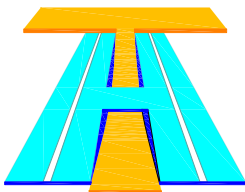


N24 CARRICK ROAD IMPROVEMENT SCHEME



MAINTENANCE PLAN FOR SURFACE WATER DRAINAGE INFRASTRUCTURE

FEBRUARY 2022

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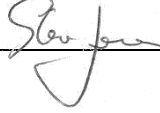
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BACKGROUND

The N24 Carrick Road Improvement Scheme consists of the realignment of approximately 2.2 km of single carriageway road located just west of Mooncoin Village in County Kilkenny. It has a 100kph speed limit from the western tie-in toward the L7416 local road (circa 700m) with the remaining eastern section having a speed limit of 80kph.

The preliminary design of the associated drainage works has been completed in accordance with the requirements of [DN-DNG-03022-05.pdf](#); Drainage Systems for National Roads (2015) and with consideration to a number of objectives including:

- Maintaining the integrity of the Lower River Suir, Special Area of Conservation (SAC).
- Provision of drainage elements and control structures to efficiently and sustainably drain surface water while preventing pollution and protecting the water quality of the River Suir.
- Provide positive drainage to maintain the integrity of new pavement and foundation.
- Control the flow and volume of surface water leaving the extents of the scheme.

[Drawing KK1613403-P3-SL-001F1](#) shows the location and extent of the scheme.

1 DESCRIPTION OF DRAINAGE NETWORK INFRASTRUCTURE & OPERATION

The extent of proposed new drainage design is as per drawings [KK1613403-P3-DR-001 to 008](#) and are included in [Appendix A](#) of this report. All proposed new drainage networks are in accordance with the requirements of [DN-DNG-03022](#). Due to the proposed realignment of the carriageway at the eastern location, it is our intention to replace the existing drainage with a new drainage network, Network 2 and outfall this to an attenuation pond as shown on drawing [KK1613403-P3-DR-002](#). The provision of the attenuation pond will reduce flow rates down stream of this new network. Network 1 which provides drainage for adjacent agricultural lands, bypasses the Attenuation pond to existing outfall location. Network 3 conveys surface water from the attenuation pond to the existing outfall.

On the western side of the scheme it is proposed that Network 4 will drain all surface water from the carriageway between Ch 940 and Ch 2060. Again Network 4 will outfall to an attenuation pond as shown on drawing [KK1613403-P3-DR-005](#). Networks 9, 10 and 11 that provide drainage for adjacent agricultural lands on the western side of the scheme outfall directly to the Skelpstown Stream.

2 DRAINAGE MAINTENANCE SPECIFICATION

In general, maintenance of road drainage shall as far as practicable include, but not be limited to, the following:

- ensuring that surface water does not pond on the running carriageway to the extent that it affects the safety of road users
- ensuring that the pavement structure shall be adequately drained as required by [DN-DNG-03022](#); Drainage Systems for National Roads (2015)
- ensuring that adjoining landowners and landholders are not affected by an increased risk of flooding as a direct result of the scheme
- ensuring that potential contaminants or silt from the clearing of road drainage is not discharged into watercourses
- ensuring that drainage routes are free from vegetation and blockages

Maintenance activities for each of the individual drainage elements within the N24 Carrick Road Improvement Scheme are set out in the Tables 2.1 to 2.4 (inclusive) below. These activities take consideration of the following drainage elements:

- Filter Drains
- Attenuation Pond

- Inlets, Outlets, Controls & Inspection Chambers (This includes for gullies, access chambers, conveyance pipes and headwalls)

Drawings [KK1613403-P3-DR-001 to 008](#) show general access arrangements including access for the proposed Attenuation Ponds. The provision of a 3m wide working strip between toe of embankment and fence line, provides access from the N24 Carriageway mainline to carry out landscaping and drainage maintenance where necessary.

Note that as part of the drainage design, two new Bypass Petrol Interceptors will be installed within the drainage networks. The inspection, servicing and maintenance of these petrol interceptors will be carried out in accordance with the manufacturer’s specifications. In addition, regular inspections of all interceptors will be carried out with any additional inspections carried out on an as needed basis.

Table 2.1 below provides a summary of maintenance requirements for Filter Drains

Table 2.1: Summary of Maintenance Requirements for Filter Drains

Filter Drains and Infiltration Trench	
<i>Description of Maintenance</i>	<i>Frequency</i>
Mow 1m min wide grass surround and protect drain from silt	As required
To resolve siltation issues and subject to determination after inspection of filter material replace surface stone layer and separating geotextile that protects the stone drain. In the event that deeper accumulations of silt occur and are detected by trial pitting, then replace trench material.	As required

Table 2.2 below provides a summary of maintenance requirements for the Attenuation Pond

Table 2.2: Summary of Maintenance Requirements for the Attenuation Ponds

Attenuation Pond	
<i>Description of Maintenance</i>	<i>Frequency</i>
Mow grass verges around access to pond to maintain a cared appearance.	As required
Check flow control and Overflow are operating and free from blockage.	Monthly or as required
Ensure pond remains unblocked and free from sediment build up.	As required
In the event of damage to Liner or Control Devices, undertake remedial work to specified design.	As required

Table 2.3 below provides a summary of maintenance requirements for Inlets, Outlets, Controls and Inspection Chambers. This includes for gullies, access chambers, conveyance pipes and headwalls.

Table 2.3: Summary of Maintenance Requirements for Inlets, Outlets, Controls & Inspection Chambers

Inlets, Outlets, Controls & Inspection Chambers	
<i>Description of Maintenance</i>	<i>Frequency</i>
Inspect surface structures removing obstructions and silt as necessary and check there is no physical damage.	As required
Strim vegetation 1m min. surround to structures and keep hard aprons free from silt and debris.	As required
Remove covers and inspect ensuring water is flowing freely and the exit route for water is unobstructed. Remove silt and debris.	Annually
Repair any physical damage as necessary.	As required

APPENDIX A

[KK1613403-P3-DR-001](#) (Drainage Layout - Key Map)

[KK1613403-P3-DR-002](#) (Drainage Layout - Network 2 Details)

[KK1613403-P3-DR-003](#) (Drainage Layout - Network 2 Details)

[KK1613403-P3-DR-004](#) (Drainage Layout - Network 4 Details)

[KK1613403-P3-DR-005](#) (Drainage Layout - Network 4 Details)

[KK1613403-P3-DR-006](#) (Drainage Layout - Network 1 & Network 3 Details)

[KK1613403-P3-DR-007](#) (Drainage Layout - Network 1 Details)

[KK1613403-P3-DR-008](#) (Drainage Layout - Network 9, 10 & 11 Details)

[KK1613430-P3-SL-001](#) (Minor Scheme Location)