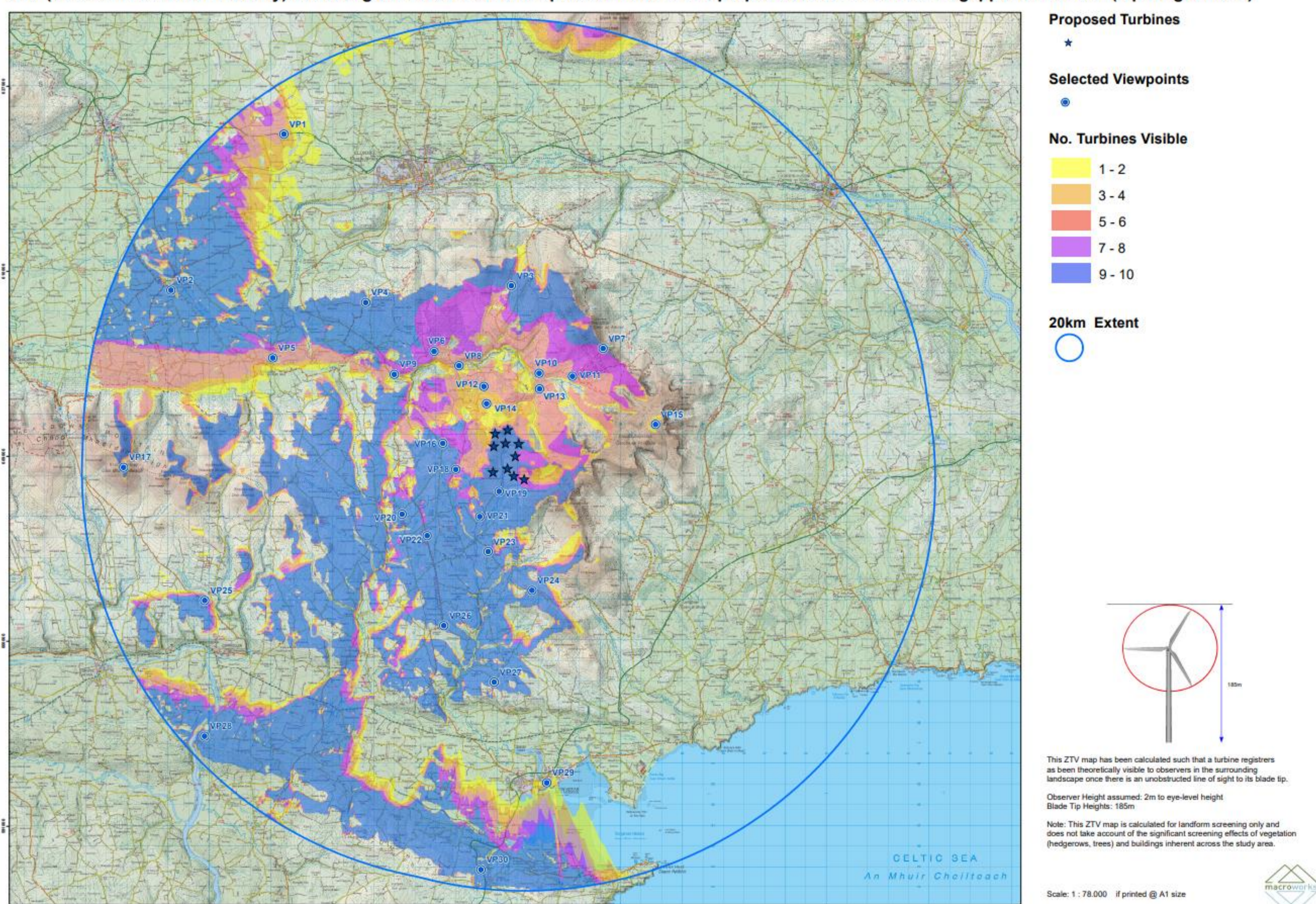


Landscape and Visual

A landscape and visual impact assessment will be carried out to ascertain the visual impact of the proposed project on the surrounding landscape and community. This is initially a desk-based assessment with subsequent project area visits by a qualified landscape consultant who photographs the local landscape. A zone of theoretical visibility (ZTV) is then produced outlining which project elements will be visible from various areas of the local landscape. Photo-montages are also produced from key areas identified in the ZTV to show what the proposed project will look like once constructed. A full set of photomontages for the proposed Coumnaagappul Wind Farm project will be presented for viewing prior to the lodgement of a planning submission. These illustrations will be taken from various locations around the proposed projects Study Area and display the proposed final Coumnaagappul wind turbines as they would look if built out. EMPower design our projects to minimise the visual impact of the project on surrounding location as much as possible.



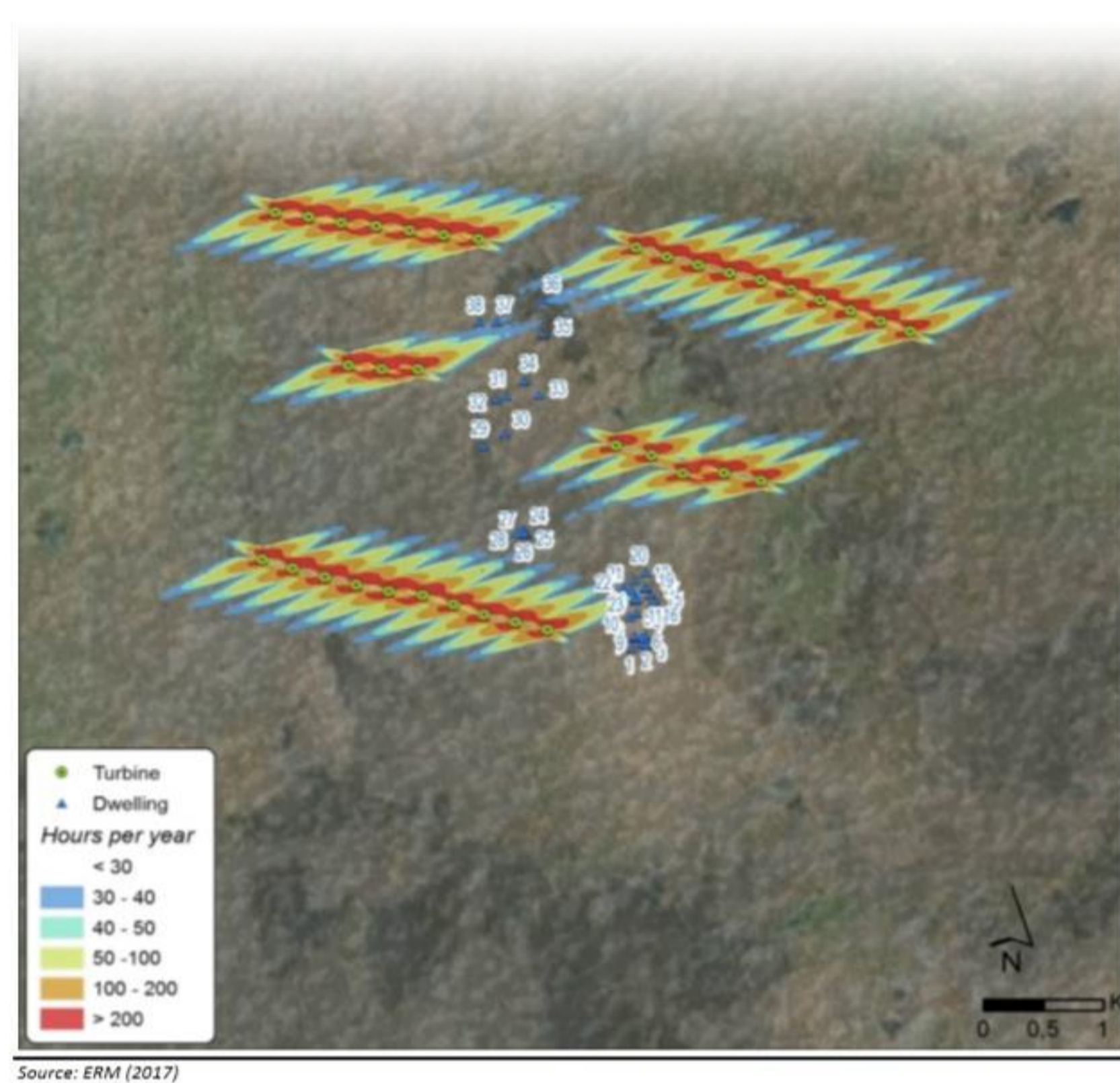
ZTV (Zone of Theoretical Visibility) indicating the areas that have a potential view of the proposed turbines at Coumnaagappul Wind Farm (Tip Height 185m)



Shadow Flicker

Shadow flicker is the name given to a phenomenon caused when the rising or setting sun is behind a wind turbines rotating blades, casting a moving shadow over a small opening in a building such as a window. This creates a flickering effect within the building. Best practice states that properties located ten rotor diameters from a wind turbine are not affected so potential impact is restricted to the immediate vicinity of a project.

The current Irish planning regulations has a zero-limit tolerance for shadow flicker occurrence, to protect local residential properties. A shadow flicker assessment is carried out to demonstrate the potential for occurrence, and the project layout can be modified to design out the risk of occurrence. Additionally, where there is potential for occurrence, software can be installed which identifies when shadow flicker is occurring, and the wind turbine is shut down for a period of time, therefore mitigating the effect. Employing this mitigation measure ensures that no residents living near the wind farm experience shadow flicker.



Cultural and Archaeological

This study includes the identification of significant archaeological, architectural and cultural heritage constraints within the Study Area and surrounding wider area. A local archaeologist will conduct a desk based assessment followed by field inspections to identify and categorise all significant archaeological sites found within the Study Area. A report describing the findings of the archaeological survey and possible impact from the proposed wind farm project will be produced as part of this assessment and will be available for review by the public along with all project planning documents.



Civil Engineering

Civil engineering forms a major part of this proposed project as we move from planning to construction. On commencing the planning work on the project, the civil engineers must review and implement methods, processes and mitigation measures outlined in the project's Environmental Impact Assessment Report as part of their planning and construction work. The Environmental Protection Agency (EPA) will require that their recommendations and mitigation measures for the construction of the proposed project, as outlined, will be implemented and followed as part of the civil engineering work. The main areas of civil engineering for the proposed project are:

- Project design
- Geotechnical and Study Area investigations
- Turbine foundation and crane pad construction
- Cable installation
- Sediment and erosion control measures
- Traffic Impact Assessment for the construction phase of the proposed project
- Wind turbine equipment assembly and construction
- Commissioning of the wind turbines
- Project clean-up and restoration.

