



Kerry County Council

KERRY CENTRAL REGIONAL WATER SUPPLY SCHEME

PROPOSED UPGRADE AND EXPANSION OF LOUGH GUITANE WATER TREATMENT WORKS

PART 8 – PUBLIC CONSULTATION PROCESS

DESCRIPTION OF PROPOSED DEVELOPMENT

***Planning & Development Act 2000
Planning & Development Regulations 2001 to 2006
Part 8 Procedure***



October 2009

KERRY COUNTY COUNCIL

KERRY CENTRAL REGIONAL WATER SUPPLY SCHEME

PROPOSED UPGRADE AND EXPANSION OF LOUGH GUITANE WATER TREATMENT WORKS

PART 8 - PUBLIC CONSULTATION REPORT

DESCRIPTION OF PROPOSED DEVELOPMENT

**Nicholas O'Dwyer Ltd.,
Consulting Engineers,
Nutgrove Office Park,
Nutgrove Avenue,
Dublin 14.**

**Patrick J. Tobin & Co. Ltd,
Fairgreen House,
Fairgreen Road,
Galway.**

October 2009

PROJECT NO. 20387					
Revision	Reason for Revision	Prepared by	Reviewed by	Approved by	Issue Date
-	First Issue	I. Corcoran	J.Cronin	J.Cronin	13/05/2009
A	Client Comments	I. Corcoran	J.Cronin	J.Cronin	30/09/2009
B	Client Comments	I. Corcoran	J.Cronin	J.Cronin	07/10/2009
C	Client Comments	I. Corcoran	J.Cronin	J.Cronin	12/10/2009
D					

CONTENTS

1	INTRODUCTION	1
1.1	Existing Scheme.....	1
2	PROPOSED WORKS	2
3	LOCATION	3
4	DRAWINGS	3
5	DETAILS AND FINISHES	3
5.1	Proposed Works	3
5.1.1	Improvements to the Existing Plant Building	3
5.1.2	Water Treatment Building	4
5.1.3	Clear Water Storage Tank.....	4
5.1.4	Raw Water Storage Tank	4
5.1.5	High Lift Pumping Station	4
5.1.6	Filter Washwater Recovery Tanks and Pumping Plant	4
5.1.7	Sludge Processing Plant.....	5
5.1.8	Site Works.....	5
5.2	External Finishes to Structures	5
5.3	Fencing and Handrailing	6
6	IMPACT OF THE SCHEME.....	6
6.1	Environmental.....	6
7	PUBLIC CONSULTATION	10

1 INTRODUCTION

1.1 Existing Scheme

The Kerry Central Regional Water Supply Scheme (CRWSS) is the largest water supply scheme in County Kerry and caters for the water supply requirements of the principal population centres of Tralee and Killarney as well as Castleisland, Castlemaine and an extensive rural area in County Kerry. It serves in excess of 59,000 persons across an area equivalent to 25% of the county (685 km²) incorporating strong industrial, agricultural and tourism activities.

The scheme has two (2) Category A1 raw water sources, at Lough Guitane and the Owgarriff River which are located in adjacent catchments of the Flesk River. In 1979, following a Public Inquiry, Kerry County Council obtained a Water Abstraction Order under the 1942 Water Supplies Act permitting the abstraction of up to 54,540m³/day (12 million gallons per day) of water from the combined sources of Lough Guitane and the Owgarriff River.

Water abstracted is currently treated at a plant installation at Lough Guitane where facilities are limited to disinfection (using Chlorine Dioxide and Chlorine), Fluoridation and pH correction. Treated water is pumped to the main service reservoir at Sheheree (TWL: 107.0mOD, Capacity: 27,500m³) and to a small reservoir at Rossalia (Capacity: 500m³) which serves the Glenflesk area.

From Sheheree, a 700mm/600mm pipeline transfers water to the Killarney Town Distribution System and to Coolcorcoran Pumping Station for onward transmission via 9km of 600mm rising main to a Break Pressure Tank (TWL: 133.9mOD, Capacity: 5,000m³) at Scart near Farranfore. The feed to the Killarney Distribution System is zoned to facilitate a supply to the service reservoir at Madam's Height (TWL: 83.82mOD, Capacity: 3,182m³). From the Scart Break Pressure Tank (TWL: 133.9mOD, Capacity 5,000m³), a 600mm gravity trunk main transfers water to Lissardboola Reservoir (TWL: 83.0mOD, Capacity: 12,500m³) which is located in the southern environs of Tralee. Between Scart and Farmer's Bridge major cross connections have been provided to serve the towns of Castleisland, Castlemaine and an extensive rural area. From Lissardboola Reservoir water gravitates to the greater Tralee Area including the Lisloose Service Reservoir (TWL 47.86mOD, Capacity: 6,800m³). A booster station at Ballybeggan transfers water onwards to Ballintobeenig Reservoir (TWL:

160mOD, Capacity: 4,546m³) which serves the higher level areas to the north and northeast of the town.

A large part of East Kerry is also served from the Central Regional Scheme via a separate pumping installation located at the Coolcorcoran Pumping Station in Killarney. Water from the Central Regional Scheme is pumped to the scheme's main reservoir at Knockininane from where a large area to the east of the county, including the village of Gneeveguilla, is served.

In order to comply with the current Drinking Water Regulations (S.I. 278 of 2007) and to minimize the risk of *Cryptosporidium* entering the schemes supply, it is proposed to upgrade and expand the water treatment facilities at Lough Guitane. The new plant and facilities will be capable of producing up to 51,000m³ of treated water over a 20 hour operational day.

2 PROPOSED WORKS

The proposed works comprise the following:

- i) Water Treatment Building to accommodate water treatment plant and equipment capable of producing 51,000 m³/day of treated water.
- ii) Raw Water Storage Tank of capacity 5,000m³.
- iii) Clear Water Storage Tank of capacity 10,000m³.
- iv) High Lift Pumping Station.
- v) Filter Washwater Recovery Tank and Pumping Plant.
- vi) Sludge Processing Plant including Sludge Balancing Tank, Thickeners and Dewatering Plant.
- vii) Improvements to the existing Plant Building.
- viii) Site Works including landscaping, security fencing and surface water drainage.
- ix) Ancillary Works associated with the development.

It is proposed that the improvement works will be procured as a Design, Build and Operate contract. The accompanying drawings provide indicative layouts, elevations and details of the various structures. The DBO Contractor, when appointed, will be required to provide structures, the overall impact of which is equal or less than those outlined in the Planning Documents.

3 LOCATION

The Lough Guitane Water Treatment Works site is located on the North Western shore of Lough Guitane in the townland of Gortdromakiery. The site is approximately 6km south east of Killarney, 33km south east of Tralee and 17km north east of Kenmare. The site is rural and is accessed by a local road (L-3015) which runs between the N71 and N-22.

4 DRAWINGS

The following Drawings will accompany this document:

Drg. No.	Title
20387/PC/01	Area Location Map
20387/PC/02	Site Location Map
20387/PC/03	Existing Site Layout
20387/PC/04	Proposed Site Plan
20387/PC/05	Proposed Landscape Plan
20387/PC/06	Sections / Views through Site
20387/PC/07	Treatment Works Building - Elevations – Sheet 1
20387/PC/08	Treatment Works Building - Elevations – Sheet 2
20387/PC/09	Sludge Dewatering Plant – Elevations
20387/PC/10	High-Lift Pumping Station – Elevations
20387/PC/11	Sludge Balancing Tank and Pumping Station – Elevations
20387/PC/12	Washwater Recovery Tanks and Pumping Station–Elevations
20387/PC/13	Existing Plant House – Elevations

5 DETAILS AND FINISHES

5.1 Proposed Works

Details of the works to be completed in each work category are set out hereunder:

5.1.1 Improvements to the Existing Plant Building

The improvements required are all internal other than the provision of a new external door to the Fluoridation Room. Internal improvements will include: the provision of new mechanical screens to replace the existing fine screens at the inlet to the raw water pumping station; the construction of a reinforced concrete wall with penstock between the Intake Chambers and the Pump Sump; and the

upgrading of equipment and control systems. Accordingly, there will be very limited impact arising from these changes.

5.1.2 Water Treatment Building

The proposed Water Treatment Plant and Equipment will be accommodated within a large cladded structure. This building will accommodate the treatment units, chemical storage and dosing facilities, backwash pumps and air blowers, control room and welfare facilities. The existing Plant Building will be retained to accommodate raw water pumps, electrical distribution and metering, disinfection, fluoridation and pH correction.

5.1.3 Clear Water Storage Tank

The proposed Clear Water Storage Tank will be compartmentalised to incorporate a separate sump area for both the filter backwash and the high lift pumps. The roof slabs of this tank will be at ground level.

5.1.4 Raw Water Storage Tank

The proposed Raw Water Storage Tank will be located directly on top of the Clear Water Tank and will be used to store and blend raw waters from Lough Guitane and the Owgarriff River before treatment.

5.1.5 High Lift Pumping Station

The proposed pumping station will accommodate pumping plant and associated control panels. These pumps will transfer treated water to the main service reservoir at Sheheree.

5.1.6 Filter Washwater Recovery Tanks and Pumping Plant

Three Filter Washwater Recovery Tanks will collect and process all washwater arising from the filter backwashing process. These units will also collect supernatant and filtrate for the Sludge Processing Plant. Supernatant for the Washwater Recovery Tanks will be recycled to the raw water inlet tank. The top of these tanks will be at ground level. The associated pumps will be housed in a pumping station located adjacent to the Filter Washwater Recovery Tanks.

5.1.7 Sludge Processing Plant

The Sludge Processing Plant comprises four stages as described hereunder:

a) Sludge Balancing Tank and Pumping Station

This circular tank will collect storage bleed water from the Water Treatment units. The top of this tank will be at ground level.

Homogenised sludge from this tank will be pumped to the sludge thickeners. The sludge pumps will be housed in a pumping station located adjacent to the Sludge Balancing Tank.

b) Sludge Thickeners

2 No. Sludge Thickeners will be provided adjacent to the Sludge Dewatering Building.

c) Thickened Sludge Storage Tanks

3 No. Thickened Sludge Storage Tanks will be provided adjacent to the Sludge Dewatering Building.

d) Sludge Dewatering Building

The Sludge Dewatering Building will house the Sludge Dewatering Plant. This structure will also accommodate chemical storage and dosing facilities for the sludge treatment process and sludge pumps/conveyors etc.

5.1.8 Site Works

The site works will involve new site roads, parking areas, landscaped areas, security fencing, surface water drainage including settlement ponds, wildlife ponds, as shown in the drawings.

5.2 External Finishes to Structures

The proposed Water Treatment Building will be of portal frame construction clad in an approved material (Tegral Pelicolour (or Equivalent) Fibrecement Cladding) of an approved colour (Natura Colour No. 671). Window and door frames, doors, shutters and trims will be finished to an approved colour (Windows are to be finished in 'Green Grey' RAL 7009 with the reveals clad same as the facade and all doors shutters and trims are to have a 'Reed Green' finish, RAL 6013). The roof of the building will be a curved clad surface over a steel frame

with cladding finished to an approved colour ('Green Grey' RAL 7009). The proposed Sludge Dewatering Plant, High Lift Pumping Station, Washwater Pumping Station and Sludge Pumping Station will be of a similar portal frame construction with cladded exterior walls and roofs finished in approved materials matching the main treatment building.

The proposed Clear Water Tank will comprise cast in-situ walls, floors and roof. The Raw Water Storage Tank will be constructed directly on top of the Clear Water Tank and will be of concrete construction. The top level of this structure will be above the existing ground level and will be surrounded with planted grassed embankments up to its full height at a maximum slope of 1 vertical to 1.5 horizontal. The concrete roof will be finished in a lightweight 'green roof' finish (Low maintenance, Lightweight Sedum Plant Green Roof by Kazlip (or Equivalent) with plant colours to mimic local natural vegetation).

The Sludge Thickening and Storage Tanks will be in steel, concrete or PVC and finished to an approved colour ('Reed Green' RAL 6013). The proposed Sludge Balancing Tank and Washwater Settlement Tanks will be open tanks, with appropriate handrailing, and will be of concrete construction.

The existing Plant Building will remain largely unchanged apart from the addition of a new folding shutter door to accommodate an upgraded fluoridation area. There will be no changes to the existing turbine generator building.

5.3 Fencing and Handrailing

A new security fence, to an approved colour, will be constructed along the boundary of the site.

Existing handrailing on site will be retained where appropriate and new handrailing will be provided where required. Handrailing is to be of galvanised tubular steel construction.

6 IMPACT OF THE SCHEME

6.1 Environmental

The proposed development site is located adjacent to both Lough Guitane and the River Finow, which are part of the Killarney National Park, McGillicuddy's Reeks and Caragh River catchment candidate Special Area of Conservation (cSAC site

code 365). Please refer to the separate “Environmental Report” and “Appropriate Assessment of the Predicted Increase in Drawdown of the Water Levels in Lough Guitane” accompanying this document for further information on the impact of the development.

The contents sheets for the Environmental Report and Appropriate Assessment are set out overleaf.

i) Environmental Report Contents

Section 1	Introduction	1
1.1	Introduction and Terms of Reference	1
1.2	Screening for EIA Requirement	1
1.3	Scoping & Consultation	2
Section 2	Project Description.....	4
2.1	Background.....	4
2.2	Existing Plant Overview	4
2.3	Overview of Proposed Upgrade.....	5
2.4	Proposed Intake System.....	6
2.5	County Development Plan Context	14
Section 3	Human Beings	17
3.1	Introduction	17
3.2	Proposed Development	17
3.3	Types of Potential Impacts	17
3.4	Data Sources and Documentation Consulted	17
3.5	Existing Environment	18
3.6	Predicted Impacts.....	19
3.7	Mitigation Measures	20
Section 4	Noise.....	21
4.1	Introduction	21
4.2	Survey Details	21
4.3	Review of Relevant Guidance Documents.....	24
4.4	Description of the Proposed Development.....	25
4.5	Assessment Methodology	27
4.6	Predicted Noise Levels	31
4.7	Conclusions.....	34
Section 5	Terrestrial Flora and Fauna	35
5.1	Introduction	35
5.2	Methodology	35
5.3	Receiving Environment.....	36
5.4	Characteristics of the Proposed Development.....	43
5.5	Potential Impacts.....	43
5.6	Do-nothing Scenario	44
5.7	Mitigation Measures	44
5.8	Predicted Impact	45
5.9	Reinstatement and Residual Impacts.....	46
5.10	References.....	46
Section 6	Landscape and Visual Impact	47
6.1	Introduction	47
6.2	Proposed Development	47
6.3	Existing Landscape	47
6.4	Likely Landscape effects.....	50
6.5	Landscape and Visual Effects	52
6.6	Photomontages	52
6.7	Mitigation Measures	59

ii) Appropriate Assessment Contents

Section 1	Introduction	1
1.1	Introduction and Terms of Reference	1
1.2	Appropriate Assessment Requirement.....	1
1.3	Scoping	3
1.4	The Layout of this Report.....	4
1.5	Project Team.....	5
Section 2	Hydrological Background	6
2.1	Water Abstraction Order.....	6
2.2	Hydrological Report	7
2.3	Fish Pass at Lough Guitane.....	7
2.4	Owgariff Intake	8
2.5	SCADA System	8
2.6	How the Abstraction System will operate	9
Section 3	Otter Survey	10
3.1	Introduction.....	10
3.2	Site Location and Access	10
3.3	Study Methodology	11
3.4	General Description of Area	12
3.5	Conservation Designations.....	13
3.6	Fauna.....	13
3.7	Otter Survey Results	14
3.8	Overall Assessment.....	15
3.9	Potential Impacts on Otters	16
3.10	Potential Impacts on Surrounding Areas	20
3.11	Significance of Potential Impacts on Otters	20
3.12	Recommendations and Mitigation Measures	21
3.13	Conclusions and Residual Impacts.....	21
3.14	Photographic Record.....	23
3.15	Otter References and Bibliography	33
3.16	Appendices to Otter Section	35
Section 4	Flora Survey.....	39
4.1	Introduction	39
4.2	Scope	39
4.3	Methodology	39
4.4	Habitat Survey: Lowland Oligotrophic Lakes, Upland Oligotrophic Lakes	40
4.5	Marsh Clubmoss (<i>Lycopodiella inundata</i>) Survey.....	42
4.6	Changes in Water Level Fluctuations	43
4.7	Impacts of Water Level Fluctuations on Lake Communities.....	44
4.8	Conclusions.....	45
4.9	References.....	45
4.10	Guidelines for Ecological Evaluation and Impact Assessment	46
4.11	Photographs.....	47
Section 5	Fish Migration Effects.....	51
5.1	Introduction	51
5.2	Background Data.....	52
5.3	Stream #1	52
5.4	Stream #2	53
5.5	Stream #3	54
5.6	Cappagh River.....	55
5.7	Spawning Gravels on Lake Margins	55
5.8	Conclusion	55

7 PUBLIC CONSULTATION

During the public display period, plans and particulars of the proposed development are available for inspection during normal office hours, at the following locations:

- Water Services Capital Unit, Kerry County Council, Area Services Centre, Station Road, Castleisland, Co. Kerry.
- Water Services Department, Kerry County Council, Áras an Chontae, Rathass, Tralee, Co. Kerry.
- Kerry County Council, Killarney Area Office, Sr. Josephs Road, Killarney, Co. Kerry.
- Kerry County Council's website at www.kerrycoco.ie.