

**Urban Water Industry Comments**

**MP 1.4 Build Over or Near Sewers, Stormwater Drains and Water Mains.**

**August 6th 2012**

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# 1. Summary

The Department of Local Government via Building Codes Queensland is seeking feedback on a proposal to make a mandatory Part of the Queensland Development Code called ‘MP1.4 - Build Over or near Sewers, Stormwater Drains and Water Mains’. The Department released a new draft Code following initial consultation with stakeholders in October 2011. Many of the concerns raised by Water Service Providers (WSPs) in that first round of consultation were not addressed in the updated Draft, highlighting the need for a renewed industry response.

The proposed Code applies to work on all classes of buildings over or adjacent to water, sewage or stormwater infrastructure and makes a specific class of applications assessable by building certifiers. For all other applications, Council WSPs would be a concurrence agency and able to condition or refuse an application. This includes applications for:

* building Classes 2 though to 9 (i.e. other than e.g. single dwelling, detached house and sheds/retaining walls),
* pipe sizes exceeding 225 mm outer diameter, and
* buildings using alternatives to the Acceptable Solutions listed in the Code.

‘Alternative Solutions’ include:

* building over infrastructure,
* building within the zone of influence of load bearing elements,
* buildings or structures that block access by being within 1 m (or 1.5 m for Access Covers) horizontally or 2.4 m vertically of public water assets.

The proposed Code would also mean that appeals on decisions by Certifiers or concurrence agencies would be made directly to the BDDRC. The Department has indicated that this Committee has 103 general referees with expertise in the areas of building, plumbing, planning, architecture, law and engineering including five RPEQs.

The principal industry concern with the proposed Code is that it decreases the ability of WSPs to manage their own infrastructure and increases costs and risks to Queensland communities. The Code as drafted does not allow WSPs to mitigate these risks and costs in the diverse range of situations encountered across the State. A secondary concern is that the proposed Code addresses building concerns only from a development perspective overlooking the needs of pubic assets. This could result in extreme costs to communities and potential safety issues that outweigh the benefits and savings to developers.

Notwithstanding the above issues and other technical concerns, there is strong support from WSPs across the state for improving consistency and reducing red-tape and unnecessary costs in urban development. This Discussion Paper was developed by an industry expert panel with the aim of developing consistent standards while avoiding the risks inherent in the proposed Draft Code.

# 2. Background

At present, approvals for building over or near public water infrastructure require written consent from service providers and councils and utilities across the state have developed processes to deal with what can be an expensive and time consuming issue. In the past, improved consistency across the industry has been sought through a number of mechanisms.

The Queensland Development Code (QDC) section NMP 1.4 [*Excavation and piling near sewers, stormwater drains and water mains*](http://dlgp.qld.gov.au/resources/laws/queensland-development-code/current-parts/nmp-1-4-excavation-and-piling-near-sewers-stormwater-drains-and-water-mains.pdf), sets out criteria and performance measures for excavation and piling near sewers, stormwater drains and water mains. This standard can be applied to all classes of buildings and structures on sites containing sewer and stormwater drainage lines and water mains.

In February 2009 ***qldwater*** published guidelines for [*Building Over or Near Local Government Water Infrastructure*](http://www.qldwater.com.au/templates_guidelines) based on analysis of the policies of over 20 Queensland councils. The [Water Services Association of Australia](http://www.wsaa.asn.au) (WSAA) released similar guidelines in 2010 (which were created with reference to the Queensland Policy document).

In 2009 the SEQ restructuring Act required SEQ water service providers to produce joint technical standards relating to the design and construction of water infrastructure in the region. The draft SEQCode includes detailed provisions for [building over or adjacent to assets](http://www.seqcode.com.au/seq-building-over-and-adjacent/) based on existing SEQ policies and the national standards developed by WSAA.

In September 2011, the Department of Local Government released [Building Newsflash number 480](http://www.qldwater.com.au/ReviewDocuments) which proposed updating the current non-mandatory guideline and making it mandatory. Collated industry comments based on feedback from WSPs (see [***qldwater*** e Flash # 135](http://www.qldwater.com.au/LiteratureRetrieve.aspx?ID=62440)) were provided to the Department indicating that the industry did not support the proposed Code because it increased costs to communities and risks to public safety and did not allow service providers to mitigate risks to essential water and sewerage infrastructure. Instead, a joint process to develop a consistent set of guidelines was requested. There was no further consultation until [BCQ released an updated draft](http://www.dlgp.qld.gov.au/resources/newsletter/newsflash-496.pdf) in July 2012 and commenced a new consultation process. The new draft still does not address the key concerns raised by Water Service Providers (WSPs).

***qldwater*** has formed a temporary industry expert panel including the SEQ water entities developing the SEQCode to work with BCQ on the proposed mandatory Code to avoid duplication and promote consistency and streamlining while still protecting public health and infrastructure. The following Discussion points provide an overview of the key issues identified by the panel.

# 3. Collated response from urban water industry

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| **No.** | **LG Water Service Provider Response** | **Industry issues** |
| **1** | **General** |  |
| 1.1 | WSPs agree there is a need for state-wide consistency. | It is agreed that better consistency is required and that streamlined processes are needed to minimise costs and speed up development approvals. The SEQCode is a good example of how this aim could be achieved for the South East corner. |
| 1.2 | The need for a state-wide approach is acknowledged. | If written correctly, a state-wide mandatory standard would provide consistency and greater certainty for all stakeholders. In the past, the industry has sought to encourage consistency (e.g. through the development of a common policy Template by ***qldwater*** in 2008). The recent development of the SEQCode will result in greater consistency on this issue in SEQ. |
| 1.3 | WSPs question the need for a Code under Building Legislation to address this issue. | The determination of processes for building over or near public infrastructure rests with water utilities in other jurisdictions and the removal of this power to the Queensland Development Code is an unusual solution. Service Providers would prefer a solution that did not limit their powers to manage and protect their assets. |
| 1.4 | A Mandatory Code must acknowledge existing processes. If adopted, the Code voids any processes or requirements for building over or adjacent to public water assets under Council planning instruments. A transition period is essential for councils that have traditionally relied on this mechanism to manage the issue. | The proposed Code overturns current processes used by the 73 Queensland Local Governments and their Water Service Providers and removes building over public services from the Development Approvals Process. This is a significant change and the transition would be facilitated by recognising the current processes and meshing with the existing industry standards.  The proposed Code builds on the QDC non-mandatory Part 1.4 but does not reference other industry guidelines (e.g. the ***qldwater*** template and WSAA guidelines) and also overlaps with the recent SEQCode. A smoother transition would be achieved if a state-wide approach built on and improved current industry best-practice.  Many councils deal with building over or adjacent to public infrastructure by incorporating requirements into their Planning schemes. The explanatory notes to the draft Code states “The intention is to prevent each individual local government including such requirements in a local planning instrument.” If the Code is adopted, “to the extent that a local planning instrument purports to deal with building work regulated under the building assessment provisions, it is of no force or effect”.  This is a significant change to standard practice for many councils across the State and given the Code applies only to a restricted set of situations, Council processes will need to be modified. An appropriate transition period is required to make these changes. |
| **2** | **Scope** |  |
| 2.1 | Limitation of an Acceptable Solutions to building classes 1 &10 and structures only, with all Alternative Solutions subject to review by Service Providers (as a concurrence Agency) is supported by WSPs. | Applications to build over or adjacent to public infrastructure are most commonly associated with Class 1 and 10 buildings and Structures (e.g. single dwelling, detached house, sheds and retaining walls. The proposed Code provides Acceptable Solutions only for these building types. All other applications must be referred to the WSP as a concurrence agency. |
| 2.2 | The Code must specifically exclude pressure mains. | At present the Code applies to all types of services regardless of type, material, age, depth or condition. In particular the application to pressure mains (both water and sewer) creates a public risk. At diameters up to 225 mm, pressure mains can cause significant damage and, in the case of dwellings, personal risk. Greater separation distances and setbacks are required for this category of public infrastructure and they should not be referred to WSPs as a concurrence agency. |
| 2.3 | The industry supports the requirement that WSPs review applications for all buildings within a prescribed distance or the ‘zone of influence’ (i.e. including all build-over applications). | The Draft Code applies Performance Requirements to building both adjacent to, and over public infrastructure. However, WSPs are a concurrence agency for all ‘building-over’ applications and for any ‘building-adjacent’ applications within a prescribed distance of the infrastructure. This confirms that WSPs must be able to condition or refuse applications to build over or very close to their infrastructure. This is particularly important for building over infrastructure which can create significant risk or future costs. |
| **3** | **Process** |  |
| 3.1 | Having disputes and appeals heard by a forum other than the current QCAT process is supported as long as they include appropriately qualified RPEQs. | Under the proposed Code, the Building and Development Dispute Resolution Committees (BDDRC) will have jurisdiction to hear appeals and disputes relating to compliance with the Code. In the past disputes would need to be referred to the Queensland Civil and Administrative Tribunal (QCAT). The issues being considered will often require engineering assessment and the appeals process should include appropriate expertise in this area. |
| 3.2 | More information is required on legislative changes required to allow Service Providers to be a Concurrence Agency. At present this has been compared to other concurrence agency processes but no detail has been provided. Service providers may be a part of council or a separate organisation (such as Wide Bay Water, Unity Water and Queensland Urban Utilities). Clarity is needed on how each type of WSP will be affected. | At present council WSPs, Wide Bay Water and the SEQ Distribution and Retail Entities are not concurrence agencies for the purpose of the Code. Legislative changes are required to ensure that these Service Providers are able to act in this role (e.g. to Section 83 of the Building Act which only requires input from a concurrence agency stipulated under the Sustainable Planning Act. Currently s 83 provides for consent from a Service Provider through reference to s 192 of the Water Supply (Safety and Reliability) Act 2008). What are the proposed powers of a Concurrence Agency under the proposed structure and what are their powers and responsibilities?  e.g. What is the time period for a Concurrence Agency to give a response?  What outcome results if a response is not provided within the set timeframe.  Some common questions include:   * what period are provided for response and information requests, * on what grounds can an application be refused, * what conditions can be attached, for example:   + The current NMP 1.4 allows for relocation of public water assets if this is appropriate. How can this be conditioned under the new code?   + Many councils provide options for building where an Easement is agreed or when an owner agrees to a Building Over or Near Council Infrastructure Permit. How will this negotiation be undertaken through conditioning? |

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| 3.3 | The scope or jurisdiction of WSPs as a service provider must be defined under the Water Supply (Safety and Reliability) Act 2008. | A concurrence agency has the jurisdiction prescribed under a regulation. The Regulation does not have to be the same as the legislation triggering the involvement of the concurrence agency. The jurisdiction of WSPs as concurrence agencies must allow them to make decisions on Applications following Guidelines similar to the WSAA National Guidelines, the ***qldwater*** State Guidelines or the SEQCode. This jurisdiction would be best described under Legislation managed by the State Water Supply Regulator. |
| 3.4 | Service Providers must be notified of all buildings and structures that are built adjacent to water assets. | The proposed Code does not provide a mechanism for appropriate information on Buildings near infrastructure to be notified to Service Providers. This means that they cannot confirm that assets are being protected nor plan for future maintenance and repair of assets. Significant delays and added costs would arise for work on assets where it is not clear during the planning stage that specialised equipment is required that access sites with space restrictions.  To properly assess this issue, details of the building work and its proximity to the public infrastructure are required by Service Providers but at present notification processes are not sufficient to meet this need. |
| 3.5 | There is currently a lack of accurate location data for public infrastructure within a lot. Under the Code, accurate location will be the responsibility of Building Surveyors and should be included as an overt requirement. | While processes for maintaining accurate records of pipe locations and depths are being improved markedly by WSPs, historical information held by councils is not always accurate. While the standard search information provided by councils will provide information on presence or absence of infrastructure within a lot, it does not accurately reflect the exact location of pipes. This means that standard searches can not be relied on to locate infrastructure for the purposes of determining distances. While efforts are being made to improve accuracy of such records, a large number of building developments near public infrastructure come from ‘infill’ in existing areas where records are inaccurate. Accurate location of infrastructure (e.g. through inspections, pot holing or surveying) should be required under the Code rather than reliance on old or inaccurate records maintained by councils. |

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| **4** | **Specific Technical Issues** |  |
| 4.1 | The proposed zone of influence is inadequate for all soil types. | The 45 degree angle of response included in the draft Code is not appropriate for sand in cases where a pipe trench needs to be reopened for maintenance, repair or replacement activity. This is the case in some coastal communities and particularly on the SEQ sand islands. The zone of influence should be altered in sandy or non-cohesive soils. |
| 4.2 | The proposed zone of influence does not allow for trenching. | The proposed zone of influence is measured to the invert level of the service and thus does not take not allow for the practical consideration of the disturbance to the soil from trench excavation. That is, the zone of influence is technically measured to the edge of the trench or its shoring material. As minimum a dimension of 300-450mm would be a sensible selection of a backhoe bucket size used in many trenches. It would then be from this trench that the angle of repose would then incline. |
| 4.3 | The proposed horizontal offsets are inadequate in many frequently encountered situations. | Insufficient working space effectively means that excavation will need to be carried out by hand, significantly increasing the costs and the time taken for repairs and maintenance. For assets greater than 2m in depth, excavation by hand is not feasible and trenches greater than 1.5 m depth require shoring under Workplace Health and Safety guidelines.  Trenchless techniques offer possible solutions in lieu of replacement of sewers in some circumstances. They can even provide some solutions when upsizing a main. However, the cost of a trenchless solution far exceeds the cost of excavation and replacement and is often prohibitive or impossible for small, regional and remote communities. Moreover, these technologies do not always provide a practical solution (e.g. when a pipe has collapsed or a service connection has sagged or become blocked). In some cases excavation is the only solution and the Code does not allow such cases to be differentiated.  In comments from Service Providers given to the Department in October 2011 it was noted that “the requirement for a 2m x 2m clear area around manholes and connection points provides a difficult situation to carry out maintenance especially if excavation is required or if the main is a trunk main (e.g. 600mm diameter sewer). There are examples of house connections directly to large trunk mains in some Local Government areas. The available space to excavate (particularly if the service connection is deep) is inadequate. There would be no room of stockpiling safely”. These comments have not been acknowledged in the new draft Code and the buffer around access covers has actually been reduced from 2 m to 1 m of clear area. |
| 4.3 | The proposed vertical offset is not appropriate in certain common circumstances. | The proposed Code allows for a minimum vertical distance of 2.4m from access covers and the ground level above pipes to allow vertical reach for excavation equipment. This would exclude the use of any excavation machine with any reach1. Hand excavation would be required and it is unlikely that the standard trench shields could be installed with the limited height.  It also restricts the type of trenchless technique that could be employed. Most inverted liners rely on gravity and a tower to invert the liner as it pushes through the sewer. This technique would not be an option. A spirally wound liner technique has lower clear height requirements but is unlikely to be managed in an area where there is only 2x2m clearing around a manhole (as stipulated in the Code).  Small excavators, which would be required for the excavation of sewers more than 2-4m deep, would be unable to operate in the proposed confined space. As an example the parameters for one common type of mini excavator are provided in the table below. |
| 4.4 | Appropriate Access to clear areas. | While the Code allows for clear area around public infrastructure, it does not ensure that appropriate access is provided to access the clear area (e.g. space between houses). At present access is one of the issues considered by some WSPs when approving applications. The new Code removes this power and does not replace it with any form of scrutiny to provide for access to public infrastructure. |

1. Table of sizes of common excavators. Even the smallest of excavators in this range would not operate and effectively dump spoil within a 2.4 m vertical clearance.

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| **Type** | **Width** | **Height** | **Bucket size** | **Max digging depth** | **Max dumping height** |
| ZX17U-2 | 1.28 | 2.4 | 0.044 | 2.17 | 2.53 |
| ZX27U-3F | 1.55 | 2.5 | 0.08 | 2.89 | 3.12 |
| ZX30U-3F | 1.55 | 2.5 | 0.09 | 3.13 | 3.1 |
| ZX35U-3F | 1.74 | 2.5 | 0.11 | 3.45 | 3.39 |
| ZX40U-3F | 1.96 | 2.55 | 0.14 | 3.65 | 4.04 |
| ZX50U-3F | 2 | 2.55 | 0.16 | 3.86 | 4.2 |
| source: http://www.hitachi-c-m.com/au/products/excavator/mini/ | | | | | |