

# Distribution System Risk Assessment Tool

Water System Name:

Date:

Data categories	Example	
<b>Monitoring results</b>		
# samples tested for coliforms	244	
# adverse results (any detectable total or <i>E. coli</i> , overgrown, TNTC)	3	
length of sampling history (years)	5.2	
<b>System documentation</b>		
judgement (0 none to 5 complete, up-to-date)*	2	
<b>Operator vigilance</b>		
cross-connection control program (Y/N)	n	
real-time water quality monitoring – any parameter (Y/N)	n	
operator training acceptable (Y/N)	y	
% required samples not collected	10%	
<b>Connections</b>		
average # connections active	75	
average population served	200	
<b>Length of distribution mains</b>		
length (km) of mains (not service connections)	2.5	
% by length of submerged mains (below water table)	0%	
<b>Age of distribution infrastructure</b>		
pipe materials in use (list from most common to least common)	PVC, DI, AC	
median age of watermains (50% older) (years)	20	
oldest watermain still in active service (years)	25	
<b>Hydraulic integrity</b>		
mains pressure tested (Y/N)	Y	
watermain breaks (# per year)	1.5	
unaccounted water losses (%)	unknown	
number of non-secure storage reservoirs	0	
<b>Water age</b>		
average age (days) by calculation, modelling or tracer test	1.3	
volume of closed reservoirs (m <sup>3</sup> )	0.7	
minimum daily demand (eg winter flow) (m <sup>3</sup> /d)	40	
<b>Water biostability</b>		
source type: groundwater (G), surface water (S), mixed (M)	G	
average TOC (mg/L)	1.3	
average Phosphorus (ortho or total) (mg/L)	0.1	

\* Refer to table:

Level of Documentation	😞 Nil (0)	😞 Poor ★ (1)	😞 Acceptable ★★★ (3)	😊 Excellent ★★★★★ (5)
<b>Management System Approach</b>	<ul style="list-style-type: none"> <li>hope</li> <li>trust</li> </ul>	<ul style="list-style-type: none"> <li>anecdotal</li> </ul>	<ul style="list-style-type: none"> <li>fairly complete paper records of design and construction</li> <li>isolated (unlinked) electronic records of parts</li> </ul>	<ul style="list-style-type: none"> <li>GIS-integrated</li> <li>queryable database</li> <li>real-time data acquisition</li> </ul>
<b>Reliability of Information</b>	<ul style="list-style-type: none"> <li>unknown unknowns</li> </ul>	<ul style="list-style-type: none"> <li>many unknowns</li> </ul>	<ul style="list-style-type: none"> <li>estimated, but not measured               <ul style="list-style-type: none"> <li>design specs, drawings</li> </ul> </li> <li>monitored, but not logged</li> </ul>	<ul style="list-style-type: none"> <li>measured               <ul style="list-style-type: none"> <li>as-built drawings</li> </ul> </li> <li>monitored, logged</li> </ul>

Completed by: