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KING'S ISLAND
FLOOD RELIEF SCHEME

**King's Island Flood Relief Scheme
Environmental Impact Assessment Report
Volume 2 - EIA Appendices**

Final Report

December 2019



Comhairle Cathrach
& Contae **Luimnigh**

Limerick City
& County Council



OPW

Oifig na
nOibreacha Poiblí
Office of Public Works

Appendices

- A Outline Construction Method Statement
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A Outline Construction Method Statement

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Project title	Kings Island Flood Relief Scheme	Job number	265545-00
cc	Bernadette O'Connell Samuel McKeever	File reference	
Prepared by	Phoebe Watson Ken Leahy	Date	18 December 2019
Subject	Outline Method Statements		

1 Construction Phasing

As the nature of much of the proposed construction work is seasonal, to assess the potential construction impacts, it was considered important to consider two scenarios, one having a Spring start date and another having an Autumn Start date. Therefore, two outline construction programmes have been developed. The first having an assumed construction start date in October 2020, resulting in a 21-month construction period, while the second, having an assumed construction start date in March 2021, having an 18-month construction period.

1.1 Key Constraints

Some of the time-sensitive construction constraints considered were as follows:

- The embankments need to be constructed as early as possible in the program to allow for reinstatement after phased construction, surcharging and settlement.
- Landscaping / re-seeding of river side embankment should be done at the beginning of summer to allow for vegetation establishment before the winter. Otherwise mitigation measures will be required to minimise silt run-off to the Shannon SAC.
- A3: pondweed needs to be moved before embankment in this area is constructed.
- A4: JK bund needs to be moved before embankment in this area is constructed.
- Works in the wetlands SAC: assume these need to be done in the summer, as the area will be regularly saturated over the winter
- A5: Pitches need to be relocated before embankment in this area is constructed. Disturbance to Star Rovers FC needs to be minimised and works carried out in off-season where possible.
- A6: Athlunkard BC works needs to be done in 2 phases to maintain vehicle access.
- A7: Minimise disruption to Absolute Hotel, although Hotel doesn't have a preferred season
- B2: Locke Bar would prefer works over the winter season

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- Jack up barge constraints of A9 and the Courthouse boardwalk at B3: limitation relating to the fisheries season here.
- Duration of works in the Potato Market in B3 will need to be minimised to reduce loss of parking and associated revenue generation.

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2 General Method Statements

The following method statements outline the general construction process for a number of key aspects of the project which occur in multiple areas.

2.1 Construction of New Backing Wall to strengthen Historical Quay Walls

The following method statement will be applied to areas where a new mass concrete backing wall is required to augment an existing quay wall to provide a flood defence function (Note: a similar approach was successfully completed for the historical river wall at Verdant Place). This solution applies in parts of areas A10, B1, B2 and B3. The mass concrete backing working in conjunction with the existing key wall increases the mass and thus strengthens the existing historic quay walls to ensure that the combined structure has sufficient strength to withstand the various design load cases, including an allowance, where reasonably possible, for the future extension of the wall to accommodate increases in the design flood level due to climate change. The mass concrete will also act as a cut-off for seepage flow paths.

2.1.1 Step 1- Initial Quay Wall Stabilisation and Strengthening

- Clean vegetation from the face of the existing quay wall and remove loose mortar.
- Point the existing wall with mortar and replace any missing stone.
- Grout the wall by drilling small diameter vertical grout holes through the wall at 2m centres typically and allowing the grout to flow through the wall under gravity. (The location and centres of grout holes will be finalised following detailed localised SI and detailed design to ensure that the majority of the wall is grouted without risking grouting of the existing backfill behind the wall.)

The above works will give the existing quay wall additional strength and stability ahead of the subsequent stages of work. It will also decrease the porosity of the wall, reducing the risk of seepage through the wall during a flood event.

2.1.2 Step 2 - Mass concrete backing wall

- Excavate behind the now grouted quay wall in a supported excavation e.g. using a trench box or similar appropriately designed temporary works, to limit the extent of excavation. Full archaeological supervision of the works will be provided.
- During the excavation, the existing quay wall will also be supported where deemed necessary. (again with appropriately design temporary works(e.g. propping)
- The above will be undertaken in short discrete lengths (typically 3 to 6 metres at a time) to reduce the risk of destabilising the overall quay wall. This also assists in undertaking the excavation and backfill by working around the tide.
- Tide and river levels will be monitored during the works. Works can be halted and the excavation backfilled if there is deemed to be a risk to wall stability due to rising river levels. The works may need to be done over a number of tidal cycles.

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- Mass concrete will be poured in approx. 1m lifts to limit the pressure on the existing wall from wet concrete and the risk of leakage.

2.1.3 Step 3 – Pressure grout Quay Wall

Following completion of the backing wall, if deemed necessary, further grouting of the existing quay wall can take place, using similar drilling techniques to the gravity grouting but by pumping the grout at higher pressures. A decision on the need for this will be made based on the quantities of grout used in the gravity grouting exercise and an examination of the back of the existing quay wall when the excavation for the backing wall is taking place.

2.2 Embankment construction

- Monitor weather and tides for periods of neap tides and high pressure when river levels are lowest.
- During a suitable window and in short lengths, remove the existing footpath, concrete stub wall and sand bags.
- Strip topsoil under the footprint of the embankment. Top soil stripping to be carried out under license with archaeological monitoring
- Construct the clay embankment in one of two ways:

Option A:

- In the first season, construct the lower portion of the proposed clay embankment to a level no lower than the current embankment crest level, and allow it to achieve initial consolidation by gravity over several months between seasons. In this case, the contractor will be obliged to manage flood risk, and may choose to use the existing sandbags as a temporary measure atop of the partially constructed embankment.
- Complete construction of the remainder of the embankment to flood defence level in the second season.

Option B

- Construct the embankment in one season to above final flood defence level, by placing additional fill above the design flood defence level and allow it to consolidate by monitoring, topping up the embankment if necessary where actual consolidation is greater than estimated.
- Place additional landscaping fill and topsoil to create an embankment with softened side slopes. A biodegradable erosion protection matting may be used on the river side of the embankment to aid establishment of the grass root system.
- Construct a new asphalt footpath on compacted hardcore on top of the embankment, as well as along access paths in specified locations.
- Install ducting for future cctv and lighting along the footpath, ensuring that no preferential flow path for water is created.
- Install lighting
- Top up topsoil and grass seed.

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- Install land drainage at the dry-side toe of the embankment

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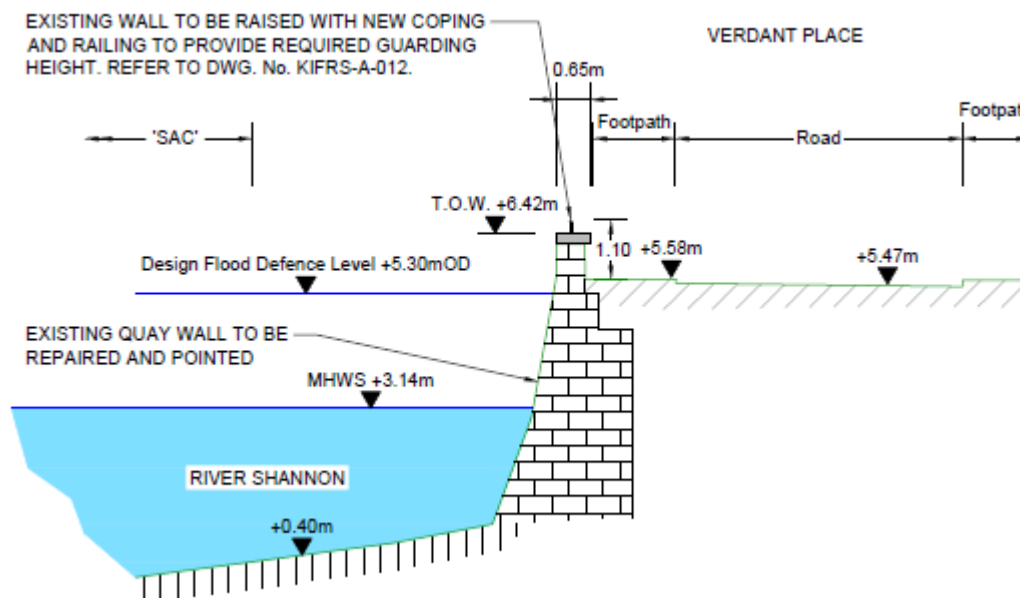
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3 Method Statement for each Area

3.1 Area A1 Thomond Bridge / Verdant Place

1. Clean vegetation from the face of the existing wall and remove loose mortar
2. Point the existing wall with mortar and replace any missing stone.
3. Grout the wall by drilling vertical grout holes through the wall and allowing the grout to flow through the wall under gravity
4. Remove the existing railing over an approx. length of 40m between Thomond Bridge and the new flood defence wall at Verdant Place
5. Install a concrete coping on top of the existing wall over the same length.
6. Paint both the wet and dry sides of the coping over the full length of Verdant Place. Work to be carried out from the dry side using a mobile platform as necessary.
7. Install a safety railing on top of the 40m length of new coping to meet the 1.1m pedestrian guarding height required for the scheme.

Figure 1: Area A1 Thomond Bridge / Verdant Place



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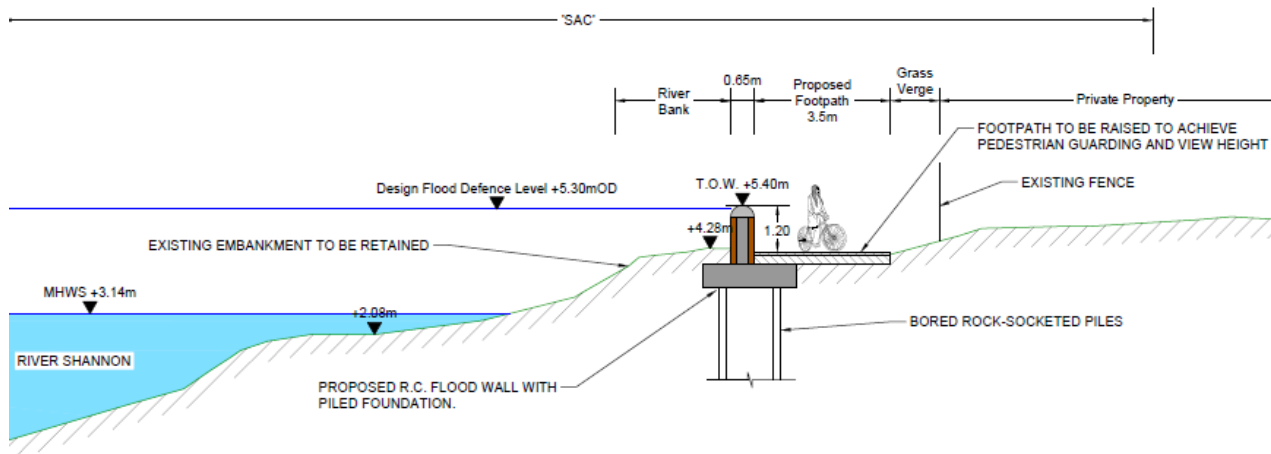
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3.2 Area A2 Verdant Place / Creche

1. Remove the existing footpath, sandbags, concrete stub wall, temporary barriers and shallow obstructions
2. Construct a piling platform at the northern end of this section to allow for piling at the embankment tie-in section. Temporary sheet piles may be required. The piling platform will consist of a layer of granular material which will be reinforced with geotextiles if necessary.
3. Install two rows of bored, rock-socketed concrete piles along the full length of the wall. The piles will be constructed of in-situ reinforced concrete.
4. Cut down the top of the piles (where necessary) and cast an in-situ reinforced concrete capping beam and flood defence wall.
5. Remove all suitable excavated material to a stockpile for reuse as general fill where possible.
6. Clad the wall with stone as per relevant pattern identified on the relevant drawings.
7. Install drainage and lighting as required.
8. Install a new bitmac footpath to a level 1.2m below the top of the new flood defence wall.

Figure 2: Area A2 Verdant Place / Creche



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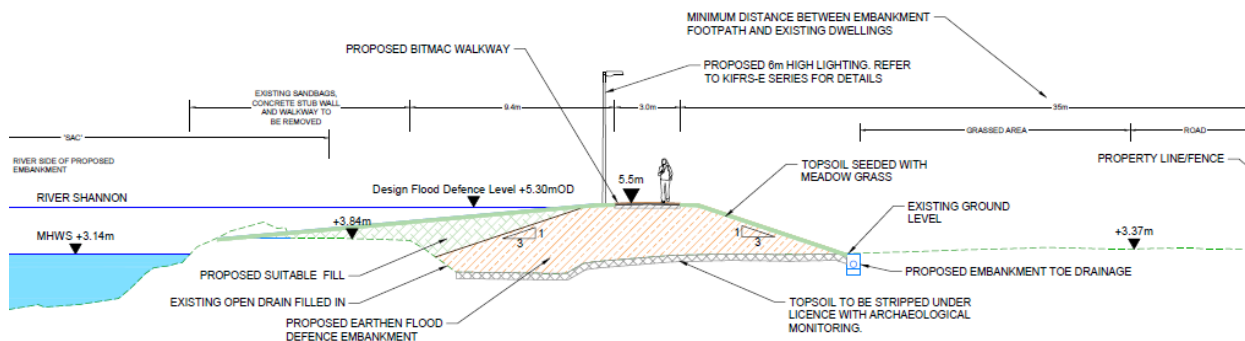
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3.3 Area A3 North Western Embankment

1. Excavate a new open drain for the relocation of pondweed, to be lined with >1m of clay if necessary.
2. Relocate pondweed in accordance with NPWS requirements.
3. Remove the existing footpath, concrete stub wall and sand bags.
4. Strip the topsoil under the embankment footprint under archaeological supervision
5. Construct the embankment core in shallow layers (typically 150mm to 300mm thick), compacting each layer.
6. Place additional landscaping to generate design profile of sinuous embankment
7. Construct a new bitmac footpath on top of the embankment, as well as access paths in specified locations.
8. Install ducting and lighting along the footpath.
9. Place topsoil and grass seed.
10. Install drainage at the dry-side toe of the embankment where no swale is present.

Figure 3: Area A3 North Western Embankment



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3.4 Area A4 North Eastern Embankment

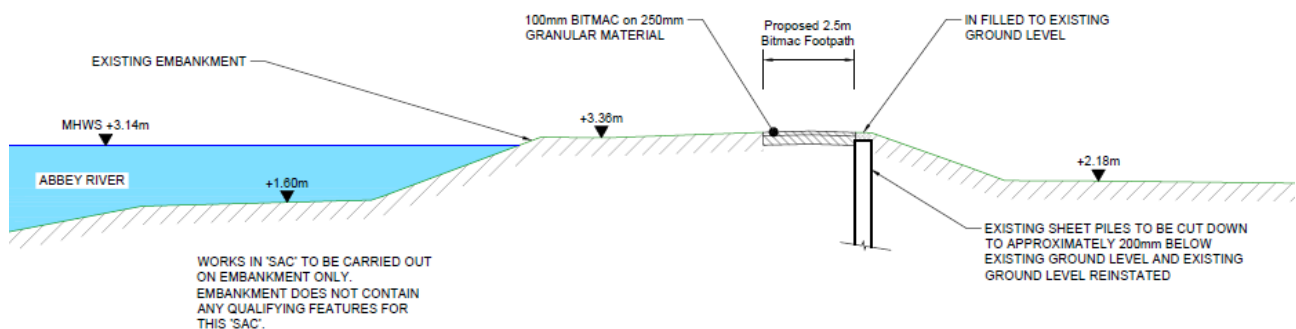
Where the proposed embankment is adjacent to the boundary of the SAC, in Area A4, the construction site boundary will be located a minimum of 1m from the SAC, outside the location of the toe of the embankment, on the SAC side of the embankment.

The embankment construction will typically be similar to the process described for Area A3.

3.4.1 Emergency sheet pile cutting-down works

1. Excavate material from either side of existing sheet piles to maximum width of 500mm, to depth of 300mm below existing ground level.
2. Cut sheet piles to 200mm below ground level.
3. Backfill above sheet piles.
4. Install bitmac footpath on compacted hardcore, 2.4m wide.
5. Carry out minor landscaping works to recreate a smooth surface over the sheet piles, at both ends of the sheet piled area, and remove any significant difference in levels between the two sides of the sheet piles.
6. Remove the current fence and gate to reopen access to the public.
7. LCCC to monitor and maintain on a regular basis

Figure 4: Emergency sheet pile cutting-down works



3.4.2 Japanese Knotweed bund

Appropriate environmental measures for working in an area of Japanese Knotweed to be implemented for this section of the works, such as vehicle washing, exclusion zones etc. Such works to be monitored by a site ecologist.

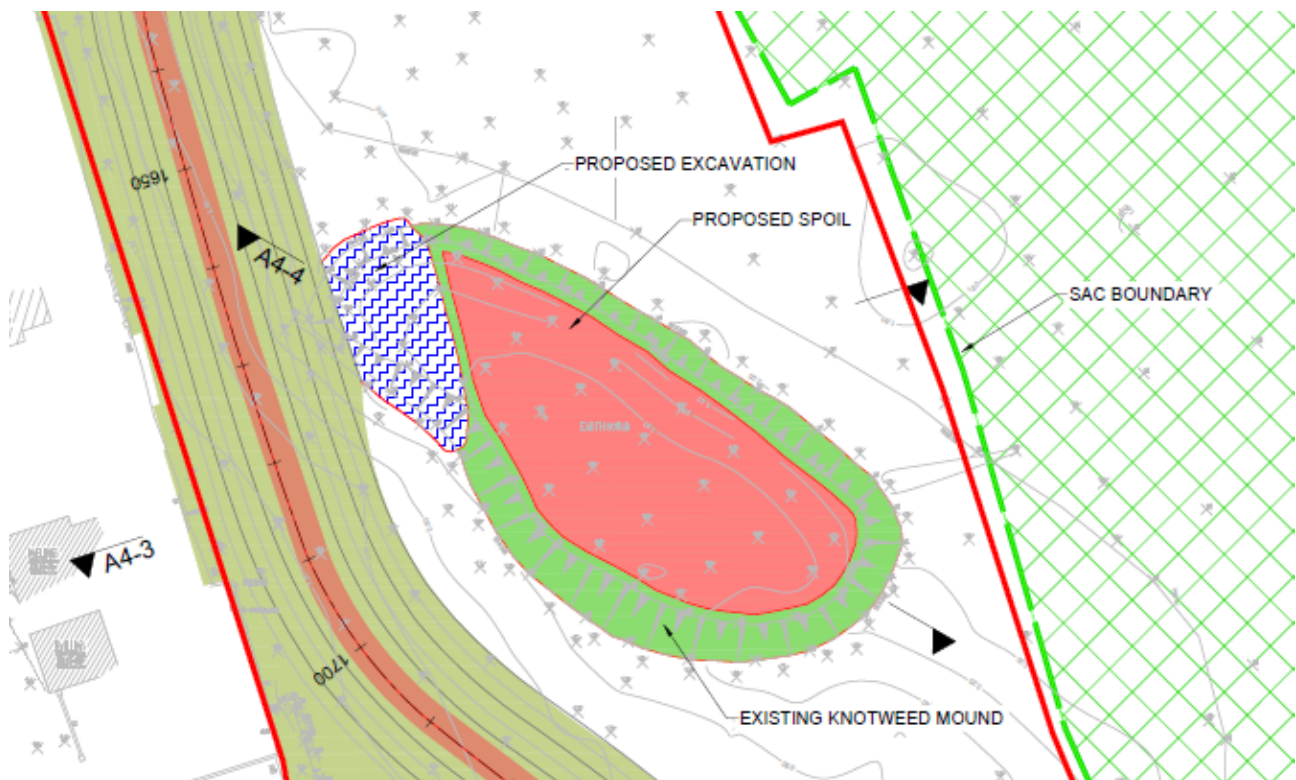
1. Any visible growth of knotweed to be sprayed or injected in advance of the works.
2. Excavate the north-western section of the bund to required depth determined by specialist (could be up to 4m below ground level.)

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3. Place root barrier membrane over the excavated section of knotweed bund. Replace any root barrier membrane damaged by the works.
4. Relocate contaminated material by spreading on top of existing bund, allowing a 1m ledge between existing slope and new slope for spraying access. The maximum height of new material to be 1m above existing bund level.

Figure 5: Japanese Knotweed bund Option A



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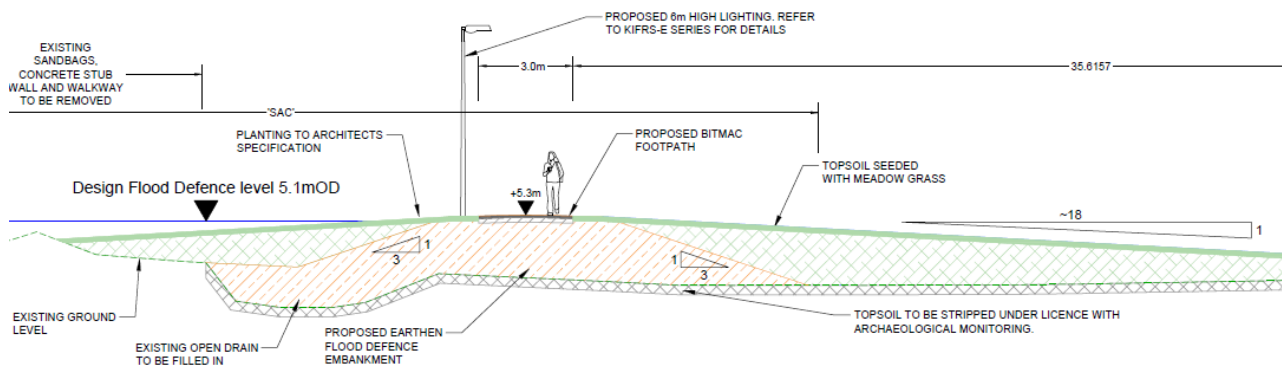
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3.5 Area A5 Star Rovers FC

Where the proposed embankment is adjacent to the boundary of the SAC, in Area A5, the construction site boundary will be located a minimum of 1m from the SAC outside the location of the toe of the embankment, on the SAC side of the embankment.

1. Relocate pitches and AstroTurf as per the agreement with Star Rovers FC.
2. Remove the existing footpath, sandbags, concrete stub wall and shallow obstructions over the width of the proposed embankment.
3. Fill in the existing drain east of the Star Rovers pitch with embankment fill
4. Construct the embankment similar to other areas.

Figure 6: Area A5 Star Rovers FC



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3.6 Area A6 Athlunkard Boat Club

3.6.1 Northern section – Phase 1

1. Secure site boundary and relocate site access as per the agreement with Athlunkard Boat Club.
2. Demolish the boundary wall of Athlunkard boat club to the north of the existing access (allowing access to remain to the boat club facilities through existing access)
3. Remove the existing footpath, sandbags, concrete wall and topsoil over the width of the proposed works.
4. Install two rows of bored, rock-socketed concrete piles along the full length of the flood defence wall and the proposed retaining wall. The piles will be constructed of in-situ reinforced concrete.
5. Cast an in-situ reinforced concrete capping beam and flood defence wall / retaining wall.
6. Construct the embankment
7. Install lighting along the access route / footpath
8. Construct a new vehicle access route / footpath on top of the embankment.
9. Build up the wall to 2.75m above ground level in fair-faced masonry.
10. Clad the western face of the wall in stone as per the relevant drawings

3.6.2 Southern section – Phase 2

1. Once the new northern access route is established, secure the southern portion of the site as per the agreement with Athlunkard Boat Club.
2. Demolish the remainder of the existing boundary wall of Athlunkard boat club.
3. Remove the existing footpath and topsoil over the width of the proposed works.
4. Install two rows of bored, rock-socketed concrete piles along the full length of the wall. The piles will be constructed of in-situ reinforced concrete.
5. Cast an in-situ reinforced concrete capping beam and flood wall to the required level.
6. Build up the flood wall to 2.75m above ground level in fair-faced masonry.
7. Clad the outer face of the flood defence wall as per the architect's requirements.
8. Construct a new bitmac footpath / vehicle access route and any required drainage.
9. Install lighting along the footpath.

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3.7 Area A7 Sir Harry's Mall

1. Locally excavate the road surface and footpath to the rear of the existing flood defence wall to provide space for the proposed in-situ reinforced concrete shear key.
2. Install an in-situ reinforced concrete shear key to strengthen the existing wall, connected by dowels to the existing wall foundation.
3. Install horizontal strengthening dowels on the river side, using a mobile platform from the land-side.
4. Drill vertical dowels into the top of the existing wall.
5. Cast an additional layer of in-situ reinforced concrete, approximately 300mm high, on top of the existing wall
6. Clad the top and dry side of the wall in stone as per the relevant drawings
7. At the southern end, construct the new raised footpath and access ramp using in-situ mass concrete.
8. Install lighting along the footpath
9. Reinstate the existing road.

3.8 Area A8 Absolute Hotel

1. Remove the paved footpath surface on the access ramp at both sides of the boardwalk.
2. Carry out minor local re-grading of the ground to meet the required flood defence level.
3. Relay the footpath paving.

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3.9 Area A9 South of Absolute Hotel

It is proposed to use a land-transportable jack-up barge for this section of construction.

1. Prepare the proposed slipway for boat access during construction.
2. Assemble the jack-up barge at the proposed location and launch. Machinery to be transferred to and from the barge at the same location.
3. Secure jack up barge in working position in the channel.
4. Clean vegetation from the face of the existing wall and remove loose mortar.
5. Demolish the existing masonry parapet to approx. 800mm below footpath level
6. Point the existing quay wall with mortar and replace any missing stone.
7. Grout the wall by drilling vertical grout holes through the wall and allowing the grout to flow through the wall under gravity.
8. Install two rows of mini piles behind the existing quay wall.
9. Cast the in-situ reinforced pile cap and R.C. wall atop of the old quay wall, set back from its face to allow for the thickness of the cladding and minor differentiate in the external alignment to distinguish between the old quay wall and the new parapet.
10. Clad both sides of the wall with stone laid to course as per the relevant drawings.
11. Install or reinstate lighting.
12. Reinstate the footpath behind the wall.

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3.10 Area A10 Abbey Bridge to Baal's Bridge

3.10.1 Section of new parapet wall

1. Remove the existing trees.
2. Clean vegetation from the face of the existing wall and remove loose mortar.
3. Point the existing wall with mortar and replace any missing stone.
4. Demolish the existing masonry parapet to approx. 800mm below footpath level.
5. Grout the wall by drilling vertical grout holes through the wall and allowing the grout to flow through the wall under gravity.
6. Excavate at the back of the wall and cast the in-situ reinforced concrete backing wall
7. Clad both sides of the wall in stone as per the relevant drawings
8. Install or reinstate lighting.
9. Plant new trees in lined root boxes.
10. Reinstate the footpath behind the wall.

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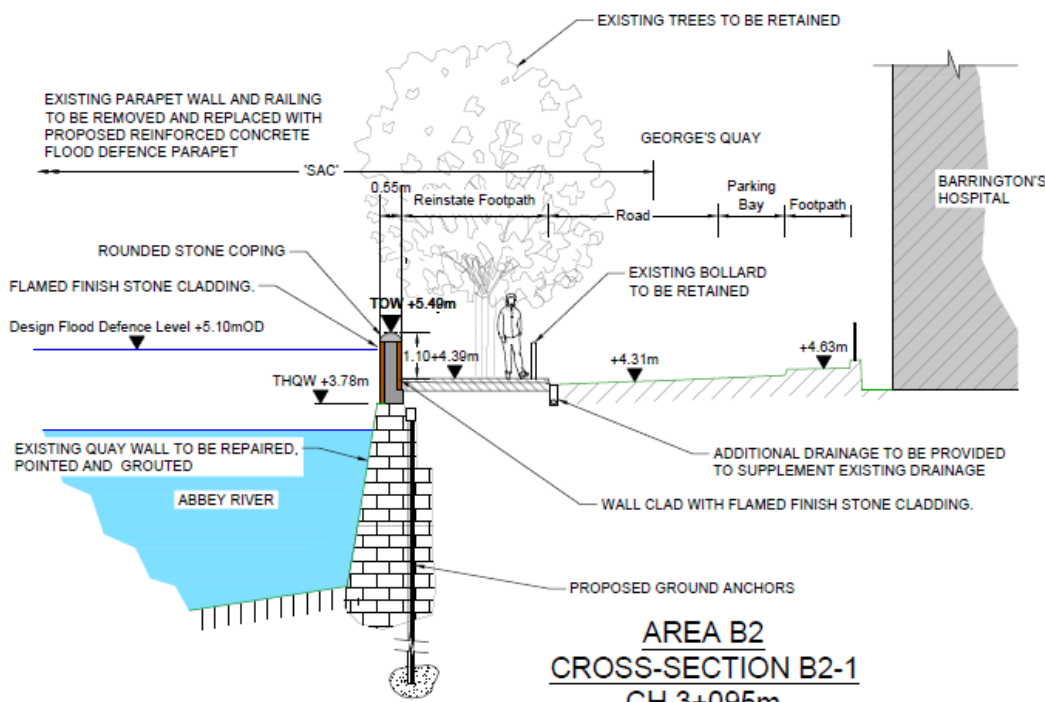
3.11 Area B1 & B2 George's Quay

There are typically 3 different types of defence solutions along George's Quay. Each type is described below.

3.11.1 Ground anchor system

1. Prune trees as per the arborist recommendations, to allow sufficient head room for construction.
2. Clean vegetation from the face of the existing wall and remove loose mortar.
3. Point the existing wall with mortar and replace any missing stone.
4. Remove the existing parapet to the level of the historic quay wall (approx. 600mm)
5. Excavate behind the wall at discrete locations to expose the back of the wall, approx. 1 – 1.5m, using hand-digging to avoid damage to tree roots.
6. Drill through the existing wall to install ground anchors. These anchors are expected to be circa 40mm in diameter.
7. Install steel ground anchors to approx. 5m below the toe level of the existing wall.
8. Grout the ground anchors in place.
9. Pressure grout the existing quay wall.
10. Construct an in-situ concrete parapet
11. Clad both sides of the wall in stone as per the relevant drawings
12. Reinstate the paved footpath behind the wall.

Figure 7: Proposed ground anchor system



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3.11.2 Glass Flood Defence Panels

1. Remove or prune trees as required, in compliance with arborist's recommendations.
2. Clean vegetation from the face of the existing wall and remove loose mortar
3. Point the existing wall with mortar and replace any missing stone.
4. Remove the existing parapet wall to approximately 800mm below ground level.
5. Grout the wall by drilling vertical grout holes through the wall and allowing the grout to flow through the wall under gravity
6. Construct the mass concrete backing wall
7. Cast the in-situ reinforced concrete wall base and upstand for the base of the glass flood defence panels.
8. Fix the glass panels as per the manufacturer's instructions.
9. Finalise stone cladding elements.
10. Install lighting and drainage as required.
11. Install new trees in root boxes if required.
12. Reinstate the footpath.

3.11.3 Pontoon access area

1. Clean vegetation from the face of the existing wall and remove loose mortar.
2. Point the existing wall with mortar and replace any missing stone.
3. Grout the wall by drilling vertical grout holes through the wall and allowing the grout to flow through the wall under gravity
4. Construct the mass concrete backing wall and reinforced concrete flood wall.
5. Clad both sides of the wall in stone as per the relevant drawings
6. Install access steps
7. Install lighting and drainage as required.
8. Reinstate the footpath.

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3.1 Area B3 Courthouse and Civic Buildings

All work works in this area are to be carried out under archaeological supervision.

3.1.1 Potato Market Viewing Platform

Note: there will be low head room in this working area.

1. Clean vegetation from the face of the existing quay wall and remove loose mortar.
2. Point the existing quay wall with mortar and replace any missing stones.
3. Grout the quay wall by drilling vertical grout holes through the rear of the quay wall and allowing the grout to flow through the wall under gravity.
4. Remove the existing cantilever viewing platform and railing.
5. Excavate behind the wall and construct mass concrete backing wall.
6. Construct reinforced concrete foundation and upstand for the connection of the glass flood defence panels.
7. Fix the glass flood defence panels as per the manufacturer's instructions.
8. Complete local stone cladding to upstand.
9. Install bollards to prevent damage to the glass panels by parking cars.
10. Reinstate the footpath / car park surface.

3.1.2 Access Ramp and Steps at Sylvester O'Halloran Bridge

1. Following archaeological test trenching, excavate existing car park surface to a shallow depth (circa 500mm) and construct a raft concrete foundation under the entire footprint of the proposed ramped and stepped access to Sylvester O'Halloran Bridge
2. Construct the remaining RC structures for the stepped access and a ramp.
3. Install stone cladding and coping to walls of ramped access
4. Install handrails.
5. Reinstate the footpath/car park surface surrounding the ramp.

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3.1.3 Potato Market existing walls

3.1.3.1 Section to be retained

1. Clean vegetation from the face of the existing wall and remove loose mortar.
2. Point the existing wall with mortar and replace any missing stones.
3. Grout the quay wall by drilling grout holes through the rear of the quay wall and allowing the grout to flow through the wall under gravity.

3.1.4 Defence Wall adjoining Curragower Boat Club

1. Clean vegetation from the face of the existing boundary wall and remove loose mortar.
2. Point the existing wall with mortar and replace any missing stones.
3. Excavate for wall foundation under archaeological monitoring, founding at a suitable level on firm subbase.

(It is possible that an old quay wall could be encountered during excavation. If this arises, the foundation will be omitted locally with the vertical element of the flood wall spanning horizontally between sections of foundation either side of any historic feature.)
4. Construct the in-situ reinforced concrete flood wall against the existing wall, but debonded using a separation membrane. To avoid excessive temporary loads on the existing wall, the new wall will be poured in lifts of 1m or less.
5. Construct a stone coping and clad the wall with stone as per the drawings.
6. Locally reinstate the carpark surface

3.1.5 Automatic Flood Gate adjoining Curragower Boat Club

1. Once the receiving piers at either end are completed as part of the relevant permanent flood defence wall, works can commence on construction of the flood gate as follows:
2. Excavate to shallow depth (circa 1m) to construct foundation pit for automatic flood gate.
3. Install the automatic flood gate and manual back-up as per the manufacturer's instructions
4. Re-grade the existing road to create a table-top ramp around the flood gate.

3.1.6 Stone Clad Wall between Automatic Flood Gate and Courthouse

1. Clean vegetation from the face of the existing quay wall and remove loose mortar.
2. Point the existing quay wall with mortar and replace any missing stone.
3. Grout the wall by drilling vertical grout holes through the wall and allowing the grout to flow through the wall under gravity
4. Remove the existing railing

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5. Excavate behind the existing quay wall and construct the mass concrete backing wall.
6. Construct the in-situ reinforced concrete flood defence wall
7. Fit Stone Coping and clad both sides of the wall with stone as per the relevant drawings.
8. Install lighting and drainage as required.
9. Reinstate the footpath.

3.1.7 Glass panels south of Courthouse

1. Clean vegetation from the face of the existing quay wall and remove loose mortar.
2. Point the existing quay wall with mortar and replace any missing stone.
3. Grout the wall by drilling vertical grout holes through the wall and allowing the grout to flow through the wall under gravity
4. Remove the existing railing.
5. Excavate and construct the mass concrete backing wall.
6. Construct the in-situ reinforced concrete wall base and upstand for the connection to the glass panels (This will be set back behind the existing top quay stone which will be exposed.)
7. Clad both sides of the upstand with stone as per the relevant drawings
8. Fix the glass flood defence panels as per the manufacturer's instructions.
9. Install lighting and drainage as required.
10. Reinstate the footpath.

3.1.8 Courthouse boardwalk

It is proposed that a road-transportable jack-up barge will be used to construct this section of the works due to the lack of working space around the courthouse.

1. Create a ramp access into the river for the jack-up barge at the proposed location.
2. Assemble the jack-up barge and launch.
3. Set up barge at construction location.
4. Demolish the existing boardwalk.
5. Clean vegetation from the face of the existing quay wall and remove loose mortar.
6. Point the existing quay wall with mortar and replace any missing stone.
7. Grout the wall by drilling vertical grout holes through the wall and allowing the grout to flow through the wall under gravity
8. Construct a line of bored concrete piles at circa 4m centres (intermittent with anchors previously installed for current boardwalk.
9. Construct the new cantilever base and upstand. (The underside of the new cantilever will be at the same level as existing to avoid any further removal of the historic quays.

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10. Fix the glass flood defence panels as per the manufacturer's specification.
11. Clad both sides of the concrete upstand as per the relevant drawings.
12. Erect the railing separating the courthouse access from the public walkway
13. Reinstate the paving on both walkways.

3.1.9 Glass flood defence panels adjacent to Civic Buildings

1. Remove or prune existing trees as required.
2. Clean vegetation from the face of the existing quay wall and remove loose mortar.
3. Point the existing quay wall with mortar and replace any missing stone.
4. Grout the wall by drilling vertical grout holes through the wall and allowing the grout to flow through the wall under gravity
5. Excavate and construct the mass concrete backing wall
6. Construct the in-situ reinforced concrete wall base and upstand for the connection to the glass flood defence panels. (This will be set back behind the existing top quay stone which will be exposed.)
7. Clad both sides of the upstand with Stone as per the relevant drawings.
8. Fix the glass flood defence panels as per the manufacturer's instructions.
9. Install lighting and drainage as required.
10. Reinstate the footpath.

3.1.10 Area in Vicinity of old Mill and access bridge structure

1. To the northwest of the Civil offices, an historic Bridge links the old city wall (which is a National monument) to an historic Mill structure, the remains of which can just be seen protruding from the historic quay wall. An historic tunnel structure is also located in this area. All work in this area will be undertaken under supervision of a licensed archaeologist under ministerial consent.
2. Archaeological test trenching will be undertaken to define the plan extents and depths of any historic archaeological features. These features will all be recorded.
3. Once the features are clearly defined, a grillage of bored piles will be installed, which avoid the various features and provide a means to transfer the loads from the proposed flood walls to the lock level rock, without apply new loads to the historic features or without impacting such features.
4. A shallow reinforced concrete foundation will be constructed on the piles. A compressible filler material will be placed above the historical features to ensure that the reinforced slab is suspended between the piled supports above the features and does not transfer load directly to the features.
5. A new RC flood defence wall will be constructed from the shallow foundation.
6. The wall will be clad in stone as per the relevant drawings.
7. The existing quay wall will also be pointed and grouted where possible.

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8. Where possible, in some locations, there will be localised short sections of glass flood defence barriers in lieu of the stone clad wall.
9. Install lighting and drainage as required.
10. A new paved area will be constructed to reduce the relative height of the flood defence parapet to 1100mm to maintain river views. The colour and texture of the paving material will be chosen to highlight the position of the underlying historic features.
11. Interpretation signage will be constructed to provide information on the historic features.

3.1.11 Glass flood defence panels adjacent to Civic Buildings

(Applies north of the area of the historic mill and bridge, and stops short of the existing Castle wall.)

1. Clean vegetation from the face of the existing quay wall and remove loose mortar.
2. Point the existing quay wall with mortar and replace any missing stone.
3. Grout the wall by drilling vertical grout holes through the wall and allowing the grout to flow through the wall under gravity
4. Excavate and construct the mass concrete backing wall
5. Construct the in-situ reinforced concrete wall base and upstand for the connection to the glass flood defence panels. (This will be set back behind the existing top quay stone which will be exposed.)
6. Clad both sides of the upstand with stone as per the relevant drawings.
7. Fix the glass flood defence panels as per the manufacturer's instructions.
8. Install lighting and drainage as required.
9. Reinstate the footpath.

File Note

265545-00

18 December 2019

DOCUMENT CHECKING (not mandatory for File Note)

	Prepared by	Checked by	Approved by
Name	Phoebe Watson	Marie Murphy	Ken Leahy
Signature			

B Statutory Consultation Responses

Mr Ross Macklin,
Triturus Environmental
Services,
42 Norwood Court,
Rochestown,
Cork.
T12 ECF3



5 January, 2018

Re: Kings Island Flood Relief Scheme.

Dear Ross,

IFI has no objection in principle to providing flood protection for land and properties around Kings Island and Limerick city generally. Please note that we consider that we have not received all of the details of the proposed works or details in respect of land drainage and of the aquatic habitats in the drainage channels contained on Kings Island. A significant portion of the island is designated as an SAC. At this time our observations are based on the documents that we have received and which will be indicated in the submission below.

The Shannon in this area is considered a fishery. It is an important zone of passage for many fish species some of which are protected under national and EU Legislation. In particular this part of the Shannon is frequented by: adult salmon, salmon smolt, brown trout, potentially some sea trout, smelt, european eel, sea and river lamprey, pike, dabs, other small coarse fish or intertidal species. Some of the area will be important feeding grounds for some of these species moving up and down with the tide. The six-inch ordnance survey suggests that the top of the tidal influence is to the north of Kings Island. However, studies carried out for the construction of the Shannon tunnel suggest that the Shannon backs up in front of the tide and that there may be no significant salt water intrusion in this part of the Shannon. This suggests, notwithstanding the tidal influence, that the River Shannon around Kings Island (and the watercourses on the island) may be considered to be predominantly freshwater habitat.

The River Shannon in this area is an important amenity. Local anglers fish from: the riverbank, bridges and by wading into the River Shannon itself. Other water users will include: swimmers and kayakers rowing/sculling boats other pleasure craft and emergency services. IFI suggest that there are safety implications especially in regard people entering and using the River for angling or recreation purposes. Ardnacrusha power station is required to be on standby at all times and therefore may release water through the turbines at any time. This gives rise to a very rapid rise in water levels especially if there is an incoming tide at the same time. Anglers and other users who use the river must have safe access and egress but in particular must be able to get out of the river quickly and safely if there is a sudden rise in water levels.

IFI suggest that the above should be taken into account in the design of the embankment. Some consideration should also be given to providing an access ramp and ensuring that existing stairways to the river are maintained and are accessible. It should be noted that there are existing bathing areas along the west side of Kings Island. The new embankment must accommodate access to these bathing areas. In the past high levels of pathogenic bacteria inhibited the use of these bathing areas. However, with improvements in sewage treatment it is likely that these bathing areas will again become popular.

It is important to preserve the amenity value of the river and the works should provide opportunities for improved amenity access to the river.

IFI has the following observations and recommendations to make in respect of the outline proposals set out in the documents that we have received.

Embankment Alignments West Embankment Option 2 (offset from sandbags).

This appears to be a general plan giving an outline indication of the proposed works around Kings Island.

1. It is not clear how near to the water's edge (Ordinary summer levels) the actual new embankment will be. If the embankment is in close proximity to the river, IFI suggests that the toe of the embankment is armoured with large heavy limestone or sandstone. At least two or more layers of large rock (not less than one ton in weight) with the first layer embedded at least 450 mm below river bed level. This is to provide anti-scour and erosion protection.
2. If it is intended to construct the embankment away from the water's edge (except for tidal or high flood flows) it is likely that there will be little or no impact on the aquatic habitats except in the areas which have been specifically identified.
3. In the event that an encroachment onto the existing riverbed is likely to take place then particular attention must be given to juvenile lamprey ammocoetes which may be present in the sediments along the water's edge. An assessment of the presence or absence of juvenile lamprey and/or other fish may be required depending on the final design. As mentioned above the area is a zone of passage for fish and particularly salmon which will rest in this area and downstream above and below the Curragower falls.
4. These works have the potential to give rise to significant pollution especially in respect of silt and other surface water run-off from the proposed new road development over the river. Even where there is no direct contact with the water's edge methodologies to minimise silt run-off from embankment construction works especially after precipitation will need to be developed and agreed with the relevant authorities including IFI.
5. As sections of embankment are completed IFI strongly recommends that any exposed raw earth should be seeded with an appropriate grass seed as soon as possible. This will help to minimising silt run-off from the embankment works either to the Shannon or to the adjacent small watercourses on the island itself.
6. Generally, contractors should liaise with: the Local Authority, IFI and NPWS in respect of all methodologies for this development.
7. This plan provides some basic detail regarding the existing drainage from the island itself. On the eastern side there appears to be at least five straight drains and a ring drain all around the outer boundary of the island. A lot of the island is a designated SAC and the area to the east shows wetlands and drainage contiguous to the SAC. The importance of these wetlands or the drainage channels and their condition needs to be assessed. There is no clear indication of how the surface water discharges to the River Shannon. The location of discharge points and the type and condition of outlet valve if any that may be present needs to be determined. It is important to assess the fishery status in these channels as this could have implications for the type of discharge that would be permitted particularly in the context of the SAC and protected species such as lamprey.
Given that the Limerick area is also known to have some unusual plant species IFI considers that a flora survey of these watercourses and wetlands must be undertaken as part of the Environmental Impact Assessment. It would be important to liaise with NPWS in this matter.

8. This plan also shows that it is proposed to use the redundant fishing weir, known as Thomond weir, to support a new road from Kings Island to the right bank of the river. This is likely to entail some instream works and IFI should be consulted in relation to any instream proposals.
9. IFI would have some concerns regarding the lighting of the footpath and roadway. Illumination should be “cowled” or designed to ensure that the pool of light falls only on the footpath and carriageways and not on the water on either side of the bridge. This is important as this is part of a resting area for salmon and the light impinging on the water will attract fish and may cause them to delay passing through the area and increase the illegal fishing opportunities. IFI request that it should be consulted more particularly about the design of the bridge so as to ensure that the design will minimise the impact on the fishery and fish movement.
10. IFI would also like to see further information in respect of the surface water drainage from the bridge and the roadway. In particular IFI recommends that silt and hydrocarbon removal facilities should be incorporated into the design of the crossing.
11. IFI considers that the stability of the embankment is of paramount importance. Hence IFI’s suggestion for rock armour at the toe of the embankment. But IFI also considers that it may be necessary to remove some trees and to have a maintenance plan to ensure that no significant large trees are permitted to grow on the embankment. Significant tree root development in some situations can cause the bank to become more porous allowing ingress of water which can weaken the bank structure.
12. IFI Biosecurity protocols should be applied in respect of all works undertaken in this area and must be an integral part of the project. Care should also be taken to ensure that alien species on site are appropriately dealt with. Similarly every effort should be undertaken to ensure that alien species are not imported to the site in fill material used in the construction of the embankment.

Instream Works, Kings Island.

In regards to the above IFI has received an aerial photograph and a sketch which both indicate the proposed locations of instream works and the type of instream works envisaged at this time.

1. The photograph shows that it is proposed to construct two “Instream working platforms” in two areas to facilitate anti-scour works. The larger area is in the vicinity of the Limerick City and County Council offices and the courthouse upstream of the Abbey River confluence. The second area is in the Abbey River on the right bank at the “Absolute Hotel”. At this location the Abbey River is turning to the right (west) and the mouth of the navigation canal is on the left bank.
2. IFI considers that the proposed “instream working platforms” will give rise to considerable environmental disruption, pollution and adversely affect lamprey and fish habitat including resting areas for salmon in the River Shannon. There may also be a negative impact on angling efforts in the river.
3. IFI considers that an alternative methodology needs to be developed and suggest that coffer dams using sheet piles might provide a better alternative. If sheet piles can be used and are properly sealed that this should considerably reduce pollution potential as all the work will be contained within the coffer dam area. In particular there will be an opportunity to remove juvenile lamprey (ammocoetes) and other fish from the works area.

4. For any instream works a fisheries assessment will be required and there is a strong possibility that a fish removal operation will be required. The removal of lamprey in particular is tedious and takes time. It will be important that a contractor is identified at an early stage so that an application can be made to the Department of Communications Climate Action and Environment for a section 14 licence permitting electro-fishing to take place.
5. In addition for this type of instream work and any other instream work associated with the project if the work is taking place in the close season then derogation will be required under The Local Authority Works Act 1949.
6. IFI request that there is early contact with the contractors for this development so as to ensure that method statements can be agreed in a timely fashion which will minimise the impact of the works on the aquatic habitats and species.

Photograph Adjacent to the Community Centre (KI-0016)

This is photograph is apparently taking close to the community centre.

1. It seems likely that the embankment will take in at least the footpath and perhaps part of the wall and railing. IFI would have no objection to the use of a retaining wall (perhaps a reinforced earth wall) on the landward side to limit the extent of the embankment if this is deemed necessary and feasible.
2. At this time IFI has no other observations on this photograph.

Photograph taken adjacent to the running track (KI-040).

As described above this photograph is taken near the northern end of the running track and notes that it is in the SAC.

1. As noted on the plan “**Embankment Alignments West Embankment Option 2 (offset from sandbags)**” the proposed embankment is going to impinge on the running track. To the right of the footpath there appears to be a watercourse and this is in keeping with the details can be observed in the above plan. To impinge on the running track it would appear that the open watercourse is likely to be lost. The loss of the watercourse, in IFI’s opinion, would be contrary to the objectives and criteria set out in the Water Framework Directive. To culvert or remove the watercourse will cause deterioration in the status of this watercourse and the ECJ has already indicated that at this may not be allowed. (Please find attached a copy of report on the ECJ decision.)
2. As alluded to above the aquatic habitats i.e. wetlands and watercourses on the island must be assessed in terms of their fisheries importance especially for lamprey and/or any other fish species. An assessment must also be carried out in respect of the flora that may be contained in the wetlands, watercourses or in the adjacent riparian zones. IFI is aware that in the past there was a very rich avian diversity on the island and at one time a lot of illegal bird trapping took place adjacent to these watercourses. There may be important interaction between the aquatic and terrestrial habitats.
3. To preserve the existing aquatic habitat it may be necessary to design a section of the bank to facilitate the preservation of the watercourse and the running track whilst still providing a robust embankment in this particular area.

Kings Island (extract from Bing maps)

This map shows a general outline of Kings Island the Western side of which is of fisheries importance.

1. The map shows that there is an existing pathway around the island. It is assumed that this pathway will be relocated to be on top of the new embankment that is proposed to be constructed. Provided that the embankment is constructed in an environmentally sustainable manner and complies with EU directives and water pollution legislation there should be no difficulty. Key to this will be good liaison to develop the appropriate methodologies to minimise any negative impact on the fisheries and aquatic habitats.
2. The photograph also clearly highlights the juxtaposition of Thomond weir which was utilised by the ESB for commercial fishing primarily for salmon. It is important that when the road is being constructed using the pillars of the old weir that any refurbishment works are carried out in the open season for instream works or in accordance with an appropriate derogation under the Local Authority Works Act 1949.
3. To improve the amenity of the river and facilitate passage of boats, including kayaks angling cots, sculling boats et cetera it may be desirable to remove one or two of the piers and developing a clear span structure in this space. This will provide better access for small boats and other craft but also may be important in terms of health and safety.

This concludes IFI's observations and recommendations at this time. Should you require clarification on any matter please do not hesitate to contact this office

Yours Sincerely

Michael Fitzsimons

Senior Fisheries Environment Officer
IFI, Shannon IRBD.

Emily Rick

From: Barry <barry@nfgws.ie>
Sent: 07 January 2019 13:01
To: Emily Rick; Bernadette OConnell
Cc: sean@nfgws.ie; 'Joe Gallagher'
Subject: RE: 2015s3353 Request for Consultation - EIAR Scoping Report for the King's Island Flood Relief Scheme (FRS), Limerick City

Hello Emily and Bernadette,

We appreciate the opportunity to consult on the proposed project. The project itself is unlikely to impact on our group water schemes members, however, we will have a look at the scoping report and revert back if we have any comments, observations or concerns.

Kind Regards

Barry Deane,
National Federation of Group Water Schemes,
087 6866099



www.nfgws.ie

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From: Emily Rick <Emily.Rick@jbaconsulting.ie>
Sent: 21 December 2018 17:45
To: barry@nfgws.ie; sean@nfgws.ie
Cc: Bernadette OConnell <Bernadette.OConnell@jbaconsulting.ie>
Subject: 2015s3353 Request for Consultation - EIAR Scoping Report for the King's Island Flood Relief Scheme (FRS), Limerick City

Dear Mr. Barry Deane and Mr. Sean Clerkin,

JBA Consulting Ltd. acts on behalf of our client the Limerick City and County Council in this matter.

Limerick City and County Council propose to construct a Flood Relief Scheme for King's Island. In accordance with the Aarhus Convention and the 2014 EU Directive on Environmental Impact Assessment, we attach the Scoping Report for the Environmental Impact Assessment Report (EIAR). The purpose of the Scoping Report is to scope the contents of the chapters in the EIAR. We are issuing the Scoping Report to statutory and non-statutory bodies, interested parties and the public for comment.

The Scoping Report will also be published on the King's Island Flood Relief Scheme website (<http://www.kingsislandfrs.ie/>) in the coming weeks.

The EIAR will be a systematic evaluation of the likely significant impacts of the proposed Flood Relief Scheme on the environment. It will identify, describe and evaluate the likely significant effects on the environment of the proposed scheme and reasonable alternatives taking into account the objectives and geographical scope of the proposed works.

We request that any comments, observations or submissions in relation to the scope and level of information to be included in the Environmental Report be made within a period of 4-6 weeks from the date of receipt of this email (before Friday 01st February 2019).

Forward all submissions to Bernadette O'Connell at JBA Consulting, 24 Grove Island, Corbally, Limerick or bernadette.oconnell@jbaconsulting.ie

If you have any queries or require additional copies, please do not hesitate to contact the undersigned.

Sincerely,

Bernadette O'Connell

Principal Environmental Scientist

bernadette.oconnell@jbaconsulting.ie

Emily Rick

From: planning applications <planning.applications@failteireland.ie>
Sent: 09 January 2019 15:06
To: Bernadette OConnell
Subject: FW: 2015s3353 Request for Consultation - EIAR Scoping Report for the King's Island Flood Relief Scheme (FRS), Limerick City
Attachments: 2015s3353-Kings Island - EIAR Scoping Report V3.0.pdf; EIS &Tourism Guidelines.pdf

Dear Bernadette,

Thank you for your recent e-mail regarding **the proposal to construct a Flood Relief Scheme for King's Island in Limerick City.**
Please see attached a copy of Fáilte Ireland's Guidelines for the treatment of tourism in an EIS, which we recommend should be taken into account in preparing the EIAR.

Regards,

Yvonne

Yvonne Jackson

Product Development-Environmental & Planning Support | Fáilte Ireland

Áras Fáilte, 88/95 Amiens Street, Dublin 1. D01WR86

T +353 (0)1 884 7224 | www.failteireland.ie



Fáilte Ireland
National Tourism Development Authority



From: Emily Rick <Emily.Rick@jbaconsulting.ie>
Sent: 21 December 2018 17:06
To: Eoin McDonnell <Eoin.McDonnell@failteireland.ie>
Cc: Bernadette OConnell <Bernadette.OConnell@jbaconsulting.ie>
Subject: 2015s3353 Request for Consultation - EIAR Scoping Report for the King's Island Flood Relief Scheme (FRS), Limerick City

Dear Mr. Eoin McDonnell,

JBA Consulting Ltd. acts on behalf of our client the Limerick City and County Council in this matter.

Limerick City and County Council propose to construct a Flood Relief Scheme for King's Island. In accordance with the Aarhus Convention and the 2014 EU Directive on Environmental Impact Assessment, we attach the Scoping Report for the Environmental Impact Assessment Report (EIAR). The purpose of the Scoping Report is to scope the contents of the chapters in the EIAR. We are issuing the Scoping Report to statutory and non-statutory bodies, interested parties and the public for comment.

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If you have any queries or require additional copies, please do not hesitate to contact the undersigned.

Sincerely,

Bernadette O'Connell

Principal Environmental Scientist

bernadette.oconnell@jbaconsulting.ie

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Emily Rick

From: Emily Rick
Sent: 10 January 2019 10:25
To: 'bernard.burke@coillte.ie'
Cc: Bernadette OConnell
Subject: RE: Reply - Request for Consultation - EIAR Scoping Report for the King's Island Flood Relief Scheme (FRS), Limerick City

Hello Bernard,

Thank you for your response. It is much appreciated.

Kind regards,

Emily Rick

From: Bernard Burke <bernard.burke@coillte.ie>
Sent: Thursday, January 10, 2019 9:53 a.m.
To: Bernadette OConnell
Cc: Bernard Burke
Subject: Reply - Request for Consultation - EIAR Scoping Report for the King's Island Flood Relief Scheme (FRS), Limerick City

Hi Bernadette,

I had a look at the submission for the Kings Island Flood Relief Scheme. The proposed development does not appear to interfere or infringe on any Coillte lands, so at the moment we have no reason for concern in relation to the development.

Best Regards,

Bernard Burke

**BAU Leader, Coillte Forest | Coillte
Back Of The Forge, Lower Main Street, Castleisland, Co Kerry, Ireland**

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The first message in this conversation was sent internally from within the JBA organisation.

Emily Rick

Subject: FW: EIAR Scoping Report for the King's Island Flood Relief Scheme (FRS), Limerick City

From: Environmental Co-ordination (Inbox) <Environmental_Co-ordination@agriculture.gov.ie>

Sent: 11 January 2019 11:49

To: Bernadette OConnell <Bernadette.OConnell@jbaconsulting.ie>

Subject: EIAR Scoping Report for the King's Island Flood Relief Scheme (FRS), Limerick City

Good morning,

I refer to your recent correspondence concerning the above and wish to state that at this time the Department of Agriculture, Food and the Marine has no submissions or observations in regards to same.

Yours sincerely,

Breeda Hennebry

Breeda Hennebry | *Clerical Officer, An tAonad um Chomhordú Timpeallachta, An Rannóg um Athrú Aeráide agus Beartas Bithfhuinnimh,*

Environmental Co-ordination Unit | Climate Change & Bioenergy Policy Division | environmentalco-ordination@agriculture.gov.ie

An Roinn Talmhaíochta, Bia agus Mara

Department of Agriculture, Food and the Marine

Lárionad Gnó Grattan, Bóthar Bhaile Átha Cliath, Port Laoise, Co Laoise, R32 K857

Grattan Business Centre, Dublin Road, Portlaoise, Co. Laoise, R32 K857

T +353 (0)57 868 9914

www.agriculture.gov.ie

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An Roinn Talmhaíochta, Bia agus Mara

Tá an t-eolais san ríomhphost seo, agus in aon ceangláin leis, faoi phribhléid agus faoi rún agus le h-aghaidh an seolaí amháin. D'fhéadfadh ábhar an seoladh seo bheith faoi phribhléid profisiúnta nó dlíthiúil. Mura tusa an seolaí a bhí beartaithe leis an ríomhphost seo a fháil, tá cosc air, nó aon chuid de, a úsáid, a chóipeál, nó a scaoileadh. Má tháinig sé chugat de bharr dearmad, téigh i dteagmháil leis an seoltóir agus scríos an t-ábhar ó do ríomhaire le do thoil.

The first message in this conversation was sent internally from within the JBA organisation.

Emily Rick

Subject: FW: 2015s3353 Request for Consultation - EIAR Scoping Report for the King's Island Flood Relief Scheme (FRS), Limerick City

From: INFO <INFO@tii.ie>

Sent: 23 January 2019 14:59

To: Bernadette OConnell <Bernadette.OConnell@jbaconsulting.ie>

Subject: RE: 2015s3353 Request for Consultation - EIAR Scoping Report for the King's Island Flood Relief Scheme (FRS), Limerick City

Dear Ms. O'Connell,

Thank you for your EIAR scoping report in respect of the above proposed project. TII's position is outlined as follows.

The issuing of this correspondence is provided as best practice guidance only and does not prejudice TII's statutory right to make any observations, requests for further information, objections or appeals following the examination of any valid application referred.

The approach to be adopted by TII in making such submissions or comments will seek to uphold official policy and guidance as outlined in the Spatial Planning and National Roads Guidelines for Planning Authorities (2012). Regard should also be had to other relevant guidance available at www.TII.ie.

In this instance, the project for which EIAR is to be prepared is the Flood Relief Scheme (FRS) for King's Island in Limerick City stated to be designed to provide protection to properties within the study area for the 1 in 200 year tidal flood event (0.5% AEP event). Figure 1.1 providing an indication of the study area extents is enclosed.

With respect to EIAR Scoping issues, the recommendations indicated below provide only general guidance for the preparation of EIAR, which may affect the National Roads Network. The developer should have regard, *inter alia*, to the following;

1. As set out in the DoECLG Spatial Planning and National Roads Guidelines (2012), it is in the public interest that, in so far as is reasonably practicable, the national road network continues to serve its intended strategic purpose. The EIAR should identify the methods/techniques proposed for any works traversing/in proximity to the national road network in order to demonstrate that the development can proceed complementary to safeguarding the capacity, safety and operational efficiency of that network.
2. Consultations should be had with the relevant Local Authority/National Roads Design Office with regard to locations of existing and future national road schemes.
3. Clearly identify haul routes proposed and fully assess the network to be traversed. Separate structure approvals/permits and other licences may be required in connection with the proposed haul route and all structures on the haul route should be checked by the applicant/developer to confirm their capacity to accommodate any abnormal load proposed.
4. Where appropriate, subject to meeting the appropriate thresholds and criteria and having regard to best practice, a Traffic and Transport Assessment be carried out in accordance with relevant guidelines, noting traffic volumes attending the site and traffic routes to/from the site with reference to impacts on the national road network and junctions of lower category roads with national roads. TII's Traffic and Transport Assessment Guidelines (2014) should be referred to in relation to proposed development with potential impacts on the national road network. The scheme promoter is also advised to have regard to Section 2.2 of the TII TTA Guidelines which addresses requirements for sub-threshold TTA.
5. TII Standards should be consulted to determine the requirement for Road Safety Audit (RSA) and Road Safety Impact Assessment (RSIA).

6. Assessments and design and construction and maintenance standards and guidance are available at [TII Publications](#) that replaced the NRA Design Manual for Roads and Bridges (DMRB) and the NRA Manual of Contract Documents for Road Works (MCDRW).
7. The developer, in conducting Environmental Impact Assessment, should have regard to TII Environment Guidelines that deal with assessment and mitigation measures for varied environmental factors and occurrences. In particular, evidenced assessment of the protection of the strategic function of the national road in relation to the following matters is required;
 - a. TII's Environmental Assessment and Construction Guidelines, including the *Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes* (National Roads Authority, 2006),
 - b. The EIAR should consider the Environmental Noise Regulations 2006 (SI 140 of 2006) and, in particular, how the development will affect future action plans by the relevant competent authority. The developer may need to consider the incorporation of noise barriers to reduce noise impacts (see *Guidelines for the Treatment of Noise and Vibration in National Road Schemes* (1st Rev., National Roads Authority, 2004)).

The developer is advised that any additional works/structures required as a result of the Assessment should be funded by the developer.

I trust that the above comments are of assistance in your EIAR preparation.

Yours sincerely,

Michael McCormack
Senior Land Use Planner



From: Emily Rick <Emily.Rick@jbaconsulting.ie>
Sent: Friday 21 December 2018 17:12
To: INFO <INFO@tii.ie>
Cc: Bernadette OConnell <Bernadette.OConnell@jbaconsulting.ie>
Subject: 2015s3353 Request for Consultation - EIAR Scoping Report for the King's Island Flood Relief Scheme (FRS), Limerick City

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Dear Sir/Madam,

JBA Consulting Ltd. acts on behalf of our client the Limerick City and County Council in this matter.

Limerick City and County Council propose to construct a Flood Relief Scheme for King's Island. In accordance with the Aarhus Convention and the 2014 EU Directive on Environmental Impact Assessment, we attach the Scoping Report for the Environmental Impact Assessment Report (EIAR). The purpose of the Scoping Report is to scope the contents of the chapters in the EIAR. We are issuing the Scoping Report to statutory and non-statutory bodies, interested parties and the public for comment.

The Scoping Report will also be published on the King's Island Flood Relief Scheme website (<http://www.kingsislandfrs.ie/>) in the coming weeks.

The EIAR will be a systematic evaluation of the likely significant impacts of the proposed Flood Relief Scheme on the environment. It will identify, describe and evaluate the likely significant effects on the environment of the proposed scheme and reasonable alternatives taking into account the objectives and geographical scope of the proposed works.

We request that any comments, observations or submissions in relation to the scope and level of information to be included in the Environmental Report be made within a period of 4-6 weeks from the date of receipt of this email (before Friday 01st February 2019).

Forward all submissions to Bernadette O'Connell at JBA Consulting, 24 Grove Island, Corbally, Limerick or bernadette.oconnell@jbaconsulting.ie

If you have any queries or require additional copies, please do not hesitate to contact the undersigned.

Sincerely,

Bernadette O'Connell

Principal Environmental Scientist

bernadette.oconnell@jbaconsulting.ie

TII processes personal data provided to it in accordance with its Data Protection Notice available at <http://www.tii.ie/about/> Próiseálann

Próiseálann BIÉ sonraí pearsanta a sholáthraítear dó i gcomhréir lena Fhógra ar Chosaint Sonraí atá ar fáil ag <http://www.tii.ie/about/>

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Córas r-phoist BIE: Tá an ríomhphost seo agus aon chomhaid a tharchuirtear leis faoi rún agus beartaithe lena n-úsáid ag an duine aonair nó ag an eintiteas a bhfuil siad dírithe chuige/chuici amháin. Más rud é go bhfuair tú an ríomhphost seo trí bhotún, cuir sin in iúil do postmaster@tii.ie, le do thoil, agus scríos an ríomhphost bunaidh agus aon cheangaltáin.

The first message in this conversation was sent internally from within the JBA organisation.



JBA Consulting,
Unit 24,
Grove Island,
Corbally,
Limerick
V94 312N

14 January, 2019.

Re: EIAR Scoping Report for the King's Island Flood Relief Scheme (FRS), Limerick City.

Your Ref: 2015s3353-King's_Island_Constraints

Our Ref: 18/171

A chara,

With reference to your email received on 21 December, 2018, concerning the EIAR Scoping Report for the King's Island Flood Relief Scheme, Geological Survey Ireland (a division of Department of Communications, Climate Action and Environment) would like to make the following comments.

Geological Survey Ireland provides information on all aspects of the geology of Ireland on our Map Viewer available on the GSI website www.gsi.ie. There are multiple layers of data available including Geology, Groundwater, Quaternary, Landslides, and Geological Heritage. Our newest map is the Physiographic Units map and this is especially designed to give information on land use. We would encourage the use of our [Map Viewer](#) when during the planning process.

Geoheritage

County Geological Sites (CGS) are now routinely included in County Development Plans and in the GIS of planning departments, to ensure the recognition and appropriate protection of geological heritage within the planning system. County Geological Sites in audited and unaudited counties can now be viewed online under the Geological Heritage tab on the Geological Survey Public Data Online Viewer at: [Geological Survey's Online Viewer](#) or via a direct link at: [Geoheritage Online Viewer](#).

Our records show that there are no CGSs located within the vicinity of King's Island. With the current plans, there is no envisaged impact on the integrity of County Geological Sites by the proposed developments. However, if the proposed development plan is altered, please contact Siobhán Power at Siobhan.Power@gsi.ie for further information and possible mitigation measures if applicable.

Groundwater

It should be noted that according to the Groundwater layer on our Map Viewer, parts of King's Island have areas of High Groundwater Vulnerability. This should be taken into account when engaging in planning.

Other Comments

Geological Survey Ireland is the national earth science agency and has datasets on Bedrock Geology, Quaternary Geology, Geological Heritage Sites, Mineral deposits, Groundwater Resources and the Irish Seabed. These comprise maps, reports and extensive databases that include mineral occurrences, bedrock/mineral exploration groundwater/site investigation boreholes, karst features, wells and springs. Please see our [website](#) for data availability.

I hope that these comments are of assistance, and if we can be of any further help, please do not hesitate to contact me, or one of my colleagues in the Geoheritage Programme (Sarah Gatley at Sarah.Gatley@gsi.ie or Siobhán Power at Siobhan.Power@gsi.ie).



**Roinn Cumarsáide, Gníomhaithe
ar son na hAeráide & Comhshaoil**
Department of Communications,
Climate Action & Environment



Geological Survey
Suirbhéireacht Gheolaíochta
Ireland | Éireann

Le meas,

Dylan Potter
Contract Geologist
Geoheritage Programme
Geological Survey Ireland

Emily Rick

From: GCU <GeneralCo-OrdinationUnit@dttas.gov.ie>
Sent: 26 February 2019 13:33
To: Emily Rick
Cc: Bernadette OConnell
Subject: RE: 2015s3353 Request for Consultation - EIAR Scoping Report for the King's Island Flood Relief Scheme (FRS), Limerick City

Good afternoon Emily,

Apologies for late response to your request below.

The Department of Transport Tourism and Sport would like the following observation from our Public Transport Regulation and Sustainability Division be considered .

'We would hope that all urban street development would go through the Design Manual for Urban Roads and Streets (DMURS) process or perhaps be run by the NTA to ensure that no opportunity to supply a more sustainable built environment is lost (including any opportunity to build a cycle lane where space allows).

Regards
Jacqui

Jacqui Traynor
Corporate Support and Communications Division

An Roinn Iompair, Turasóireachta agus Spóirt
Department of Transport, Tourism and Sport

Lána Líosain, Baile Átha Cliath, D02 TR60
Leeson Lane, Dublin, D02 TR60

T +353 (0)1 604 1177
Jacquitraylor@dttas.gov.ie www.dttas.gov.ie

From: Emily Rick [mailto:Emily.Rick@jbaconsulting.ie]
Sent: 21 December 2018 16:57
To: GCU
Cc: Bernadette OConnell
Subject: 2015s3353 Request for Consultation - EIAR Scoping Report for the King's Island Flood Relief Scheme (FRS), Limerick City

Dear Sir/Madam,

JBA Consulting Ltd. acts on behalf of our client the Limerick City and County Council in this matter.

Limerick City and County Council propose to construct a Flood Relief Scheme for King's Island. In accordance with the Aarhus Convention and the 2014 EU Directive on Environmental Impact Assessment, we attach the Scoping Report for the Environmental Impact Assessment Report (EIAR). The purpose of the Scoping Report is to scope the contents of the chapters in the EIAR. We are issuing the Scoping Report to statutory and non-statutory bodies, interested parties and the public for comment.

The Scoping Report will also be published on the King's Island Flood Relief Scheme website (<http://www.kingsislandfrs.ie/>) in the coming weeks.

The EIAR will be a systematic evaluation of the likely significant impacts of the proposed Flood Relief Scheme on the environment. It will identify, describe and evaluate the likely significant effects on the environment of the proposed scheme and reasonable alternatives taking into account the objectives and geographical scope of the proposed works.

We request that any comments, observations or submissions in relation to the scope and level of information to be included in the Environmental Report be made within a period of 4-6 weeks from the date of receipt of this email (before Friday 01st February 2019).

Forward all submissions to Bernadette O’Connell at JBA Consulting, 24 Grove Island, Corbally, Limerick or bernadette.oconnell@jbaconsulting.ie

If you have any queries or require additional copies, please do not hesitate to contact the undersigned.

Sincerely,

Bernadette O’Connell

Principal Environmental Scientist

bernadette.oconnell@jbaconsulting.ie

Tá eolas sa teachtaireacht leictreonach seo a d'fhéadfadh bheith príobháideach nó faoi rún agus b'fhéidir go mbeadh ábhar rúnda nó pribhléideach ann. Is le h-aghaidh an duine/na ndaoine nó le h-aghaidh an aonáin atá ainmnithe thuas agus le haghaidh an duine/na ndaoine sin amháin atá an t-eolas. Tá cosc ar rochtain don teachtaireacht leictreonach seo do aon duine eile. Murab ionann tusa agus an té a bhfuil an teachtaireacht ceaptha dó bíodh a fhios agat nach gceadaítear nochtadh, cóipeáil, scaipeadh nó úsáid an eolais agus/nó an chomhaid seo agus b'fhéidir d'fhéadfadh bheith mídhleathach.

Tá ár Ráiteas Príobháideachta le fáil ar www.dttas.gov.ie

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Your Ref: 2015s3353

Our Ref: G Pre00001/2019 *(Please quote in all related correspondence)*

06 February 2019

JBA Consulting
24 Grove Island
Corbally
Limerick
Ireland
V94 312N

Via email to: emily.rick@jbaconsulting.ie, bernadette.oconnell@jbaconsulting.ie

Re: Notification to the Minister for Culture, Heritage and the Gaeltacht under the Planning and Development Act, 2000, as amended.

Proposed Development: Pre Planning - Limerick City and County Council propose to construct a Flood Relief Scheme for King's Island. In accordance with the Aarhus Convention and the 2014 EU Directive on Environmental Impact Assessment, we attach the Scoping Report for the Environmental Impact Assessment Report (EIAR). The purpose of the Scoping Report is to scope the contents of the chapters in the EIAR. We are issuing the Scoping Report to statutory and non-statutory bodies, interested parties and the public for comment.

A chara

On behalf of the Department of Culture, Heritage and the Gaeltacht, I refer to correspondence received in connection with the above.

Outlined below are heritage-related observations/recommendations of the Department under the stated heading(s).

Archaeology

All proposed development and strategies should be in compliance with the National Monuments Acts 1930 to 2004 and with the national policy on protection of archaeological heritage – 'Framework and Principles for the Protection of the Archaeological Heritage' published in 1999 by the Department of Arts, Heritage, Gaeltacht and the Islands.



General Guidance

- 1) All areas of archaeological heritage should be addressed, including;
 - a) Immovable cultural heritage e.g., monuments and ancient field boundaries.
 - b) Underwater cultural heritage.
 - c) Movable cultural heritage e.g., loose carved stones, sculptures, architectural fragments etc.
- 2) All proposed development within proximity to archaeological monuments should be subject to appropriate consultation, at the earliest possible stage, with the Department of Arts, Heritage and the Gaeltacht.
- 3) All impacts which may impinge on the archaeological heritage should be assessed by a suitably qualified archaeologist.
- 4) Where appropriate, specialists in the field of archaeological heritage should be consulted throughout the process, from design through to implementation.
- 5) All surveys pertaining to archaeological heritage must be of a high standard in order to allow informed decisions to be taken.
- 6) All impacts must be assessed, to include ground disturbance, impacts on the setting of the monuments and visual impacts. These should include direct, indirect, temporary and cumulative impacts.
- 7) Mitigation of impacts, identified through consultation, should be taken into account within the development at the earliest possible stages. Various approaches should be considered, such as avoidance, design modification and relocation where appropriate.
- 8) Where there are no archaeological monuments present but the development is large in scale, e.g., over 0.5 hectares in area and over 1 kilometre in length, it is recommended that an archaeological assessment should be undertaken, unless there are substantial grounds to show that it is not necessary. Refer to Framework and Principles for the Protection of the Archaeological Heritage 1999, in particular section 3.6.6 in regard to EIA.

Further information and relevant publications can be obtained on www.archaeology.ie.



You are requested to send further communications to this Department's Development Applications Unit (DAU) at manager.dau@ahg.gov.ie (team monitored); if this is not possible, correspondence may alternatively be sent to:

The Manager
Development Applications Unit (DAU)
Department of Culture, Heritage and the Gaeltacht
Newtown Road
Wexford
Y35 AP90

Is mise, le meas

A handwritten signature in blue ink, which appears to read 'Diarmuid Buttimer', is positioned above the printed name.

Diarmuid Buttimer
Development Applications Unit



Your Ref: 2015s3353

Our Ref: G Pre00001/2019 *(Please quote in all related correspondence)*

22 March 2019

JBA Consulting
24 Grove Island
Corbally
Limerick
Ireland
V94 312N

Via email to: emily.rick@jbaconsulting.ie, bernadette.oconnell@jbaconsulting.ie

Re: Notification to the Minister for Culture, Heritage and the Gaeltacht under the Planning and Development Act, 2000, as amended.

Proposed Development: Pre Planning - Limerick City and County Council propose to construct a Flood Relief Scheme for King's Island. In accordance with the Aarhus Convention and the 2014 EU Directive on Environmental Impact Assessment, we attach the Scoping Report for the Environmental Impact Assessment Report (EIAR). The purpose of the Scoping Report is to scope the contents of the chapters in the EIAR. We are issuing the Scoping Report to statutory and non-statutory bodies, interested parties and the public for comment.

A chara

On behalf of the Department of Culture, Heritage and the Gaeltacht, I refer to correspondence received in connection with the above.

Outlined below are heritage-related observations/recommendations of the Department under the stated heading(s).

Nature Conservation

The following is advised concerning impact assessment on the Lower River Shannon candidate Special Area of Conservation (cSAC) (2165) and on wildlife. Note that this advice is not comprehensive, and is without prejudice to any future observations or submission which may be made to the planning authority.



- Area A3 (Northwest Embankment): A Section 21 (Wildlife Act) licence will be necessary for the translocation of the opposite-leaved pondweed, and should be applied for to the Licensing Unit, National Parks & Wildlife Service (NPWS).
- Area A7 (Sir Harry's Mall): See below concerning the alluvial trees and summer snowflake (*Leucojum aestivum*) occurring in this area.
- Area A9 (Hotel to Abbey Bridge) & Courthouse: A survey for juvenile lamprey in the working area of the jack-up rig is recommended, and impacts on juvenile lamprey habitat assessed.
- All areas involving riparian works: A pre-application and pre-construction otter survey following NRA guidance is recommended (see <https://www.tii.ie/tii-library/environment/construction-guidelines/Guidelines-for-the-Treatment-of-Otters-prior-to-the-Construction-of-National-Road-Schemes.pdf>).

Sir Harry's Mall

From the Section drawings on p.1 of the Technical Note (previously received, dated 23 March 2018), a cantilevered boardwalk is proposed to extend for 2.0m. As the existing wall is 0.8m, this means that 1.2m of the cSAC will be overshadowed but not completely covered or excavated due to its cantilevered nature. This overhang design is particularly favourable, as it allows maximum tide debris (see Photo 1 in the Technical Note) to still accumulate under the walkway rather than further downslope in the vegetated habitat area if a wall was constructed.

The habitat present is alluvial tree-line in an estuary environment with characteristic species such as white willow (*Salix alba*), crack willow (*Salix fragilis*) and summer snowflake (*Leucojum aestivum*). It forms part of the Estuary habitat type, as well as being important for the connectivity of alluvial woodland habitat on the opposite bank to the south-east. However, the upper 1.5m near the existing wall is not of particular conservation value compared to the area downslope from this. From Photo 1 in the Technical Note, it can be seen (second tree) that crack willow will readily grow horizontally outwards. It is recommended that the 3-5 trees removed or coppiced, are replaced by planting, or by facilitating regeneration, outside the boardwalk, so that the tree-line / estuary ecotone is maintained.

The above assumes that the footprint of the works does not need to extend further out beyond the 2.0m of the proposed boardwalk. Any snowflake plants in this zone should be translocated. In the event that the footprint will need to be extended, please contact the NPWS for further consultation.



You are requested to send further communications to this Department's Development Applications Unit (DAU) at manager.dau@ahg.gov.ie (team monitored); if this is not possible, correspondence may alternatively be sent to:

The Manager
Development Applications Unit (DAU)
Department of Culture, Heritage and the Gaeltacht
Newtown Road
Wexford
Y35 AP90

Is mise, le meas

A handwritten signature in black ink, appearing to read 'Diarmuid Buttimer', is located below the text 'Is mise, le meas'.

Diarmuid Buttimer
Development Applications Unit



Your Ref: 2015s3353

12 June 2019

Our Ref: **G Pre00001/2019**

(Please quote in all related correspondence)

JBA Consulting
24 Grove Island
Corbally
Limerick
Ireland
V94 312N

Via email: Emily.Rick@jbaconsulting.ie cc: bernadette.oconnell@jbaconsulting.ie

Re: Pre-planning consultation regarding the proposal by Limerick City and County Council to construct a Flood Relief Scheme for King's Island.

A chara

On behalf of the Department of Culture, Heritage and the Gaeltacht, I refer to correspondence received in connection with the above.

Outlined below are heritage-related observations/recommendations of the Department under the stated headings.

Underwater Archaeology

The Department welcomes being consulted in regard to the proposed Environmental Impact Assessment Report (EIAR) for King's Island Flood Relief Scheme.

The Department notes in the Scoping Document that there is an intention to address the Underwater Cultural Heritage, which is welcome. As part of assessing the Underwater Cultural Heritage and potential impacts to same, results from all previous underwater archaeological impact assessments should be considered, as should any monitoring of dredging programmes that have taken place as part of previous associated works (e.g. at Verdant Place, etc.). The proposed desktop study should contain a detailed overview of the maritime cultural heritage of King's Island and associated areas, including Athlunkard, the Abbey River, etc. as conduits and sites of particular maritime importance over time. The results from the Limerick Main Drainage scheme, particularly from within the Abbey River, attest to the high potential for Underwater Cultural Heritage to exist within and adjacent to the main river courses into and around Limerick City.

King's Island would have been the central focus of maritime activity during the heyday of medieval settlement on the island, from the Viking period through to 17th century events and later. There is therefore a high potential that previously unrecorded cultural heritage, and particularly that associated with maritime activity (e.g. the remains of logboats, larger vessels, early quays, jetties, fish traps, maritime-context artefactual material, etc.) could be



encountered during proposed works to streams, along the river's edge, in what could be reclaimed ground etc.

The EIAR Cultural Heritage section should assess the potential for this, which should include archaeologically assessing any in-stream or river bank/intra-riverine impacts. The services of suitably qualified archaeological personnel with underwater archaeological experience should be engaged to carry this out. The EIAR should also put forward recommendations to archaeologically mitigate in advance of any in-water works, to ensure there are no delays to works going forward should substantial Underwater Cultural Heritage be encountered.

The EIAR Cultural Heritage Section should also address the potential for identification of water-logged material and make provision for a defined finds retrieval strategy and post-excavation strategy to be included in all proposed works from the beginning.

Nature Conservation

The Department refers to your application (dated 20 March 2019) for a Wildlife Act Section 21 derogation licence to translocate the protected plant opposite-leaved pondweed, and to your e-mails to the National Parks & Wildlife Service (NPWS) Regional Ecologist (dated 17 May 2019 and 20 May 2019) concerning the candidate Special Area of Conservation (cSAC) boundary and juvenile lamprey.

Translocation of opposite-leaved pondweed

With regard to the proposed translocation of opposite-leaved pondweed, it would be the Department's preference that the existing drain, where the plant occurs, is retained. The reason for this preference is the low success of translocation projects for this species in the past. The implications of this would be construction of the embankment inside the existing drain, or possibly increasing the interior slope angle of the embankment. The Department is available to discuss this in more detail, if you wish.

Marshland at cSAC boundary

Three pieces of information are required for the Department to advise fully on this question:

- It needs to be calculated how much marsh habitat *within* the cSAC will be lost to the embankment.
- The type of marsh vegetation proposed to be lost within the cSAC needs to be described.
- The extent to which the marsh vegetation is dependent on poor drainage (perched water), as opposed to water due to groundwater backup due to river flooding, needs to be established.

Translocation of juvenile lamprey

The Department accepts the advice of fish experts concerning the preference against an invasive survey as part of the Natura Impact Statement (NIS), and proceeding with the



assumption of their presence. Nevertheless, the Department recommends that the following information should be included in the Natura Impact Statement:

- A statement of the efficiency of the removal of the juvenile lamprey (i.e. how many are likely to be left behind);
- A statement of where the juvenile lamprey will be translocated to, and their likelihood of survival;
- A clear description of how the jack-up barge will be operated and supported, and whether rock infill will be required, and if so, how this will be removed post-construction;
- A prediction of how quickly un-compacted silt habitat will naturally regenerate, and how soon the area will be fully recolonized to baseline condition.

The above observations/recommendations are based on the papers submitted to this Department on a pre-planning basis and are made without prejudice to any observations that the Minister may make in the context of any consultation arising on foot of any development application referred to the Minister, by the planning authority, in her role as statutory consultee under the Planning and Development Act, 2000, as amended.

You are requested to send further communications to this Department's Development Applications Unit (DAU) at manager.dau@chg.gov.ie (team monitored); if this is not possible, correspondence may alternatively be sent to:

The Manager
Development Applications Unit (DAU)
Department of Culture, Heritage and the Gaeltacht
Newtown Road
Wexford
Y35 AP90

Is mise, le meas

Sinéad O' Brien
Development Applications Unit



Your Ref: **2015s3353**

Our Ref: **G Pre00001/2019** (*Please quote in all related correspondence*)

13 August 2019

JBA Consulting
24 Grove Island
Corbally
Limerick
Ireland
V94 312N

Via email: Emily.Rick@jbaconsulting.ie cc: bernadette.oconnell@jbaconsulting.ie

Proposed Development: Limerick City and County Council propose to construct a Flood Relief Scheme for King's Island. In accordance with the Aarhus Convention and the 2014 EU Directive on Environmental Impact Assessment, we attach the Scoping Report for the Environmental Impact Assessment Report (EIAR). The purpose of the Scoping Report is to scope the contents of the chapters in the EIAR. We are issuing the Scoping Report to statutory and non-statutory bodies, interested parties and the public for comment.

A chara

On behalf of the Department of Culture, Heritage and the Gaeltacht, I refer to correspondence received in relation to the above.

Outlined below are heritage-related observations/recommendations of the Department under the stated heading(s).

Underwater Archaeology

The Department notes the response to previous recommendations as received in the attached application. The Department also notes the statement that there is to be no in-river works, however, one of the maps submitted infers that in-river works may be necessary. It is also noted the applicants' details on the use of the jack-up barge and while in itself this may be minimal, if used over a wide area then the cumulative impact can be large on submerged cultural heritage, including artefactual heritage.

The Department therefore reiterates our previous requirements that the EIAR Cultural Heritage section should assess the potential impacts of all works, including cumulative impacts on submerged archaeology either by barge operations, excavation for flood



defence walls in areas that may be reclaimed, etc. as well as archaeologically assessing any in-stream or river bank impacts. The services of suitably qualified archaeological personnel with underwater archaeological experience should be engaged to undertake the UAIA. The EIAR should also put forward recommendations to archaeologically mitigate in advance any in-water works, to ensure there are no delays to works going forward should substantial underwater cultural heritage be encountered.

The EIAR Cultural Heritage Section should also address the potential for identification of water-logged material and make provision for a defined finds retrieval strategy and post-excavation strategy to be included in all proposed works from the beginning.

The Underwater Archaeology Unit will be available to meet on site should it be thought advantageous to progress and to discuss the overall scheme.

You are requested to send further communications to this Department's Development Applications Unit (DAU) via **eReferral**, where used, or to manager.dau@chg.gov.ie; if emailing is not possible, correspondence may alternatively be sent to:

The Manager
Development Applications Unit (DAU)
Department of Culture, Heritage and the Gaeltacht
Newtown Road
Wexford
Y35 AP90

Is mise, le meas

Diarmuid Buttimer
Development Applications Unit

Emily Rick

Subject: FW: Scoping Response for Kings Island.

Sensitivity: Private

From: O'Neill, Thomas <thomas.oneill@limerick.ie>

Sent: 04 January 2019 14:20

To: Bernadette O'Connell <Bernadette.OConnell@jbaconsulting.ie>

Cc: O'Donoghue, Donogh <donogh.odonoghue@limerick.ie>; Burke, Karen <karen.burke@limerick.ie>

Subject: Scoping Response for Kings Island.

Sensitivity: Private

Bernadette,

Here's some suggested topics for consideration following receipt of your scoping request.

1 The emphasis on the importance of monuments around the "water's edge" (S5.6.1) is welcomed. Our archaeologist Sarah McCutcheon would be able to help further in this regard. This type of monument has been a frequent topic in submissions made by DAHG in land use plans being prepared by the Local Authority.

2 It would be useful in the EIAR to cross reference, where necessary, with the NIS. This could include topics such as treatment of Annex Habitats (S5.7.1 pp. 29-30). Treatment of the Triangular Club Rush and Opposite Leaved Pond Weed and associated mitigation measures such as relocation could also be cross referenced. Discussions with other local authorities have indicated that lack of cross referencing between EIARs and NISs have led to third party submissions which cite poor procedure and inadequate coverage of topics. It would be best to try and avoid this by cross referencing between the EIAR and NIS where appropriate.

3 New guidance on EIAR mentions both climate change and the probability of accidents. Climate change has been mentioned in the scoping document but perhaps this would be tied in with the necessity of flood defences to prevent future flood events and associated potential for accidents.

4 The mention of a comprehensive Invasive Species Management Plan is welcomed (5.7.1.4).

5 I would agree with the Assessment Methodology in 5.7.3.1. When available which should be June the year round bird survey commissioned for the SIFP could provide valuable background information.

6 The proposed assessment of the effects of lighting on both residents and ecology is useful. This is another aspect that would be common to the EIAR and NIS.

7 One aspect that might be considered in Hydrogeology is the possibility of contaminant flow into nearby water courses or through ground water. This is most likely during the construction phase as the Scoping document points out. Water dependant ecology (p.35) could be a common topic in both EIAR and the NIS.

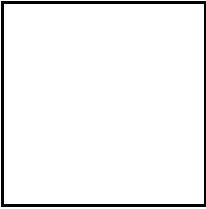
8 LCCC has produced a new Noise action plan 2018 -2023. The old one mentioned on page 36 is out of date.

I hope the above is useful. If you have any questions do get in touch.

All the best,

Tom O'Neill.

LimerickOne of the 'TOP 10 PLACES TO INVEST IN EUROPE'- 6th Global Best to Invest Report, Site Selection Magazine Limerick City & County Council Disclaimer: This electronic message contains information (and may contain files), which may be privileged or confidential. The information is intended to be for the sole use of the individual(s) or entity named above. If you are not the intended recipient be aware that any disclosure, copying, distribution or use of the contents of this information and or files is prohibited. If you have received this electronic message in error, please notify the sender immediately. This is also to certify that this mail has been scanned for viruses. Tá eolas sa teachtaireacht leictreonach seo (agus b'fhéidir sa chomhaid ceangailte leis) a d'fhéadfadh bheith príobháideach nó faoi rún. Is le h-aghaidh an duine/na ndaoine nó le h-aghaidh an aonáin atá ainmnithe thuas agus le haghaidh an duine/na ndaoine sin amháin atá an t-eolas. Murab ionann tusa agus an té a bhfuil an teachtaireacht ceaptha dó bíodh a fhios agat nach gceadaítear nochtadh, cóipeáil, scaipeadh nó úsáid an eolais agus/nó an chomhaid seo. Más trí earráid a fuair tú an teachtaireacht leictreonach seo cuir, más é do thoil é, an té ar sheol an teachtaireacht ar an eolas láithreach. Deimhnítear leis seo freisin nár aimseodh víreas sa phost seo tar éis a scanadh.



The first message in this conversation was sent internally from within the JBA organisation.

Emily Rick

From: McCutcheon, Sarah <sarah.mccutcheon@limerick.ie>
Sent: 01 February 2019 12:22
To: Emily Rick
Cc: Bernadette OConnell
Subject: RE: 2015s3353 Request for Consultation - EIAR Scoping Report for the King's Island Flood Relief Scheme (FRS), Limerick City

Dear Bernadette

While the scoping report for the EIAR you attached contains the basic template for such reports, given the lamentable mitigation afforded to archaeology in the recent works in Verdant Place, I expect to see some robust measures included in any forthcoming reports to avoid a reoccurrence. Limerick City & County Council has a good record of caring for its heritage and the recent works at Verdant Place created a blot on our reputation.
Sarah

From: Emily Rick [mailto:Emily.Rick@jbaconsulting.ie]
Sent: 21 December 2018 18:26
To: McCutcheon, Sarah <sarah.mccutcheon@limerick.ie>
Cc: Bernadette OConnell <Bernadette.OConnell@jbaconsulting.ie>
Subject: 2015s3353 Request for Consultation - EIAR Scoping Report for the King's Island Flood Relief Scheme (FRS), Limerick City

Dear Ms. Sarah McCutcheon,

JBA Consulting Ltd. acts on behalf of our client the Limerick City and County Council in this matter.

Limerick City and County Council propose to construct a Flood Relief Scheme for King's Island. In accordance with the Aarhus Convention and the 2014 EU Directive on Environmental Impact Assessment, we attach the Scoping Report for the Environmental Impact Assessment Report (EIAR). The purpose of the Scoping Report is to scope the contents of the chapters in the EIAR. We are issuing the Scoping Report to statutory and non-statutory bodies, interested parties and the public for comment.

The Scoping Report will also be published on the King's Island Flood Relief Scheme website (<http://www.kingsislandfrs.ie/>) in the coming weeks.

The EIAR will be a systematic evaluation of the likely significant impacts of the proposed Flood Relief Scheme on the environment. It will identify, describe and evaluate the likely significant effects on the environment of the proposed scheme and reasonable alternatives taking into account the objectives and geographical scope of the proposed works.

We request that any comments, observations or submissions in relation to the scope and level of information to be included in the Environmental Report be made within a period of 4-6 weeks from the date of receipt of this email (before Friday 01st February 2019).

Forward all submissions to Bernadette O'Connell at JBA Consulting, 24 Grove Island, Corbally, Limerick or bernadette.oconnell@jbaconsulting.ie

If you have any queries or require additional copies, please do not hesitate to contact the undersigned.

Sincerely,

Bernadette O'Connell

Principal Environmental Scientist

bernadette.oconnell@jbaconsulting.ie

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- C Biodiversity
- C1 Ecological Plates
- C2 Supporting Bird Species Desktop and Survey Data
- C3 Summary of Opposite-leaved pondweed *Groelandia densa* Data for NPWS
- C4 Correspondence from DAU ref G Pre00001/2019
- C5 Licence for Opposite Pond-weed removal
- C6 Licence for Electrofishing
- C7 Licence for Badger sett destruction

Appendix C1 - Ecology plates



Plate 8-1: Tidal rivers - where Shannon and Abbey Rivers divide



Plate 8-2: Riparian woodland/ Alluvial Forests *[91E0]



Plate 8-3: Summer Snowflake



Plate 8-4: Ditch at north of King's Island



Plate 8-5: Drainage channel across marsh habitat- looking west



Plate 8-6: Drainage ditch at south east of site in flood



Plate 8-7: Marsh in dry conditions