

6.0 INTERACTIONS

In addition to the requirements to describe the likely significant effects of the proposed development on particular aspects of the environment, it is also required to consider the interaction of those effects. In this EIS, interactions are considered as shown in the matrix below. In this matrix, each aspect of the environment (which is considered in detail in the EIS) is cross tabulated against all of the other aspects which have also been considered. Where an interaction is considered to be both likely and significant, it is given a reference number in the matrix and a detail of the interaction is recorded below.

Table 6.1
Interactions Matrix

	Human Beings	Terrestrial Ecology	Aquatic Ecology	Soils, Geology and Hydrogeology	Water	Air Quality and Climate	Noise	Landscape and Visual	Material Assets	Cultural Heritage
Human Beings	-	-	-	-	-	-	-	-	-	-
Terrestrial Ecology	1	-	-	-	-	-	-	-	-	-
Aquatic Ecology	2	10	-	-	-	-	-	-	-	-
Soils, Geology and Hydrogeology	3	11	18	-	-	-	-	-	-	-
Water	4	12	19	25	-	-	-	-	-	-
Air Quality and Climate	5	13	20	26	31	-	-	-	-	-
Noise	6	14	21	27	32	36	-	-	-	-
Landscape and Visual	7	15	22	28	33	37	40	-	-	-
Material Assets	8	16	23	29	34	38	41	43	-	-
Cultural Heritage	9	17	24	30	35	39	42	44	45	-

1. Human Beings/Terrestrial Ecology

There is not expected to be any interaction between these aspects of the environment

2. Human Beings/Aquatic Ecology

There is not expected to be any interaction between these aspects of the environment

3. Human Beings/Soils, Geology & Hydrogeology

There is potential for dust generation during construction works which under dry and windy conditions could lead to localised dust impacts for the small number of properties proximate to the development site. However, the implementation of the planned proper on-site management controls will ensure that no adverse impacts will accrue for local residents.

4. Human Beings/Water

The proposed flood defences will have a significant positive impact on the human environment within the town by a) reducing the risk of flooding and associated risk to life and damage to property; b) reducing the potential for lost revenue for local businesses during flooding events; and c) facilitating the economic development of the town which is currently restricted as a result of the potential risk of flooding.

5. Human Beings/Air Quality

There is potential for dust generation during construction works which under dry and windy conditions could lead to localised dust impacts. However, the implementation of the planned proper on-site management controls will ensure that no adverse impacts will accrue for local residents.

The nature and volume of emissions during construction will be imperceptible. It is therefore not expected that increased human activity arising as a result of the proposed development will have a significant impact on air quality.

6. Human Beings/Noise

There is potential for increased noise levels during construction works which will have a localised negative impact on Human Beings. However, the implementation of the planned proper on-site management controls will ensure that such impacts will be short-term and temporary. Also those having the severest impact are also those at greatest risk of flooding and therefore will reap the greatest benefits from the scheme.

7. Human Beings/Landscape & Visual

Existing residents, workers and visitors to the Bray area will interact with the landscape, such that they will be aware of the visual change along by the River as a result of the proposed flood defense scheme. The expected transformation (which will come about as a result of new landscaping treatment etc), will however have a positive significant visual impact. We also note that it is an objective of the Bray Development Plan (Section 9.4.1) to promote the use of the Dargle riverbank,

between 'La Vallee' and Bray Harbour, as a leisure and natural amenity area, through the development of a Dargle River Walk.

8. Human Beings/Material Assets

The proposed flood defense scheme will make a positive contribution to the public infrastructure of the town and will reduce the risk of severe flooding within the urban area. This is considered to be a positive impact on Human Beings. We also note the following:-

Traffic and Transportation during Construction

The works under Castle Street will require the closure of a carriageway at night or other off-peak hours for 3-4 months. Castle Street is the only connection between north and south Bray within the town. Therefore, these works will have a temporary negative impact on traffic and transportation through the town.

Property

The scheme may temporarily impact on access to certain properties during construction. Therefore, there will have a significant temporary negative impact during construction.

The proposed measures will also have a positive longterm impact in that they will protect properties and all adjoining lands from flooding and substantially reduce the risk to property during a flooding event. This impact is considered to be a significant positive and permanent impact on Property.

Access and Rights of Way

During construction there will be temporary significant negative impacts due to a) the temporary closure of Ravenswell Road; b) a section of the Lower Dargle Road; c) restricted access to the northern and southern river banks.

The works under Castle Street will require the closure of a carriageway at night for 3-4 months. These works will have a temporary negative impact on access through the town.

Tourism and Recreation

There will be a positive long-term impact on tourism and recreation by a) improving the visual amenity along this stretch of the river; b) improving access to the river for local residents; c) complying with the objectives of Bray Town Council to promote the use of the Dargle Riverbank between La Vallee and Bray Harbour as a leisure and natural amenity area through the Development of a Dargle River Walk.

9. Human Beings/Cultural Heritage

There is not expected to be any interaction between Human Beings and Cultural Heritage as part of the proposed development.

10. Terrestrial Ecology/Aquatic Ecology

The proposed works will have an impact on both Terrestrial and Aquatic Ecology. As both of these ecosystems interact, it can be expected that impacts within each habitat will have indirect impacts on the other. These impacts will be short term and significant during construction. However, once works are completed and appropriate mitigation measures are implemented it is expected that these habitats will be re-established.

11. Terrestrial Ecology/Soils, Geology & Hydrogeology

Excavation during construction will have a significant negative impact on Terrestrial Ecology. However, once works are completed and appropriate mitigation measures are implemented it is expected that this habitat will be re-established.

12. Terrestrial Ecology/Water

The proposed works will have a significant negative impact on water quality within the river during construction. As the Aquatic and Terrestrial habitats along the river interact, it is expected that any negative impact on water quality during construction may also have indirect negative impacts on Terrestrial Ecology. However, with the implementation of responsible site management procedures and other mitigation measures, it is expected that these impacts will not be severe.

13. Terrestrial Ecology/Air Quality

There is potential for dust generation during construction works which under dry and windy conditions could lead to localised negative impacts on local terrestrial ecology. However, the implementation of the planned proper on-site management controls will ensure that no adverse impacts will accrue for this habitat. Any negative impacts that may arise will be localised and temporary in nature.

14. Terrestrial Ecology/Noise

Increased noise during construction (particularly at night) may have a negative impact on terrestrial ecology particularly bats, birds and mammals. Mitigation measures proposed during construction (per Chapter 5.2) should be implemented to minimise this impact.

15. Terrestrial Ecology/Landscape & Visual

The removal of trees and other vegetation along by the river will have a short term negative visual impact and will also have a negative impact on Terrestrial Ecology. In seeking to mitigate against this negative impact it is proposed to provide an extensive planting programme as part of the proposed flood defense scheme. In this way the Terrestrial Ecosystem will be reinstated and the visual amenity of the local area will be improved.

16. Terrestrial Ecology/Material Assets

There will be no interaction between Terrestrial Ecology and Material Assets

17. Terrestrial Ecology/Cultural Heritage

There will be no interaction between Terrestrial Ecology and Cultural Heritage

18. Aquatic Ecology/Soils, Geology & Hydrogeology

Excavation during construction will have a significant negative impact on Aquatic Ecology. However, once works are completed and appropriate mitigation measures are implemented it is expected that this habitat will be re-established.

19. Aquatic Ecology/Water

The proposed works will have a significant negative impact on water quality within the river during construction. However, with the implementation of responsible site management procedures and other mitigation measures, it is expected that these impacts will not be severe and will be temporary in nature. It is expected that this habitat will re-establish after the completion of the proposed works.

20. Aquatic Ecology/Air Quality

There is potential for dust generation during construction works which under dry and windy conditions could lead to localised negative impacts on local aquatic ecology. However, the implementation of the planned proper on-site management controls will ensure that no adverse impacts will accrue for this habitat. Any negative impacts that may arise will be localised and temporary in nature.

21. Aquatic Ecology/Noise

Increased noise and vibration during construction may have a negative impact on aquatic ecology. Mitigation measures proposed during construction (per Chapter 5.2) should be implemented to minimise this impact.

22. Aquatic Ecology/Landscape & Visual

The removal of trees and other vegetation along by the river; the dredging of the river bed; and the excavation of the river bank will have a short term negative visual impact and will also have a negative impact on Aquatic Ecology (in terms of water quality). Proposed mitigation measures during construction should be implemented to minimise any such short-term negative impacts.

23. Aquatic Ecology/Material Assets

There will be no interaction between Aquatic Ecology and Material Assets

24. Aquatic Ecology/Cultural Heritage

There will be no interaction between Aquatic Ecology and Cultural Heritage

25. Soils, Geology, Hydrogeology/Water

Excavation during construction will have a significant negative impact on Water Quality within the River. However, once works are completed and appropriate mitigation measures are implemented it is expected that the water quality of the river will return to its current state.

26. Soils, Geology, Hydrogeology/Air Quality

There is potential for dust generation during excavation works which under dry and windy conditions could lead to localised negative impacts on air quality. However, the implementation of the planned proper on-site management controls will minimise these impact. Any negative impacts that may arise will be localised and temporary in nature.

27. Soils, Geology, Hydrogeology/Noise

There will be no interaction between Soils, Geology, Hydrogeology and Noise.

28. Soils, Geology, Hydrogeology/Landscape & Visual

There will be some short-term negative visual impacts as a result of excavation work during construction. This impact will be localised and temporary in nature.

29. Soils, Geology, Hydrogeology/Material Assets

There will be no interaction between Soils, Geology, Hydrogeology and Material Assets

30. Soils, Geology, Hydrogeology/Cultural Heritage

There will be no interaction between Soils, Geology, Hydrogeology and Cultural Heritage

31. Water/Air Quality

There will be no interaction between water and air quality

32. Water/Noise

There will be no interaction between water and noise

33. Water/Landscape & Visual

There will be no interaction between water and Landscape/Visual issues.

34. Water/Material Assets

The proposed flood defences will have a significant positive impact on the material assets of the town by a) reducing the risk of flooding and associated risk to life and damage to property; b) reducing the potential for lost revenue for local businesses during flooding events; and c) facilitating the economic development of the town which is currently restricted as a result of the potential risk of flooding.

35. Water/Cultural Heritage

There will be no interaction between water and cultural heritage.

36. Air/Noise

There will be no interaction between Air and Noise

37. Air/Landscape & Visual

There will be no interaction between Air and Landscape / Visual issues.

38. Air/Material Assets

There will be no interaction between Air and Material Assets

39. Air/Cultural Heritage

There will be no interaction between Air and Cultural Heritage

40. Noise/Landscape & Visual

There will be no interaction between Noise and Landscape/Visual issues

41. Noise/Material Assets

There will be no interaction between Noise and Material Assets

42. Noise/Cultural Heritage

There will be no interaction between Noise and Cultural Heritage

43. Landscape & Visual/Material Assets

There will be a visual change along by the River as a result of the proposed flood defence scheme. The expected transformation (which will come about as a result of new landscaping treatment etc), will however have a positive significant visual impact. We also note that it is an objective of the Bray Development Plan (Section 9.4.1) to promote the use of the Dargle riverbank, between 'La Vallee' and Bray Harbour, as a leisure and natural amenity area, through the development of a Dargle River Walk. The improvement of the urban environment, public realm, and amenities of Bray will have a positive impact on Material Assets.

44. Landscape & Visual/Cultural Heritage

There will be no interaction between Landscape & Visual/Cultural Heritage

45. Material Assets/Cultural Heritage

There will be no interaction between Landscape & Visual/Cultural Heritage.