

System Name: Mount Forest Drinking Water System
Municipality: Township of Wellington North
Drinking Water System Category: Large Municipal Residential

The Township of Wellington North is located at the northern part of Wellington County. The northern third of the municipality lies within the Saugeen Valley Source Protection Area (SPA) while the remainder is partly within the Maitland Valley SPA and partly within the Grand River SPA. The Township contains an agricultural setting with some of the best farmland the county has to offer as well as a substantial industrial base and a wealth of conservation land. In 2011, the population was 11,477, which was an increase of 2.7% from 2006. The main towns are Mount Forest (population 4,584) and Arthur (population 2,284). Smaller villages include Conn, Damascus, Kenilworth, and Riverstown.

The Township of Wellington North has two municipal water supply systems, one servicing the community of Mount Forest and a second servicing the community of Arthur. The Mount Forest Drinking Water System falls under the jurisdiction of the Saugeen Valley Source Protection Authority because it is located in the Saugeen watershed. The Arthur well supply is located in the Grand River Source Protection Area and falls under the jurisdiction of the Grand River Source Protection Authority. No new drinking water systems are planned.

Mount Forest is currently serviced by four municipal wells: Production Wells Nos. 3, 4, 5, and 6. Well No. 3 is located in the village of Mount Forest and the remaining wells are located on the northern outskirts of the village. There are two monitoring wells, Nos. 1 and 2.

Each of the four drilled wells separately feed into a common distribution system. Each well is equipped with one well pump, a discharge line and a sodium hypochlorite disinfection system. Water storage is in the form of a standpipe that has a total volume of 2083m³. A booster pumping station, located at the base of the standpipe, and a diesel generator were added in 2007. The storage supply is also used for fire protection and emergencies.

The raw water is disinfected with 12% sodium hypochlorite. The solution is injected into the process streams using solenoid-driven metering pumps with manual stroke length and speed control. The chlorine residual entering the clear well is monitored by an analyzer to ensure the chlorination system is working properly. Chlorine is added when well pumps start up and stops when water flow stops. A second chlorine residual analyzer monitors the free chlorine residual entering the distribution system. Both chlorine residual analyzers will alarm if their low or high set points are reached and the on-call operator will respond (MOE Inspection Report, 2005).

The Mount Forest production wells are drilled into the bedrock to depths up to approximately 120m and typically have yields up to about 22L/s. Well No. 5 has a depth of 122m; however, the well casing does not extend deep into the bedrock and the well obtains most of its supply from the deep overburden and upper 10m of fractured bedrock of the Salina Formation. Well Nos. 3, 4 and 6 are constructed so that the well casings extend into the deeper bedrock and obtain groundwater from a fracture system ranging in depth from approximately 105-160m in the Guelph Formation.



Well No. 3, booster pumping station and standpipe



Well No. 4



Well No. 5



Well No. 6