



Port Riddell Condition Report and Initial Option Development

June 2023

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June 2023

Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
A	12.06.23	Graduate	Project Manager	Project Director	For Client Comment

Document reference: A |

Information class: Standard

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Contents

Executive Summary	1
1 Introduction	2
1.1 General	2
1.2 Background and Record Information	2
1.3 Description of the Structure	2
1.4 Scope of Inspection and Limitations	3
2 Condition Summary	4
2.1 Access Ramp	4
2.2 Parking Area	5
2.3 Slipway	6
2.4 Historic Bathing Area	7
2.5 Victorian Changing Rooms and Walkway	8
3 Option Development and Cost Estimates	9
3.1 Make Good Existing Structures	9
3.2 Widen Entrance and Provide Increased Turning Area	9
3.3 Extend and Widen Existing Slipway	9
3.4 Refurbish Existing Changing Rooms	10
3.5 Provision of Facilities Block	11
3.6 Cost Estimates	11
3.7 Next Steps	11
A. Overview Drawings for Information	12
B. Photographs	13

Executive Summary

The facilities at Port Riddell, Dunoon, consist of a concrete slipway, adjacent parking area, vehicular access ramp, dis-used Victorian changing rooms and pedestrian steps from the A815. Limited information is known about the historic use of the structures and as-built records are not available.

There are 9no. small Victorian changing rooms at Port Riddell, located below the A815 promenade. These have been closed for some time. It is believed that these changing rooms accompanied a historic bathing area (public open air swimming pool / lido) that has since been capped with a concrete slab.

Mott MacDonald were appointed by Stantec Ltd, on behalf of Argyll and Bute Council, to undertake a topside walkover of Port Riddell to ascertain the general condition of the existing structures and to provide potential engineering options and associated cost estimates for the repair or future development of Port Riddell. Indicative plans for redevelopment have been provided by Argyll and Bute Council for consideration. These plans improve access to the waterfront and would facilitate use by small leisure craft, launching of kayaks or similar activities.

MML's walkover found that the structures at Port Riddell require considerable repair for the facilities to be brought back into use for launching leisure vessels and to improve waterfront access.

Options for improving the infrastructure at Port Riddell were developed identified by Argyll and Bute Council and have been further developed by Mott MacDonald. The access route and slipway could be widened, and a facilities block could be provided either on the promenade or in the location of the existing capped lido. The changing rooms could also be refurbished. This report does not consider redevelopment or re-opening of the lido.

The key defects found were:

- Large areas of the vehicle approach and parking area concrete slab are dislodged, spalled or missing,
- Cracks and open joints are visible along the parking area seaward and rear walls, and
- Changing rooms are in poor condition.

This report presents the following 5 options to repair or upgrade the facilities at Port Riddell:

Table 1.1: Summary of options and costs

Option	Estimated CAPEX Range
1. Make good the existing structures	£150,000 - £240,000
2. Provide adequate turning area for vehicles (includes Option 1)	£270,000 - £440,000
3. Extend and widen the slipway (includes Option 1 and 2)	£450,000 - £730,000
4. Refurbish the changing rooms (includes Option 1)	£260,000 - £420,000
5. Provide a new facilities block (subject to size and facilities offered)	£100,000 - £160,000

The preliminary cost estimates are based on experience of similar projects.

1 Introduction

1.1 General

Mott MacDonald Ltd (MML) were appointed by Stantec Ltd, on behalf of Argyll & Bute Council (A&BC), to undertake a visual walkover and condition assessment of the existing structures at Port Riddell. MML have reviewed and further developed A&BC's proposals and have produced cost estimates for future development at Port Riddell.

The aim of the walkover was to visually assess the condition of the structures at Port Riddell and was carried out on the 12th of April 2023 along with colleagues from Stantec and Argyll and Bute Council.

This report details the following:

- Findings of MML's site walkover, along with review of any existing information to better understand the site history and current condition of the existing structures, and
- 5 no. potential development options and the anticipated capital costs.

1.2 Background and Record Information

There is limited information available regarding the history of the structures at Port Riddell and as-built records, or records of repairs, are not available. The age of the infrastructure is unknown.

However, from a search on the Argyll and Bute Council website, a set of minutes from a Strategic Policy Committee meeting in November 2003 confirms that Port Riddell would have been used as a bathing area, to which the Victorian changing rooms would be associated.

A&BC advise the slipway has been previously used for the launching of small leisure craft.

The following appendices present supplementary information:

- Appendix A: A&BC's overview drawings and potential future plans
- Appendix B: MML's site photographs (2023)

1.3 Description of the Structure

Port Riddell is approximately 0.5 miles north of Dunoon Ferry Terminal, directly adjacent to the A815. There is an approach ramp from the A815 that leads to a small parking area at the head of a concrete slipway. Vehicle access is currently restricted at the entrance from the A815. Port Riddell includes a historic bathing area, capped with a concrete slab and 9no. disused Victorian changing rooms at the north-eastern extent of the site.

The above elements can be seen in Figure 1 below.

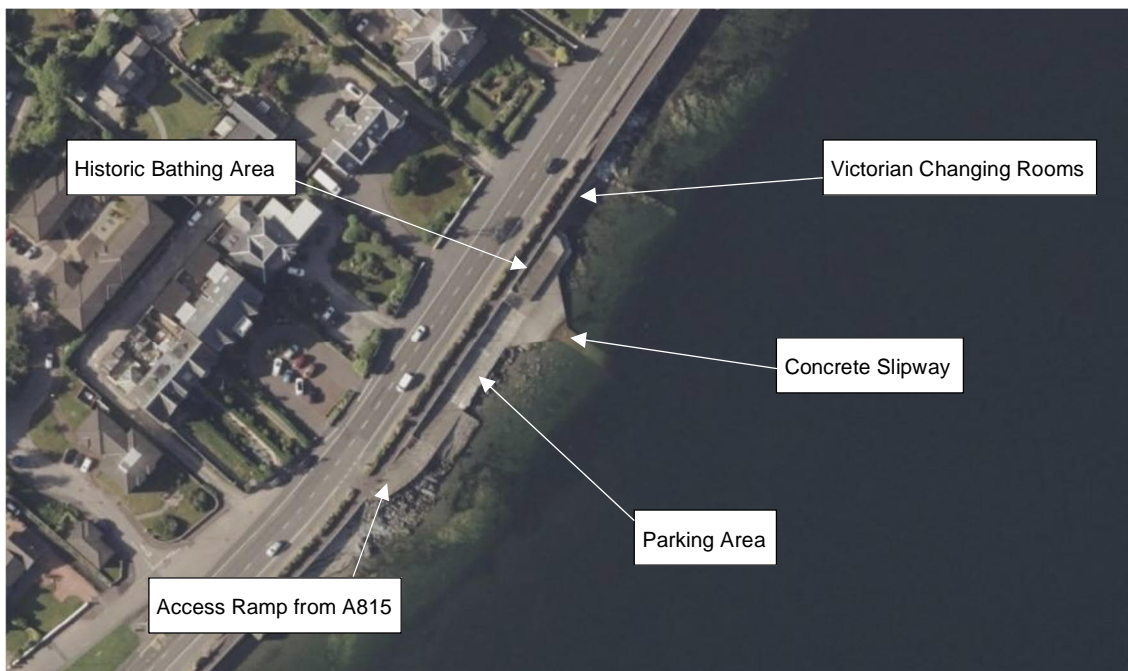


Figure 1: Port Riddell Overview

More information on the current condition of the structures is provided in Section 2 of this report.

1.4 Scope of Inspection and Limitations

The scope of this inspection included a top-side walkover of the infrastructure at Port Riddell around low tide. Structural assessments or intrusive surveys have not been undertaken.

The majority of the structures are within the 'splash zone' and their use may be subject to tidal restrictions and ongoing maintenance to remove marine growth.

MML's site walkover was limited to areas that are accessible by the public, noting the lido and Victorian changing rooms are sealed with concrete blockwork and the internal condition of one changing room only could be viewed via gaps in the concrete blocks.

This report does not consider redevelopment of the bathing area.

2 Condition Summary

This section provides a summary of the condition of the structures at Port Riddell as informed MML's walkover.

2.1 Access Ramp

The access ramp is approximately 7.2m wide and 30m long. Vehicular access to the ramp is currently restricted by a traffic bollard and the route passes over the public promenade, as shown in the photograph in Appendix B.1. The entrance to the access ramp from the A815 is narrowed by low-level brick walls, also shown in the photo in Appendix B.1.



Figure 2: Approach Ramp and Parking Area

There is a small set of steps approximately 10m from the head of the access ramp, with railings either side. These steps narrow the width of the access ramp by approximately 2m and would prohibit two-way traffic on the ramp.

There is handrailing on the seaward side of the access ramp that terminates approximately 2m from of the base of the ramp.

The vertical wall to the seaward side of the access ramp is protected by rock armour at the toe of the structure, and then by a section of formal revetment with stone pitching at the base of the ramp, as can be seen in the photograph in Appendix B.2. The pitching appears to be in fair condition; however, mortar loss is observed between the paving stones and the toe of the revetment is some distance above the beach level; this may be due to a number of reasons including: seasonal or storm related beach mobility, local scour around the manmade hard structures etc.

The structural form of the vertical wall is unknown. It could be masonry with a protective facing – with cracks following the bedding joints. Alternatively, the cracks could be associated with cold joints as concrete was placed in layers.

2.2 Parking Area

The parking area at the head of the slipway is approximately 7.2m wide x 30m long and comprises a concrete slab that is raised approximately 1 – 1.5m above the current beach level. There is scattered rock armour placed in front of the parking area, as can be seen below and in the photographs in Appendix B.2 and B.4.

The concrete slab to the parking area is in poor condition with large areas of broken and dislodged concrete, rebar exposed and cracking of the concrete visible. These defects are observed over the majority of the surface and can be seen in Appendices B.2 and B.3.

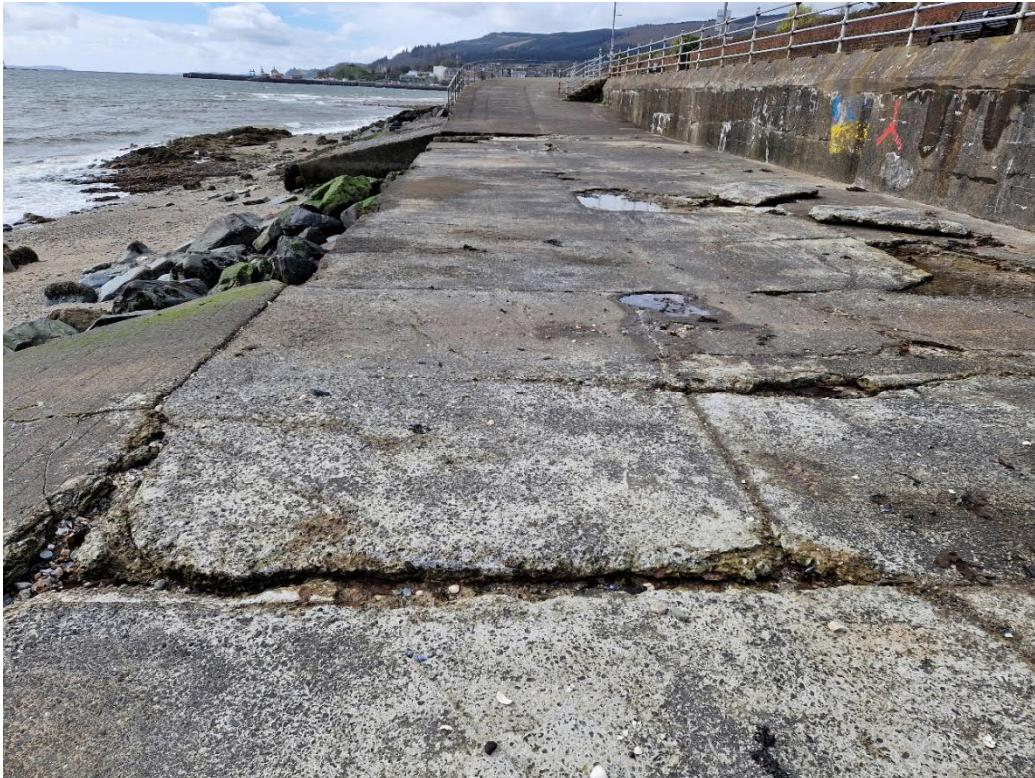


Figure 3: View of Parking Area and Access Ramp from Slipway

At the beach, the seaward face of the concrete structure does not appear to be undermined; however, cracks, spalled concrete and voids are observed on the vertical face. The joint between the seaward face of the wall and the concrete slab to the parking area has widened over time, allowing seawater below the slab, potentially worsening the condition of the structure. This can be seen in the photograph in Appendix B.3.

To the rear of the parking area, there is a concrete wall, approximately 2.5 – 3.0m high, which retains the public promenade. This wall has various horizontal cracks along its length, with small areas of concrete spalling around the cracks, this can be seen in the photograph in Appendix B.5. This rear wall is also within the splash zone, with potential corrosion of any reinforcement within the concrete; however, this was not visible during MML's walkover.

There is a drainage pipe, assumed to be a surface drainage pipe from the promenade above, that discharges directly onto the parking area, also shown in the photograph in Appendix B.5.

There is a further set of steps leading to the promenade from the north-east corner of the parking area, these steps are also at the head of the concrete slipway and can be seen in Figure 5.

2.3 Slipway

The concrete slipway has an apron extending from the parking area / in front of the historic bathing area. The apron is approximately 23.5m wide at the top and narrows to 3.5m along the main section of the slipway. The length of the slipway is unknown, and the toe of the slipway was not visible during MML's site walkover.



Figure 4: Concrete Slipway

Anecdotally, A&BC advise that the current slipway gradient is acceptable, however the slipway is currently too narrow and abruptly ends, therefore it is considered unsafe to launch/recover small craft.

The joint between the slipway apron and the parking area has widened, with voids visible in the wall at the corner of the apron, show in the photograph in Appendix B.3.

The slipway appears in fair condition with no undermining of the structure visible on either side of the slipway or the apron during MML's walkover.

2.4 Historic Bathing Area

The parking area is bound to the east by the historic concrete bathing area / lido. The bathing area has been capped with a concrete slab, and potentially infilled. This can be seen below and in the photograph in Appendix B.6.



Figure 5: Historic Bathing Area

There are cracks present around the bathing area walls, some of which are potentially joints that have widened over time. Similar to the vertical wall at the access ramp, the structural form is unknown and could be masonry with a protective facing – with cracks following the bedding joints. Alternatively, the cracks could be associated with cold joints as concrete was placed in layers.

There are also some gaps in the seaward wall of the bathing area that have been filled with what is assumed to be timber. It is assumed that these were originally associated with water inlets/drainage infrastructure from the bathing area.

There are two drainage outfalls that discharge directly onto the concrete cap of the bathing area. This discharge then flows over the bathing area and down onto the walkway towards the Victorian changing rooms, leading to an accumulation of algae/marine growth at the top of the steps to the beach. This is shown in the photograph in Appendix B.11. This is noted as a health and safety hazard as the algae/marine growth is extremely slippery and makes the steps unsafe for use.

2.5 Victorian Changing Rooms and Walkway

To the north of the historic bathing area, there are 9no. disused Victorian changing rooms which can be accessed via a 0.7m wide walkway. The changing rooms are directly below the public promenade retained by the seawall. Anecdotal evidence from A&BC confirms use of the changing rooms would be tidally restricted. The walkway is approximately 0.8m above the beach level and a set of steps beside the bathing area leads from the walkway down to the beach. There are no handrails present.



Figure 4: Victorian Changing Rooms and Walkway

The changing rooms are currently not in use and are blocked off with lightweight concrete blocks, therefore the condition of each of the changing rooms is unknown. However, the top row of blocks at changing room 1 is missing and the internal space could be viewed using a camera, as shown in photograph in Appendix B.12. Changing room 1 is approximately 1.5m wide x 1.9m high x 2.5m deep. The walls and ceiling of changing room 1 appear in fair condition; however, a render or painted surface has been used on the surfaces, therefore the condition of the blocks making up the structural wall is unclear.

The exposed edge of the concrete roof slab above the changing rooms varies in condition along the length. There are sections with spalling concrete, large cracks and portions missing, as shown in the photograph in Appendix B.10.

The walkway in front of the changing rooms appears in good condition with the exception of the corner nearest the steps down to the beach. This section appears to be undermined where the steps meet the wall and voids are present here. The voids were not measured due to the presence of large amounts of algae and seaweed on the steps making them unsafe. This is shown in the photographs in Appendix B.10 and B.11.

3 Option Development and Cost Estimates

This section presents development options that Argyll and Bute Council have asked to be explored in relation to the redevelopment of Port Riddell. Preliminary cost estimates for each option are presented in Section 3.6.

Some of the development options should not be considered in isolation. These are noted accordingly.

3.1 Make Good Existing Structures

The first option would be to make good the existing structures, including:

- Repair the parking area slab,
- Repair the parking area rear wall,
- Repair the parking area seaward wall,
- Repair the corner of the walkway wall at the beach access steps, and
- Replace the missing blocks at the changing rooms to block them off.

This option would bring the structures at Port Riddell back into a good condition. However, it does not address safety concerns over the existing width and sudden termination of the slipway. The bathing area and Victorian changing rooms would remain closed.

3.2 Widen Entrance and Provide Increased Turning Area

The second option could be to improve vehicular access from the A815 to the slipway, and therefore includes all elements in Option 1, plus:

- Widen the entrance to the site from the A815 to allow for a two-way junction,
- Remove set of steps near the top of the access ramp,
- Remove rock armour in front of historic bathing area,
- Repair parking area structure (deck slabs, seaward and rear walls),
- Remove historic bathing area concrete cap and lido structure,
- Provide new concrete deck below historic bathing area, and
- Reinstate rock armour in front of parking area.

Again, this option does not address safety concerns over the existing width and sudden termination of the slipway. The bathing area and Victorian changing rooms would remain closed.

3.3 Extend and Widen Existing Slipway

This option would require the provision of an adequate turning area and therefore includes all elements in Options 1 and 2, plus:

- Widen the existing slipway by 1.5m, and
- Extend the existing slipway by 5.0m.

This would allow for vehicles to bring leisure craft on trailers to Port Riddell and launch them from the slipway. The removal of the historic bathing area would provide a 'T-head' area of approximately 30m long in which vehicles could facilitate turning at the top of the slipway.

3.4 Refurbish Existing Changing Rooms

This option could be undertaken either in conjunction with the above options, or separately; however, the existing structures would require to be made good (Option 1), so they are safe for public access. This option would require:

- Make good existing structures to eliminate any health and safety risks (parking area deck and seaward and rear walls),
- Removal of concrete blockwork to open the changing rooms,
- Removal of beach access steps,
- Reclamation of approximately 0.5m of land to the seaward side of the walkway to increase width to 1.2m,
- Removal of step at changing rooms and reprofile to provide EA compliant access,
- Construction of new beach access ramp,
- Installation of a handrail round the walkway from the bathing area and along in front of the walkway in front of the changing rooms,
- Repairs to the concrete exposed edge of the roof slab above the changing rooms,
- Repairs to the internals of the changing rooms (floors, walls and ceilings), and
- Refurbishment of the changing rooms (provision of doors, drainage, painting / tiling, etc.).

This option would allow for the changing rooms to be used by swimmers, kayakers, etc. However, the changing rooms would require locks or a form of security in order to prevent misuse or vandalism. The changing rooms would require adequate drainage to ensure that any water from swell / waves does not collect inside the changing rooms. The existing changing rooms height is 1.9m which may decrease further depending on the repairs required. M&E upgrades have not been considered.

MML have experience of developing proposals for beach huts and chalets as part of other seafront development projects and masterplans. Key features of these proposals highlighted the importance of resilience, security, accessibility, and drainage. Recent examples are shown below:

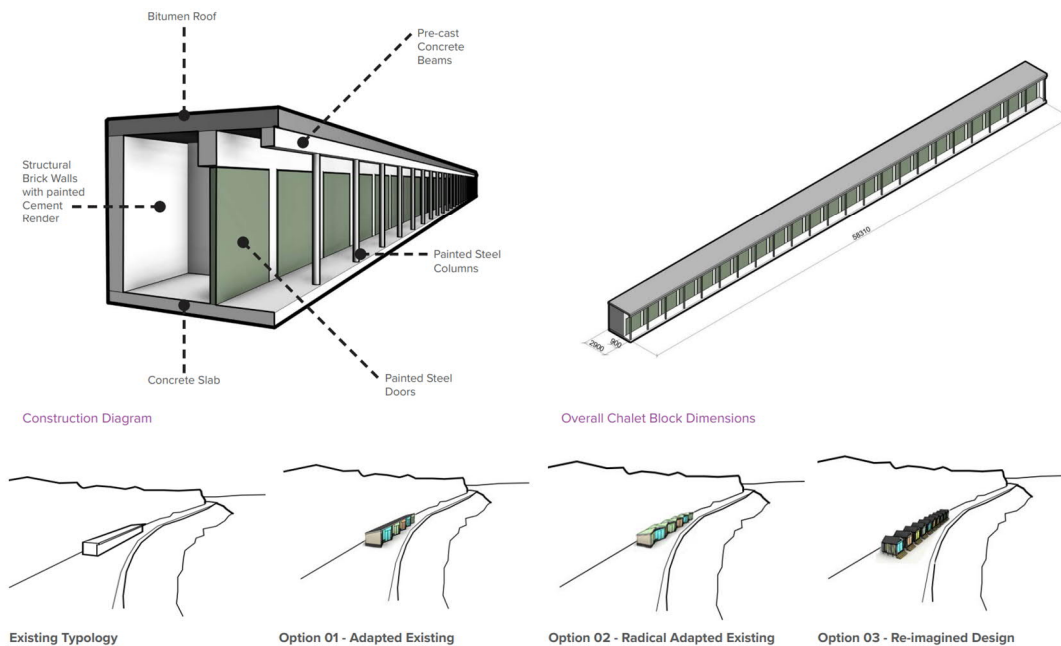


Figure 5: MML’s example beach chalet project

3.5 Provision of Facilities Block

A final addition to Port Riddell could be a 'facilities block' with a connection to existing services that would provide toilets and cold-water showers. There are various locations in which the facilities block could be positioned: the bathing area could be removed, and the block positioned there, or the facilities block could be located at road level through the removal of a section of the existing on-street parking.

If the facilities block were to be provided at road level, this may impact on the views of those who reside on the opposite side of the A815. However, the facilities block would likely be within the splash zone if located where the historic bathing area is positioned; this would increase the cost of the building and would result in an increased maintenance burden given increased exposure to waves etc. and the high levels of corrosion experienced in this area.

There are a number of options for provision of a facilities block, including:

- Modular building at street level,
- Permanent building at street level, or
- Permanent building at slipway level (not recommended for the reasons described above).

3.6 Cost Estimates

Preliminary cost estimates for the five repair / development options are based on experience of similar projects including feedback on previous cost estimates. The table below summarises the estimated capital costs associated with each of the options above.

Option	Estimated CAPEX Range
1. Make good the existing structures	£150,000 - £240,000
2. Provide adequate turning area for vehicles (includes Option 1)	£270,000 - £440,000
3. Extend and widen the slipway (includes Option 1 and 2)	£450,000 - £730,000
4. Refurbish the changing rooms (includes Option 1)	£260,000 - £420,000
5. Provide a new facilities block (subject to size and facilities offered)	£100,000 - £160,000

3.7 Next Steps

MML advise the next steps would include further liaison with potential users and the public and rationalisation of the options to agree what features should be included in the preferred option.

A. Overview Drawings for Information

B. Photographs

Figure B 1: Entrance from A815



Figure B 2: Paved revetment and access ramp



Figure B.3: View of broken deck slabs at parking area, joint with head of slipway



Figure B.4: Rock armour in front of parking area

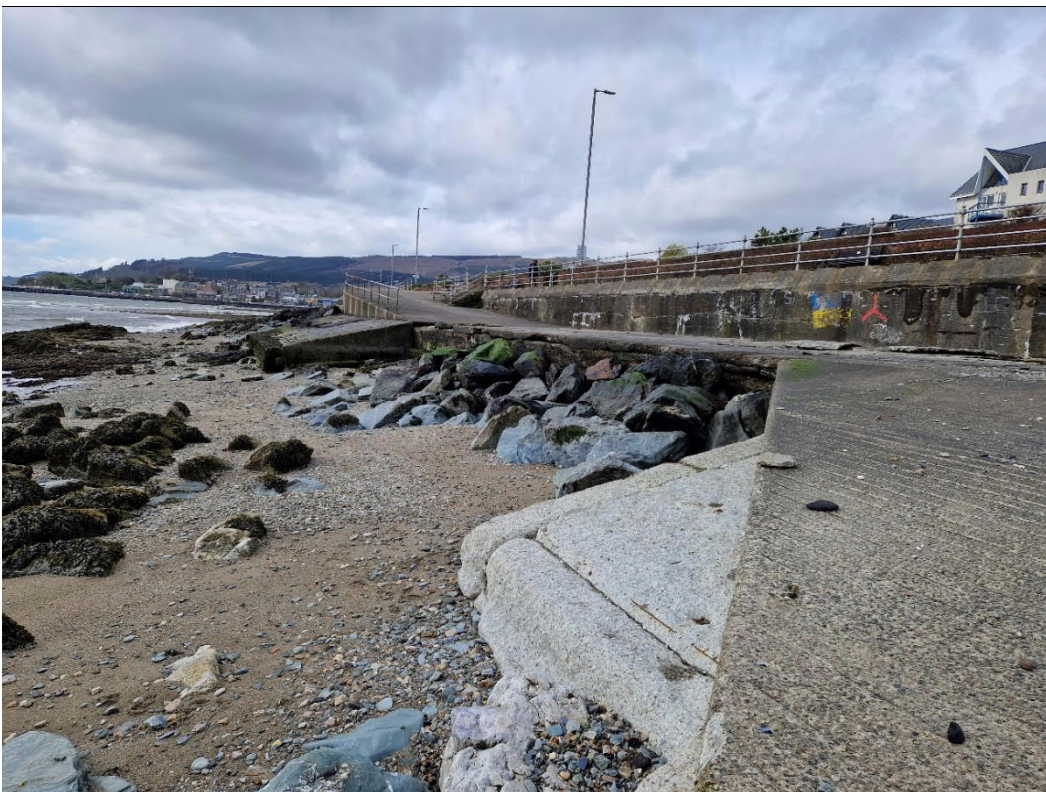


Figure B.5: Wall to the rear of the parking area



Figure B.6: View of capped bathing area from above



Figure B.7: Concrete slipway from parking area



Figure B.8: View of slipway from in front of bathing area



Figure B.9: Walkway around bathing area towards Victorian changing rooms



Figure B.10: Walkway in front of Victorian changing rooms



Figure B.11: Steps down to beach in front of Victorian changing rooms



Figure App B.12: Inside of changing room 1



