Appendix 14A

Pavement Survey

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Proposed OCGT Development

Visual Assessment of Existing Road Pavement

EP Energy Developments

Project number: 60661667

1 July 2021

Delivering a better world

Quality information

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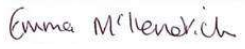			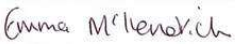
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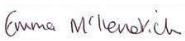
Revision History

Revision	Revision date	Details	Authorized	Name	Position
01	25.10.21	General updates		Emma McKendrick	Regional Director

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1. Introduction

AECOM were commissioned by EP Energy Developments Ltd. to provide a pavement assessment in support of a new Open Cycle Gas Turbine (OCGT) development at Tynagh Power Station in Derryfrench, Loughrea, Co. Galway.

The visual pavement assessment has been undertaken to identify the current condition of the local road network between the Site and the junction with the N65 Loughrea to Portumna Road, as indicated in red in Figure 1 below. The overall length of road assessed is circa 4km.

The assessment was based on a visual inspection of the road surfacing only. The build-up of the road pavement is unknown and no slit trenching or non-disruptive surveys were undertaken.

The assessment will facilitate monitoring of the effects of the construction phase traffic on the public road network for the Proposed Development.

The traffic assessment included within Chapter 14 of the associated Environmental Impact Assessment Report (EIAR) has identified that the traffic impacts of the Proposed Development are such to only require a pavement assessment to be conducted for the construction phase traffic. The operational phase traffic impacts insignificant and therefore do not require mitigation.

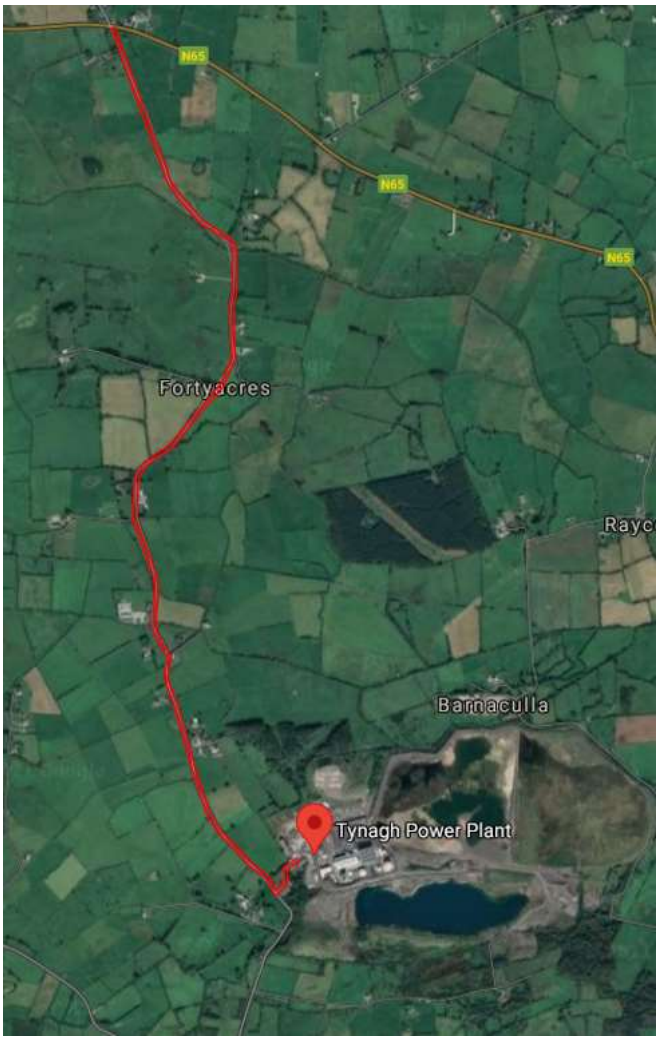


Figure 1 – Site Location Plan

2. Background Information

2.1 Site Location

The Site is situated at Tynagh Power Station in Derryfrench, Loughrea, Co. Galway, Ireland. The Proposed Development is bordered to the north and south by the former Tynagh Mine complex and to the immediate east, by the 'Tynagh Energy' Combined Cycle Gas Turbine (CCGT) Power Station. Sperrin Galvanisers Ltd., an Integrated Pollution Prevention and Control (IPPC) licensed facility, is located adjacent to the western boundary of the Site

The Proposed Development will comprise of the following main components:

- Open Cycle Gas Turbine unit, emissions stack and balance of plant (including air intake, fin fan coolers, main and auxiliary transformers, fire suppression skid, ignition propane gas tank compound, fire water tank) ;
- Acoustic barriers;
- Secondary fuel storage and transfer facility extension;
- Gas Above Ground Installation (AGI) connection equipment expansion;
- Addition of a new electrical bay to the existing electrical substation (and underground services/ electrical cabling);
- Distillate Gantry; and
- New workshop and stores, car park, gatehouse and administration building.

Full details of the Proposed Development are available in the associated EIAR.

2.2 Access Points

The Site is accessed through the existing Tynagh power station facility access from the LP4310 Gortymadden to Tynagh Road which joins with the N65 Loughrea to Portumna Road approximately 4km north of the Site at Gortymadden crossroads as illustrated in Figure 2 below.

Figure 2 – Gortymadden Crossroads

To the south of the Site, the Gortymadden to Tynagh Road junctions with the Loughrea to Tynagh Road at Lisheen.

During the construction phase of the Proposed Development, all construction vehicles will access the Site from LP4310 Gortymadden to Tynagh Road.

Figure 3 below shows the Site entrance at its junction with the LP4310.

Figure 3 – Junction at Site entrance with LP4310

2.3 Construction Traffic

Chapter 14 of the Environmental Impact Assessment Report (EIAR) associated with the Proposed Development provides an assessment of the traffic impacts of both construction and operational traffic on the local road network.

The construction phase is likely to be 18-24 months.

Construction working hours will generally be Monday to Friday 07:00 to 19:00 and Saturday 08:00 to 13:00, with the exception of commissioning and specific engineering works (e.g. concrete pours) which could take place outside these hours and may require 24 hour working.

Levels of employment will vary throughout the construction period, however, it is likely that an average of 150 construction personnel would be on Site on a daily basis with 200-250 construction staff required daily at the peak of construction.

It is expected that all HGVs will travel to the Site from the N65.

2.4 Roads Assessed

The traffic impacts of the Proposed Development are such to only require a pavement assessment to be conducted for the construction phase traffic. The operational phase traffic impacts are insignificant and do not require mitigation.

For the construction phase, the assessment showed the HGV traffic flow impact on the N65 Loughrea to Portumna Road to be negligible.

Furthermore, the N65 is a National Route which is designed to accommodate large volumes of traffic including HGVs. Therefore, for these reasons, no pavement assessment has deemed to be required for the N65 Loughrea to Portumna Road and it has not been considered further within this document.

The LP4310 Gortymadden to Tynagh Road is a Local Road and is designed to accommodate HGVs, however, at a lower traffic volume than that of National roads. As the LP4310 Gortymadden to Tynagh Road is a local road and the HGV traffic impact is expected to be major (influenced by the low existing HGV flow on the road), it has been assessed further within this document.

3. Road Pavement Assessment

3.1 LP4310 Gortymadden to Tynagh Road

The LP4310 Gortymadden to Tynagh Road was generally found to be in good condition and any defects noted were localised in nature. No significant defects were identified.

The road comprises a 2-way carriageway and is currently trafficked by HGVs. Typically, no piped road drainage was observed with surface water simply running off to the verges.

The visual assessment was undertaken on Friday 2nd July 2021. The weather was dry and overcast for the duration of the survey.

Refer to Table 1 below for the Northbound Carriageway findings and Table 2 for the Southbound Carriageway findings.

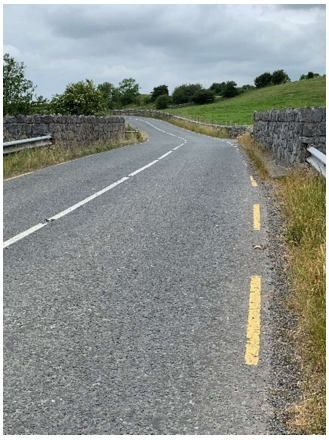
Appendix A provides a pictorial guide to the terms used to describe pavement defects in the tables.

Table 1. Northbound Carriageway LP4310

Chainage low to high measured from Junction of N65 to site entrance.

Chainage (km)	Condition Pavement Surface	Image
0.00-0.10	Road markings worn at junction and some oil staining of surfacing Pavement surface in good condition	
0.10-0.20	Pavement surface in good condition, slight surface deterioration	
0.20-0.30	Pavement surface in good condition, hump in road	
0.30-0.40	Pavement surface in good condition, slight surface deterioration	
0.40-0.50	Pavement surface in good condition	
0.50-0.60	Pavement surface in good condition	
0.60-0.70	Pavement surface in good condition	

Chainage (km)	Condition Pavement Surface	Image
0.70-0.80	Pavement surface in good condition, slight fatting/ flushing parallel with centre line	
0.80-0.90	Pavement surface in good condition, slight fatting/ fretting parallel with yellow line	
0.90-1.00 0.96	Pavement surface in good condition, slight surface deterioration on approach to bend Joint in Road – change in pavement surface	
1.00-1.10	Pavement surface in good condition, slight surface deterioration	

Chainage (km)	Condition Pavement Surface	Image
1.10-1.15 1.05-1.07	Pavement surface in good condition Skew bridge	
1.15-1.2 1.15	Pavement surface in good condition Joint in the road - change in pavement surface	
1.20-1.30	Pavement surface in good condition, slight surface deterioration	
1.30-1.40	Pavement surface in good condition, slight surface deterioration	
1.40-1.50	Pavement surface in good condition, slight surface deterioration	
1.50-1.60	Pavement surface in good condition, slight surface deterioration	
1.60-1.70	Pavement surface in good condition, slight surface deterioration	
1.70-1.80	Pavement surface in good condition, slight surface deterioration /rutting of surface	

Chainage (km)	Condition Pavement Surface	Image
1.80-1.90	Pavement surface in good condition, surface deterioration at approach to bend	
1.90-2.00	Pavement surface in good condition, slight surface deterioration	
2.00-2.10 2.07	Pavement surface in good condition, slight surface deterioration Localised increased surface deterioration	
2.10-2.20	Pavement surface in good condition, slight surface deterioration	
2.20-2.30	Pavement surface in reasonable condition, surface deterioration	
2.30-2.40	Pavement surface in good condition, slight surface deterioration	
2.40-2.50	Pavement surface in good condition, slight surface deterioration	
2.50-2.60	Pavement surface in good condition, slight surface deterioration, slight fatting/ flushing edge road	
2.60-2.70	Pavement surface in good condition, slight surface deterioration, slight fatting/ flushing centre road	
2.75-2.85	Pavement surface in good condition, slight surface deterioration	

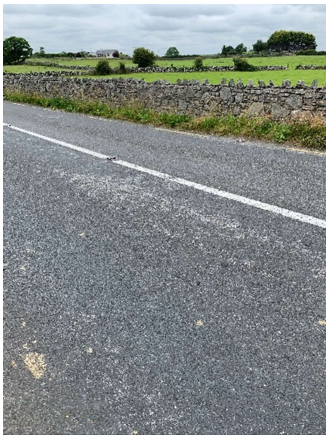
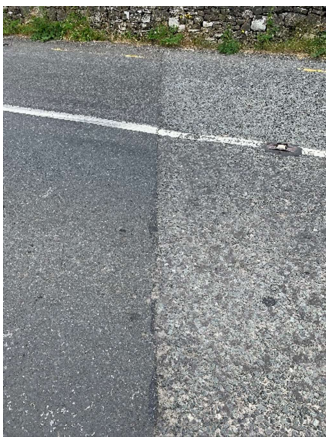
Chainage (km)	Condition Pavement Surface	Image
2.85-2.95	Extensive surface deterioration in front of Hodgins Architectural Glazing premises	
2.95-3.00 2.97	Pavement surface in good condition, slight surface deterioration Small masonry bridge crossing – rutting of road & uneven pavement surface	
3.00-3.04	Pavement surface in good condition, slight surface deterioration	
3.03	Deterioration of road edge and pothole Property entrance southbound carriageway	

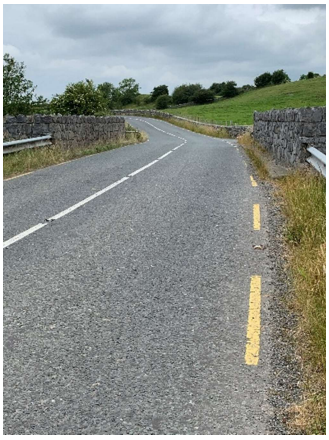
Chainage (km)	Condition Pavement Surface	Image
3.04-3.07	Patch repair, deterioration of road edge and uneven surface	
3.07-3.10	Pavement surface in reasonable condition	
3.10-3.20	Pavement surface in good condition, slight surface deterioration	
3.20-3.30	Pavement surface in good condition	
3.30-3.40 3.35-3.36	Pavement surface in good condition Scrape marks in the surfacing	
3.40-3.50	Pavement surface in good condition	
3.50-3.60	Pavement surface in good condition, slight surface deterioration	
3.60-3.70	Pavement surface in good condition	
3.70-3.80 3.75	Pavement surface in good condition, slight surface deterioration Scrape marks circa 1m long	

Chainage (km)	Condition Pavement Surface	Image
3.80-3.90 3.83	Pavement surface in good condition, slight surface deterioration Slight deterioration in pavement surface across entire road	
3.90-4.00	Pavement surface in good condition, slight surface deterioration	
4.00-4.10	Pavement surface in good condition, slight surface deterioration	
4.10-4.20	Pavement surface in good condition, slight surface deterioration	
4.20-4.30	Wearing of surface opposite junction	

Table 2. Southbound Carriageway LP4310

Chainage low to high measured from Junction of N65 to site entrance.

Chainage (km)	Condition Pavement Surface	Image
0.00-0.10	Pavement surface in good condition	
0.10-0.20	Pavement surface in good condition, slight wearing of surface	
0.20-0.30	Pavement surface in good condition, hump in road	
0.30-0.40	Pavement surface in good condition, slight surface deterioration	
0.40-0.50	Pavement surface in good condition	
0.50-0.60	Pavement surface in good condition	
0.60-0.70	Pavement surface in good condition	
0.70-0.80	Pavement surface in good condition	
0.80-0.90	Pavement surface in good condition	
0.90-1.00 0.96	Pavement surface in good condition Joint in Road – change in pavement surface	

Chainage (km)	Condition Pavement Surface	Image
1.00-1.15 1.05-1.07	Pavement surface in good condition Skew bridge	
1.15-1.2 1.15	Pavement surface in good condition Joint in the road - change in pavement surface	
1.20-1.30	Pavement surface in good condition	
1.30-1.40	Pavement surface in good condition, slight surface deterioration	
1.40-1.50	Pavement surface in good condition, slight surface deterioration	
1.50-1.60	Pavement surface in good condition, slight surface deterioration/ rutting of surface	
1.60-1.70	Pavement surface in good condition, slight surface deterioration	
1.70-1.80	Pavement surface in good condition, slight surface deterioration	
1.80-1.90	Pavement surface in good condition, slight surface deterioration	
1.90-2.00	Pavement surface in good condition	
2.00-2.10	Pavement surface in good condition, surface deterioration	
2.10-2.20	Pavement surface in good condition, slight surface deterioration	
2.20-2.30	Pavement surface in good condition, slight surface deterioration	
2.30-2.40	Pavement surface in reasonable condition, surface deterioration	

Chainage (km)	Condition Pavement Surface	Image
2.40-2.50	Pavement surface in good condition, slight surface deterioration	
2.50-2.60	Pavement surface in good condition, slight surface deterioration	
2.60-2.70	Pavement surface in good condition, slight surface deterioration	
2.70-2.80	Pavement surface in good condition, slight surface deterioration	
2.80-2.85	Pavement surface in good condition, slight surface deterioration	
2.85-2.95	Extensive deterioration pavement surface in front of Hodgins Architectural Glazing premises	
2.95-3.00	Pavement surface in good condition, slight surface deterioration	
2.97	Small masonry bridge crossing – rutting of road & uneven pavement surface	
3.00-3.10	Pavement surface in good condition, slight surface deterioration	
3.10-3.20	Pavement surface in good condition, slight surface deterioration	
3.20-3.30	Pavement surface in reasonable condition	
3.30-3.40	Pavement surface in good condition, slight surface deterioration	
3.40-3.50	Pavement surface in reasonable condition	
3.47-3.53	Slightly more extensive surface deterioration	
3.50-3.60	Pavement surface in good condition	
3.56	There is a Well located at the edge of southbound carriageway	

Chainage (km)	Condition Pavement Surface	Image
3.60-3.70	Pavement surface in good condition	
3.70-3.80	Pavement surface in good condition, slight surface deterioration - cracking along road edge	
3.80-3.90 3.83	Pavement surface in good condition, slight wearing of surface Slight deterioration in pavement surface across entire road	
3.90-4.10	Pavement surface in good condition, slight surface deterioration	
4.10-4.20	Pavement surface in good condition, slight surface deterioration	
4.20-4.30	Pavement surface in good condition, slight surface deterioration	

3.2 Access road from LP4310 to the Power Station

The access road to the power station was generally found to be in good condition and any defects noted were localised in nature.

The survey was completed on Friday 02nd July 2021. The weather was dry and overcast for the duration of the survey.

Refer to Table 3 below for findings of the survey.

Appendix A provides a pictorial guide to the terms used to describe pavement defects in the tables.

Table 3. Access road from LP4310 to the Tynagh Power Station

Chainage	Condition Pavement Surface	Image
0.00-0.01	Pavement surface in good condition	
0.01-0.20	Pavement surface in good condition	
0.20-entrance	Cracking and potholing around joint Surfacing appears to comprise a layer of asphalt / macadam over a concrete road surface	
	Edge surfacing ragged	
	Edge surfacing ragged Surfacing appears to comprise a layer of asphalt / macadam over a concrete road surface	

Appendix A

DEFECT	IMAGE
Pothole Hole in the upper layers of the road surface	
Rutting A continuous longitudinal depression in the wheel track that allows water to pond or makes manoeuvring difficult	
Open Joint Widening of a construction joint within the road surface	
Cracking May indicate that the pavement layers are in partial or complete failure	

DEFECT	IMAGE
Crazing Appear as a series of adjacent polygonal cracks May indicate that the pavement layers are in partial or complete failure	
Edge Deterioration Occurs due to vehicles over-running and/ or poor edge support	
Fatting / Flushing Excess bituminous binder at the road surface. Binder can migrate to the surface heavy trafficking in prolonged hot weather	
Uneven Surface Irregular surface shape that occurs from deformation of the road resulting from traffic movement, poor material specification, poor workmanship or a combination of all of the above	

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