



LEIXLIP WwTW - LOWER LIFFEY VALLEY SEWERAGE SCHEME

Upgrade existing 80,000pe WwTW to 150,000pe WwTW

Client: Kildare County Council

SUMMARY:

Value: €13,500,000

Population Served: 150,000 p.e.

Procurement: Design Build

Status: Live

Services Provided:

Outline WWTW upgrade designs

Asset and operations assessment

Landscaping proposals

Environmental Impact Assessment

Contract Documents, Contract Administration

Nicholas O'Dwyer were appointed as part of a team for the upgrade of the Lower Liffey Valley Regional Sewerage Scheme with particular responsibility for the expansion of the WwTW.

The first task was a fundamental review of the existing treatment process in both terms of design and operation. This revealed significant redundancy that had historically been built into the process which when rationalised and modified (chemical dosing and/or baffles) could exploit the existing structures to greater effect. The plant had two separate streams, domestic and industrial which when blended in a balance tank and passed through the rationalised process could increase throughput to 150,000pe with minimal civil works. It was also noted that there was available space within the site to provide additional process units if required.

A review of the Council's operational practices revealed that the works was well staffed, operating in accordance with best practice and the operation costs were in line with established costs elsewhere in the country. Due to the two issues above it was determined that a Design and Build contract strategy would be adopted for this upgrade. An EIS was prepared for the plant and subsequently certified by An Bord Pleanala with minimal conditions. A particular issue on the plant was the foam generated on the aeration basin for the industrial stream. Initial investigations indicated that the foam was both chemical and biological in nature. However, detailed investigation revealed that while Norcadia was the principle element, issues such as high inert MLSS levels (>50%), calcium silicate precipitation, biological fungus generation in the inlet sewer and outlet arrangements were influencing the problem. Solutions are proposed to remove the problem and these are included in the Contract Documents.



Nicholas O'Dwyer
CONSULTING ENGINEERS