, or just not well considered. I understand the need for better clarity as the current version is confusing, but the amendments proposed remain ambiguous and don't go far enough to resolve the underlying problems. It is also a bit odd that it appears Council is trying to reinvent the wheel here, when there are other districts already well documented in this field. For example, there is focus around pipe capacity, but it is getting the water into the pipe that is nearly always the issue. Inlet capacity and protection is a key element that seems largely glossed over, yet that is where most blockages and issues occur. I note there is a directive (4.3.4.2) for Council to own or have easement over secondary systems, ponds, streams, swales etc. In my experience Council does not want to own difficult to maintain land, and pushes back on streamside reserves and tries to avoid maintenance costs wherever possible. This requirement therefore seems to conflict with other policy?		Yes	Removed extra secondary section, and some adjustments to formatting.	Various formatting changes for readability
3	Aurum	Stormwater	Clause 4.3.10.3		Manholes with 3 or more inlets should be 1200mm. This is excessive. Presumably an "inlet" includes a sump lead, lateral or perhaps even a subsoil? The result will be many manholes having to be 1200mm. The precast plastic manholes allow for 3 inlets in standard layout. Suggest manhole size be left for the engineer to determine if a greater size is needed.		Yes	Agree with submission. Section removed altogether, noting designer can check and smaller manhole could be used if CPAA guidelines and QLDC requirements in Appendix B able to be met	Remove - Concrete manholes with 3 or more inlets are required to be a minimun of 1200mm in diameter
4	Aurum	Stormwater	Clause 4.3.5	Design criteria : Discharge to be at a rate no greater than would have occurred for the pre-developed catchment during a 20% AEP rainfall event with no initial infiltration unless greater capacity in the downstream stormwater network can be proven through modelling or first principle hydraulic calculations	It is a confusing statement in an illogical place. It is impossible to endlessly limit discharge to a particular level. For example, how can you endlessly buffer a 100 year storm so the discharge is only ever that of a 5 year storm?		No	This is discharge to primary network. Limit the inflow, and/or provide storage/retention. If pipes are limited downstream, don't want to be adding extra flows. Minor update to structure made to make for readable (covered in other submission item)	N/A
5	Aurum	Stormwater	Clause 4.3.5.1.1	Catchment assessment.	This is another poorly written and formatted section. Catchment types remain unclear. You can always break complex catchments down into individual simple catchments, so what are you trying to say here? Total catchment complexity?		Yes	Yes, total catchment complexity. Agree clarification useful.	Minor clarification to say total
6	Aurum	Stormwater	Clause 4.3.5.1.2	Design storms	note this is a sub-part to 4.3.5.1 Design storms. Anyone confused yet?) There are numerous clauses limiting the amount of flow to certain levels, but I question how practical that is. Attenuation is not the best answer for every situation. Sometimes a bigger pipe to a safe location (lake or river) is a better solution than trying to create ponds on hillsides or in the middle of subdivisions, yet the code promotes attenuation as some sort of silver bullet. I disagree, particularly in regard to the proliferation of expensive hidden storage chambers that nobody will maintain, will fill with silt in a short enough time, and end up being ineffective. We are poor at maintaining even the slot drains and sumps we can see, let alone anything hidden away. As to comparing discharge rates, I do wonder why the historic rates are still considered relevant? Pretty clear we should be planning for the future, not wasting time looking at the old rates (since the intensity tables show the rates are increasing, not falling).		Yes	If attenuation not necessary for (i.e reasons outlined) preference would be to not have attenuation. Attenuation is a conservative default when connecting to existing infrastructure with limitations i.e secondary or primary. If limitations not existing, designer to discuss with council no attenuation for approval. Agree with naming, have adjusted title to discharge requirements.	Adjustment to title, no changes to rest.
7	Aurum	Stormwater	Clause 4.3.5.1.4		Is Council going to supply a 24-hr nested storm hyetograph so there is some consistency in modelling?		No	Good suggestion and agree would be beneficial. Intention is to work to develop these profiles, test and calibrate and provide further details and guidance as subsequent advice note. Spatial variance across the district also needs to be considered for this. Timings out of scope for this Code of Practice updates. In the interim a 24 hr nested storm profile can be created based for site specific rainfalls based on Hirds data.	N/A
8	Aurum	Stormwater	Clause 4.3.5.2	Freeboard	1% AEP section? Tauranga?		Yes	Error - working note. Have removed.	Removed

9	Aurum	Stormwater	Clause 4.3.7.12		Soak pits. Clearly a comprehensive approach here, but just wondering if that is consistent with E1 which many houses continue to be constructed to.		Yes	The soak pits we refer to in the code are for Council owned and maintained soakpits that collect water from roads and a reticulated system with a lateral from each house. If the development has onsite soakage for each individule house, that will be owned and maintained by that lot owner and is sized at the time the dwelling is built, these can be constructed to E1.	Add - Note: For soakage devices designed and approved under the building consent process the building code methodology applies.
10	Aurum	Roads	Table 3.3	Road design standards	Suggest clarifying the movement lane surfacing (sealed v unsealed). Surfacing is only mentioned in regard to the shoulder. Relevant in the rural area. Remove "total" from shoulder widths. The column is already headed with "(each side)", so any further attempt at elaboration only confuses.		No	Will review the need to include additional standards at next CoP update.	N/A
11	Aurum	Stormwater	Table 4-2		We don't have any land steeper than 30%??		No	We do have these situations, but limited data with rational coefficients on this, and best to apply a steep correction factor which is very site dependent, or adopt a different method.	N/A
12	Aurum	General			The COP is heavily biased towards greenfields and larger scale subdivision. There remains a continual conflict between the COP and the building (plumbing) standards when it comes to infill development. For example, previous versions gave flexibility for 6 dwellings to be served with a standard 100mm lateral (given appropriate grades etc), but that was removed for reasons unknown. We have ongoing confusion around when a lateral becomes a drain and when bends in those need manholes, inspection points, or nothing. We have arguments on the suitability of the capacity of small diameter water pipes, despite engineering calculations supporting the situation. We have inconsistency in pipe stiffness ratings between standard building plumbing and where that becomes a lateral. The demand for infill will only grow as land becomes scarce, and government policies push towards urban intensification. I suggest some consideration is needed in regard to the COP to facilitate that type of development and align it with the standard building methods that are set by the building code. It is counterproductive and a continual source of frustration to have conflicting standards in that space.		No	No updates to Code of Practice, but updates to a streamlined EA process in progress to better address these situations	N/A
13	Carrie Skilton	General			Developers to create a stormwater solution and implementing that solution prior to 224c. I think it is widely unfair that developers are coming up with any solution, even if it will cost tens of thousands to implement, and passing the costs down to the purchaser. There are costs for development, and this should be one of them. Deferring stormwater solutions to the time of building is inappropriate in most (acknowledging not all) circumstances.	Typically all the SW infrastructure is constructed for the full development at the time titles are issued, in some cases, typically large lot or rural properties it is more appropriate to defer the SW system for that property untill such time as the property is built, this allows flexibility for where the soak pits are placed and can be sized for what is needed.	No	For communal development wide areas—such as those involving carriageways or altered catchments—a comprehensive stormwater solution will be required as part of the 224c process. However, in some cases, for individual lots within the development, stormwater management can be deferred to the building consent stage. This approach is often more pragmatic, especially for large lots or rural properties, as it allows for flexibility in determining the placement and sizing of soak pits or other stormwater devices based on the final roof and hardstand areas, which may not be known at the subdivision stage. While developers can (and often do) incorporate stormwater solutions for individual lots into the overall development plan, offering certain efficiencies, we do not intend to revise the document on this point.	N/A
14	CFMA	Roads	Clause 3.3.1	Defintion of carriageway	Carriageway should remain as per current definition - face of kerb to face of kerb as defined in Austroads and other reference documents. Within the carriageway there is/are parking lane(s) and through lanes. The through lane is the movement lane. The proposed change in definition will cause conflict between 3.4.1 "movement lane widths to avoid 7.5-9.0", and Table E2, suburban live and play movement lane 2 x 4.2. This is not the intention of NZS4404 because this Road type requires indented parking on top of the 2 x 4.2m through lanes. Also need shoulder width to be defined for all road types.		Yes	Agree confusion in widths by changing definitions, have reverted back to 4404 wording, noting this is where tables originated from. Will be reviewed in more detail in next COP update with roading focus amongst wider updates to table (to capture shoulder widths also).	Reverting back to 4404 definitions (various items changed)

15	CFMA	Stormwater	Clause 4.3.5.1.3	Clause 4.3.5.1.3-4.3.5.1.4	Requiring modelling to follow well established methods is insufficient. Parameters need to be standardised. There is insufficient data in the CoP to enable stormwater to be modelled consistently. A separate document is required similar to Wellington Water Ltd Reference Guide for Design Storm Hydrology. This document standardises precipitation methods, loss methods, and model development. Loss method is critical. This document specifies SCS curve number method and provides maps of curve numbers. Requiring pre-development catchment runoff calculations to use use HIRDS V4 historical rainfall intensities and depths requires mitigation of the effects of climate change. In general, a stormwater system introduced to service a new development must account for extra runoff created (usually courtesy of increased impermeable areas. Runoff can, due to climate change, be expected to increase from a site by a certain percentage by the year (for example 2090), whether or not development has occurred there. The development does not cause climate change. Consider a very simple scenario: A piece of land is bare in 2022, and produces runoff in a 10 year storm at 100 litres per second. Development on the land is calculated to increase the runoff to 150 l/s. Therefore, mitigation is required to collect the extra 50 l/s. A climate change scenario indicates increases in rainfall intensity by 2090 of 30% (for the sake of argument). By 2090 the anticipated runoff for the site developed in 2022 is 150 x 1.30 = 195 l/s. Mitigation of 95 l/s is required in QLDC's proposed approach. This seems excessive, regardless of the likely life of the building. Suppose instead that		No	Note standardised parameters to come in a future exercise and released as advice note following confirmation of Code of Practice stormwater requirements. The mitigating climate change point raised has been addressed through earlier ammendments of design storms (and further clarifications through this exercise)	
16	CGW consulting	Roads	Clause 3.3.19.5	Rip rap lined swales should be avoided, unless specifically agreed with QLDC. Where the swale is adjacent to a road then the safety concerns with regard to check dams shall be taken into consideration.	The proposed change regarding the removal of rip rap lined swales need reconsideration. Consideration should be given to erosion and scour in vegetated swales. Often rip rap lines swales are the only cost-effective option in steeper topography and this wording could lead to rip rap not being used in favour of vegetated swales when they will be prone to scouring.		No	Our aim here is to reduce the amount of riprap swales being used and the maintenance burden they present when weeds become present, we will still consider their use on a case by case basis but want designers to consider check dams or other solutions in the first instance if a scour risk is present.	N/A
17	CGW consulting	Roads	Clause 3.3.3.2	In the case of roads with asphalt surfacing, designers must submit mechanistic design modelling to support the assumed deflections. Any assumptions in the design model such as the subgrade CBR, would ideally be explored and supported with geotechnical testing prior to the EA stage to minimise the risk of changes being required to the design during the construction phase.	CGW consulting is concerned that the proposed change is complicated. The wording of this change appears to indicate that all asphalt roads, regardless of their size or classification require mechanistic design. This concerns us, as mechanistic pavement design is a specialist discipline, requiring significant information of material properties and input parameters. It is a more onerous design requirement than we have experienced with other Council's codes of practice. If undertaken by untrained or less experienced designers this could result in wildly different pavement designs. Alternatively, the proposed change could require specialist input for something as small as an asphalt right of way pavement design resulting in design fees that are disproportionate to the project scale, complexity and risk. This will have a significant increase on the costs to design and subdivide small, low risk developments. We recommend the following: • This section is revised to provide clarity on what level of road with asphalt pavement requires this, • The size of the road is given consideration for this requirement, possibly to align with the section 1.8.4.3 b, • QLDC provide a series of standard asphalt pavement designs for small to medium sized roads, right of ways and parking areas for a range of CBR's, or a standard pavement design chart for these situations like many other codes of practice provide.		Yes	Revised - still needed for asphalt, but not mechanistic modelling required. Calculations showing meet deflections would be fine.	Yes - Various ammendments to section
18	CGW consulting	Roads	Clause 3.4.11	Table 3-5: Pavement deflection standards	We assume that the deflections highlighted columns in the table above are in mm. We recommend that (mm) is added the column headers for clarity.		Yes	Agreed	Add mm
19	CGW consulting	Roads	Clause 3.4.4.2	Hot laid asphaltic concrete surfacing	Appendix L for asphalt surface reinstatement states: "Areas greater than 20m2, one entire lane, or with a linear length exceeding 10m2 require a membrane seal..." Should this be "...linear length exceeding 10m...". Also, this doesn't seem to be reflected in 3.4.13 which states "...all carriageway areas that include asphalt must have a membrane seal..."		Yes	Agree with submission points.	Ammended typo. Membrane seal requirement in COP requirement has been clarified for greenfield.

20	CGW consulting	Stormwater	Clause 4.3.4.1 (b)	A secondary system to ensure that the effects of stormwater run-off from events that exceed the capacity of the primary system are managed, including occasions when there are complete blockages of critical culverts and other critical structures in the primary system. The system designer shall identify all critical structures and components within the primary network and apply appropriate blockage factors. The approach taken to identify the critical structures and determine the blockage factors to be applied is to be confirmed with Council's Property and Infrastructure department. The secondary system shall apply the following assumptions for primary piped network based on pipe size (d – diameter): • d ≤ DN600, 100% blocked • DN600 < d ≤ DN1050, 50% capacity reduction • d > DN1050, 10% capacity reduction The secondary system design shall apply the following assumptions to culverts based on culvert size (d - diameter or smaller side if rectangle):	Secondary system approach seems conservative from the proposed. The approach applied in Auckland however for an urban catchment, 100% blockages in a DN600 pipe that is fed by multiple small grated intakes is highly conservative, compared to a rural catchment where there is a greater risk of large debris entering the stormwater system this seems appropriate. We recommend that discretion is applied to these pipe sizes and blockage factors based on the catchment type and risk profile. We note that for an urban road formation, the requirement of 100% blockage to the primary network will require all stormwater flows to be carried by the road formation. We have not yet investigated the effects of this, combined with the 100mm centreline maximum flow depth and the flow depth and velocity requirements of section 4.3.4.2 to determine the impacts on the overall road corridor design.		Yes	This can ideally be resolved through the design of roading profile. Understand cases where not feasible and updated to reflect this.	Add to primary and secondary flow section - When blockage factors are applied, the above requirements may be relaxed on a case-by-case basis, subject to justification and P&I approval. These requirements will still apply in an unblocked scenario.
21	CGW consulting	Stormwater	Clause 4.3.4.2	Where the accessway to a dwelling is the only feasible pedestrian egress from a property to the adjoining road then if that access is being used as an overland flow path the flow depth x average velocity (dgVave) for 1% AEP design storm shall meet the higher risk requirement outlined above. The feasibility of pedestrian egress shall consider those that have low mobility e.g. the elderly, children, etc.	We agree with the above approach, however this mirrors our concerns from section 4.3.4.1 (b) above.		Yes	Understand concerns, ideally resolved through design of roading profile but understand may be cases where not applicable.	Add to primary and secondary flow section - When blockage factors are applied, the above requirements may be relaxed on a case-by-case basis, subject to justification and P&I approval. These requirements will still apply in an unblocked scenario.
22	CGW consulting	Stormwater	Clause 4.3.5.1.2	When assessing the discharges, the following is required: • Post-development (historical rainfall) to be compared with pre-development (historic rainfall) and shown to be no greater • Post-development (climate change adjusted rainfall) to be compared with predevelopment (climate change adjusted rainfall) and shown to be no greater Further detail on the rainfall events is in Section 4.3.5.1.3.	The propose change regarding assessing the discharges seems contradictory to section 4.3.5.1.3. In the design an attention system to meet pre-development flow rates, the post development volumes and flow rates dictate the specific outlet sizes and details. We do not see that it as practical to provide an attenuation system that is designed and sized to provide historical and climate change pre and post development neutrality at the same time. We would recommend that a more conservative and simple approach is taken to always use the historical rainfall data for pre-development flow, and climate change rainfall data for post-development flows, and required hydraulic neutrality between these reported flows. This would then be in line with the proposed changes to section 4.3.5.1.3. If the proposed change above is just a reporting requirement, then we see this requirement as unnecessary and leads to providing additional data to an already complex report. Logically, if the post-development climate change peak flows are less than the historical pre-development peak flows, then the other requirements for neutrality will also be met.		Yes	Adjust wording to remove conflict. Designers can still choose to attenuate to pre development historical flows in a climate change scenario if easier (more conservative). The adjustment was made to allow 'apples to apples' comparisons based on other feedback.	Misc - Reformat and reword to clarify
23	CGW consulting	Stormwater	Clause 4.3.5.1.2	For any discharges to a watercourse or other sensitive environmental receiver (either directly, or further downstream) a detention system must be provided to protect and mitigate erosion effects for more frequent rainfall events. The system for detention is to be designed to capture the difference between the pre-development and post-development runoff volumes for a 20 mm rainfall event, whilst incorporating full drain-down over a period of 24 hours.	Clarification around what is sensitive environment receiver. Particularly as this can have a substantial impact on the detention size requirements and therefore viability of development, which developers seek advice on early in a project. We would like to see this clarified or guidance provided so we know when this requirement is applicable. To robustly implement this requirement in a manner that will achieve the desired long-term outcomes and, it needs to be incorporated into a development from the early pre-concept feasibility stage, rather than as an resource consent or engineering approval RFI. So its vital that there is clarity as to when this is required.		Yes	This could be stream, wetland for example. Minor clarification on what a sensitive environmental receiver.	For any discharges to a watercourse or other receiving environment that is sensitive or susceptible to erosion or sediments (either directly, or further downstream)

24	CGW consulting	Stormwater	Clause 4.3.5.1.3	Post-development catchment runoff calculations for the primary stormwater network must use HIRDS V4 RCP 6.0 for 2081-2100 rainfall intensities and depths at a minimum. Post-development catchment runoff calculations for the secondary stormwater network must use HIRDS V4 RCP 8.5 for 2081-2100 rainfall intensities and depths. Pre-development catchment runoff calculations must use HIRDS V4 historical rainfall intensities and depths.	We agree with this addition. However in practice producing and updating calculations and modelling using two sets of rainfall data is time consuming and more at risk of mistakes. It's likely that we would use HIRDS V4 RCP 8.5 for 2081-2100 rainfall intensities and depths for both primary and secondary stormwater networks, unless there was specific need on the project to minimise the primary stormwater network size. As per our comments on section 4.3.5.1.2, we would strongly recommend that pre-development flows are only assessed using historical data, to avoid confusion between multiple reported pre-development flows.		No	HIRDS V4 RCP 6.0 is minimum for a primary network, a designer can use RCP 8.5 if more suitable for their processes.	N/A
25	CGW consulting	Stormwater	Clause 4.3.5.1.4	For sizing and design of a stormwater infrastructure with storage components (i.e., soakage or attenuation systems), software modelling must be used with a 24-hour Nested Storm Hyetograph created for the design storms in Section 4.3.5.1.2. However, the following exceptions to this can be applied:	We agree with this addition. We would recommend that further work is undertaken in the region to provide standard defined SCS curve numbers that align with local soil conditions as this is often the most practical hydrologic method to apply with nested storms.		No	Agree, standardised parameters to come in a future exercise and released as advice note following confirmation of Code of Practice stormwater requirements.	N/A
26	CGW consulting	Stormwater	Clause 4.3.5.1.4	When undertaking Rational Method calculations, the time of concentration for catchments must be calculated using the Horton Method with the Equal-Areas Method used to determine catchment slope. Horton roughness coefficients in Table 4-1 should be used	There is not enough guidance provided in this section. We note NZBC E1/VM1 and the CCC WWDG Part B Chapter 21 both have equal area time of concentration methods, but use different formulas to calculate these. We recommend that the LDSCoP simply refers to NZBC E1/VM1 section 2.3 for the methods of determining the time of concentration, rather than providing an undefined method of equal areas calculation and Horton n values that don't relate to NZBC E1/VM1 or the CCC WWDG Part B Chapter 21. Section 4.3.5.3 and table 4-4 refers to the use of Manning's n values for the hydraulic design of stormwater system, so for cohesiveness and clarity we would recommend that Manning's n values are used in the calculation of any time of concentrations.		Yes	Agree, have looked and amendment to building code suitable. Relatively minimal difference in results via a sensitivity check.	Remove - Hortons Method Add - When undertaking Rational Method calculations, the time of concentration (Tc) may be determined following the approach outlined in NZBC E1/VM1. This includes a consideration of the transition from overland flow to shallow concentrated flow, as water begins to form small rills, channels, and tracks. Additionally, where applicable, the influence of open channels and piped networks on the flow must be considered.
27	CGW consulting	Stormwater	Clause 4.3.5.1.4		The rational runoff coefficients in table 4-2 differ significantly from the NZBC E1/VM1 rational runoff coefficients. They seem to be only representative of undeveloped natural surface types, but there is no reference to runoff coefficients for developed or impervious surfaces. We also have concerns around the accuracy of some of the coefficients, particularly the Pastural (and brownfield development), High soil permeability Flat (0-2%) coefficient. It could be argued that a new residential development in an area such as Lake Hawea with high soakage rates fits into this category. The proposed change seems to indicate that you could simply use a rational runoff coefficient of 0.20 for this development. This would lead to very different results than the standard approach of using the NZBC E1/VM1 land use type rational coefficients, or a composite runoff coefficient based on maximum impervious areas allowable under the district plan and NZBC E1/VM1 developed surface type runoff coefficients. It will also lead to substantially different peak flows to those assessed using a nested storm with the SCS method. We recommend that additional clarity is provided as to what the rational runoff coefficients in table 4-2 relate to, and reference is made to NZBC E1/VM Table 1 for rational runoff coefficients for developed surface types. We also recommend comparison is carried out between the results that would be achieved with this method versus other methods that will need to be used to for the nested storm detention calculations.		No	Factors are more conservative for rational method, however designers can still look to adopt other methods and assess sensitivity etc. Building Code coefficients are also for a lower ARI event. Sensitivity check has been completed.	N/A

28	CGW consulting	Stormwater	Clause 4.3.7	All new commercial or industrial developments, >2000 AADT roads and >10 car carparks must provide onsite stormwater quality treatment to meet the objectives of the QLDC Integrated Three Waters Bylaw 2020: Part C – Stormwater.... 4.3.7.1 Water quality design objectives QLDC requires that a Best Practicable Options (BPO) approach is undertaken when incorporating and designing stormwater quality management devices. Best Practicable Option is defined in the RMA in relation to stormwater discharges as being the best method for preventing or minimising the adverse effects on the environment having regard, among other things, to (a) the nature of the discharge or emission and the sensitivity of the receiving environment to adverse effects; and (b) the financial implications, and the effects on the environment, of that option when compared with other options; and the (c) current state of technical knowledge and the likelihood that the option	We agree with this approach to providing the best practical option in regard to stormwater quality management devices. Although we would like to see clear specific guidance relating to the target treatment efficiency of the common contaminants, we appreciate to onus being left to the designer, and the flexibility to provide the best practicable treatment solution for each specific situation.		No	Will look to provide further guidance in the future for target treatment efficiencies	N/A
29	CGW consulting	Stormwater	Clause 4.3.7.12	Soakage Device design	We note that that proposed amendments to soakage device design differ significantly from the methods outlined in NZBC E1/VM1. We would like to see a general comment to clarify the scope of this section of the LDSCoP. Does QLDC intend this soakpit design approach to be applied to residential soakpits that are constructed under a building consent? Will the proposed changes only apply to vested infrastructure? Or also private sokapits that are constructed as part of a Resource Consent/Engineering Acceptance? There is already often a discrepancy between the design of private soakpits that are constructed as part of a Resource Consent/Engineering Acceptance to the adjacent soakpits designed by an architect or individual using QLDC's soakpit calculation under a building consent. While we welcome the additional design criteria and proposed conservative approach, we believe he proposed changes will lead to further discrepancy and confusion between the design standards for soakpits across the region. So we recommend that a clear statement is provided in the LDSCoP as to the when the proposed soakage device design and soakage testing methods outlined in section 4.3.4.12 is applicable.		Yes	Agree to add clarification	Add - Note: For soakage devices designed and approved under the building consent process the building code methodology applies.
30	CGW consulting	Stormwater	Clause 4.3.7.12.10	Equation 2 should be used to calculate the factored soil infiltration rate (K): Equation 2 = $K \times \left(\frac{K}{F_{total}} \right)$ Where: K = unfactored soil infiltration rate (from Section 4.3.7.12.) F_{total}	We generally agree with this approach regarding soakage testing, consequence levels and testing quality. However, the unfactored soil infiltration rate K, should be divided by the factor of safety that is calculated $\left(\frac{K}{F_{total}} \right)$. le: if the unfactored soil infiltration rate is 1000 L/hr/m 2, and the total safety factor is $1.5 \times 1.2 = 1.8$, then the factored soil infiltration rate should be $1000 / 1.8 = 555$ L/hr/m 2, not $1000 \times 1.8 = 1800$ L/hr/m 2 as equation 2 is written.		Yes	Agreed, this is an error.	Changes made to equation as per submission
31	CGW consulting	Stormwater	Clause 4.3.7.12.11	All soakage devices to be vested with council must provide the following maintenance functionality to allow: • Observation of water level, • Observation of sediment build-up, • Removal of sediment build up in the distribution pipework or base of the soakage device.	While we agree that these functions are nice to have in a soakpit, we note that the standard QLDC soakpit detail B4-4 does not provide any of these functions. We are unaware of any practical measure to remove sediment buildup from the base of the majority of common soakpit types without deconstructing the soakpit.		Yes	Changes made to drawing	As per drawing
32	CGW consulting	Stormwater	Clause 4.3.7.12.3	All soakage devices must have a draindown period (to empty) of 24 hours from the start of the soakage devices design discharge storm event. This requirement is to ensure that soakage devices have capacity for a back-to-back design storm events.	We suggest that this section is amended to refer to a maximum drain down time of 24 hours		Yes	Agree - wording has been updated.	Update - a draindown period (to empty) within 24 hours from the end of the design storm event for which the device was sized for

33	CGW consulting	Stormwater	Clause 4.3.7.12.4	The soakage devices design area of soakage must be calculated as the base area + ½ the side area of the soakage device.	We note that is a significantly different approach to NZBC E1/VM1, and the wording that this “must” be calculated in this way appears to be contradictory to the conservative approach being taken in the remainder of the proposed changes to soakpit designs. Also, if the side area of soakage devices is being taken into account then the soakage test calculations will also need to take this into account. We would see that this is applicable is deep “Caldwell pit” style soakpits, but less applicable to traditional rock-filled soakpit. We have concerns regarding this approach for traditional soakpits where the strata on the sides of the soakpit may be significantly different from the strata underneath the soakpit. For example, in silt or glacial till layers overlaying gravels, the side soakage rates will be considerably different to the base soakage rate. We recommend that this section is reworded to as follows: If the soil strata in the proposed location of the soakpit is of uniform type, and expected to provide a uniform soakage rate, then the soakage devices design area of soakage may be calculation as the base area + ½ the side area of the soakage device.		Yes	Agreed	Update - If the soil strata in the proposed location of the soakage device are of uniform type, and expected to provide a uniform soakage rate, then ½ of the pervious side wall area of the soakage device may also be included in the area of soakage.
34	CGW consulting	Stormwater	Clause 4.3.7.12.6	A 300mm freeboard must be provided from the soakage devices design storm event TWL to the lowest invert of the upstream infrastructure outlet.	We believe that the soakage design storm event above should be altered to the 5% AEP design storm event. In the case that a soakage device provides additional capacity beyond the 5% design storm event up to a secondary event, then it is effectively getting penalised for this, over a soakage device that only provides for the 5% design storm event and sends secondary flow elsewhere. TWL is not defined anywhere in the LDSCoP. We assume this related to “top water level”? The “lowest invert of the upstream infrastructure outlet” is a very vague statement, and we are struggling to determine what this relates to. We’re assuming that relates to the highlighted level of the inlet pipe on the QLDC Standard detail B4-4 below: If so, then we recommend that this detail is updated to include this note, and this section in the LDSCoP is amended to refer to the 5% design event.		Yes	Agree	Updated drawing and wording
35	CGW consulting	Stormwater	Clause 4.3.7.12.7	Soakage devices should not be located close to buildings, retaining walls or ground slopes in a manner that the ground below the foundations, structure or land is likely to be adversely affected. Soakage devices shall be located so that the zone of influence is clear (45° outwards above the outside lower edges of soak pit), or 5 m; whichever is greater. Deep-bored soakage devices may require greater distances and specialist advice will be required for installing these types of soakage devices. Exemption from providing specialist advice may be granted by the Council at its sole discretion. Soakage pits on individual lots must provide an Operation and Maintenance manual with body corporate agreement to maintain the soakage pit in perpetuity	As per our previous comments relating to Section 4.3.7.12 generally, we would like to see clarification added to the LDCSoP as to when this is required. It will not be possible to design a residential soakpit in an individual lot, whether this is installed as part of a Resource Consent or Building Consent that provides a minimum of 5m clearance to the property boundaries or buildings. The proposed wording of this section does not appear to provide any opportunity for a reduction of the 5m minimum offset with specialist input, only an exemption from providing specialist input into deep-bored soakage devices at council discretion. There are numerous examples of infill developments where it will not be possible to comply with this proposed section. We recommend that this section is amended so that when a proposed soakpit is less than 5m of buildings, retaining walls or ground slopes in a manner that the ground below the foundations, structure or land is likely to be adversely affected, the specialist input is required to determine the effects of the proposed soakpit and determine any mitigations required to prevent adverse effects from occurring.		Yes	Agree	Add At Council's discretion

36	CGW consulting	Stormwater	Clause 4.3.7.12.9	Soakage devices at risk of sediment ingress from the contributing catchment should be provided with pretreatment devices or the designs Factor of Safety adjusted accordingly. All soakage devices to be vested with Council must provide design elements compliant with the Appendix B Drawing B4-4. The minimum pre-treatment for any soakage device to be vested with Council must include: • An inlet side manhole with a minimum 800mm sump level to the soakage devices inlet pipe. • A removable 160mm draincoil pipe in a filter cloth sleeve. • A filter cloth or impervious matting over the top and around the sides of the soak-pit.	We agree with this approach for small soakpits constructed in a roadside berm. However, the proposed wording of this section that soakpits “must” be designed in this manner does not allow for larger soakage basins and other devices that use alternative proprietary void chambers that are not comparable with a 160mm drain coil. We recommend that the wording of this section is modified to allow for alternative approaches where approved by council that make allowance for pre-treatment and sediment ingress.		Yes	Agree	Modification as per suggestion
37	CGW consulting	Wastewater	Clause 5.3.10.8	Flow Metering Any proposed water supply connections off a Council Trunk Main for subdivisions must provide a bulk flow meter with connection to QLDC Telemetry unless otherwise agreed with P&I or approved by the Chief Engineer.	This section appears to be out of place, and should be included in the Water chapter not the wastewater chapter.		Yes	Agreed and updated	Moved to water section under connections
38	CGW consulting	Wastewater	Clause 5.3.8.4.9	Any MH with 3 or more inlets is required to be a minimum of 1200mm diameter, and comply with requirements as per Appendix B Drawing B1-5.	This requirement is significantly above and beyond the manhole manufacturers and CPAA Loads on Circular Precast Concrete Manholes and Access Chambers guidance. Consideration should be given to manholes with small diameter pipes, such as 2x incoming DN150 pipes and one outgoing DN150 pipe. In this situation, a 1050mm diameter manhole is sufficiently sized to comply with B1-5 and the CPAA guidance. The requirement to upsize the manhole to a minimum diameter of 1200mm even if there are only 3 small diameter wastewater pipes will have a significant increase on the costs to design and subdivide small developments.		Yes	Agree with submission. Section removed altogether, noting designer can check and smaller manhole could be used if CPAA guidelines and QLDC requirements in Appendix B able to be met	Remove - Concrete manholes with 3 or more inlets are required to be a minimum of 1200mm in diameter
39	Civil Construction Limited	Roads		Proposing Ethical Ground Improvement	1.This feedback is on behalf of Civil Construction Ltd (CCL), in respect of the Ethical Ground Improvement Methodology (EGIM) it has developed as described in the site specific example methodology attached. The EGIM is a commercially and environmentally sustainable solution using a binder to stabilise liquefiable ground conditions to meet earthworks and pavement subgrade specifications. Council's infrastructure staff will be familiar with it, as it has most recently been approved for use at the Classic Development Site (EIC) on Woolshed Road, RM200615 This feedback on the Draft Land Development and Subdivision Code of Practice (CoP) is relevant to the following sections of the CoP: a.References to Low Impact Design approaches. CCL seeks to ensure the EGIM is recognised as a Low Impact Design Approach. b.References to earthworks and geotechnical requirements c.References to 'special soil types' and liquefaction d.References to the requirement for a geo-professional's report on suitability of land for subdivision and development e.Section 2 as a whole (Earthworks and Geotechnical Requirements) f.Section 3 (Roads), specifically section 3.3 Design and 3.4.2 Materials for flexible pavements. In particular, in addition to the general efficiencies provided by EGIM, it is consistent with QLDC's own policy around emissions and reductions. https://www.qldc.govt.nz/2022/june/22-06-30-qldc-launches-climate-and-biodiversity-plan The EGIM process of ground improvement adheres to that policy, unlike other current methodologies used in this district for ground improvement. CCL can provide further information on this point.	CCL wishes to ensure the CoP contemplates and provides for this methodology as a standard methodology to stabilise liquefiable ground to appropriate specifications. See attached CCL representatives wish to meet with Council experts to explain it further to them and answer any questions, provide further information etc, leading up to Infrastructure Committee Meeting in November.	No	Outside of scope of this review, can be looked at in next stage.	N/A
40	Edward Radcliffe	Appendix B	Appendix B Dwg B2-3	EF couplers for private connections and remove the mechanal fittings	Jason recommendation on PE rider mains to have PE saddles and not mechanical fittings which is shown in the drawing B2-3 and submitter suggests on adding a sentence in the section 6.3.16.2, " EF multiseal tapping saddle must be used for service connections <nominal internal diameter of 50mm' or similar and have the Mechanical Tapping options removed from the drawing B7-4		Yes	Agree with suggestion	Refer to change in Drawing B2-3
41	Edward Radcliffe	Water	Clause 6.3.5.10	Design pressure	A question to why the design pressure was reduced to 750kpa , it was 900kpa originally ?		No	Set max pressure at 750 kPa to align with the QLDC Level of Service document. If needed, we can adjust it to 900 kPa for instances raised, as the current wording allows. Keeping the pressure lower is generally safer in new subdivisions, where connections are added over time, and it helps reduce wear on pipes and water loss. Greater consideration is required for hilly sites, especially where houses are located below the lateral connection point.	N/A
42	EZED - Paul Jaquin	General	Clause 2.2		You should define Geo-professional for the geotechnical work, either CPEng or Chartered Engineering Geologist?		Yes	Agree	Updated as per submission

43	EZED - Paul Jaquin	General	Clause 2.3.10		The usual requirement for Permanent cut-fill batters is 3H:1V, for temporary 2H:1V seems reasonable. But you're introducing a bit of risk to QLDC by allowing 2H:1V cut-fill batters in the permanent case.		No	This is not a proposed amendment to the code therefore requiring more will need to go through consultation process, we will not be able to make the change during this round of updates however we will keep your submission on this point and consider the risks and any possible change in the next review.	N/A
44	EZED - Paul Jaquin	General	Clause 2.3.7	Erosion and sediment control	This section is weak, and could be made so much better. Either reference the Auckland Council stuff, or make your own one. Force every development to have an erosion and sediment control plan.		No	This is covered under QLDC Guidelines for Environmental Management Plans (which generally resource consent condition) and under ORC guidance also when an ORC consent applicable.	N/A
45	EZED - Paul Jaquin	General	Clause 2.3.9		A building consent is required when there is a surcharge weight on the upper side of a retaining wall, or if the retaining wall is over 1500mm in height. Comment - There is always the potential for surcharge, and the usual NZ practice is for a building consent for over 1m retained. Maybe say something like, don't need one for 500mm retained, and also reference flat sites. Retaining walls on slopes over 30 degrees require a building consent. Stacked retaining walls require a building consent.		Yes	Amended the wording to ensure a check against the building code to see if BC is required.	Add - Any retaining wall should be checked against the Building Code to confirm if a Building Consent is required. Satisfying the requirements of this code does not exempt the retaining structure from requiring a building consent.
46	EZED - Paul Jaquin	Roads	Clause 3.3.3.2		CBR to Scala comparison charts - this is textbook graph, and as such isn't usually included in a Code of Practice. It's useful, but does potentially allow inexperienced people to do the design, without appreciation of the local conditions etc. [for example the micaceous silts in Frankton can give a reasonable Scala, and therefore CBR result, but designing a pavement using these values doesn't necessarily work.		No	In this case it would need approval from Council therefore checks will be in place to ensure the scala to CBR comparison is appropriate.	N/A
47	EZED - Paul Jaquin	Water	Clause 6.3.9.2	Clearance from sturcutres	Please define 'zone of influence' a bit better, otherwise you might get into all sorts of trouble. Auckland council have some guidelines, but its causing Engineers headaches. But something just like 45 degrees in soil, and 60 degrees in intact schist. - Similar to 6.3.19, but call it 'zone of influence'		No	Defined in 1.2.2 as 45 degrees from 150mm below pipe invert	N/A
48	EZED - Paul Jaquin	Appendix J		Cycle Trails	references its own appendices A and B. Please include and update		Yes	Error, this was an omission when reprinting document	Added Appendices
49	EZED - Paul Jaquin	Appendix I		Street Tree Planting Guidelines	The word Native does not occur anywhere within the document. There should surely be a reference to a preference for native trees within the street tree planting guidelines.		No	Good suggestion. Outside of scope of this review, can be looked at in next stage.	N/A
50	Florence Micloud	Other		Do we need Land Development ?	Go back to email and go through it		No	Many of the changes suggested would need to be addressed at a higher District Plan level to ensure developers incorporate these elements into their developments. The Code of Practice sets a minimum standard for designing and constructing physical works. While there is flexibility within the Code to achieve these goals, the key decisions need to happen at the consent stage, which falls outside the scope of this work. Our next update to the Code will have a stronger focus on transport. We'll keep this submission on file and consider any appropriate changes in the next update, particularly regarding connectivity and ease of transport.	N/A
51	Fluent	General	Clause 1.8.4.3	SQEP - Stormwater	Would something more similar to Auckland's definitions of a Suitably Qualified and Experienced Person be more appropriate	We are concerned that professionals with a Survey and Spatial certificate may not necessarily have sufficient skills to manage flood mitigation, catchment analysis and stormwater system design, especially for complex catchments. We also note that stormwater is not a specific discipline under the CPEng accreditation scheme.	Yes	Reviewed and CPENG provides a well-established statutory certification and standards regime. The Chartered Professional Engineers of New Zealand Act 2002 provides the legislative foundation for the certification of CPENG in New Zealand, which is legally recognized and has enforceable standards and requirements for engineers in New Zealand, ensuring that specialised works and projects are managed by professionals against an industry recognised standard. The Survey and Spatial Certified Professional Land Development Engineer is not specified under any current legislation, with this considered the section has been updated accordingly. As a result of feedback and information provided through the consultation process, officers consider that for the purposes of land development works, a person with a Survey and Spatial Qualification could be deemed a Suitably Qualified and Experienced Person (SQEP) for certain small-scale civil design works only. However, for large scale civil design, complex civil design or civil design related to specific areas, a CPENG will be required, as per the current operative 2020 Code of Practice.	Various updates in accordance with reasoning in section

52	Fluent	Stormwater	Clause 4.3.4.1 (b)	Blockage Factors	Can the conditions for culvert blockage please be further clarified? As it currently reads, culverts d < DN1500 should have a secondary system / flowpath to accommodate 100% blockage of culvert. Thus high water levels can be expected over roadway, and upstream of culvert. Do the design freeboard requirements for levels of properties need to be based on the water level assuming 100% culvert blockage (for culvert <DN1500)? Can you please provide further clarification on how this clause should be applied.		Yes	Additional clarification given. Freeboard requirements apply, velocity and depth requirements may be relaxed on case by case basis. Note - Blockage flactors can be refined due to site specific conditions.	Add to freeboard section - (including blockage factors in Section 4.3.4.1 if applicable) Add to primary and secondary flow section - When blockage factors are applied, the above requirements may be relaxed on a case-by-case basis, subject to justification and P&I approval. These requirements will still apply in an unblocked scenario.
53	Fluent	Stormwater	Clause 4.3.5.1.2	Rainfall events	Reference is made to “hydrological regime for all storm events through onsite attenuation”. Could clarification please be provided regarding which storm events should be modelled to meet this condition?		Yes	Agree, needs clarification. 2 year event detailed to be checked in conjunction with 20 year and 100 year	Reformat for clarity Add - These are to be checked and shown for a 50% AEP, 5% AEP and 1% AEP event at a minimum
54	Fluent	Stormwater	Clause 4.3.5.1.2 and 4.3.5.1.3 (contradiction)	Rainfall events	The discharge comparison in 4.3.5.1.2 indicates pre- and post-development should use historical and climate change adjusted rainfall on parity. The Rainfall section indicates pre-development should only use historical rainfall data. Can clarification be provided regarding which would be applicable?		Yes	Agree - contradictory information. Reviewed and reformatted to say pre-development can use climate change rainfall also (depending on scenario comparision)	Misc - Reformat and reword to clarify
55	Fluent	Stormwater	Clause 4.3.5.1.4	Time of Concentration	The Horton method (Friend’s equation – see equation to the left) is usually used for sheet flow / overland flow estimation of Tc. Please clarify if this should this be used for the entire catchment, or as part of a component of parts? <i>Tc (component parts) = overland flow + shallow concentrated flow + open channel flow + pipe flow</i>		Yes	Agree, incomplete method was listed. Have reviewed and ammendment to building code suitable. Relatively minimal difference in results via a sensitivity check.	Remove - Hortons Method Add - When undertaking Rational Method calculations, the time of concentration (Tc) may be determined following the approach outlined in NZBC E1/V/M1. This includes a consideration of the transition from overland flow to shallow concentrated flow, as water begins to form small rills, channels, and tracks. Additionally, where applicable, the influence of open channels and piped networks on the flow must be considered.
56	Fluent	Stormwater	Clause 4.3.5.1.4	Nested Storms	We recommend providing further guidance on how nested storms should be developed. We note other Councils provide further clarification on the 'shape' of nested storms		No	Good suggestion and agree would be beneficial. Intention is to work to develop these profiles, test and calibrate and provide further details and guidance as subsequent advice note. Spatial variance across the district also needs to be considered for this. Timings out of scope for this Code of Practice updates. In the interim a 24 hr nested storm profile can be created based for site specific rainfalls based on Hirds data.	N/A
57	Fluent	Stormwater	Clause 4.3.5.2	Inset section about 1% AEP – also check Tauranga guidance	Seems to be missing content		Yes	Error here, was a previous working note	Removed
58	Fluent	Stormwater	Clause 4.3.7.12	Soakage Device design	Section 4.3.7.10 seems to be an incorrect reference here.		Yes	Yes, agreed. However upon review, found this section not necessary and have removed.	Removed
59	Fluent	Wastewater	Clause 5.3.10.8	Flow Metering	Doesn't seem to fit in the wastewater section.		Yes	Error in location	Moved to water section under connections
60	Fluent	Wastewater	Clause 5.3.12	Low pressure sewer guidelines	Will these documents be included in the Appendices of the CoP now? This would make them easier to find.		No	These are to be uploaded - no change from 2022 Consultation Documents	N/A
61	Fluent	Water	Clause 6.3.16.1	Lot connections 150mm DN and above	We note that this change will significantly increase the number of pipes/rider mains required in QLDC's networks for QLDC to maintain. We query why this has reduced from the previous standard of DN200 or greater, given DN150 is often required for FW2 fire flows.		Yes	Reviewed and agreed, ammend wording	Updated - to nominal internal diameter greater than 150 mm
62	Fluent	Water	Clause 6.3.5.10	Design pressure bands	We note this change will result in an increase in the number of PRVs and reservoirs in QLDC's networks given the topography of the area. We also note we have recently had feedback from QLDC Engineers that QLDC do not want to see PRVs in their networks.		No	Set max pressure at 750 kPa to align with the QLDC Level of Service document. If needed, we can adjust it to 900 kPa for instances raised, as the current wording allows. Keeping the pressure lower is generally safer in new subdivisions, where connections are added over time, and it helps reduce wear on pipes and water loss. Greater consideration is required for hilly sites, especially where houses are located below the lateral connection point.	N/A
63	Fluent	Water	Clause 6.3.6	Water quality A number of factors in a network can adversely affect the quality of the water in the system. The network design shall ensure that the water quality at each property complies with the Drinking-water standards for New Zealand 2005 (Revised 2008). The requirement to protect water supplies from the risk of backflow is stated in the Health (Drinking Water) Amendment Act s. 69ZZZ and this shall be adhered to. 6.3.6.1Materials All parts of the water supply system in contact with drinking water shall be designed using components and materials that comply with AS/NZS 4020.	Drinking water standards for New Zealand reference needs to be updated		Yes	Agreed	Updated to Water Services Act 2021
64	Fluent	Other		Draft Reservoir Standard	Is the Draft Reservoir Standard going to be included as an Appendix?		No	These are to be uploaded - no change from 2022 Consultation Documents	N/A

65	Fluent	Other		Draft Trunk Main Standard	Is the Draft Trunk Main Standard going to be included as an Appendix?		No	These are to be uploaded - no change from 2022 Consultation Documents	N/A
66	Fluent	Water		Headloss for firefighting flows	We have seen a references to maximum headloss for firefighting flows of 10 m/km. Is this going to be included in the CoP?		No	Not included as COP design requirement at this stage, hasn't been causing issues.	N/A
67	Fluent	Other		Formatting	The document would be much easier to navigate if there were different coloured headings or bars down the side of the page for each section.		Yes	Agreed and have updated main COP document	Added as per request
68	Hadley Consultants	General	Clause 1.8.4.3	SQEP	Where investigations and reports are required by a Suitably Qualified and Experienced Person (SQEP), this person or persons will have nationally recognised qualifications and experience in the field they are working in. The person or persons will normally be expected to be professionally recognised in the area of competence claimed and to carry professional indemnity insurance to a level suitable for the purpose but in any case not less than \$1,000,000 per project. For small scale general civil design work Council will except CPEng and Survey and Spatial New Zealand Certified Professional Land Development Engineer, however this will not apply to the specific situations referenced below. Council reserves the right to have any work peer reviewed regardless of any prior approval as to the acceptability of the suitably qualified person. The cost of all peer review work will be borne by the developer. Specific requirements in addition to the above mentioned are outlined below that are required for any person to be deemed suitably qualified in these work areas. a. Traffic and transportation assessment, barrier design, Safe System audits, and Safe System audits exemptions – Suitably Qualified and Experienced Person is required to sign off design, assessment or audit and that person shall be a CPEng with a practice area in Traffic Engineering or Traffic Safety; b. Road Pavement Design for pavements designed for a medium load or above (5 x 105 to 5 x 106 ESA / ONRC Primary Collector or above) - Suitably Qualified and Experienced Person is required to sign off design and that person shall be a CPEng with a practice area in Pavement Design;	We are concerned about the liability that QLDC are opening themselves up to with the amendment to 1.8.4.3 in the draft CoP, this amendment is inconsistent with other councils such as Auckland Council. Upon inspection of the brand-new Survey and Spatial New Zealand Annual Practising Certificate for Land Surveyors it appears that it is a largely untested assessment run by Land Surveyors and not governed by Engineering New Zealand the governing body for Engineers in New Zealand. Relaxing the Council CoP in this way seems inappropriate. However, we do see merit in surveyors completing land development work as has been occurring within the District. I have drafted an amended 1.8.5.3 below for your consideration which I believe this will ensure that Council have suitably qualified persons completing design work in the district. I have taken the liberty of adding both Geotechnical Engineering and Civil Structures as they are clearly omitted from the previous version of the Council CoP.	Yes	Reviewed and CPENG provides a well-established statutory certification and standards regime. The Chartered Professional Engineers of New Zealand Act 2002 provides the legislative foundation for the certification of CPENG in New Zealand, which is legally recognized and has enforceable standards and requirements for engineers in New Zealand, ensuring that specialised works and projects are managed by professionals against an industry recognised standard. The Survey and Spatial Certified Professional Land Development Engineer is not specified under any current legislation, with this considered the section has been updated accordingly. As a result of feedback and information provided through the consultation process, officers consider that for the purposes of land development works, a person with a Survey and Spatial Qualification could be deemed a Suitably Qualified and Experienced Person (SQEP) for certain small-scale civil design works only. However, for large scale civil design, complex civil design or civil design related to specific areas, a CPENG will be required, as per the current operative 2020 Code of Practice.	Various updates in accordance with reasoning in section - some suggestions adopted
69	Hadley Consultants	Stormwater	Clause 4.3.4.1 (b)	Blockage factors	We believe that the blockage factors proposed are too aggressive and the focus should be on inlets and their risk profile and potential impacts on reticulation rather than being broadly applied to all pipes irrespective of the catchment characteristics. E.g an inlet from a rural catchment has a much higher chance of blockage or letting debris enter reticulation than a fully urban network reliant solely on lateral connections and roadside sumps. However, if the pipe blockage factors are to be retained then it should be made clear that this is to be considered as a separate secondary flow "super design" type event with velocity/depth limitations not applying as opposed to a standard secondary flow scenario.		Yes	Additional clarification given. Freeboard requirements apply, velocity and depth requirements may be relaxed on case by case basis. Note - Blockage factors can be refined due to site specific conditions.	Add to freeboard section - (including blockage factors in Section 4.3.4.1 if applicable) Add to primary and secondary flow section - When blockage factors are applied, the above requirements may be relaxed on a case-by-case basis, subject to justification and P&I approval. These requirements will still apply in an unblocked scenario. Add - These blockage factors serve as a default unless demonstrated with suitable justification to Council approval that a lower blockage factor can be applied. Australian Rainfall Runoff – Book 6 (Flood Hydraulics) / Chapter 6 (Blockage of Hydraulic Structures) provides specific guidance on a risk-based approach for determining blockage factors.
70	Hadley Consultants	Stormwater	Clause 4.3.5.1.4	Stormwater Catchment Analysis	We generally support the distinction between simple and complex catchments although there are a number of potential issues with actual application. However, the requirement to utilise a nested storm is on our view outdated and a full assessment of a range of storm durations would be more appropriate. It is our understanding that nested storms were a concept that was created to simplify modelling when computational power was significantly less than it currently is to avoid the need for time consuming model runs with different storm durations – this is obviously not the case now with modern computing.		No	Alternative well established methods like detailed in submission could still be used subject to justification, 24-hr nested storm has been selected as default for simplicity and consistency with many other councils.	N/A
71	Hadley Consultants	Stormwater	Clause 4.3.7.12.10	Soakage Device FOS	The factors of safety will make it nigh on impossible to cost effectively provide soakage devices in many instances even though the LID aspirations/requirements seem to require them E.g requiring groundwater monitoring within 100m may be relevant in some areas but for many areas such as Frankton flats where depth to groundwater is known to be significant it is unwarranted and costly to undertake.		Yes	Have removed consequence level 4, agree appropriate that FOS over 7 is not appropriate and would be best to look at on case by case basis (noting this would be soakpits that failure will cause significant damage). Most of FOS largely sit between 2 - 2.7, max at 6 (unlikely and this could be avoided). Absolute minimum factor of safety of 2 use as well (as per previous versions)	Remove - Consequence Level 4 Add - Minimum Factor of Safety of 2 Reformatting and clarifications made
72	Hadley Consultants	Stormwater	Clause 4.3.7.12.3	Soakage Device Drainage	Drain to empty within 24 hours of first rainfall. If soakage devices are properly designed the critical storm duration will be assessed (separately to that of the catchment), it is usually significantly longer than the catchment critical storm duration and at tiems can exceed 24hours. In effect this approach already considers long duration design storms		Yes	Agree - wording has been updated.	Update - a draindown period (to empty) within 24 hours from the end of the design storm event for which the device was sized for
73	Hadley Consultants	Other	N/A		While there is a lot of information included, we have kept this fairly brief as we have become increasingly pessimistic by the QLDC 'feedback' process on the CoP. There is no formal process followed to consider the 'feedback', unlike standard resource management and local government procedures and it would appear that many of the changes and decisions are being put forward and made with limited real world design and construction experience. Our view is that the key failure with the CoP is it simply leaves engineering matters open for QLDC 'sole discretion'. The primary purpose of such a document should be to remove ambiguity for the developer and designer and to specify what QLDC's requirements are, not to leave a multitude of key elements to their subjective discretion.		No	To discuss and review consultation and general approach moving forward	N/A

74	Hadley Consultants	Roads	Table 3-5	Deflection and Curvature Limits	Table 3-5 Identifies deflection and curvature limits which are similar to those suggested by NZTA and other standards. We believe that these curvature limits should only apply to AC and do not need to be met for chipseal surfaces as it is able to withstand much higher curvature whereas asphalt can't.		Yes	Reviewed and agreed. Ammended curvature requirement (to only for higher volume asphalt)	Various wording and table updates
75	Mt Iron Geodrill	General	Clause 1.8.4.3	SQEP - Catchments	Note that catchment analysis can also be done by others that are not CPEng or those that hold Survey and Spatial New Zealand Annual Practising Certificate in the discipline of Land Development Engineering, i.e. hydrologists. It may be worth separating out catchment analysis from the engineering here.		Yes	Slight adjustment, to sign off on design. Within this catchment analysis could be done by hydrologist, providing the person signing off design reviews/accepts this and takes on liability.	Update as per suggestion and QLDC reasoning
76	Mt Iron Geodrill	General	Clause 2.3.2		There is a reference in Section 2.3.2 c to GNS Landslide Planning Guidance 2024, however, I don't see this listed in the references list		Yes	Error	Added to list
77	Mt Iron Geodrill	Stormwater	Clause 4.3.5.1.1	A pre-development catchment is defined as the natural state of the land immediately prior to human alteration, or an existing developed catchment as altered by approved earthworks or legally established works. Previously consented works are considered to be pre-development only if the site works were undertaken and approved as per the consented plans. Any changes or amendments will require approval from QLDC. A post development catchment is defined as the maximum impervious area restricted by the District Plan or other legal instrument (e.g. resource consent, consent notice, etc.).	Could this be changed to better delineate the two different catchment areas? -B		Yes	As per suggestion	Refer to change in revised document.
78	Mt Iron Geodrill	Stormwater	Clause 4.3.5.1.4	Table 4.2&4.3	it should be noted that the infiltration rate is determine by the surface conditions and should be tested by single of double ring (preferred) permeameter testing through the surface to account for grass and other ground covering. See ASTM 3385 - Standard Test Method for Infiltration Rate of Soils in Field Using Double-Ring Infiltrometer for test method. Permeation rates should not be based on testing in borehole or test pit testing below the surface		Yes	Have adjusted to note this is surface permeability. Testing not always required.	Add - based on surface permeability.
79	Mt Iron Geodrill	Stormwater	Clause 4.3.5.12.14		The definition of coarse and fine grain soils needs to be better defined. A fine grained soil is one that has greater than 35% retained on a 63micron sieve a coarse grained soils has less than 35% retained on the same sieve as per NZGS field description of soil and rock. It should be noted that fines content lower than 35% can still have a major impact on permeability and thus the test method used.		Yes	Agree	Adjusted and adopted NZGS guidance
80	Mt Iron Geodrill	Stormwater	Clause 4.3.5.12.15 (vii)		the standard should be AS/NZS1547. I suggest that the reference to this AS/NZS standard is removed as it refers to only one type of test (constant head in a borehole). I recommend that the test method used is given in the report along with the equations used for calculations.		Yes	Agree	Added in descriptions for both falling and constant head test
81	Mt Iron Geodrill	Stormwater	Clause 4.3.7.12.1		the reference to another section here is wrong (refers back to Rain gardens). Should it not be 4.3.7.12.10?		Yes	Yes, agreed. However upon review, found this section not necessary and have removed.	Removed
82	Mt Iron Geodrill	Stormwater	Clause 4.3.7.12.12		Having an IANZ person test the ground when below 50L/hr/m2 is ridiculous as there is on one accredited to do this work in the district or south of Christchurch maybe even the south island (to the best of my knowledge). Personally, I can using the constant head method of AS/NZS1547:2012, Appendix G, get down to values of 2mm per hour (this being the same as 2L/hr/m2). I suggest that the person doing the testing should be competent in doing the work and use an established test method that can be repeated by someone else.		Yes	Agreed, and not practical in district currently. Methods and calculations commonly used, but have adjusted for clarity.	Amendment to recognised competent geo-professional, and added requirement to detail methods and calculations used
83	Mt Iron Geodrill	Stormwater	Clause 4.3.7.12.12		the minimum rates for infiltration are to high. There should be way of being able to provide design for soakage devices when the rate is lower than 25L/hour/m2 in consultant with QLDC. Furthermore, The maximum rate of 2000L/hr/m2 may be to low. There are free draining gravels in this area that can take a lot more than this. I understand that we don't want to overload a soil but I suggest that a max rate of 4000L/hr/m2 would be more reasonable with the possibly of going higher under certain conditions in consultant with QLDC and sound justification from a geoprofessional that doing so is ok.		Yes	Agree - and should allow some flexibility based on local environment	The maximum unfactored infiltration rate of 2000 L/hr/m2 will be accepted by Council. Should higher infiltration rates be proposed these will require further justification from a recognised SQEP and specific agreement from Council." Where testing shows an unfactored soil infiltration rate of less than 25 L/hr/m2, soakage is not appropriate and will not be accepted by Council as a stormwater disposal option unless further justification from a recognised competent geo-professional is provided, with specific agreement from Council."
84	Mt Iron Geodrill	Stormwater	Clause 4.3.7.12.13 v		all test pits and bores left open for the purposes of water level testing shall be left and a safe state such that people are unable to accidently enter. An egress for animals shall be put in place, e.g. a board with rungs to allow the animal to climb out. Test pits shall not be left open without suitable support if there is a risk of side wall collapse. Installation of standpipes is preferable.		Yes	Agree with these points	If test pit collapse is considered a risk then the side walls shall be supported. A geo professional shall need ot design a suitable test methodology. If test pits are to be left open then the pit shall be fenced off to prevent public access. Where test pits are left open for a time period greater than 4 hrs then appropriate means of animal egress must be considered or alternative means of completing the test shall be implemented, ie standpipes and piezometers.
85	Mt Iron Geodrill	Stormwater	Clause 4.3.7.12.14		The standard should be AS/NZS1547. I suggest that the reference to AS/NZS is removed as this standard refers to only one type of test (constant head in a borehole). I recommend that the test method used is given in the report along with the equations used for calculations		Yes	Agree	Added in descriptions for both falling and constant head test
86	Mt Iron Geodrill	Stormwater	Clause 4.3.7.12.14		this could be a recommended method and the calculation that should be used for this method. It shall be noted that other methods could be used. The single and double ring methods can be used in a laid back test pit base as can the constant head borehole.		Yes	Agree	Adopted to allow more flexibility in methods, based on geo-professional and specific cases

87	Mt Iron Geodrill	Stormwater	Clause 4.3.7.12.15 (viii)		not sure where this equation came from but it doesn't look like it is for a constant head test. The equations in either AS/NZS1547:2012 Appendix G or GD07 Appendix B Worksheet 2 may be better suited here.		Yes	Agreed. However, have removed this and added reference to GD07 as more complete methodology	Remove formula and add reference to GD07
88	Mt Iron Geodrill	General			Geoprofessional should be reworded to be "A chartered professional engineer (CPEng) or a chartered engineering geologist (PEngGeol) with recognised qualifications and experience in geotechnical engineering, and experience related to land development		Yes	Agree	Clarification made
89	Mt Iron Geodrill	General			SQEP should be added to abbreviations		No	Already in abbreviations	Yes
90	Mt Iron Geodrill	General			It should be noted in the CoP that the building code requirements for soakage to ground (soak pits) is a lot less then for the CoP and as such there should be some consideration given to the potential overflow from these devices with flows that could go the system being designed for the subdivision. It regards to test methods used for infiltration rate. Could it not be that there is a list of suitable methods given or that the test method has to be given along with the calculations used. The method has to have a standard test method so that it is repeatable. I'm aware that different methods can give different results but they should be similar in the provided values. the rate should in terms of hydraulic conductivity (k).		No	Merit to this but can't enforce different soakage requirements for soakage devices in building consent process following building code.	N/A
91	NZTA	Roads	Clause 3.2.4.2	Exclusion of Arterial and Motorways	NZTA supports the retention of this advice however some revisions may be appropriate given changes to processes that have occurred since its establishment. The following amendments to this advice to bring it up to date and make sure users understand early the need to engage with NZTA on proposals that may impact the state highway are suggested: 'Where a development may affect the state highway network or require a connection to the state highway, NZTA's agreement and/or written approval may be required. The types of proposals typically requiring NZTA approval include: • creating, upgrading, moving or otherwise changing an accessway onto a state highway. • changes to intensification of existing land use activities on properties accessed from the state highway (ie from residential to commercial, or increased residential density). • subdivisions or new activities (including building new structures or undertaking works) in land designated by Waka Kotahi – our land use designations may be for state highways, cycleways or shared paths. • subdivisions or new businesses requiring access to the state highway. • subdivisions or new businesses not requiring access to the state highway but generating potential traffic impacts on the state highway network.	NZTA supports the retention of advice regarding the need to consult with NZTA when undertaking developments and subdivision that may impact on the operation or assets of the state highway network in the Queenstown Lakes District. (ii) NZTA requests updated wording to be agreed with the Agency prior to finalisation of the code of practice to support users in gaining correct information early and identifying where NZTA approvals and design considerations may be relevant.	Yes	Reviewed and in agreement	Ammended as per submission
92	Patersons	Appendix B	Appendix B Dwg B1-1	Omissions	Combined service trench detail missing specifications for bedding/hauncing materials for service sharing same cross section. We request the district to provide some guidance for appropriate materials to use in these trenches		No	This detail is focused on layout rather than trench materials. We can revisit this in the next round of code of practice updates if needed.	N/A
93	Patersons	Appendix B	Appendix B Dwg B1-10	Omissions	Detail refers to granular bedding, but does not provide an appropriate specification of the materials mentioned.		No	Have left as is for now, as the current wording avoids being overly prescriptive. We can revisit this in the next round of code of practice updates if needed.	N/A
94	Patersons	Appendix B	Appendix B Dwg B1-11	Omissions	Detail refers to compacted sand fill or granular bedding, but does not provide an appropriate specification of the materials mentioned.		No	Have left as is for now, as the current wording avoids being overly prescriptive. We can revisit this in the next round of code of practice updates if needed.	N/A
95	Patersons	Appendix B	Appendix B Dwg B1-2	Omissions	Standard pipe embedment detail refers to "Granular Material as Specified". There is no specification in the notes nor reference in the body of the CoP. We request the district confirm the materials and appropriate specification of those materials including but not limited to gradation, PI, ect.		No	Have left as is for now, as the current wording avoids being overly prescriptive. We can revisit this in the next round of code of practice updates if needed.	N/A
96	Patersons	Appendix B	Appendix B Dwg B1-3	Omissions	Detail refers to compacted AP20 Granular Bed and Sorround, but does not provide an appropriate specification of the AP20 materials mentioned.		No	Outside of scope of these revision. To review and confirm in next stage of updates, in conjunction with the M/4 2024 updated guidelines.	N/A
97	Patersons	Appendix B	Appendix B Dwg B1-4	Omissions	Detail refers to compacted AP20 Granular Bed and Sorround, but does not provide an appropriate specification of the AP20 materials mentioned.		No	Outside of scope of these revision. To review and confirm in next stage of updates, in conjunction with the M/4 2024 updated guidelines.	N/A

98	Patersons	Appendix B	Appendix B Dwg B1-5	Omissions	Detail refers to corbels as blocks of concrete at pipe entrances, but does not advise the appropriate reinforcing for those connections. Pre-cast manholes have a specification and standard to work to, so should the connection detail as shown with limited advise from the district. We request that QLDC provides further advice for reinforcement at those pipe connections as a baseline for construction of this standard connection. Many councils have detailed this and the district can refer to those details to inform their design.		No	Reinforcing tie in of corbel to precast manhole not required, provided suitable scabbling done as per drawing.	N/A
99	Patersons	Appendix B	Appendix B Dwg B1-8	Omissions	Missing corbel details. We request that QLDC provides further advice for corbels and reinforcement at those pipe connections as a baseline for construction of this standard connection. Many councils have detailed this and the district can refer to those details to inform their design.		No	Reinforcing tie in of corbel to precast manhole not required, provided suitable scabbling done as per drawing.	N/A
100	Patersons	Appendix B	Appendix B Dwg B1-9	Omissions	Detail refers to compacted drainage metal (AP20), but does not provide an appropriate specification of the AP20 materials mentioned.		No	Outside of scope of these revision. To review and confirm in next stage of updates, in conjunction with the M/4 2024 updated guidelines.	N/A
101	Patersons	Appendix B	Appendix B Dwg B3-5	Omissions	Missing corbel details. We request that QLDC provides further advice for corbels and reinforcement at those pipe connections as a baseline for construction of this standard connection. Many councils have detailed this and the district can refer to those details to inform their design.		No	Reinforcing tie in of corbel to precast manhole not required, provided suitable scabbling done as per drawing.	N/A
102	Patersons	Appendix B	Appendix B Dwg B3-6	Omissions	Missing corbel details. We request that QLDC provides further advice for corbels and reinforcement at those pipe connections as a baseline for construction of this standard connection. Many councils have detailed this and the district can refer to those details to inform their design.		No	Reinforcing tie in of corbel to precast manhole not required, provided suitable scabbling done as per drawing.	N/A
103	Patersons	Appendix B	Appendix B Dwg B4-2	Note 4. PIPES IN TRAFFICABLE AREAS WITH LESS THAN 1.0 m COVER SHALL BE CONCRETE CAPPED, AND PIPES WITH LESS 0.6 m COVER SHALL BE CONCRETE ENCASED. THE CONCRETE ENCASEMENT SHALL BE REINFORCED CONCRETE AND STRUCTURALLY DESIGNED FOR REQUIRED DESIGN LOAD BY A STRUCTURAL ENGINEER.	This is a standard detail that most councils provide advice for (refer to CCC CSS SD342) standard roading conditions HN-HO-72. Conditions beyond this standard would be expected to have a specific design by a structural engineer. We request that QLDC engage a structural engineer to confirm as standard concrete capping detail with the required reinforcing for HN-HO-72 loads.		Yes	Good suggestion. Have adopted a detail for some cases and will be looked at further next stage of Code of Practice updates which will have a primary roading focus.	As per updated drawing
104	Patersons	Appendix B	Appendix B Dwg B5-18	NOTES: 1. DESIGN OF ALL RESIDENTIAL CROSSINGS TO COMPLY WITH DISTRICT PLAN REQUIREMENTS. 2. CROSSING CONCRETE TO BE 125mm THICK REINFORCED WITH STRUCTURAL MESH, CENTRALLY PLACED. 3. SURFACING TO BE CONCRETE WITH A MINIMUM CRUSHING STRENGTH OF 20MPa AT 28 DAYS, OR 30mm DG7 ASPHALT (NZTA M10 Notes TABLE N3.3), OR 2 COAT SEAL.	Note 2 No specification for Mesh. Recommend 665 as minimum placed in the top third per Branz and CCANZ specifications. Also note reinforcement is only to control shrinkage cracks from developing. Note 3 30MPa concrete mentioned elsewhere. Recommend this is the minimum crushing strength. Can QLDC advise on spacing of Sawcuts, tied joints, control joints and free joints inline with advice from CCANZ? No slip surface on base of concrete, CCANZ recommends either 2 layers damp proof membrane (DPM) or membrane surface to reduce friction at base.		No	Mesh outside of scope of these revision. To review and confirm any changes in next stage of updates. Concrete left as 20 Mpa.	N/A
105	Patersons	Appendix B	Appendix B Dwg B5-19	Vehicle Crossing - Commercial/Industrial	As per requirements of other councils these details are typically specifically designed as pavement depends on specification of actual traffic. Note 2 No specification for Mesh. Recommend 664 as minimum placed in the top third per Branz and CCANZ specifications. Also note reinforcement is only to control shrinkage cracks from developing. Note 3 30MPa concrete mentioned elsewhere. Recommend this is the minimum crushing strength. Can QLDC advise on spacing of Sawcuts, tied joints, control joints and free joints inline with advice from CCANZ? No slip surface on base of concrete, CCANZ recommends either 2 layers damp proof membrane (DPM) or membrane surface to reduce friction at base. Scope of this detail should expand to multi-unit developments and private		Yes	Mesh outside of scope of these revision. To review and confirm any changes in next stage of updates. Concrete changed to 30 Mpa.	As per updated drawing

106	Patersons	Appendix B	Appendix B Dwg B5-22	Regular/Heavy Duty Concrete Footpath	Mesh shall be in the upper third of slab. Mesh should be 50mm away from edges of slab. Heavy Duty concrete shall have 664 mesh. Regular concrete footpath shall have 665 mesh. Transverse Saw cut joints shall be specified as every 3m.		No	Outside of scope of these revision. To review and confirm any changes in next stage of updates.	N/A
107	Patersons	Appendix B	Appendix B Dwg B5-8	No. 2A Commercial Crossing	Missing size of stirrups holding D12 bars in place. Stirrups need to end 50mm from edges of the kerb.		Yes	Agree, have updated for clarity. Stirrups are to be R6 at 600mm centres as default and this updated in drawing. It is possible that some designers may look at other alternatives for greater reinforcing or construction methodology purpose.	As per updated drawing
108	Patersons	Roads	Clause 3.2.7	Safe system audits	Why team consisting of minimum of two people. The latest guidance form NZTA includes allowance for RSA's to be completed by a one-person team if the person is sufficiently experienced and capable of the audit requirements for the project. Wording is not clear "Safe System audits should be completed by suitably qualified persons are independent from the project" QLDC often confuse that the two people undertaking the inspection are independent of each other – not independent of the project.		No	No change, default minimum of two people for the audit team, one person approved by exception if project is small/simple.	N/A
109	Patersons	Roads	Clause 3.3.2.5	Design vehicles	The design vehicle for a 5.7m road should not be an 8m rigid truck. Allowing for clearance lines, it doesn't physically fit within a 5.7m carriageway. 8m rigid Truck width = 2.5m. Assuming 5.7m IOK to IOK which is our current standard, two trucks passing consists of: - 0.5m clearance to IOK - 2.5m truck - 0.5m clearance between vehicles - 2.5m truck - 0.5m clearance to IOK 6.5m total width in a 5.7m movement lane. No issues on larger roads.		No	Agree likely appropriate, however this will be looked at in next stage of COP review which will have a roading focus. Exemptions will likely continue to be in place and approved, as current process in reality.	N/A
110	Patersons	Roads	Clause 3.3.3	Generally pavements shall be flexible designs. Other types of pavements shall be subject to TA approval. Pavements shall be designed in accordance with the NZTA NZ Guide to pavement structural design and NZ guide to pavement evaluation and treatment design with a design life of 25 years	Change design "life" to design "period" -Austroads AGPT02-24 "Guide to Pavement Technology Part 2:Pavement Structural Design" should be used along with the NZ supplement.		Yes	Added reference and updated other Austroads guides dates/revisions. Change to design life not updated. NZ document refers to life, Austroads refers to period generally, but interchanges sometimes with life. Not seen as an issue, and leaving as is to keep consistent with COP document.	Add - and Austroads Guide to Pavement Technology Part 2: Pavement Structural Design
111	Patersons	Roads	Clause 3.3.3.2	Omissions	Add to last paragraph "In the case of roads with concrete surfacing, designers must submit design modelling using CCANZ or AustroadsAGPT02-24 Part 2."		No	Defer to next COP review with roading focus. Noting this is what designers typically are using and we are not seeing issues with this currently. Item about deflections is more in relation to design deflections not being considered in past, and issues coming when testing during construction and considerable cost and outlay already in place. Same deflection issues not being seen with Concrete.	N/A
112	Patersons	Roads	Clause 3.4.11	Omissions	Add a maximum deflection for values outside the 90th percentile, such as 2.5mm for ROW, 2.0 for Local Road, 1.5 for minor collector, 1.2 for collector		No	Already states maximum deviation in section. Factor can be simply added. Not necessary to add extra items to table.	N/A
113	Patersons	Roads	Clause 3.4.4.4	Omissions	Wire Mesh Shall be minimum 664 and placed in the top third of the concrete pavement. -Concrete shall be underlain with two layers of Damp Proof Membrane (DPM) or membrane seal to provide a slip layer and reduce shrinkage friction. -Sawcuts, longitudinal joints, transverse joints and free joints shall be		No	Defer to next stage - capture in advice note or subsequent COP update	N/A
114	Patersons	Stormwater	Clause 4.3.10.3	Any MH with 3 or more inlets is required to be a minimum of 1200mm diameter, and comply with requirements as per Appendix B Drawing B1-5.	There is no mention in any of the manhole details as to design requirements for corbels. Pre-cast manholes are standard product for drainage infrastructure and QLDC's guidance of what is necessary for corbels at pipeline connections would be an important detail to have. Most major council have guidance to support a design for QLDC to consider and we request they set a baseline for this connection detail.		No	Reinforcing tie in of corbel to precast manhole not required, provided suitable scabbling done as per drawing.	N/A
115	Patersons	Stormwater	Clause 4.3.5.1.1	A simple catchment is defined as: • Less than 10ha; • Homogeneous surface conditions; and • Has no external catchment overland runoff onto the development. • Does not discharge to a sensitive receiving environment. A complex catchment is any catchment that does not meet all the definitions of a simple catchment above.	Homogeneous surface conditions' could be interpreted to excludes all urban catchments with impermeable surfaces. Something like 'Standardised surface conditions' would be more suitable word choice. What is an external catchment – a catchment off site? if interpreted wrong there would be almost zero catchment assessments defined as simple. They would need to be located on the crest of a knoll not to have any external catchments		Yes	Homogeneous removed as requirement based on feedback. External changed to significant external.	Remove - Homogeneous Add - "significant" external

116	Patersons	Stormwater	Clause 4.3.5.1.3	Post-development catchment runoff calculations for the primary stormwater network must use HIRDS V4 RCP 6.0 for 2081-2100 rainfall intensities and depths at a minimum. Post-development catchment runoff calculations for the secondary stormwater network must use HIRDS V4 RCP 8.5 for 2081-2100 rainfall intensities and depths. Pre-development catchment runoff calculations must use HIRDS V4 historical rainfall intensities and depths.	This new requirement for rainfall estimates will greatly increase the demand on SW attenuation beyond the standard practice of matching pre to post. We request the RCP6.0 for 2081-2100 be used for both pre and post for design of primary/secondary stormwater systems. The historic rainfalls can be used as a check to confirm there would not be and additional risks from storms in the current estimates. RCP8.5 for 2081-2100 can be reserved for high risk facilities meeting the importance level 4 or higher as this rainfall is an extreme limit of what IPCC have determined.		No	This has been looked at, and we proposed to keep as per consultation document in line with other council standards across New Zealand. RCP8.5 is not an new requirement, and is consistent with previous revisions.	N/A
117	Patersons	Stormwater	Clause 4.3.5.1.4	For simple catchments with a time of concentration ≤ 10mins (pre-development and post-development) a Rational excess rainfall hyetograph and a triangular unit hydrograph with the time to peak equal to the 3/4 the time of concentration and base time equal to the 2 times the peak time can be used.	It is widely acknowledge from SW modelling experts that applying this method to determine runoff volumes have been found to be "difficult to make use of the Rational Method results to estimate detention storage". Although a triangular hydrograph has been specified it is known that "it is difficult to conclude that a single shaep should be representative of all catchments.". Should QLDC insist on this approach it would be recommended to limit its application to developments of 0.5ha or less to reduce the risk of an undersized attenuation system effecting the over all SW network. Refer to paper by M. Pennington "Rational method frequently used, often misused".		Yes	Adopted change to limit at 0.5ha	Add - with an area of 0.5 ha or less
118	Patersons	Stormwater	Clause 4.3.5.1.4	software modelling must be used with a 24-hour Nested Storm Hyetograph created for the design storms in Section 4.3.5.1.2	QLDC should identify the temporal design storm/pattern to be used as this can effect results greatly. In previous experience the Auckland Region 24hr Design storm has been applied in the district. This pattern greatly over estimates the peak runoff due to it matching the tropical climate of Auckland. We request that the HIRDS temporal design storm for the West of SI be used as this was based on rainfall data analysis carried out by NIWA and is more representative of the Alpine environment present in the district		No	Good suggestion and agree would be beneficial. Intention is to work to develop these profiles, test and calibrate and provide further details and guidance as subsequent advice note. Spatial variance across the district also needs to be considered for this. Timings out of scope for this Code of Practice updates. In the interim a 24 hr nested storm profile can be created based for site specific rainfalls based on Hirds data (this would incorporate West SI analysis)	N/A
119	Patersons	Stormwater	Clause 4.3.5.1.4	All complex catchment modelling must follow a well-established stormwater hydrology, hydraulic and modelling methods. All complex catchment modelling that deviates in any way from the method provided in the Code above must be preapproved by Council and modelling results will require verification by a Council app	The method provided in the code above is not fit for the purpose of a complex catchment. As per SW modelling experts, rational method or modified rational method as its sometimes called is "difficult to make use of the Rational Method results to estimate detention storage". We request that methods such as the SCS or others used to determine runoff volumes be listed as approved approach with out prior verification by council. Refer to paper by M. Pennington "Rational method frequently used, often misused".		No	Modified rational method not to apply for complex catchments, and SCS or others would apply.	N/A
120	Patersons	Stormwater	Clause 4.3.5.1.4	A complete copy of all stormwater models shall be provided to Council at no charge if requested. All underlying assumptions (such as catchment areas, time of concentration and losses, etc.) shall be clearly stated so that a comprehensive review of calculations and results is possible. Applicants should provide access to a PC with modelling licence and the stormwater model if needed.	QLDC should identify softwares that are approved for use as a baseline for stormwater modelling. There are many free modelling softwares availible from USACE and the requirement to provide a specialist PC with modelling license should only be reserved for applicants who chose to use other paid programmes.		Yes	Limiting software too restrictive, however have provided another alternative option to providing PC with license	Add - or be prepared to present and explain the model in detail with a suitably qualified person if requested.
121	Patersons	Stormwater	Clause 4.3.7.1	At Councils discretion and unless it can be shown not possible, Stormwater quality management devices should treat the first 20mm of rainfall from the Post-development catchment and should attempt to direct a minimum 5mm rainfall to ground through soakage.	Please clarify if the 5mm reserved for ground water recharge is included in the first 20mm for treatment or if this is on top of the first 20mm and therefore 25mm overall treatment/GW recharge.		Yes	Clarified the 5mm is included	Add - Of this, a minimum of 5mm rainfall should be discharged to ground through soakage where feasible.
122	Patersons	Stormwater	Clause 4.3.7.1	At Councils discretion and unless it can be shown not possible, Stormwater quality management devices should treat the first 20mm of rainfall from the Post-development catchment and should attempt to direct a minimum 5mm rainfall to ground through soakage	Please specify the method for calculating the water quality or first flush volume for the initial 20mm of rainfall. CCC VWDG part B Eqn 6-2 provides a method for determining this volume, which is appropriate to New Zealand South Island conditions. Alternative approaches from other parts of New Zealand may over estimate this volume.		Yes	CCC is essentially runoff from the impervious area. QLDC adopting similar approach (i.e grass not considered), have clarified this further. Runoff is run off from impervious area, this can be calculated in several different ways (i.e. taken from a hydraulic model if applicable) so this not specified. 2.5mm ponding on hardstand not considered, however worth noting total rainfall amount provided is less than CCC specified 25mm rainfall.	Added clarification - Stormwater quality management devices should treat the runoff from the first 20mm of rainfall from the post-development catchment impervious area.

123	Patersons	Stormwater	Clause 4.3.7.12.10	Table 4-7 Test undertaken at a time when groundwater is at an annual high.	This would restrict all consultants to undertaking test at only one time each year, which would be difficult to predict. Each project would be put on hold until tests could be undertaken... A more effective approach would be to allow for testing at any time and then confirm proximity of GWL near test site to confirm a certain degree of freeboard such as 500mm above seasonal high GWL.		No	No change, if one was to verify with new testing that would mean lower quality factor could be used. If no groundwater to consider (well below surface at all times) would be considered that testing is at all time relevant high (i.e. frankton flats)	N/A
124	Patersons	Stormwater	Clause 4.3.7.12.10	Factor of Safety (FoS). A risk-based design is required by Council for all soakage devices. This ensures design unknowns are considered and factored into the design of all soakage devices so that the intended functionality and design life of the soakage device is achieved.	This standard is complex to implement and potentially could yield FoS over 7, which is over the top. We understand this requirement was taken from Auckland Council document GD-07, which accommodates the dense developments types and variable geology that forms New Zealand's most populated region. The Queenstown Lakes district is still a mostly rural region with small pockets of urban development. The geology of the district is not variable and largely consists of Mesozoic shists and fluvioglacial deposits. We request the district consider a standard FoS such as recommended by CCC WWDG, which indicates a reduction factor of 3.33. This factor is more than appropriate for south island conditions and is generally lower than the minimums set by NZS4404:2010 (FoS min 2).		Yes	Have removed consequence level 4, agree appropriate that FOS over 7 is not appropriate and would be best to look at on case by case basis (noting this would be soakpits that failure will cause significant damage). Most of FOS largely sit between 2 - 2.7, max at 6 (unlikely and this could be avoided). Absolute minimum factor of safety of 2 use as well (as per previous versions)	Remove - Consequence Level 4 Add - Minimum Factor of Safety of 2 Reformatting and clarifications made
125	Patersons	Stormwater	Clause 4.3.7.12.14	Soakage tests in Coarse grained soils (Soils whose individual grains are retained on a No. 200 / 0.075 mm sieve).	The method described in this section would be difficult to achieve a reliable test due to the accuracy required to dig a test hole at depth, while meeting requirements of Health and Safety. A more reliable method would be to dig a test pit to desired test level and install a 150mm open bottom PVC pipeline and backfill the base with either on-site silts/clay or bentonite clay to a depth of 300mm min. Then back fill pit with dug spoil. Due to anticipated rate of drain down measurement via data logger may be required. This would require much less water to pre-soak hole and test multiple times if required. Pipe can be left for further measurements of GWL and testing.		Yes	Agree, have reformatted section, and made less prescriptive for soil types, permitting one to use a borehole method if appropriate	Misc - Reformat and reword to clarify and make less prescriptive
126	Patersons	Stormwater	Clause 4.3.7.12.15	Soakage tests in fine grained soils (50% or more material passing the No. 200 / 0.075 mm sieve) and rock. (i) All soakage testing of fine-grained soils or rock must be undertaken using the Constant Head Test (Talsma-Hallam permeameter) prescribed in Auckland Councils GD07 guideline, Appendix A1.5.	This method refers to an Auckland Council test method, which matches the geology for the Auckland Region. A more reliable test method would be to follow CCC WWDG Appendix App6, which provides multiple methods for measuring shallow (double ring infiltrometer) and deep permeabilities in the south island.		Yes	Double ring infiltrometer methodology added, referring to CCC	Add - Alternatively, a double ring infiltrometer may be used instead of the Talsma-Hallam permeameter detailed in Appendix A1.5. Use of a double ring infiltrometer is to follow the methodology prescribed in Christchurch City Councils WWDG Appendix 6.2.
127	Patersons	Stormwater	Clause 4.3.7.12.7	Soakage pits on individual lots must provide an Operation and Maintenance manual with body corporate agreement to maintain the soakage pit in perpetuity	Not all soak pits on individual lots are maintained by privately and not all individual lot owners are part of a body corporate. Can the district clarify when it is to be applied.		Yes	Agree, clarification needed. Soakpits in individual lots would be building consent and wouldn't fall under this. Communal soakpits privately owned would have body corporate or similar structure and need O&M manuals and agreement to maintain generally. Exceptions to this to be looked at on case by case basis	Update - Any privately owned soakage pits covered under this Code of Practice must provide an Operation and Maintenance manual and an agreement to maintain the soakage pit in perpetuity from body corporation or other ownership structure.
128	Patersons	Stormwater	Clause 4.3.7.12.9	A removable 160mm draincoil pipe in a filter cloth sleeve.	Not all soakage devices will have a drain coil pipe on filter cloth sleeve – too prescriptive. We request this is removed from the requirement and let it be the designer's choice whether it is allowed for in the design.		Yes	Have been numerous cases around district where filter socks useful and have prevented systems being clogged and expensive repairs. If being vested operations want it like this generally, so no major change. Note added however about alternative options.	Add - Alternatives approaches to the above for vested soakage devices may be approved at the discretion of Council. Pre-treatment, sediment ingress, design life and maintenance will be key considerations of this.
129	Patersons	Stormwater	Clause 4.3.7.2	Water quality monitoring Following the completion of all development works and commencement of full operation of the stormwater quality management device(s), visual discharge and sediment retention inspections will be undertaken and recorded by the developer for a period of no less than 2 years or as set out in the Stormwater DA.	Please specify the guideline values or trigger levels for Water quality monitoring and any other treatment objectives to be carried out by developer.		No	These are based on current requirements of stormwater discharge in accordance with integrated three waters bylaw	N/A
130	Patersons	Stormwater	Clause 4.3.7.3	Proprietary systems Unless specified in the LDCSoP approved materials specification, proprietary BPO systems will be accepted by QLDC	There are no approved proprietary systems noted in the approved materials list although there are a number of BPO systems in use in the district. Can the district update materials list to be inclusive of these devices and the applicability of them for use?		No	Please submit any approved material list requests as per portal. Approved materials list sits outside COP (so have adjusted accordingly). Currently wording is for proprietary BPO systems will be accepted by QLDC on the provision of third-party performance verification and prior approval from QLDC Operations and Maintenance.	N/A

131	Patersons	Wastewater	Clause 5.3.10.8	Flow Metering Any proposed water supply connections off a Council Trunk Main for subdivisions must provide a bulk flow meter with connection to QLDC Telemetry unless otherwise agreed with P&I or approved by the Chief Engineer.	unless the connection is replacing an existing connection		No	O&M identified several examples where we need. Want to have where possible as default, and if not required/possible applicant justifies and council reviews as outlined in current code.	N/A
132	Patersons	Wastewater	Clause 5.3.5.5	Self-cleansing velocities can be demonstrated by: • Adopting the minimum pipe grades in Table 5-4 and Table 5-5; and	Revisions to absolute minimum gradients in table 5-4 are in line with Watercare waste water code of practice, which represents the conditions in the Auckland Region. These minimum are much higher than the previous minimums and those contained in NZS4404:2010, which has been used reliably in NZ by many districts outside of Auckland. We request the district maintain the minimum grades as set out in NZS4404:2010 as it is more representative of the region/conditions the district operates in.		Yes	Agree based on reviewed impacts, flow velocities of different grades pipe, implications and other standards across country.	Revert back to 2020 COP/grades. Comment on self cleansing changed to 'or' from 'and'
133	Patersons	Wastewater	Clause 5.3.8.4.9	Any MH with 3 or more inlets is required to be a minimum of 1200mm diameter, and comply with requirements as per Appendix B Drawing B1-5.	Un-necessary cost increase. Surely manhole size should be dictated by CPAA guidelines? For example, a Ø1050 manhole with 4 x Ø150 pipes @ 90° easily complies with CPAA clearances. -There are certain circumstances where a larger manhole is justified – e.g. internal drop structure.		Yes	Agree with submission. Section removed altogether, noting designer can check and smaller manhole could be used if CPAA guidelines and QLDC requirements in Appendix B able to be met	Remove - Concrete manholes with 3 or more inlets are required to be a minimum of 1200mm in diameter
134	Patersons		Clause 8.4.6	Omissions	There is no mention of the standard backfill requirements for common service trenches. We request the district to provide some guidance for appropriate materials to use in these trenches.		No	Outside of scope of this review, can be looked at in next stage.	N/A
135	QLDC - Alison Tomlinson		Clause 1.1.1	Traffic Signal Data Submission	Specify better data required for signals in the signals guidance	1.1.1 Provision of RAMM Data The data for all assets installed and specified in the detailed design must be provided and must be compliant with the Asset Management Data Standard. This includes all assets related to the signals, and any additions or amendments to (but not limited by) e.g. drainage kerb and channel, catchpits, footpaths, lighting, lines, signs, surface, pavements. Submission of data can be via two options: Utilising the RAMM sheets found on the QLDC Website – or available on request from assetmanagement@qldc.govt.nz . Entered directly into the QLDC RAMM database, please contact assetmanagement@qldc.govt.nz to request access. This includes attaching relevant multimedia into RAMM. Practical completion will not be issued until data submission is approved.	Yes	Adopted suggestions	As per submission
136	QLDC - Gina Schmitz			Street lighting	Include Warranties for luminaires, warranties for poles, street light location plan with marked up pole numbers		Yes	Minor update	As per suggestion
137	QLDC - Gina Schmitz				the requirements for us to take on any work for 2nd coat seals (pre-paid by developer) will have to be updated please. Council will only take any 2nd coat seals into their sealing programme if all of the following requirements are fulfilled: NOT private roads, driveways or private accessway Minimum 2nd coat seal width: 5.5m Minimum 2nd coat seal length: 100m There might be certain circumstances where QLDC will be able to offer the pre-paid option even though the required min. dimensions are not fulfilled (e.g. multiple slightly shorted stretches in the same area), however, written pre-approval must be obtained by P&I beforehand.		No	Outside of scope of this review, can be looked at in next stage.	N/A
138	QLDC - Gina Schmitz				Regarding the road naming stage, it could be quite handy for us to get at least a draft plan of the planned project at road naming stage which includes chainages of the roads to be constructed. This would help us being able to match the directions of our RAMM centrelines to the ones from the plans.		No	Will be requested during road naming application form	N/A
139	QLDC - Hayden Bed	General	Clause 1.9	Bond and charges	Bonds currently too lenient – it should state they are at TA discretion, and we have right to decline.		No	Outside of original consultation scope, to address in next stage.	N/A
140	QLDC - Hayden Bed	Roads	Clause 3.3	Shoulder upgrade	We need enhanced criteria to ensure that more than just the shoulder is upgraded for access into larger developments (20+ Lots? e.g. hogans gully). I.e. testing/inspection of the exiting road and ensure adequate for new development. And how far each way (not just for sight distance/safety but for protection of our asset!?).		No	Outside of original consultation scope, to address in next stage.	N/A
141	QLDC - Hayden Bed	Roads	Clause 3.4.3	Failed Road surfacing and sealing	Rework of failed surfacing and sealing (based on test results) – when to local patch repair and when to rip up and remake full width? – testing criteria for rework? – this has been a significant issue last season for failed AC.		No	Outside of original consultation scope, to address in next stage.	N/A

142	QLDC - Hayden Bed	Stormwater	Clause 4.3.5	Design criteria	Should we add criteria for frequent storms (+50%AEP) as these also seem to be causing some issues around network (e.g. Wanaka)?		Yes	Adding 2 year as elaboration on the 'all events to be maintained' for overland flow discharges	Reformat for clarity Add - These are to be checked and shown for a 50% AEP, 5% AEP and 1% AEP event at a minimum
143	QLDC - Hayden Bed	Stormwater	Clause 4.3.5	Design criteria	Should we include a criteria to take account of chanellisation (intensification) of flows – i.e. we have issues where post-development flow is less than pre-development but because it's been changed from sheet flow to channelised, it's causing problems. (many examples!)		No	Covered under 4.3.5.1.2. 'All overland discharges and discharges to informal waterways must maintain downstream hydrological regimes for all storm events through onsite attenuation and multiple storm event outlet controls. The downstream flows must replicate pre-development hydrological regimes. If the pre-development hydrological regimes are not mimicked, it shall be justified to Council satisfaction why this can't be achieved and why the altered downstream discharge is acceptable.'	N/A
144	QLDC - Hayden Bed	General		Requirements of Inspection and Test Plan	I think we should require an Inspection and test plan be submitted as part of design – to enable council to audit and inspect during construction. And provide as good evidence for 224c.		No	Outside of original consultation scope, to address in next stage.	N/A
145	QLDC - Hayden Bed	General		Schedule/indemnity	I think we need a hold point or extra requirements when the supervising SQEP is different to designer SQEP (or any change of designer/engineering/surveyor) to ensure competency, consistency and indemnity not impacted.		No	Outside of original consultation scope, to address in next stage.	N/A
146	QLDC - Sarah Thompson	General			Add requirement to notify QLDC for classifiable dams	Make the acceptance of future water storage areas notify us if they are a classifiable dam in the next code of practice document?	Yes	Agree	Designers are to check if any future storage areas are classifiable dams. All relevant ORC requirements and guidelines are to be followed. QLDC Property and Infrastructure department must be notified on the classification status if found to be a dam.
147	RDA Consulting	Stormwater	Clause 4.3.7.12.1		Wrong section stated for consequence levels, should be 4.3.7.12.10		Yes	Yes, agreed. However upon review, found this section not necessary and have removed.	Removed
148	RDA Consulting	Stormwater	Clause 4.3.7.12.15		Equation shown is for a falling head test, constant head equation from Auckland Council GD07 Appendix B1.2 is appropriate		Yes	Agreed. However, have removed this and added reference to GD07 as more complete methodology	Remove formula and add reference to GD07
149	Remarkables Park Limited	Other	Clause 1.8.7.3		RPL continues to have a major concern with the departure from NZS4404:2010 that is made at 1.8.7.3. 1.8.7.3 states: "The developer shall give the network utility operator 15 working days' notice of intention to connect to existing services. Where required, new services shall be tested and approved by the network utility operator prior to connection." The New Zealand Standard requires a developer to give 5 working days' notice of an intention to connect to existing services. RPL submits that Council should be embarrassed that it has set itself a performance standard that is three times worse than a national standard. Council should be aspiring to provide better than average performance to its ratepayers. It would be far better to accept the benchmark set in the New Zealand and fail occasionally than to indicate that Council is prepared to accept such low standards for itself. This is especially so when the other changes that Council has made to NZS4404:2010 over the years are all aimed at raising the standards that developers should meet.		Yes	Agree, should aim for less. Talks with Veolia have reduced to notification period to 10 working days, looking to reassess and further reduce in future.	Update - to 10 working days
150	Remarkables Park Limited	Roads	Clause 3.3.11.2	Cycle Facilities	There is a proposed insertion at 3.3.11.2 that includes the following statement: "Cycle facilities may be required as part of a subdivision resource consent at Council's sole discretion." RPL has a problem with this proposal; not because RPL is against cycle facilities (indeed there are more cycle lanes in Remarkables Park than in other parts of the district), but because this statement is factually incorrect. In its current form, there is an inference that the above statement applies to all subdivisions. Most urban subdivisions are Restricted Discretionary Activities (RD). Rule 25.5.7 of the District Plan lists the matters over which Council has reserved discretion for those subdivisions and cycle facilities are not listed there. If, in respect of an RD activity, Council has not reserved discretion over a matter (such as cycle facilities), then it does not have discretion to require it in a subdivision consent. Nor can such a requirement be introduced by way of the QLDC LDSC 2024. Council has reserved discretion to require cycle facilities in respect of a very limited number of RD subdivisions (see 27.5.9, 27.7.9, and 27.7.14 for example) and could be argued to have such a discretion in respect of Discretionary and Non-Complying subdivision consents. The statement: "Cycle facilities may be required as part of a subdivision resource consent at Council's sole discretion", should be deleted or should be amended to apply only to the very few zones and subdivision consents where Council actually has such a discretion.	Additionally - The final paragraph in this section is worded too broadly, and would exceed council's powers as written. The following alternative is proposed. If there are conflicts between the Code and other documents referenced in this section with regards to cycling facilities, the Code supersedes the direction provided in all the other relevant documentation	Yes	Agree	Updated as per submission

151	Remarkables Park Limited	Roads	Clause 3.3.6	Car Parks	In the following statement, “Public parking and loading can be provided either on-street including indented, or off-street in vested public car parks”, the underlined words are proposed to be added. The suggestion is problematic. It is not at all clear what a vested public car park is. •Is the suggestion that all public parking provided off street must be vested in Council? •Is this intended to be mandatory or at the developer's option or at Council's option? •Has Council considered the implications of Council owning the land on which the parking spaces would be situated? •Would it be intended for the land to be held as fee simple or local purpose reserve parking or have some other status. •Would Council wish to take over the maintenance (sealing and line marking and landscaping) responsibilities for numerous pockets of parking dotted around the district? •Will it likewise wish to take over the monitoring, policing of time restrictions and removal of abandoned vehicles from such parking areas? •Can a developer choose to call a parking area “public parking” and vest it in Council as a means of avoiding responsibility for all future commitments related to the land, including payment of rates? In RPL's submission, this proposed insertion should be deleted. It is noted that C3.3.6 still purports to impose parking minimums. Council will be aware that it has been required by statute to remove parking minimums from its District Plan and can no longer impose such minimum parking requirements. The old minimums have been removed from the District Plan and the purported parking minimums should be removed from QLDC LDSC		Yes	Agree	Updated as per submission
152	Remarkables Park Limited	Roads	Clause 3.3.9	Bus stops	There is a statement included in 3.3.9 that: “Bus Stops may be required as part of a subdivision resource consent at Council's sole discretion”; Similar to the comments above related to 3.4.11.2, the District Plan does not appear to have reserved a discretion to require bus stops in respect of RD subdivisions. If this statement is intended to apply to all subdivisions, then it is factually incorrect. This statement should be removed or amended to refer only to the subdivision resource consents to which it might apply		Yes	Agree	Updated as per submission
153	Remarkables Park Limited	Other		Format of the document	There is one very valuable change that should be made to the format of the document. It would be a simple change to effect because QLDC LDSC 2024 is a digital document. There is no complex printing cost associated with this change. QLDC LDSC 2024 is based on the New Zealand Standard NZS 4404:2010 that applies throughout New Zealand. It is valid for QLDC to make its own amendments to the New Zealand Standard so that it better applies to the Queenstown Lakes environment. However, recognising the drive to have more National Environmental Standards under the RMA and recognising the intention to standardise the format and language of district plans throughout New Zealand, it is important to illustrate the places where QLDC LDSC 2024 differs from NZS 4404:2010. To date there have been thirteen different sets of amendments to QLDC LDSC 2024. The proposed amendment will be the fourteenth. It is submitted that, when the current review of QLDC LDSC 2024 is complete, all current and past insertions and amendments made by QLDC should be readily identifiable. This could be simply achieved using coloured text and strikethrough (strikethrough). The original text of the New Zealand Standard could be shown in black and all amendments that have been made by QLDC to date could be shown in a single coloured text. One argument for doing this is that it would enable professionals, who use NZS 4404:2010 in other districts, to easily identify where different standards apply in the Queenstown Lakes District. More importantly, it would allow all users of the QLDC LDSC 2024 to better understand the matters that are important to consider when working in the Queenstown Lakes District and gain an appreciation of the environmental	Please Note: If the above suggestions do not resonate with those drafting the document, RPL requests the opportunity to discuss any concerns before the document is finalised. As we have said in the past, the three minutes given to parties to speak at a Full Council meeting about technical matters such as these makes a mockery of the concept of consultation and engagement. A brief, two way conversation, over the phone or across a table, between parties who understand the issues, before the document is finalised, would do much to allay this concern.	No	Have discussed with submitter. Outside of original consultation scope, will look at resource to do this in future. At present best would be to look at documents in conjunction if wanting to see where differences are.	N/A
154	Southern Land #2	Appendix B	B4-2	Requires all concrete capping and concrete encasement of pipes to be structurally designed by a structural engineer which is over the top.	Proposed change : Provide standard detail with reinforcing specified for different loading scenarios similar to what Christchurch City Council has done i.e commercial crossing, residential crossing	Standardises design so QLDC know exactly what they are getting.	Yes	Good suggestion. Have adopted a detail for some cases and will be looked at further next stage of Code of Practice updates which will have a primary roading focus.	As per updated drawing
155	Southern Land #2	General	Clause 1.3.3	Building Act	The current clause is silent on private infrastructure on private property and doesn't prevent designs from having to be submitted for both EA and BC approval which often leads to conflicts between design standards and confusion regarding who will be doing the QLDC inspections (subdivision inspector or building inspector, or both?). Proposed change : Amend clause to state that public infrastructure must be designed to the QLDC LDSCP but private infrastructure on private land may be designed to NZBC. Private infrastructure = NZBC Public infrastructure = EA .	Provides clarity on the required design standard, which legislation the design is being approved under and who will be doing the compliance inspections from QLDC	No	Too complex to differentiate for every scenario, and want to have the higher standard in place in case. Particularly complex in the case of stormwater. Will have some additional information sessions/training between EA team and building team, with P&I involvement to ensure a consistent approach	N/A

156	Southern Land #2	Roads	Clause 3.3.16.3	Requiring pavement design of private pavements and entrances to the same level as public roads introduces significant time and cost for most simple developments, where standard pavement details are appropriate for most applications.	Propose change: Amend clause as follows: "Private pavements shall be designed as for public roads but [adequate to carry the expected load over its design life, with] no residential or rural pavement shall have [having] a minimum formation thickness of less than 150mm for flexible pavements or 100mm for concrete pavements. [For typical details of appropriate pavements see Appendix B Drawing ###]" (Refer Hamilton City Council RITS Clause 3.3.19.2, and drawing D3.3.5)	Standard pavement designs are appropriate for the majority of footpaths and vehicle crossings, and including acceptable typical details for these applications will simplify and streamline the preparation and processing of most simple development EA applications.	No	Good suggestion. Will be looked at in the next stage of Code of Practice updates which will have a primary roading focus or a future advice note.	N/A
157	Southern Land #2	Stormwater	Clause 4.3.5.1.3	Clause 4.3.5.1.2 which requires historic pre and post development and rainfall adjusted pre and post development flows to be compare conflicts with clause 4.3.5.1.3 which requires pre-development flows to be calculated using historic rainfall intensities	Amend clause 4.3.5.1.3 to match the intention clause 4.3.5.1.2	Removes confusion regarding which rainfall intensities need to be used. Based on 4.3.5.1.2 it sounds like QLDC's intention is that the post development flow shouldn't exceed the predevelopment flow both in the current case as well as the future case which we agree is a sensible approach which compares existing with existing and future with future flows	Yes	Agree - contradictory information. Reviewed and reformatted to say pre-development can use climate change rainfall also (depending on scenario comparision)	Misc - Reformat and reword to clarify
158	Southern Land #2	Stormwater	Clause 4.3.5.2	Freeboard Requirements	Issue with clause : The current clause is confusing and could be misinterpreted. Our understanding is that the freeboard requirements apply to sites where pluvial and fluvial flooding occurs and causing ponding on site, and that the 500mm offset from the bottom of the slab to the top computed water level doesn't apply where there is no likelihood of ponding or flooding occurring on site. Proposed change: Reword to clarify what the 'computed top water flood level for the 1% AEP storm' means and provide a diagram.	Provides clarify on freeboard offsets to be used for design.	No	No catch all definition appropriate, adding risk and/or potential problems to specify. Common sense with be for small surface ponding, small flows and/or catchments to be considered as could be relaxed from this as required but to look at on a case by case basis.	N/A
159	Southern Land #2	Wastewater	Clause 5.3.10.8		This clause relates to water supply – we assume that this has been included by mistake.		Yes	Error in location	Moved to water section under connections
160	Southern Land #2	Water	Clause 6.3.14.1(g)		Issue with clause : This states that valves should be located on all legs of a junction – its unclear if this relates to public mains and commercial connections only or also to residential development connections? We don't think that the intention is to have two valves installed on the public for every connection (i.e. right of way main connection to public main when it services a small number of properties/lots . Proposed Change : Amend to clarify in which scenarios a way valve configuration should be provided.	Provides clarity of when three-way valve configurations are required.	Yes	Discussed with operations an ammended to add clarity - is in line with submission	Add - For a connection of a less than 100mm internal diameter pipe to an existing line, only a valve is required for the new connection.
161	Southern Land #2	Stormwater			Provide worked examples for attenuation calculation so all designers are following the same process. Provides consistency between designers and makes it easier for QLDC to review if everyone is presenting the information in the same manner		No	Good suggestion. Intention is to provide worked examples as a subsequent advice note, following confirmation of Code of Practice stormwater requirements.	N/A
162	Stantec	Roads	Clause 3.2.7	Safe systems designs	This Update to the COP requies SSA to be done at resourse consent stage, but also states that Safe System Auditors shall provide confirmation of the design's compliance with relevant resource consent conditions or identify any deviations from those conditions. this can't be acheived if there is no consent. Although an SSA can be completed on an preliminary design at consent stage the benefits are unlikely to be as much as they will be on a detailed design at EA stage therefore suggest amending the COP to require the SSA to only be done at EA stage at Council's discretion	If the SSA will be completed and closed out at resourse consent, how can one provide confirmation on the compliance with a resourse consent? It will mean that any changes to the road design from that point (i.e during EA) will not be assesstsd from the safe systems point of view. Also it is likely the lighting, landscaping and detail design is incomplete at the time of resourse consent, meaning the SSA is not assessing all aspect of the road coridor that have an influence of safety outcomes. It is better to have it as part of the detaied design review and Engineering approval to ensure all is captured and reviewed.	Yes	Agree, there wouldn't be RC conditions if SSA at this stage and generally SSAs should not assess compliance with any standards or guidelines (or RC requirements) . The only purpose of a SSA is to assess alignment with Safe System principles. Safe system audits have the most influence at early stages and can steer the project in the right direction early on. The earlier we get a SSA, the better to avoid unnecessary design changes later on so the inclusion at RC stage should remain.	Remove - Safe System Auditors shall also provide confirmation of the design's compliance with relevant resource consent conditions or identify any deviations from those conditions Add - Additional Safe System audits may be required at later design and implementation stages at Council's discretion
163	Stantec	Roads	Clause 3.3.2.5	Design and check vehicle requirements	Add speeds at which the tracking for each vehicle type is supposed to be undertaken at	Speeds influence the shape of vehicle tracking when using software.	No	Appropriate speed of tracking will be assessed on a case by case basis. We can look at minimum requirements at the next roading focussed update.	N/A
164	Stantec	Roads	Clause 3.3.2.5	Design and check vehicle requirements	500 mm clearance to apply to design vehicle only	clearance for the check vehicle seems generous and could lead to wider intersections than are appropriate and/or increased speeds leading to safety risks	No	Check vehicles will not be assessed on the 500mm clearance as design vehicles are but the clearance envelope should still be shown. More detailed clearance requirements will be assessed during the next CoP update.	N/A
165	Stantec	Other	Clause 3.4.2	NZTA M/4:2006	A recent 2024 version of M/4 has been released so QLDC may wish to reference this, although if using the updated version then clarity should be made in the COP around whether QLDC is accepting of the new classes of material in the specification and that lower class material can be used on lower volume roads.	Reason: Latest version is appropriate to use but consideration needs to be given to acceptance of lower class material on lower volume roads	No	Further investigation needed on the material change impacts and new grading, particularly in regards to frosts.	N/A
166	Stantec	Stormwater	Clause 4.3.10.3	Any MH with 3 or more inlets is required to be a minimum of 1200mm diameter	Concrete manholes with 3 or more inlets are required to be a minimum of 1200mm in diameter.	This is only applicable to concrete manholes, the spacing around the outside of the manholes comes from CPAA for concrete structures. PE manholes are different and are an approved material available in smaller sizes with multiple connection fabricated into the manhole	Yes	Agree with submission. Section removed altogether, noting designer can check and smaller manhole could be used if CPAA guidelines and QLDC requirements in Appendix B able to be met	Remove - Concrete manholes with 3 or more inlets are required to be a minimum of 1200mm in diameter

167	Stantec	Stormwater	Clause 4.3.10.5	Deep Manholes	amend wording to: "Where manholes deeper than 4m are unavoidable council will be required unless an approved product is used and installed in accordance with manufacturers guidelines"	The comment around specific design is ambiguous and in general there is not an issue with either the structural integrity or ongoing performance of a manhole deeper than 4m therefore why would specific design be required. There are also already the likes of PE manoles on the approved materials list which can be made deeper than 4m therefore these should already be acceptable and not require separate council approval.	No	Specific design would be checking manhole depth is within manufacturers guidelines. Council approval is predominantly looking at in from an operations and maintenance perspective.	N/A
168	Stantec	Stormwater	Clause 4.3.4.1 (b)	Blockage - The secondary system design shall apply the following assumptions to culverts based on culvert size (d - diameter or smaller side if rectangle):	For culverts d ≥ DN1500 should be assessed following the NZTA Bridge Manual. The Bridge Manual refers to Institution of Engineers, Australia (2013) Blockage of hydraulic structures. Australian Rainfall and Runoff project 11. Barton, ACT, Australia.	A blanket 50% blockage does not seem appropriate for culverts ≥ DN1500. Following the recommended guidance takes a risk based approach which determines the appropriate level of blockage that should be allowed for	Yes	Agree. However referred to ARR Guidance 2019 Book 6 (as more current)	Add - These blockage factors serve as a default unless demonstrated with suitable justification to Council approval that a lower blockage factor can be applied. Australian Rainfall Runoff – Book 6 (Flood Hydraulics) / Chapter 6 (Blockage of Hydraulic Structures) provides specific guidance on a risk-based approach for determining blockage factors.
169	Stantec	Stormwater	Clause 4.3.5.1.3	Rainfall	suggest moving this section before section 4.3.5.1.2	Rainfall is a parameter used as part of the design storm. For readability it would make sense to specify the rainfall event (s) before the design storm	Yes	Agree - contradictory information. Reviewed and reformatted to say pre-development can use climate change rainfall also (depending on scenario comparision)	Misc - Reformat and reword to clarify
170	Stantec	Stormwater	Clause 4.3.5.1.3	Rainfall - Pre-development catchment runoff calculations must use HIRDS V4 historical rainfall intensities and depths.	Pre-development catchment runoff calculations must use HIRDS V4 historical rainfall intensities and depths. Should be changed to - Pre-development catchment runoff calculations must use HIRDS V4 historical rainfall depth and climate adjusted rainfall for rainfall intensities and depth.	This aligns section 4.3.5.1.2 with the assessment required. I.e. there is a requirement to: 1) Post-development (historical rainfall) to be compared with pre-development (historic rainfall) and shown to be no greater and 2) Post-development (climate change adjusted rainfall) to be compared with predevelopment (climate change adjusted rainfall) and shown to be no greater	Yes	Agree - contradictory information. Reviewed and reformatted to say pre-development can use climate change rainfall also (depending on scenario comparision)	Misc - Reformat and reword to clarify
171	Stantec	Stormwater	Clause 4.3.5.1.4	All complex catchment modelling must follow a well-established stormwater hydrology, hydraulic and modelling methods.	All complex catchment modelling must follow a well-established stormwater hydrology, hydraulic and modelling methods. The determination of a well-established method can be determined by a suitably qualified person.	This statement is ambiguous and may lead to a magnitude of work being completed for it to not be accepted by QLDC. This should also limit the requirement for so many projects being peer reviewed.	Yes	Agree, have ammended wording	Add - The determination of a well-established method can be determined by a suitably qualified person.
172	Stantec	Stormwater	Clause 4.3.5.1.4	Applicants should provide access to a PC with modelling license and the stormwater model if needed.	Applicants should provide the model if needed alternatively a suitably qualified person shall confirm the modelling is correct.	Providing a PC for use is not suitable for the following reasons 1) Privacy concerns 2) Security Risks 3) Data Integrity 4) If something happens to the PC who is responsible.	Yes	Have provided another alternative option to providing PC with license	Add - or be prepared to present and explain the model in detail with a suitably qualified person if requested.
173	Stantec	Stormwater	Clause 4.3.7.1	At Councils discretion and unless it can be shown not possible, Stormwater quality management devices should treat the first 20mm of rainfall from the post-development catchment and should attempt to direct a minimum 5mm rainfall to ground through soakage.	remove "and should attempt to direct a minimum 5mm rainfall to ground through soakage"	This would be challenging to achieve for most cases and may lead to puddles of water around developments.	No	If poor soakage and not feasible, this can be identified and not done.	N/A
174	Stantec	Stormwater	Clause 4.3.7.1	The developer must enter into a Stormwater Developer Agreement (DA) with QLDC to ensure the stormwater quality system operates effectively and is maintainable prior to vesting with QLDC	Remove this requirement for a DA	This seems unnecessary and is introducing extra paperwork. The efficiency and maintainability of the stormwater system should be able to be assessed through the EA process and during construction so that it is acettable prior to 224c without the need for a DA	No	Reviewed with and this is best mechanism for now. Can look at improving the process making more effcent for developers and council in future exercise	N/A
175	Stantec	Stormwater	Clause 4.3.7.2	Following the completion of all development works and commencement of full operation of the stormwater quality management device(s), visual discharge and sediment retention inspections will be undertaken and recorded by the developer for a period of no less than 2 years or as set out in the Stormwater DA	Remove this requirement	What is the purpose of this and why is it being held over the Developer? It seems ambiguous as to what should be recorded and would likely lead to unhelpful information being provided. If the purpose is to get a better understanding of the actual results from different types of treatments then this should be a QLDC or ORC driven testing and monitoring exercise	No	Developer and engineer to ensure designed system operating effectively, and records important component of this. Extent of different developments would mean monitoring all devices unfeasible for QLDC and/or ORC. Important that devices are operating effectively and as per design prior to QLDC taking ownership and putting costs on ratepayers.	N/A
176	Stantec	Stormwater	Clause 4.3.7.4		Remove this statement	One of the fundamental approach's to LID is using a treatment train approach. The specification of an end of line LID system goes against LID principles.	Yes	End of line devices refer to ponds, soakpits etc at the end of train, reducing maintenance requirement. This wouldn't be applicable in cases, for example a site with a big ridge up it.	Add - Unless topographical constraints or other reasoning acceptable to council preclude this.
177	Stantec	Wastewater	Clause 5.3.10.8		Move this clause to the water section under "6.3.16 Connections", and create a new clause titled "6.3.16.5 Flow Metering".	This clause is inappropriately included in the wastewater section and is best included in the water section.	Yes	Error in location	Moved to water section under connections
178	Stantec	Wastewater	Clause 5.3.7.3	EF couplers	couplers should be limited to where butt welding is impractical or unsafe, to be agreed with designer prior to installation	the use of EF couplers are critical in some applications and therefore the designer should be the one specifying where they can and can't be used, not QLDC who has not been involved in the design works, valve layouts etc.	No	This has been discussed with operations. Wording as to be maintained, ideally EF identified in design. If not possible and comes in construction to be agreed with QLDC engineer. Any issues with this in practise please notify P&I.	N/A
179	Stantec	Wastewater	Clause 5.3.8.4.10	Deep Manholes	amend wording to: "Where manholes deeper than 4m are unavoidable council will be required unless an approved product is used and installed in accordance with manufacturers guidelines"	The comment around specific design is ambiguous and in general there is not an issue with either the structural integrity or ongoing performance of a manhole deeper than 4m therefore why would specific design be required. There are also already the likes of PE manoles on the approved materials list which can be made deeper than 4m therefore these should already be acceptable and not require separate council approval.	No	Specific design would be checking manhole depth is within manufacturers guidelines. Council approval is predominantly looking at in from an operations and maintenance perspective.	N/A
180	Stantec	Wastewater	Clause 5.3.8.4.9	Any MH with 3 or more inlets is required to be a minimum of 1200mm diameter	Concrete manholes with 3 or more inlets are required to be a minimum of 1200mm in diameter.	This is only applicable to concrete manholes, the spacing around the outside of the manholes comes from CPAA for concrete structures. PE manholes are different and are an approved material available in smaller sizes with multiple connection fabricated into the manhole	Yes	Agree with submission. Section removed altogether, noting designer can check and smaller manhole could be used if CPAA guidelines and QLDC requirements in Appendix B able to be met	Remove - Concrete manholes with 3 or more inlets are required to be a minimum of 1200mm in diameter
181	Stantec	Roads	Table 3-2	Medium ridge truck radius of 10m	This should be 8m rigid truck with a 10m radius	there is inconstancy between recent consent conditions and the COP requirements, have it clear that its 10m radius for an 8m ridge truck.	Yes	Adjusted to 8.8m as per PDP	Medium rigid truck (8.8m) Radius: 10m and An 8.8m rigid truck (10m radius) shall be catered for in any areas where rubbish collection will occur
182	Stantec- Mike Smith	Roads		AS/NZS 2890.1	AS/NZS 2890.1 will be renewed to 2024/25 version in first part of next year. NZ has dropped from AS/NZS 2890.6 (Disability parking. We can still reference a AS standard if that is appropriate		No	Will review the need to include additional standards at next CoP update.	N/A

183	Stantec- Mike Smith	Roads		Road safety Auditing	suggest that reference is made to both RSA, and SSA as directed by Council		No	Safe System Audits (SSA's) have replaced Road Safety Audits in New Zealand. If applicable in cases where RSA's a condition of consent, consent woul dalso refer to an earlier COP version with RSA reference.	N/A
184	Terry Drayton	General			I have read through the appendix and see no mandate to ensure existing trees on subdivision are protected and integrated into a subdivision. (NB: the removal of all historic tree orchard on Orchard Rd)Also, and essential, there is no provision to include at least 30% of land use to park or green space as per UICN international plan as endorsed by the United Nation convention on biodiversity.		No	The district plan is the legislative framework that protects trees within the district and additional to this, there is the QLDC Tree Policy. It is these documents that you can request a change to cover you rconcerns however it is outside of the scope of the Code of Practice.	N/A
185	Warren David Ladbroke	Stormwater	Clause 4.3.4.1 (b)	Primary and Secondary systems	N/A	Agreement with the COP's assumptions on blockages within the primary system.	No	No change from this comment. However other comments adding a risk based approach adopted, submitter also notified on this.	N/A
186	Warren David Ladbroke	Stormwater	Clause 4.3.4.2	Secondary systems	N/A	Agreement with clarifications about the location of secondary systems on public land and the consideration of pedestrian access/egress from adjoining properties.	No	N/A	N/A
187	Warren David Ladbroke	Stormwater	Clause 4.3.5.1.1	Catchment Assessment	Remove "Homogenous surface conditions" and "Has no external catchment overland runoff onto the development" from the definition of 'simple' catchments.	The 'simple' definition to include "Homogenous surface conditions" is unreasonable, as no normal site will ever meet that criteria except for empty paddocks ... and there's virtually no empty paddocks in Queenstown that are up for development. Any property that has more that one type of surface or slope would not qualify, meaning that no property will qualify. This phrase should be removed. Further, the limitation of "Has no external catchment overland runoff onto the development" means that only property at the very upstream of every catchment can qualify as 'Simple' - meaning that truly simple downstream sites are ineligible. This phrasing would not allow any site, with even a tiny bit of overland flow from offsite as being treated as a simple site. As such this phrase should be removed. I have no objection to the remaining two points regarding the definition of a 'simple' catchment. Regarding both simple and complex catchments, I am not a lawyer, but I understand that there is legal precedence with respect to the definition of Pre-Development Catchments, and I would strongly request that QLDC adopt the New Zealand standard, and not create a definition that is inconsistent in any way.	Yes	Agreed, homogeneous adds confusion and has been removed. External, changed to significant external. Catchment definitions queried with legal in regards to national definitions, and no changes required.	Remove - Homogeneous Add - "significant" external
188	Warren David Ladbroke	Stormwater	Clause 4.3.5.1.2	Design storms	Revise the stormwater design approach to account for significant differences in rainfall characteristics between Auckland and Queenstown Lakes areas. Consider adopting a front-loaded design storm approach specific to Queenstown Lakes, based on peak rainfall amounts for intervals from 5 minutes to 24 hours. Design storm selection should reflect local rainfall patterns and exclude Auckland's nested storm approach, which is more suitable for cyclonic storms. Additionally, only catchments with a time of concentration (Tc) ≤ 60 minutes and 10 Ha or smaller should be classified as 'simple'; catchments with Tc > 60 minutes should be treated as 'complex.'	The High Intensity Rainfall Design System (HIRDS) v4 data shows median annual maximum rainfall is significantly different in Queenstown Lakes compared to Auckland. Queenstown's rainfall is characterized by frontal-type storms, unlike Auckland's cyclonic storms, which require distinct stormwater solutions. The current approach, which relies on Auckland-based models and nested storm methods, may be suboptimal or inappropriate for Queenstown. Additionally, adopting a front-loaded design storm method would ensure the system accounts for peak runoff over various durations, including intense short-duration rain events. The proposed classification of simple and complex catchments aligns with appropriate design complexity for Queenstown Lakes conditions.	No	Good suggestion. Intention is to work to develop this, following confirmation of Code of Practice stormwater requirements. Requires time, QA, calibration etc in process. Front loaded storms and impact would be reviewed in this process. Sensitivity check shows very unlikely for a 10ha catchment to have a Tc over an our (even well grassed, soil type A, long flow path)	N/A
189	Warren David Ladbroke	Stormwater	Clause 4.3.5.1.3	Rainfall	N/A	No comments	No	N/A	N/A
190	Warren David Ladbroke	Stormwater	Clause 4.3.5.1.4	Runoff	Use locally adapted rainfall models. Engineer should be able to be able to determine when triangle unit hydrograph (or other methods) should be used for attenuation,. Expand table 4-1 and 4-2 Allow other methods of stormwater modelling which have been previously approved. Look at new methods without prejudice from methods currently in COP	As noted in Section 4.3.5.1.2 the Auckland standard of nested storms aligns with the cyclonic rainfall that is appropriate for Auckland, and is wholly inconsistent with the frontal rainfall that is appropriate for Queenstown Lakes District. Given it's 2024, I would further recommend that we move beyond simplistic triangle unit hydrographs, and use actual rainfall projections for the range of possibilities. I further note that there is inconsistency between the Tc referenced here (10 min) and the Tc previously referenced in Section 4.3.5.1.2 (60 min). It could be argued that the Engineer should be able to exercise sound judgment based on the specific catchment and site, subject to approval by QLDC P&I Engineer (notwithstanding the Tc = 60 min limit for 'simple' catchment approach). Tables 4-1 and 4-2 do not provide an adequate breadth of surface conditions that should be considered, and I would recommend that these are expanded accordingly. I applaud the differentiation for soil permeability and slope, both of which have a significant bearing on runoff. For complex catchment modelling, I would argue that there are perfectly sound and alternative ways to conduct stormwater modelling, and that Council should not be prejudiced in the 'preapproval' of models that use different methods. Further, that 'preapproval' is not required for modelled approaches that have been previously approved by Council, except where extenuating circumstances warrant a 'case-by-case' approach.	No	Time of concentration is specifically for the modified rational method, and due to limitations only to be applied for small catchments with minimal change in time of concentrations. Other methods, i.e. running multiple storm events would be applicable for longer duration events/significant changes in Tc - alternative methods would not be prejudiced, and can be discussed with council.	N/A
191	Warren David Ladbroke	Stormwater	Clause 4.3.5.2	Freeboard	Re-evaluate the Tauranga-based freeboard requirements for the Queenstown Lakes District.	The reference to Tauranga guidance w.r.t. 1% AEP is another example of potential 'cut and paste' from other Councils, without due consideration of what is most appropriate within the Queenstown Lakes District.	Yes	Error here, was a previous working note	Removed

192	Warren David Ladbroke	Stormwater	Clause 4.3.7.1	Water Quality Design objectives	N/A	I note the requirement to treat the first 20mm of rainfall, unless it can be shown to not be possible, with a preference for the first 5mm routed to ground for treatment & disposal.	No	N/A	N/A
193	Warren David Ladbroke	Stormwater	Clause 4.3.7.1	Water Quality Design objectives	Consider alternative methods to the separate Stormwater Developer Agreement to ensure stormwater effectiveness without extra administrative burden.	The requirement for a separate Stormwater Developer Agreement could be considered onerous, where there are other methods for ensuring the stormwater system operates effectively, and can be maintained. I am not a lawyer, but would strongly recommend that Council adopt an approach that is generally consistent with common legal practice within New Zealand, not not necessarily create additional administrative burden and cost	No	Reviewed with and this is best mechanism for now. Can look at improving the process making more efficient for developers and council in future exercise	N/A
194	Warren David Ladbroke	Stormwater	Clause 4.3.7.12	Soakage Device design	Broaden applicability to allow site stormwater disposal, considering Queenstown's soil suitability for land disposal	This introductory paragraph does not include "sites", but rather appears to limit these devices to treatment of roof runoff, parking areas, and roads. The disposal of site stormwater to land is culturally important, and preferred, and should be included as a viable approach for Queenstown Lakes District, particularly due to many locations with ideal soil conditions (sands and gravels) for land disposal.	Yes	Agree	Add - lots
195	Warren David Ladbroke	Stormwater	Clause 4.3.7.12.10	Factor of Safety	Rewrite Factor of Safety section to remove ambiguities and over-conservativeness; reassess max Factor of Safety (FoS) of 12.	I concur with the sentiment of including adequate factors of safety for any soakage device. However, the proposed adaptation and modification from CIRIA SuDS Manual C753 includes many ambiguous references that are subject to interpretation, abuse, and consequential inefficiencies and cost increases. The consequences of failure appear somewhat arbitrary, and neglect well defined Operation and Maintenance Requirements for soakaways (Tables 13.1 and 13.2 in CIRIA SuDS) – which will have a significantly greater bearing on the effectiveness and life of any soakage device than just the presence of pre-treatment and access. I would propose that this entire section is rewritten. Further, proposing a worst-case Factor of Safety of 12.0 seems somewhat extreme. In saying that, I by no means intend to diminish reasonable efforts to determine appropriate safety factors for various levels of consequence and data quality. For example: Consequence levels use terms like “easy” access, and “high” maintenance, but without any quantifiable reference to what these mean. Further, Consequence Levels 3 & 4 require speculation about the extent of prospective damage from secondary flows, which cannot be accomplished by any person who is constrained by space and time. Quality levels change based on seasonal groundwater depths, but these are completely irrelevant if the groundwater is many, many meters below ground in highly porous soils (as are common around Queenstown Lakes District). As written, this introduces additional Factors of Safety which are not warranted.	Yes	Have removed consequence level 4, agree appropriate that FOS over 7 is not appropriate and would be best to look at on case by case basis (noting this would be soakpits that failure will cause significant damage). Most of FOS largely sit between 2 - 2.7, max at 6 (unlikely and this could be avoided). Absolute minimum factor of safety of 2 use as well (as per previous versions)	Remove - Consequence Level 4 Add - Minimum Factor of Safety of 2 Reformatting and clarifications made
196	Warren David Ladbroke	Stormwater	Clause 4.3.7.12.12	Soakage Testing	Define testing requirements at both consenting and detailed design stages, focusing only on locations relevant to soakage devices.	Shouldn't this be included in Section 4.3.7.12.8 Geotechnical Investigations, or that text should be included here. As noted above, Council is requiring an excessive amount of testing on a project that I'm involved in, so this would be a good place to define what is an acceptable level of testing? The excessive testing required by Council (on the project I'm referencing) has not changed the design in any material way, and is only adding to the increased cost of development (and therefore has increased the cost of housing). I would propose that the infiltration rates for Detailed Design should be a determined at the locations described by the testing methods within Section 4.3.7.12.13. At the Consenting stage, while concept designs are still being developed, testing should only be required in the estimated locations for soakage devices. Additional testing after earthworks are completed, should only apply to cases where the horizontal and/or vertical locations for soakage devices have moved from the original design location, or if there has been fill material added in the proposed location of the soakage device(s). Otherwise, Council is only adding additional cost for no material benefit. The text about seasonal factors is noted. However, Council should also note that areas with deep gravels and very deep water tables are unlikely to be impacted by seasonal factors. The reference to “three soakpit test results” is ambiguous and misleading. The site of each soakpit should be treated on the merits of the soils and infiltration rates at that location. Any geotechnical engineer will tell you that soils are highly variable, and limiting the infiltration rate at one location because another site wasn't as good is unreasonably conservative, and totally neglects the fact that any site can have areas with high infiltration, and also areas with low infiltration ... and the smart	Yes	Could be improved for clarity, intention is for soakage capacity not to be lowered during construction and design doesn't take this into account. 3 tests requirement reviewed, geo-professional would look at what appropriate based on specific site and testing	Add - If, during construction, flows from disturbed soil areas have entered the soakage device location or the area has been compacted, soakage rates must be reconfirmed afterward Remove -Three soakpit test results used
197	Warren David Ladbroke	Stormwater	Clause 4.3.7.12.3	Draindown	I suggest adding the words “no more than” before “24 hours”	Faster draindown would be preferred.	Yes	Agreed	Update - a draindown period (to empty) within 24 hours from the end of the design storm event for which the device was sized for
198	Warren David Ladbroke	Stormwater	Clause 4.3.7.12.4	Area of Soakage	TBC - unsure	The definition given is perfectly fine for pond systems. However, for underground storage chambers the definition would describe this as the footprint area of the proprietary system being employed	Yes	Agree with clarification to previous.	Update - If the soil strata in the proposed location of the soakage device are of uniform type, and expected to provide a uniform soakage rate, then ½ of the previous side wall area of the soakage device may also be included in the area of soakage.
199	Warren David Ladbroke	Stormwater	Clause 4.3.7.12.5	Secondary flow paths	Require secondary flow paths for events exceeding the 1% AEP threshold.	I do not agree with the notion that secondary flow paths are not required for storm events over 1% AEP. I have been working with Council on a project where this is required, and which I strongly agree is appropriate, that secondary flow paths need to exist for unexpected events that exceed the capacity of the stormwater system as designed.	No	Agree that this is still a hazard, but we are remaining consistent with NZ and international criteria. Noting freeboard, climate change factors and blockage factors in practice would give a higher storm capacity in practice	N/A
200	Warren David Ladbroke	Stormwater	Clause 4.3.7.12.6	Freeboard	N/A	No comment. That said, I would have expected a requirement that no building floor level is within 500 mm of the TWL.	No	Keeping consistent with NZ criteria. Noting blockage factors may give a higher freeboard in practice	N/A

201	Warren David Ladbroke	Stormwater	Clause 4.3.7.12.8	Geotechnical Investigations	Specify acceptable testing levels in the COP to balance effectiveness and cost. Move to an early element of Section 4.3.7.12.12	I'm not sure why Council would ever allow any systems that don't require some level of infiltration testing? Shouldn't this be required? That said, Council is requiring an excessive amount of testing on a project that I'm involved in, so this would be a good place to define what is an acceptable level of testing? The excessive testing required by Council (on the project I'm referencing) has not changed the design in any material way, and is only adding to the increased cost of development (and subsequently the cost of housing). Further, this section should likely be moved to an early element of proposed Section 4.3.7.12.12 - Soakage Testing.	No	This relates to overall suitability, i.e. are there wider land instabilities on a hillside that would prohibit soakage (not necessarily infiltration rates)	N/A
202	Warren David Ladbroke	Stormwater	Clause 4.3.7.12.9	Pre-Treatment	Broaden pre-treatment options to include all viable systems. Emphasize proactive sediment and erosion control during construction.	This section states that the soakage device "must provide design elements compliant with the Appendix B Drawing B4.4". However, this drawing is of a soak pit for a road connection, and does not account for sites with a broader approach. As noted in the last paragraph of this section, there are numerous other methods which can be employed, and none of these methods would comply with Drawing B4.4 as they're completely different systems. Further, this section should be expanded to include reference to the importance of proactive sediment and erosion control during construction. The greatest threat to any soakage device is the 'blinding' of soils from poor construction management. If Council wants trouble-free systems, it is best to start with very good sediment and erosion control practices.	Yes	Ammended. During construction Environmental Management Plans a separate process and application, with different reference documents (required with QLDC, and sometimes ORC)	Add - Potential ingress of sediments into devices during the construction process should be both considered and avoided. All soakage devices to be vested with Council must provide design elements compliant with the Appendix B Drawing B4-4 if applicable.
203	Warren David Ladbroke	Stormwater	Clause 4.3.7.2	Water Quality Monitoring	Include specific inspection requirements in this section rather than referencing them within the DA document.	There are no details about what the developer is supposed to inspect for two years (other than ambiguous "visual discharge and sediment retention inspections"), with these details supposedly being incorporated into the Stormwater DA. It would be better to incorporate the detailed requirements in this Section, rather than have a host of separate documents with no assurance of consistency. As noted above, Stormwater DA's are a heavy handed approach, where other alternatives are known to exist - and are commonly employed.	No	These are based on current requirements of stormwater discharge in accordance with integrated three waters bylaw	N/A
204	Warren David Ladbroke	Stormwater	Clause 4.3.7.4	Low Impact Design	Rephrase to clarify that Council prefers LID but does not require a centralized end-of-line system for LID.	This section includes the text that "Council's preferred method of stormwater control is a low impact design solution" with I agree with. However, the following paragraph includes the contradictory text "QLDC require centralised end of line LID systems ... ", which should be rephrased to avoid ambiguity. You prefer in one paragraph, and then require it in the next. I agree with the preference, but do not agree with the requirement.	Yes	Updated wording	Add - Prefer
205	Warren David Ladbroke	Stormwater	Clause 4.3.7.5(d)	Low Impact Design Process, Design for Maintenance	State TMP-free access as a preference rather than a requirement. Allow variations based on road classifications.	It is common for road corridors to be utilised for infrastructure, including stormwater collection and disposal. The requirement that they do not require a TMP for access or maintenance is an overly restrictive requirement, and inconsistent with the majority of standard access or maintenance for other infrastructure within road corridors. Instead, I would recommend that this is stated as a Council preference, and include a requirement to coordinate with P&I O&M about the placement of all such stormwater devices. Further, perhaps there could be consideration of the road classification with different levels of permission for stormwater systems - such that regional roads or arterials are more restricted than primary or secondary collectors, and with no such limit on access roads.	No	This is requirement as default, deviations looked at as appropriate and discussed with O&M etc. Consideration of road type would be a factor if deviating.	N/A
206	Warren David Ladbroke	Stormwater	Clause 4.3.7.8	Wetlands	N/A	I don't disagree with this section, but would note that it looks like it was pulled out of Auckland - and there are not many locations where I expect that this would apply.	No	Not many, but there are some in area and potential for further. To remain.	N/A
207	Warren David Ladbroke	Stormwater	Clause 4.3.7.9	Vegetated Swales	Provide more detail	I agree with considering the safety concerns associated with check dams adjacent to roadways. However, does Council have anything specific that should be included, or avoided? This appears to be lip service with ample ambiguity.	No	Case by case, flagging to designer to consider and use judgement. Typically thinks like speed environment, distance from carriageway.	N/A
208	Warren David Ladbroke	Stormwater	General	Alignment with the Handbook of Hydrology (David R Maidment - Editor)	Simplify procedures in line with Handbook's 9.3.2 recommendation for reproducibility, simplicity, and locally observed data.	Complex models and procedures adopted from other regions may lead to outcomes unsuitable for the Council or landowners. The Handbook emphasizes that methods should be simple, physically sound, and regionally appropriate.	No	Understand sentiment, this to be considered in future stormwater guidance.	N/A
209	Warren David Ladbroke	Stormwater	Pages 10 & 14	Stormwater solutions based on Auckland's methods	Reassess the suitability of Auckland's stormwater design solutions for Queenstown; avoid over-reliance on Auckland's methods like nested storms. Further details on 4.3.5.1.2	Auckland's rainfall patterns and storm types differ significantly from those in Queenstown. Solutions and approaches suitable for Auckland may not be optimal or appropriate for Queenstown's unique rainfall and stormwater conditions. Further details on 4.3.5.1.2	No	Good suggestion. Intention is to work to develop this, following confirmation of Code of Practice stormwater requirements. Requires time, QA, calibration etc in process.	N/A
210	Waste Management - Sean Cronin	Roads			Check vehicle updated to reflect the 10.5m vehicles used in fleet. COP has rubbish trucks as being a 8m rigid truck with a 10m turning radius. The Proposed District Plan and Austroads has a 8.8m rigid truck with 10m turning radius.		No	This is significant change in criteria, and has been flagged during consultation process. Will defer to next stage of Code of Practice updates and consultation which will have a roading focus.	N/A