

# Site Visit Report

Under the European Union (Drinking Water) Regulations 2014 as amended, the Environmental Protection Agency is the supervisory authority in relation to Irish Water and its role in the provision of public water supplies. This Audit was carried out to assess the performance of Irish Water in providing clean and wholesome water to the visited public supply.

The audit process is a sample on a given date of the facility's operation. Where a finding against a particular issue has been reported this should not be construed to mean that this issue is fully addressed.

Water Supply Zone	
<b>Name of Installation</b>	Charlestown PWS
<b>Organisation</b>	Irish Water
<b>Scheme Code</b>	2200PUB1010
<b>County</b>	Mayo
<b>Site Visit Reference No.</b>	SV20162

Report Detail	
<b>Issue Date</b>	30/03/2020
<b>Prepared By</b>	Michelle Roche

Site Visit Detail			
<b>Date Of Inspection</b>	04/03/2020	<b>Announced</b>	Yes
<b>Time In</b>	12:30	<b>Time Out</b>	13:30
<b>EPA Inspector(s)</b>	Michelle Roche Daryl Gunning		
<b>Additional Visitors</b>			
<b>Company Personnel</b>	Irish Water: Pat O'Sullivan and Tommy Kearney. Mayo County Council: Eileen Cavanagh, Brian Conmy, Eddie Munnelly, Deirdre Beattie and Sean Forkan.		

## > Summary of Key Findings

- 1) The Charlestown water treatment plant was operating effectively at the time of the audit. Disinfection controls and alarms were both adequate and being adhered to.
- 2) Network chlorine residual monitoring is carried out approximately once every two weeks. Irish Water should increase the frequency of network chlorine residual monitoring to every 2-3 days in order to detect any potential drinking water quality issues in the distribution network, as early as possible.
- 3) The Charlestown reservoir had a significant amount of moss and weed growth on the roof of the reservoir. Irish Water should ensure the reservoir roof is cleaned and maintained free of vegetation growth in order to protect the structural integrity of the reservoir and ensure roots do not introduce a pathway for contamination into the reservoir.

## > Introduction

The Charlestown public water supply is sourced from a piped spring source which is gravity fed to the Charlestown water treatment plant. The raw water is disinfected with sodium hypochlorite and pumped to the reservoir. The supply provides approximately 700m<sup>3</sup>/day to the Charlestown area and a number of small public group water schemes. The Charlestown supply is also currently providing an additional 250m<sup>3</sup>/day to Ballaghy in County Sligo. The additional volume supplied to Ballaghy is allowing approximately 460 people to be excluded from a boil water notice on the Lough Talt supply in County Sligo.

The audit was carried out as a routine audit to assess the performance of Irish Water in providing clean and wholesome drinking water in the Charlestown public water supply.

## > Supply Zones Areas Inspected

The landscape where the spring source is piped, the chlorination treatment and the reservoir were inspected as part of the Charlestown public water supply audit.



## 1. Source Protection

	Answer	
1.1	Is the abstraction source(s) adequately protected against contamination?	Yes
<b>Comment</b>		
<p>The Charlestown source is a spring source from a sand and gravel aquifer. The spring is piped via an enclosed pipe through the sand and gravels directly into the water treatment plant. There were no obvious signs of surface water ingress into the raw water source.</p> <p>Raw water monitoring results taken twice a month during 2018 and 2019 were inspected during the audit. E. coli is rarely detected in the raw water, and any detections have been less than 4 MPN/100ml. Cryptosporidium has never been detected in the raw water. Mayo County Council will continue to sample the raw water twice a month into the future.</p>		



## 2. Reservoirs and Distribution Networks

		Answer
2.1	Are reservoirs adequately inspected and maintained?	No
<b>Comment</b>		
<p>The reservoir was cleaned internally in June 2019. On the day of the audit a significant amount of moss and weeds were growing on the roof of the reservoir. The top of reservoir should be kept clear of vegetation in order to protect the structural integrity of the reservoir and ensure no contamination can enter the treated water.</p>		

## Recommendations

Subject	Charlestown Audit Recommendations	Due Date	30/04/2020
Action Text	<p><b>Recommendation(s)</b></p> <ol style="list-style-type: none"><li>1. Irish Water should continue their raw water monitoring programme for the spring source, including E.coli and Cryptosporidium monitoring. Irish Water should investigate any detections of E.coli in the raw water. Irish Water should notify the EPA and HSE of any detections of Cryptosporidium in the raw water, given that there is no treatment barrier for Cryptosporidium at Charlestown water treatment plant.</li><li>2. Irish Water should review the network chlorine residual monitoring programme to ensure that the frequency and sample locations are sufficient to verify that at least 0.1mg/l free residual chlorine is present at the extremities of the distribution network, for adequate disinfection of the water supply. Irish Water should aim to monitor network chlorine residuals every 2-3 days.</li><li>3. Irish Water should ensure that the roof of the reservoir is cleaned and maintained free of vegetation growth to protect the structural integrity of the reservoir and ensure that roots do not introduce a pathway for contamination of the reservoir.</li></ol> <p><b>Follow-Up Actions required by Irish Water</b></p> <p>During the audit, Irish Water representatives were advised of the audit findings and that action must be taken as a priority by Irish Water to address the issues raised.</p> <p>This report has been reviewed and approved by Aoife Loughnane, Drinking Water Team Leader.</p> <p>Irish Water should submit a report to the Agency on or before 30th April 2020 detailing how it has dealt with the issues of concern identified during this audit.</p> <p>The report should include details on the action taken and planned to address the various recommendations, including time frame for commencement and completion of any planned work.</p> <p>The EPA also advises that the findings and recommendations from this audit report should, where relevant, be addressed at all other treatment plants operated and managed by Irish Water.</p> <p>Please quote the Action Reference Number in any future correspondence in relation to this Report.</p>		