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## **SUBMISSION TO IPART RE THE REVIEW OF DEUS DEVELOPER CHARGE GUIDELINES FOR WATER SEWERAGE AND STORMWATER**

This submission is narrowly based; being directed toward sewerage headworks charges where pressure sewerage technology is employed.

### **Claim for Consideration by IPART**

When developments are using pressure sewerage, it can be shown that if developer sewerage headworks charges were determined so as to reflect the actual flow/load exerted on the downstream infrastructure, then for the transportation portion of the sewerage developer headworks charge at least, the charges could/should be as low as 40 percent of the charges currently being levied based on the DEUS Guidelines. (The actual percentage depends on a range of factors including the size of the development). The corresponding charge for the sewage treatment portion could/should also be lower than the DEUS Guidelines would indicate, but perhaps not as much as for the transportation portion, depending on the type of sewage treatment being used.

### **Justification of the claim**

Regardless of whether gravity sewerage or pressure sewerage is used in a development, sewerage headworks charges are currently calculated the same way in the Guidelines. There is no distinction. This approach tacitly assumes that the consumption of capacity of the downstream sewerage infrastructure is the same for all sewerage technologies. This is an incorrect assumption. And in most cases the difference is material.

Pressure sewerage usually has a major impact on reducing peak sewage flows from a development. This peak flow reduction comes about due to the fundamental difference between pressure sewers and conventional gravity sewers. Pressure sewers have no joints; they are fully sealed from the pump/tank unit located at each house to the final discharge point. Gravity sewers on the other hand have thousands of joints (166 joints per km for 6m lengths of pipe), all of which have the potential to leak at some time during their working life. A development of say 100 lots, would have in excess of 300 joints in the street mains and at least another 200 joints in the house service lines, all of which have the potential to leak. Over time all gravity sewers leak to some extent. In some locations gravity sewer joints are leaking so badly that sewer overflows have become a significant cause of pollution of the environment. In short gravity sewers leak. Pressure sewers don't leak.

In recognition of the leakiness of gravity sewers, sewer design manuals across the world require gravity sewer pipes to be sized for wet weather flows, sometimes up to 7 times the

average dry weather flows in the pipes. Pressure sewer design, however, does not allow for any input of wet weather flow. For comparison, pressure sewer pipes for house services lines are no larger than 40mm diameter compared with 110mm diameter for gravity, and much of the pressure sewer pipe in street mains 50mm and 63mm diameter compared with 150mm diameter for gravity. The difference in size reflects the need to handle wet weather flows, or not.

Using pressure sewer in a development in lieu of gravity sewer, offers significant benefits for council in their operation of gravity downstream sewerage infrastructure. The absence of wet weather peaking flows with pressure sewer systems leaves "headroom" in the downstream system for the next developer. Existing sewerage assets are therefore stretched further than originally anticipated by councils, reducing the cost to council of providing sewerage service for new developments. Councils gain both capital and operations and maintenance benefits from pressure sewers that amount to quite significant cost savings. Most councils have simply not yet recognised that these cost savings are a natural consequence when a developer uses pressure sewer in lieu of gravity sewer. So it is not surprising that when pressure sewer systems have been implemented, Councils have, by and large, retained the frequently significant cost savings for themselves.

### **Conclusion**

We believe that there is a sound case for the DEUS Guidelines to be amended so that the sewerage headworks charge takes into account that, with pressure sewer, wet weather flows are not being delivered to the downstream infrastructure. This would, in many cases, significantly reduce sewer headworks charges. The principle that should be applied is one of being charged for the fraction of the downstream infrastructure being used, and no more. The DEUS Guidelines, in fact, are predicated on this very principle.

We believe that we have strong credentials to present, if required, in support of our right or authority to make the technical claims we have made in this submission. These can be made available to you, again, if required. Briefly, Ross Fraser has been involved in the water industry for over 30 years, providing consulting engineering services for most of those years. And we introduced pressure sewerage into Australia in 2000 and have been involved in the pressure sewer part of the industry since then. There are now over 5000 pressure sewer units that have been installed in Australia and developers are looking at the technology with increasing interest.

Obviously, there is a lot of technical detail that could be added here, and we are prepared to support our claims with considerable evidence and technical explanation. But we prefer to do that in another forum. We are, however, available to discuss these issues and accordingly, I can be contacted best on 0414 742 842 should you wish to discuss any of these matters further.

Yours sincerely

Ross W Fraser

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