Garrane Green Energy Ltd

GARRANE GREEN ENERGY PROJECT

BRIDGE WC01 & WC02 CONSTRUCTION METHOD STATEMENT

February 2025

Garrane Green Energy Project
Co Limerick

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DOCUMENT APPROVAL

PROJECT	Garrane Green Energy Project	
CLIENT / JOB NO	Garrane Green Energy Ltd	6839
DOCUMENT TITLE	Bridge WC01 & WC02 Construction Method Statement	

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Date 28/02/2025	Signature	Signature

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1 INTRODUCTION

Permission is being sought for the proposed Garrane Green Energy Project comprising the construction of 9 No. wind turbines, a permanent Met Mast, an on-site 110kV Substation with a 'loop in' Grid Connection to the existing 110kV OHL between Charleville and Limerick and all ancillary works.

An existing entrance from the N20 will be upgraded and used as a temporary entrance for cranes and delivery trucks during construction of the major elements of the Project and also during major servicing/repairs to the wind turbines. This entrance will not be used for general site access. To minimise the use of this entrance WC01, a bridge carrying the proposed access track over a natural watercourse to the east of the N20, will be constructed from the east side only using entrances from the local road network.

The crossing over the Charleville stream, WC02, will also be constructed from the east side only using entrances from the local road network to minimise traffic directly from the N20.

This method statement relates to the construction of WC01 and WC02 from the east bank of the watercourse as part of the overall construction of the scheme.

Bridge locations and details are shown on **Drawing 6839-JOD-GGE-XX-DR-C-0402** and **6839-JOD-GGE-XX-DR-C-0403**.

2 PREPARATORY WORKS

2.1 A contractor will be appointed. A Project Supervisor for Construction Stage (PSCS) will also be appointed, and the Contractor will be requested to prepare his Risk Assessment Method Statement (RAMS).

2.2 Access tracks from the entrances on the local road network will be constructed to the east bank of the watercourses, including a working space to facilitate the construction of the bridge.

2.3 A temporary prefabricated pedestrian crossing (c1.2m wide) of the watercourse will be lifted into place from the east bank. The exclusion zone to both sides of the watercourse will be marked and securely fenced off.

2.4 A crane will be brought to the working space on the east bank to lift a mini-digger across the watercourse to carry out excavations for the abutment foundation on the western bank. The excavations will be completed and spoil temporarily stored to the west of the excavation.

2.5 Precast concrete elements of the structure, comprising bridge beams and L shaped abutment segments will be prepared off-site.

2.6 A silt-buster unit will be parked at the working space on the east bank, well back from the watercourse to facilitate cleaning of concrete delivery trucks and equipment used to place concrete, and to accommodate the pumping of any water that enters the excavations for the abutments.

3 CONSTRUCTION OF THE BRIDGE

3.1 Excavation for abutments will be carried out on both sides of the watercourse, and blinding placed to ensure a smooth and accurate base for the precast units. In the event that soft soil needs to be excavated from under the abutment footprints, crushed rock fill will be brought to site using the local road network, placed in layers and compacted to bring levels up to the design underside of precast concrete level.

3.2 The L shaped precast concrete abutment units will be delivered to the working space on the east bank of each crossing using the local road network and lifted into place on both sides of the river using a crane located on the east bank. - 16 L shaped precast concrete abutment units (8 for each side) for WC01 - 12 L shaped precast concrete abutment units (6 for each side) for WC02 (The abutments for WC01 are higher, so the wingwalls are longer.) Insitu concrete stitches between the units will be formed. The quantity of wet concrete to be transported across the watercourse will be c. 1m^3 in each case. Equipment will be washed out into the silt-buster i.e. there will not be any discharge of concrete washout to the local environment.

3.3 After 2-3 days, once the contents have settled and separated, the silt-buster will be emptied by tanker (licenced operator) and the liquid contents taken to a licenced waste water treatment plant. The solid contents will be removed to a waste disposal facility licenced for concrete. The silt-buster will remain on site.

3.4 The 8 precast bridge beams will be delivered to the working space on the east bank using the local road network. Pedestrian parapets will be fixed to the bridge edge beams using chemical anchor bolts drilled into the concrete prior to lifting into place on the bridge.

3.5 Precast bridge beams will be lifted into place by crane and supported on steel shims on the abutments. End beams will be propped to provide stability in the temporary situation.

3.6 The joints between the bridge beams will be sealed as per manufacturer's instructions. Reinforcement through slots in the beams will be placed and tied. Cable ducting will be placed between the bridge beams. A top mat of reinforcing steel will be placed over the beams.

3.7 A concrete pump will be brought to site and parked in the working space on the east bank. Approx. 47m^3 of concrete will be required to complete the bridge deck of WC01. This will be delivered in 8 loads. Approx. 20m3 of concrete will be required to complete the bridge deck of WC02 as the beams are shallower. This will be delivered in 4 loads. Concrete will be placed using the pump and compacted using vibrators. The top surface of the deck will be floated off.

3.8 The concrete pump, trucks, and other equipment will be washed out into the silt-buster i.e. there will not be any discharge of concrete washout to the local environment. The concrete trucks and the pump will be removed from site. After 2-3 days, once the contents have settled and separated, the silt-buster will be emptied by tanker (licenced operator) and the liquid contents taken to a licenced waste water treatment plant. The solid contents will be removed to a waste disposal facility licenced for concrete. The silt-buster will be removed from site.

3.9 After 7 days, a bituminous sealing coat will be painted onto the bridge deck. Once this has cured, the crushed stone access road will be constructed over the bridge.

3.10 All temporary boundary delineation markers will be removed and the road to the west of the bridge will be completed.