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Facility Centre for Water Sports Killiney Beach

SUBSTRUCTURE FOUNDATION REPORT

Prepared by GK, Consulting Engineers

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15.01.2024

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1. INTRODUCTION

GK Consulting Engineers as part of the multi-disciplinary Design Team, are tasked with preparing a part 8 planning application for the site located at Killiney Beach. This substructure foundation report has been prepared to accompany the screening, as follows, for ecological reports

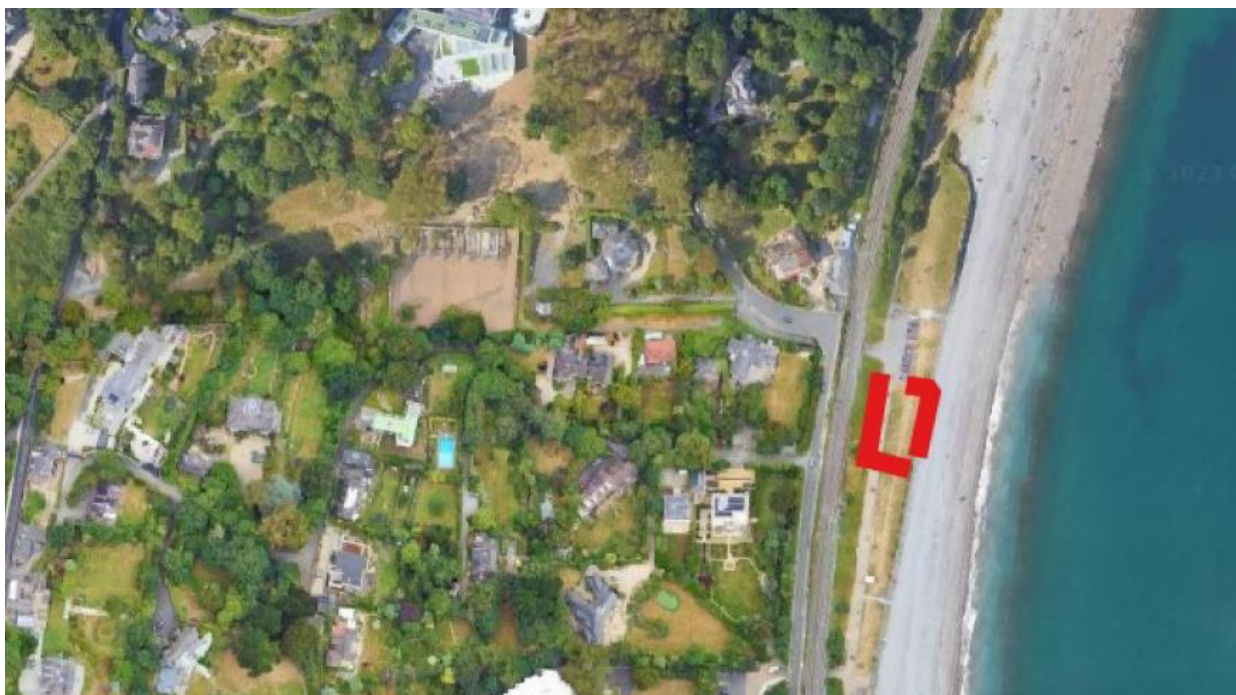
AA Screening:

- Summary of excavation requirements and maximum depths.
- Details on the use of concrete on site, eg. pre cast or poured in situ for foundations.

EIA Screening:

- If excavations required what will be done with the excavated material?
- Is cut and fill balanced on site?

The site is located along Strathmore Road, Killiney Beach.





A full description of the scheme is outlined in the Planning Report prepared by Dun Laoghaire-Rathdown CoCo Architects Department, submission.

1.1 SITE INVESTIGATION

- A detailed site investigation was carried out by GII (Ground Investigations Ireland) in November / December 2023.
- Slit trench, trail pit excavations, boreholes & rotary coring were carried out.
- Ground water monitoring was also installed.
- The borehole & coring records indicate made ground to a depth of 3.5m, overlaying sand & gravel layers.

1.2 FOUNDATION OPTIONS

- The recorded depth of made ground on the site implies deep foundations will be required to bear on recommended formation levels.
- We proposed deep piled foundations utilising driven mini-piles, to minimise site excavations & spoil from bored piles.
- A piled raft foundation base will be designed to span between a grid of mini-piles, supporting the superstructure.
- The maximum depth of raft will be circa 500mm-750mm below existing ground levels to extend below the frost zone.
- A draft foundation layout is provided on drawing 22104-S100

2. A-A SCREENING

Summary of excavation requirements and maximum depths.

- A site strip will be required to create a working platform
- The contractor will import hardcore material as a base for the works
- Foundation depth will be in the region of 0.5m – 0.75m below ground level to extend foundations below the frost zone
- Drainage pipe trenches will range in depth from 1.2m to 2m below ground level, depending on pipe falls & gradients



Details on the use of concrete on site, eg. pre cast or poured in situ for foundations.

- The proposed pile foundations will consist of a grid of driven steel cased mini-piles
- These piles will be filled with insitu concrete
- An insitu reinforced concrete raft foundation will be cast on top of the pile grid & span between individual support piles

3. EIA SCREENING

If excavations required what will be done with the excavated material?

- A site strip will be required to create a working platform
- Excavated material can either be stockpiled on site for reuse in landscaping, or removed offsite

Is cut and fill balanced on site?

- Excessive cutting is not envisaged to construct the shallow raft foundation
- Excavated material can either be stockpiled on site for reuse in landscaping, or removed offsite