

REGIONAL MUNICIPALITY OF WATERLOO - CAMBRIDGE WELL UPGRADES

The Region wishes to bring four test wells at Shades Mill WTP, Pinebush WTP and Branchton Meadows into production and connect them to the existing water treatment plant raw water feeds. C3 Water was charged with managing the upgrades design, and equipment and alterations required, including:

- Connection to existing out-of-service raw water main or short lengths of new piping
- Well pumps (system curves) and pit-less adaptors
- Independent power supplies
- Pump starters, VFDs, RPU panels, instrumentation
- Well house inspections and retrofits
- Project tender phase and Contractor selection
- Well upgrade construction (project co-ordination and inspection services)
- Commissioning and start-up of new wells

Example 1: Well G40 – Shades Mill WTP

Test production well G40 is located on the Shades Mill WTP property, outside of the existing WTP fence enclosure. This well is being brought into production and will be connected to the existing Shades Mill WTP facility through the existing out-of-service 200mm PVC raw water main from the abandoned G11 Well House. Production Well G11 was constructed in 1979 and abandoned in September 2009 due to low yield. Well G40 will be equipped with a well pump and pit-less adaptor. G40 will be connected into the existing G11 Well House where the raw water line instrumentation and valving will be located. Power supply will also be fed into this building where the pump starter, variable frequency drive (VFD), and a separate RPU panel networked into the local area SCADA network will be located.

Considering the well G40 treatment requirements, sizing, and desired flow rate, system curve development and well pump sizing was carried out.



Figure 1. G40 Test Well



Figure 2. Connection point into existing G11 piping