



CORK COUNTY COUNCIL

# **Engineering Report for Proposed Extension at Rockchapel Cemetery**

**Prepared by: Billy Dennehy, Assistant Engineer**

**Date: 3<sup>rd</sup> May 2022**

## 1.0 Introduction

The existing cemetery in Rockchapel is currently full for new burials plots for several years. It is proposed to extend the existing cemetery to the South East adjacent to the existing cemetery. The proposed development is for 193 additional grave spaces. This report provides an overview of the project along with the Engineering issues associated with the project.

## 2.0 Site Location

The site is located to the west of Rockchapel village adjacent to the R-576 in the townland of Tooreennagrena, Rockchapel, Co Cork. It adjoins the existing Southern Eastern Boundary of the existing Cemetery. The existing graveyard is connected to the village by a public footpath. The existing cemetery is in the 80kph speed limit.

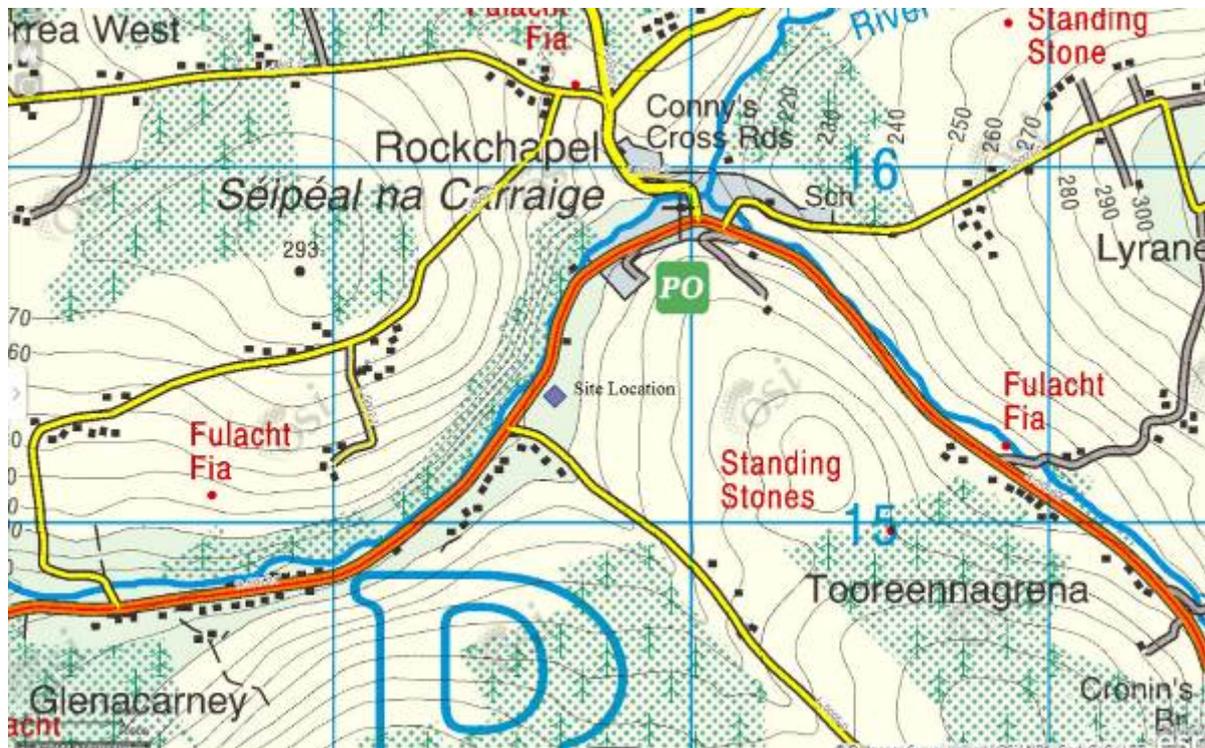


Figure 2.1 Site Location

## 2.1 Project Description

The extension of Rockchapel cemetery will consist of the following works:

- New cemetery area to have upper layer of topsoil excavated 100-150mm and stored on site. The site is to be levelled with gradual falls.
- New 1.2m wide footpaths and reinforced concrete foundation beams with 12mm diameter mild steel bars to take headstones shall be laid out as per map included in Appendix 1.
- The excavated topsoil will be spread on the site, rotavated, rolled and grass seeded.
- 225mm hollow block wall 1500mm high stepped as required on 750mm x 225mm foundations finished with 100mm high precast concrete coping – as specified to be laid on walls. Walls to be plastered on both sides.
- Construction of roadway from public road to access the new extension with turning area at the entrance to new cemetery. Excavation and fill required along this roadway to required levels. Fill of 300mm layer of crushed stone with 150mm Clause 804 on top. The road will then be double surface dressed with 10mm surface dressing chips.
- New 1.5m high chainlink fencing to be erected along the entrance road.
- Installation of French drain around the perimeter of the site and along the new roadway.
- Erection of new entrance walls and piers at the entrance to the public road.

## 2.2 Site Layout & Surrounding Land Use

The current use of the site is agriculture land. The eastern end of the site is relatively flat ground conditions are soft with mostly rushes evident. As you move to the west the site falls and rises to a peak and falls gradually to the main road along the western boundary of the existing graveyard.

A small hardcore agricultural yard for bale storage exists along the western boundary.

## 2.3 Site History

No site history other than Agriculture uses. The existing graveyard runs along the Northern boundary of the site.



Figure 2.2

## 2.4 Site Topography

The existing site has a number of dip and rises throughout the proposed site. As you move to the west the site falls and rises to a peak and falls gradually to the main road along the western boundary of the existing graveyard. The eastern end of the site is relatively flat with ground conditions soft with mostly rushes evident.



Figure 2.3 View of the western side show the topography of the existing ground



Figure 2.4 View of the western side show the topography of the existing ground



Figure 2.5 View of the proposed area for Cemetery



Figure 2.6 View of the proposed area for Cemetery

## **3.0 Site Access and parking**

### **3.1. Proposed Access**

It is proposed to construct a new access road to access the new cemetery. The access road will use an existing agricultural entrance onto the R575 to the West of the existing cemetery to access the new cemetery.

A turning area will be constructed at the entrance to the new cemetery. See Appendix 1 for layout of proposed roadway. The proposed finish of the road will be 10mm surface dressing on compacted CL 804 stone. There will be Cut & Fill required to construct the new roadway to the designed levels.

### **3.2 Sightlines**

The proposed entrance will exit onto the R576 which is a busy regional road linking Abbeyfeale, Co Limerick with Newmarket, Co Cork. The road is 6m wide and is in good condition locally. 120m sightlines are required in both directions and this is achievable at the proposed location.

### **3.3 Entrance**

To facilitate the existing agricultural storage yard a double entrance will be required to be constructed with access to the cemetery extension to the east and to the agriculture yard to the west.

### **3.4 Parking**

It is proposed to use the existing parking at the front of the existing cemetery to cater for the extension also.

### **3.5 Access between the existing & proposed**

It is proposed to provide a pedestrian connection between the existing cemetery along the South eastern boundary by creating an opening in the existing boundary wall

## **4.0 Surface Water**

### **4.1 New Drainage System**

It is proposed to construct a new French drain around the perimeter of the new cemetery and access roadway which will discharge to a soakaway.

### **4.2 Flooding**

No flood events have been recorded at the proposed site and its immediate environs.

## **5.0 Ecologically Sensitivity/Designated Areas**

The proposed site lies very close to the Stacks to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA and the Lower Shannon SAC.

The site also lies within the Screening Zones for the SAC and SPA.

A Natura Impact Statement has been completed for the proposed extension.

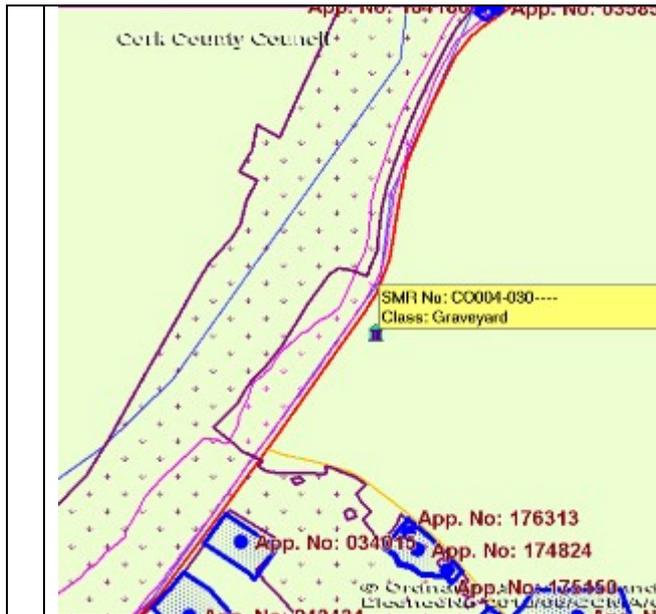


Figure 4.1

## **6.0 Heritage**

### **6.1 Architectural Heritage**

Following consultation with the Archaeological and Conservation Office of Cork County Council it was confirmed that no architectural heritage issues arising with the proposed site.

It was noted that the proposed extension is onto the existing cemetery with is a Recorded Monument CO004-030. This dates to the mid/late 19<sup>th</sup> century and its boundary marks the extent of the cemetery.

As the proposed works are adjacent to a Recorded Monument a notification in accordance with Section 12 of the National Monuments Act as amended 1994 should be sent to the National Monuments Service two months in advance of any works taking place.

## **7.0 Public Water & Bored wells**

### **6.1 Public Watermain**

The public water supply is located to the east of the village approximately 1km away.

### **7.2 Bored wells**

There are no bored well located within 250m radius of the proposed cemetery.

There are no bored well within 500m radius of the proposed cemetery.

There is potentially 1 bored well upgradient within 1000m radius of the proposed extension with would not be affected by the proposed development.

## **8.0 ESB Powerlines**

Existing ESB powerline traverse the South Eastern boundary of the proposed extension. These would not have any effect in the operation of the proposed development. During the construction phase protocol would have to be followed as per the ESB code of practice for working near overhead cables.

## 9.0 Trial Holes

### 9.1 Introduction

A total of 5 trial holes were excavated across site at the locations shown on Figure 3.1 using a Mechanical excavator.



Figure 3.1 Locations of Trial Holes

### 9.2 Trial Pit Logs

#### 9.2.1 Trail hole 1 – Depth 2m

0-200mm	Topsoil
200mm-2m	Pencil/Shale

Trial hole was inspected twice over the 3 months and no water was evident on both occasions

Given the high level of pencil/shale this area is not suitable for the graveyard

#### 9.2.2 Trail hole 2 – Depth 2.15m

0-350mm	Topsoil
350mm-1.15m	Red soil
1.15m 2.15m	Pencil/Shale

Trial hole was inspected twice over the 3 months and high water level was evident on both occasions

Given the high water table and high level of pencil this area is not suitable for the graveyard

### 9.2.3 Trail hole 3 – Depth 2.65m

0-350mm	Topsoil
350mm-1.55m	Pencil/soil
1.55m – 2.65m	Pencil Shale

Trial hole was inspected twice over the 3 months and no water was evident

Given the high level of pencil/shale this area is not suitable for the graveyard

### 9.2.4 Trail hole 4 – Depth 2.7m

0-400mm	Topsoil
400mm-800mm	Red Soil
800mm – 1.5m	Soil/Pencil
1.5m – 2.7m	Pencil/Shale

Trial hole was inspected twice over the 3 months and no water was evident

The top layer of soil was very sticky and muddy while the red soil was looser and softer. The side walls remained intact for the with no collapses and it became harder to dig between 1.6m and 2.7m

While pencil is evident at 800mm it has soil present and increase in size with depth.

Area would be suitable for a possible development for Cemetery subject to certain remedial works and constraints.

### 9.2.5 Trail hole 5 – Depth 2.9m

0-200mm	Topsoil
200-1000m	Soil
1m – 1.6m	Red Soil
1.6m – 2.9m	Pencil

Trial hole was inspected twice over the 3 months and very slight water was evident on one occasions

The top layer of soil was very sticky and muddy while the red soil was looser and softer. The side walls remained intact for the with no collapses and it became harder to dig between 1.8m and 2.9m

Area would be suitable for a possible development for Cemetery subject to certain remedial works and constraints.

## **10.0 Conclusion**

As a result of this Site investigation it is evident that the site has high level of pencil/shale in the area. However this issue along with a high water table will be a problem in all surrounding areas of Rockchapel. With this in mind the area outlined at the North Western corner of the proposed site is the most suitable location for the extension of the existing graveyard.

See outlined in figure 9.1 and Appendix No 1 for the recommended location of the Cemetery extension and proposed entrance roadway.



Figure 9.1

However the graves will need to be restricted to 2 burials in depth given the presence of pencil in the trial holes.

Given the current ground conditions are heavy in this area a French drain will be required to be constructed around the boundary to ensure surface water no longer flows into this area and thus improving the quality of ground conditions.

## **11.0 Recommendation**

I would recommend that the proposed cemetery extension would proceed to the planning process as per the attached drawings

## **Appendix No 1 – Pictures of Trial Holes**

**Trial Hole No 1**



**Trial Hole No 2**



**Trial Hole No 3**



**Trail Hole No 4**



**Trial Hole No 5**

