

**Hartley Bridge, Co. Leitrim**

**Visual Impact Assessment**

**September 2021**

## Document Control

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## **1 Introduction**

PUNCH Consulting Engineers was appointed by Leitrim County Council to provide a visual impact assessment report for submission of the Section 177AE application to An Bord Pleanála for the proposed Hartley Bridge Development. It is noted that the proposed Hartley Bridge is located on the county boundary and hence the proposed work extents are located within both County Leitrim and County Roscommon.

The purpose of this report is to outline the visual impact the proposed bridge replacement will have on the surrounding area and to show it is consistent with the Leitrim County Development Plan 2015-2021 and the Roscommon County Development Plan 2014-2020. The site is within an Area of High Visual Amenity as designated in the Leitrim CDP and a landscape deemed of 'Very High Value' in the Roscommon CDP. The protected view from the existing bridge of Slieve Anierin to the north and Sheemore Hill to the northeast must also not be affected by the new bridge proposal.

Leitrim Co Co and Roscommon Co Co has agreed in accordance with the provisions of Section 85 of the Local Government Act, 2001 that Leitrim County Council will be the lead authority for this project.

## 2 Site Location and Description

The existing Hartley Bridge lies along the L3400 crossing over the River Shannon to the north (c. 2.8km) of Carrick-on-Shannon. The bridge is currently primarily accessible by vehicle via the existing local road network (L3400 and R280). The location of Hartley Bridge is illustrated below in Figure 2-1.

The bridge, which is c. 75m in length, is at-grade with the adjoining roads on both the east and west.

The existing bridge was constructed in 1915 and comprises of a six-span integral structure and an adjoining two-span reinforced concrete structure, butting the six-span structure to the west.

The surrounding area could be described as a rural setting, with some residential clusters and agricultural grassland.

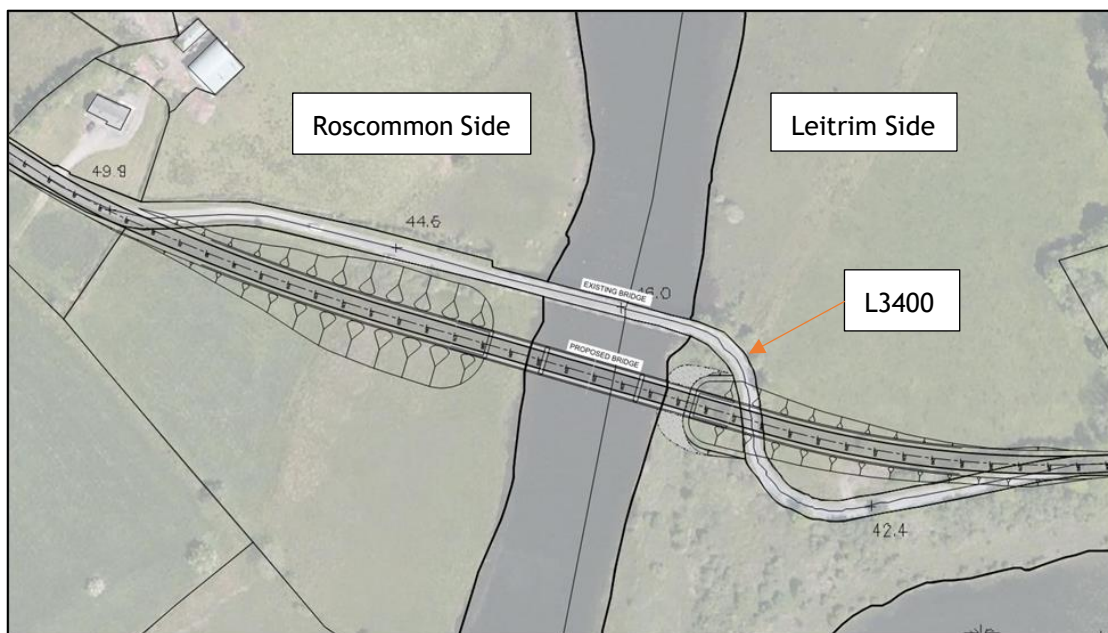


Figure 2-1: Existing and Proposed Bridge Locations

In terms of naming convention, please note that the western bank corresponds with the Roscommon bank, and the eastern bank corresponds with the Leitrim bank. For clarity and ease of understanding when referring to drawings, etc. the west/east naming convention will be used due to the more universally recognisable nature of the description.

The requirement for proposed replacement of the bridge has arisen as a result of a structural assessment of the bridge undertaken in 2016 by Doran Consulting (Document reference: “*Stage 1 Structural Assessment Report, Bridge Ref.LM-LP3400-001.00, January 2016*”) and commissioned by Leitrim County Council. This assessment indicated that the bridge was in poor condition and unfit for live loads exceeding 3 tonnes. As a result, the existing bridge has been limited to a 3 tonne vehicle weight limit and a 2.5m vehicle height restriction.

A subsequent Stage 2 Structural Assessment of Hartley Bridge (Document reference: “*Hartley Bridge Structural Investigation & Assessment - Stage 2 Assessment Report, August 2017*”) was undertaken by Roughan O’Donovan. It further progresses the previous assessment carried out by Doran Consulting in 2016.

As noted in both assessments, the deck soffit and beams exhibited widespread spalling with exposed reinforcement evident throughout the soffit of the bridge deck, longitudinal beams and transverse beams. The widespread nature of the spalling indicates that the bridge deck is nearing the end of its serviceable life with deterioration of fabric of the structure likely to accelerate in the short to medium



term. As a result, the maintenance liability and associated cost are likely to increase over the remaining life of the structure. Significant remedial works are required to address the existing defects and an onerous inspection and maintenance regime will be required going forward in order to maintain the deck in a serviceable condition.

The findings of the Stage 2 Structural Assessment's visual inspection conclude it is evident that the bridge is nearing the end of its serviceable life with deterioration of fabric of the structure likely to accelerate in the short to medium term. It also recommends that provision should be made for replacing the structure in the short to medium term subject to the findings of an economic appraisal of the options.



**Figure 2-2: Existing Hartley Bridge Elevation**



**Figure 2-3: Example of extensive spalling and reinforcement corrosion**



**Figure 2-4: Example of extensive spalling and reinforcement corrosion**



**Figure 2-5: Example of extensive spalling and reinforcement corrosion**

### **3 Proposed Development**

The proposed development consists of the following:

- 1.) The demolition of the existing Hartley bridge over the River Shannon
- 2.) Construction of new 3-span replacement bridge structure 25m downstream of the existing bridge crossing
- 3.) Construction of the realigned (vertical and horizontal) L3400 on approaches to the new bridge structure.
- 4.) Decommissioning of defunct sections of the L3400.
- 5.) All ancillary works associated with the above works, including:
  - a. Temporary Site Compound
  - b. Drainage and other Utility Works
  - c. Road Safety Barriers
  - d. Fencing

The proposed works are outlined in a series of drawings prepared by PUNCH Consulting Engineers and are supplied as part of this planning submission. The proposed demolition of the existing bridge will follow the demolition sequence as outlined in PUNCH drawing no. 182-164-107.

The proposed replacement bridge consists of a three-span precast concrete structure totalling a length of 75m, with in-situ deck and precast/metal parapet upstands. The foundations shall comprise of piles onto which the abutments and piers sit. As outlined in Figure 2-1 above, the proposed location of the bridge is 25m downstream of the existing bridge. For further information relating to the replacement bridge, please refer to PUNCH drawing no. 182-164-104.

The proposed realignment works associated with the local road on both approaches to the bridge consists of approximately 135m on the western bank and 110m on the eastern bank, with the removal of an existing sharp bend on the eastern side. For further information relating to the realignment of the aforementioned roads, please refer to PUNCH Drawing 182-164-102.

A detailed description of works and an indicative programme of works is provided in the Construction and Environmental Management Plan (Document reference: CEMP D3 - 2020.11.06 - 181209), which was produced by MKO in consultation with PUNCH Consulting Engineers.



## 4 Assessment

Under the provisions of Section 177AE the Board is required to consider the proposed development's likely visual impact on the surrounding area.

### 4.1 Proposed Development's Likely Visual Impact on the Surrounding Area

In determining the proposed development's likely visual impact on the surrounding area, consideration should be given to the issues raised below extracted from the Leitrim County Development Plan 2015-2021 and the Roscommon County Development Plan 2014-2020.

#### 4.1.1 Leitrim County Development Plan 2015-2021

According to the Leitrim County Development Plan (CDP), the new bridge proposal is within an Area of High Visual Amenity as can be seen in Figure 4-1.

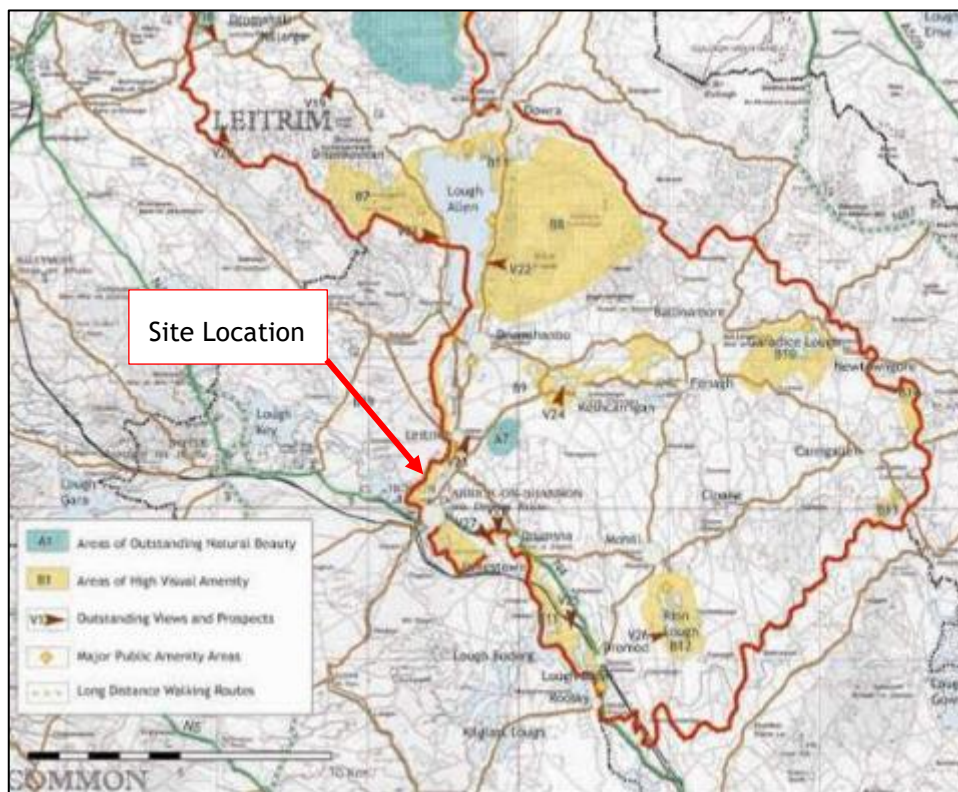


Figure 4-1: Areas of Outstanding Natural Beauty, High Visual Amenity & Protected Views and Prospects

Policy 102 of the Leitrim CDP states, *“It is the Council’s policy to protect these views from intrusive development and enhance them by the removal of dereliction and eyesores.”*

#### 4.1.2 Roscommon County Development Plan 2014-2020 (Landscape Character Assessment)

As per the Roscommon Landscape Character Assessment, the existing bridge is on the edge of the ‘Upper Shannon and Dereenannagh Drumlin Belt’ and is considered to be an area of Very High Value as it forms part of the River Shannon corridor (Figure 4-2).



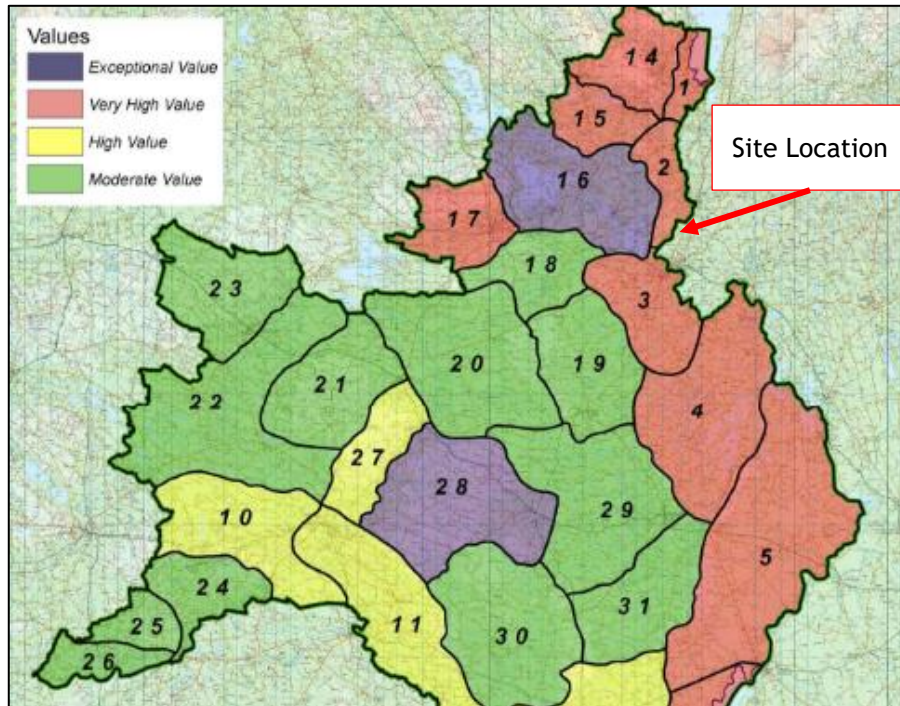


Figure 4-2: Landscape Value Map

In this character area there are views of Slieve Anierin to the north and Sheemore Hill to the north-east from the existing Hartley Bridge. Such views are said to create a sense of place and should be protected.

#### 4.1.3 Roscommon County Development Plan 2014-2020 (Protected Viewpoint V8)

The current existing Hartley Bridge is located at a protected viewpoint (reference number V8) as can be seen in Figure 4-3. The view from the bridge includes Slieve Anierin to the north, Lough Eidin to the south, and a windfarm on Kilronan Mountain to the northwest. Please refer to **Appendix A** for full scale map of the extents of viewpoint V8 from the Hartley Bridge.

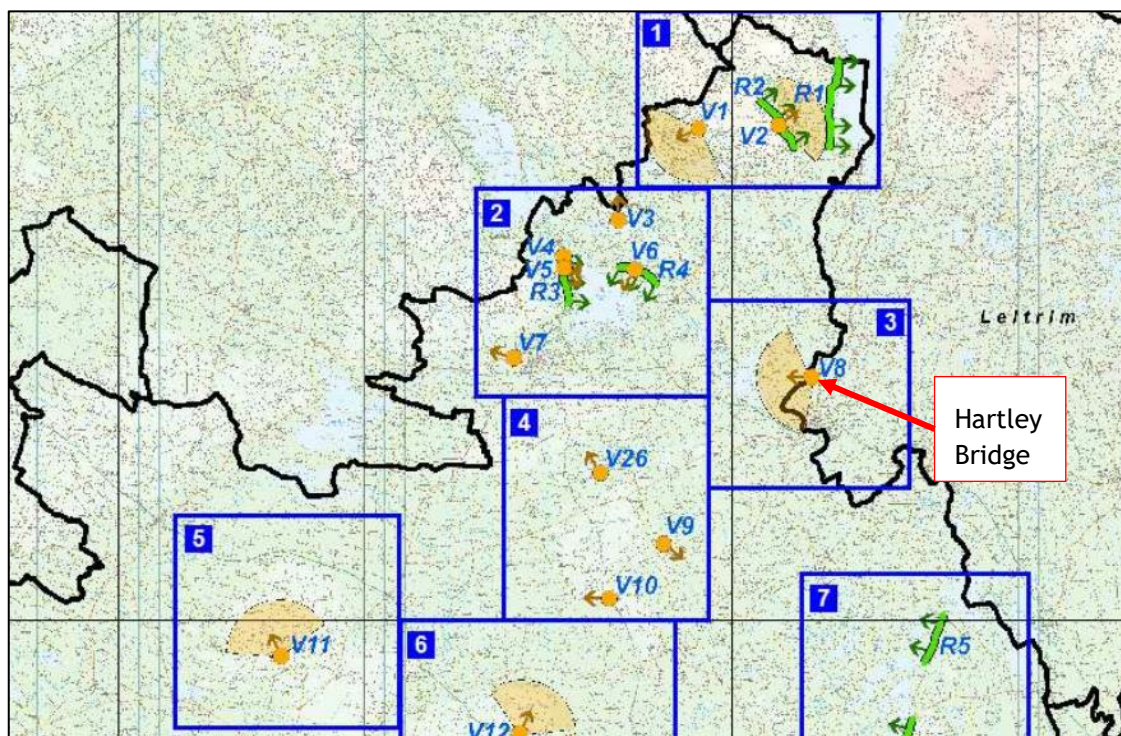


Figure 4-3: Scenic routes and views Index Map





**Figure 4-4: Drone footage of views around the existing Hartley Bridge (looking West)**



**Figure 4-5: Drone footage of views around the existing Hartley Bridge (looking North towards Slieve Anierin)**





**Figure 4-6: Drone footage of views around the existing Hartley Bridge (windfarm on Kilronan Mountain to the northwest)**



**Figure 4-7: Drone footage of views around the existing Hartley Bridge (looking Southwest towards Lough Eidin)**



#### 4.1.4 Proposed Development Response to Roscommon and Leitrim CDP

The proposed replacement bridge consists of a three-span precast concrete structure totalling a length of 75m and is located 25m downstream of the existing bridge. The projected view from the proposed bridge will also avail of the full extents of the views that are currently experienced from the existing Hartley Bridge.

In contrast to the existing structure, the proposed bridge will consist of a more transparent arrangement including a see-through parapet, safe pedestrianized footpath traversing the bridge and an increase in overall bridge height as itemized below:

1. The existing Hartley Bridge consists of a reinforced concrete opaque parapet that somewhat obstructs the view of the surrounding lands. The proposed bridge is made up of see-through mesh panels with posts at 1500 centers and a H2/W3/A safety barrier. This will allow both pedestrians and motorists to observe a more panoramic view when traversing the bridge.
2. The existing bridge is narrow with no pedestrian walkways and space for only one vehicle to cross at a time. The humpback shape of the bridge not only impedes the site of oncoming traffic but also partially blocks the scenic view. In contrast, the two-way system on the proposed bridge as well as footpaths on either side of the road create a far safer approach when crossing the bridge (Figure 4-8).

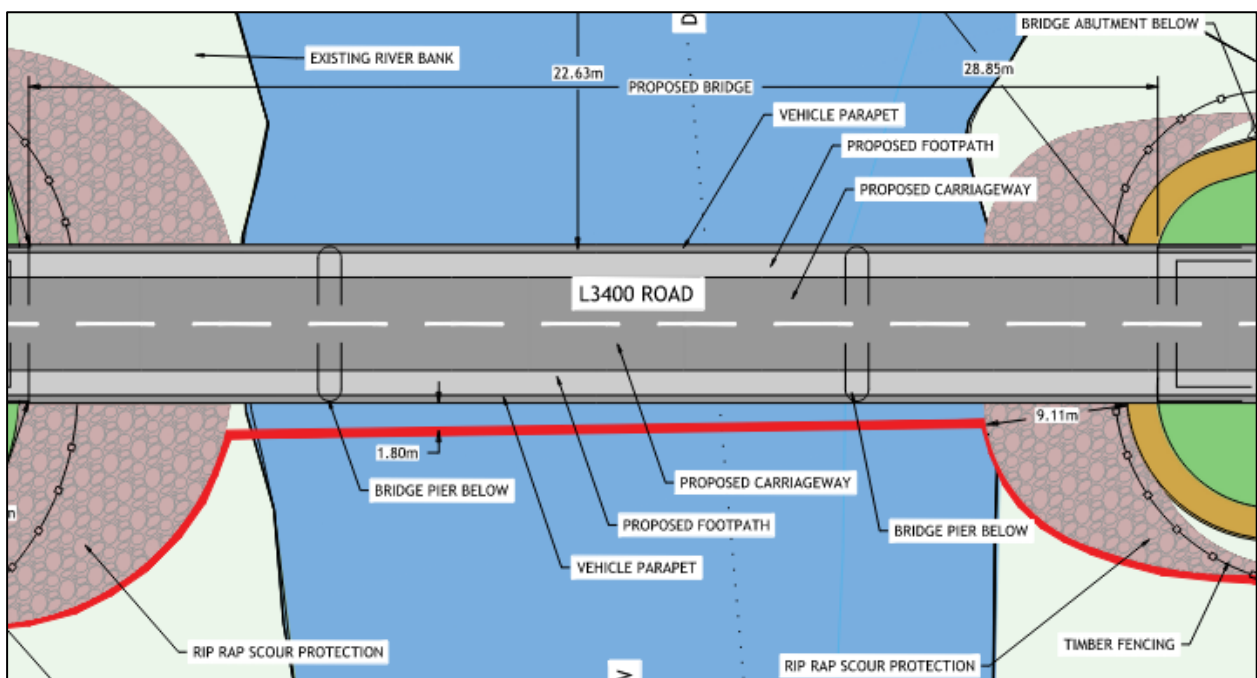


Figure 4-8: Plan view of proposed bridge

3. Figure 4-9 below highlights the change in geometry of the proposed bridge compared to the existing. The maximum elevation of the existing bridge is 46m OD whereas at midspan of the new bridge, the proposed elevation is 47.418m OD and has a maximum elevation of 48.072m OD. The raised level surface of the new bridge compared to the humpback design of the existing will greatly improve visibility when crossing the bridge.



This will ultimately improve the scenic views of Slieve Anierin and Sheemore Hill for both pedestrians and motorists. The viewpoint from the proposed bridge will benefit from the full extents of the views that are currently witnessed from the existing Hartley Bridge.

Figure 4-10 indicates the full range of view that will be experienced from the new proposed bridge.

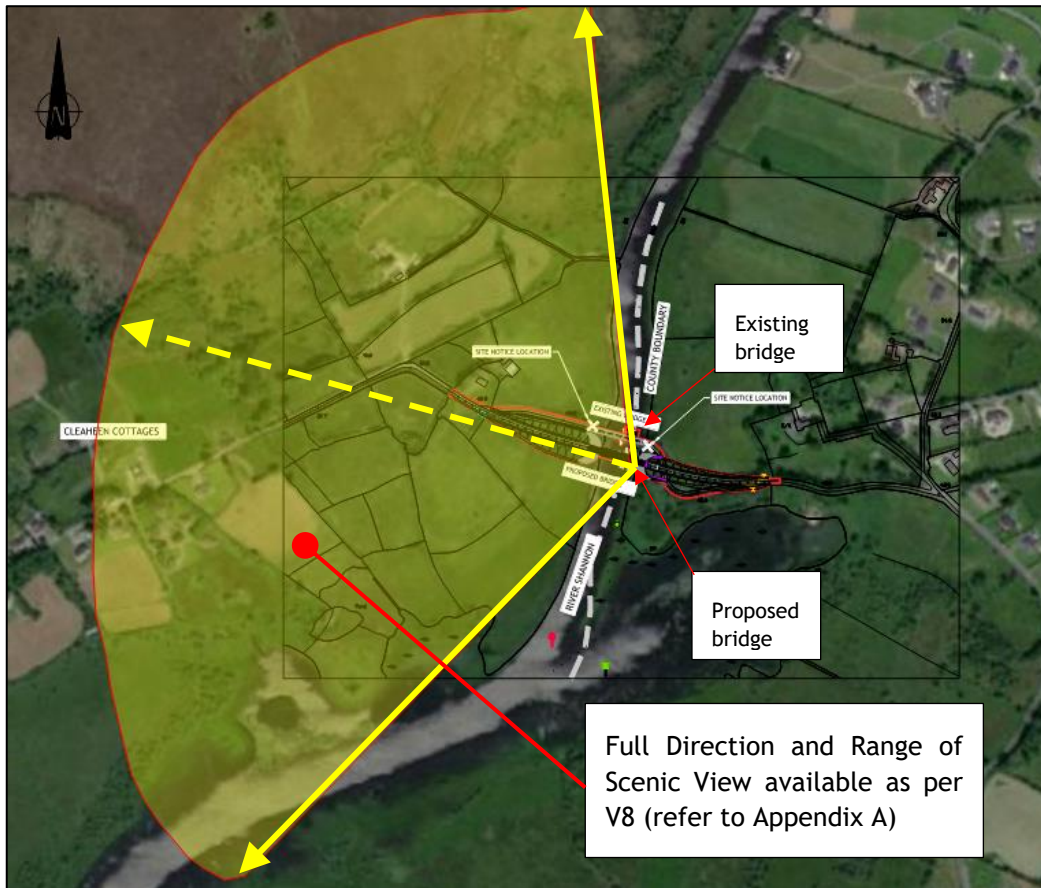


Figure 4-10: Extents of views from the proposed new bridge

While the new bridge proposal is located 25m downstream of the existing structure, it will not compromise the protected views and in fact will enhance both the view and introduce a safer environment from which to enjoy the views.

## **5 Conclusion**

This visual impact assessment report has identified and outlined the requirements and restraints set out by both Leitrim and Roscommon County councils in relation to protected views and valued landscape areas, which are anticipated to be of relevance to the proposed Hartley Bridge development. The identified requirements & restraints include the site being within an area of high visual amenity and a landscape area of Very High Value with protected views of both Slieve Anierin and Sheemore Hill.

Following a review of the requirements and guidelines described in the paragraph above, it was stressed that the proposed bridge would have no adverse effects on the scenic views in the area and would rather enhance and improve the visibility and view of the surrounding area and road network. The widened road layout and inclusion of footpaths in conjunction with a see-through parapet and raised road level on the bridge vastly increases the safety and vision for both pedestrians and motorists.

In summary, it can be concluded that the proposed replacement bridge will not interfere with any of the protected views, and it is not considered there will be likely significant effects on the environment in relation to landscape.



**Appendix A - Viewpoint V8**