Clonlea Lodge, Ballinter Road, Dublin 16

Drainage Design Planning Report

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Contents

0.0 Introduction

This report outlines the drainage aspects of the proposed residential development at Clonlea Lodge as part of the planning submission. It is proposed to develop a new separate three storey structure to side of existing dwelling and alter the existing two-storey dwelling on the existing site. The site area is 695.0 sq.m., the existing building roof area is 129.0 sq.m. and the total area of existing hard surfaces (including roofs) is 306 sq.m. The proposed development proposes an overall roof area of 227 sq.m. ; an increase of 118.0 sq.m. The development proposes a total area hard surfaces (including roofs of 455 sq.m.; an net increase of 149 sq.m. The site is an urban site serviced by private combined drains connected to a foul public sewer on the public Ballinter Road

1.0 Engineering Report

The works will be carried out in accordance with the Greater Dublin Regional Code of Practice for Drainage Works. The development shall incorporate Sustainable Drainage systems. There is no Dun Laoghaire Rathdown County Council (DLRCC) drainage infrastructure on site, see attached map in appendix. It is proposed that the development will use the existing connection which connects the private drains to the foul sewer at the front on Ballinteer Roads. The existing site underground drainage system is combined, there appears to be no existing connection to surface water sewers or watercourses outside the site.

Refer to attached drawings C001 and C002 showing extent of existing drainage, extent of proposed drainage, including pipe sizes, gradients and levels.
Note modifications of existing private site drainage within the site. Note existing and proposed separation within the confines of the site.
It is proposed to dispose of all surface water on site (subject to results of soakaway test) or reduce/attenuate surface water runoff from the development to the nearby public sewer using infiltration devices (soakaways) in the rear garden and permeable paving in the front driveway.

1.1 Waste Water

It is proposed to discharge waster water and soils to the existing 225mm diameter foul water sewer on Ballinteer Road via the existing private foul drain and to maintain the existing connection to the foul sewer.

All underground structures shall be constructed watertight.

All the works will be carried out in accordance with the specifications in the Greater Dublin Regional Code of Practice for Drainage Works and Part H of Building Regulations.

1.2 Surface Water

It is proposed to limit the surface water discharge from the site in accordance with Greater Dublin Regional Code of Practice for Drainage Works. If required, outfall of surface water run-off will be to the existing nearby sewer to the south east of the site via the private surface water drainage system and the proposed infiltration systems (suds) in the rear garden and front driveway.

It is proposed to dispose of all surface water within the site; however the site is not thought suitable for disposal of all surface water drainage within the site; therefore an overflow from the infiltration system is envisaged, see drawings. Soakage tests shall be carried out to as part of the pre-tender detailed design stage to size the infiltration system. The results will be recorded and submitted to DLRCC.

Furthermore note the area available to the infiltration system is constrained by way-leave around the nearby the DLRCC foul sewer and culvert and the requirement to leave a 5m offset between the structures and the infiltration system.

All the works will be carried out in accordance with the specifications in the Greater Dublin Regional Code of Practice for Drainage Works and Part H of Building Regulations. All underground structures shall be constructed watertight.

1.3 Flood Risk Assessment

In accordance with The Department of the Environment, Heritage and Local Government (DoEHLG) issued new Planning Guidelines "The Planning System and Flood Risk Management"; the assessment process uses a staged approach (step 1, 2 and 3) with the need for progression to a more detailed stage dependent on the outcomes of the former. The requirements of Step 1 are given below with the response in blue:

Step 1 - Screening

• *Indicative flood maps produced by OPW;*
The on-line flood maps for Dun Laoghaire Rathdown County Council area have been viewed; these records show that the area has no recorded flooding in the past and is unlikely to be at risk of flooding in the future.
• *National coastal protection strategy study flood and coastal erosion risk maps;*
Data from this source is not yet publicly available as the study is still ongoing. However in view of the site's location and elevation the risk of coastal flooding is not thought significant.
• *Predictive and historic flood maps, such as those at http://www.opw.ie;*
The OPW on-line flood maps for Dun Laoghaire Rathdown County Council area have been viewed; the predictive mapping shows an apparent risk of the fluvial flooding during extreme events from the nearby River Slang or Ticknock Stream. The stream is located on the far side of the Ballinteer Road and has been culverted, presumably since the construction of the new Ballinteer Road (see attached copy of OPW map, note light blue shading, and the drainage records from DLRCC). No historical flooding was reported on the Flood.ie website.
No flooding was reported in the area during the October 2011 Flooding Event.
• *Catchment Flood Risk Assessment and Management Studies (CFRAMS);*
The site is within the Eastern Catchment Flood Risk Assessment and Management Study (CFRAM) area. There is no reference in the Eastern CFRAM study reports to the site or the surrounding area.
• *Previous Flood Risk assessments (FRAs) at national/regional, strategic and site-specific scales, including studies for flood-protection schemes;*
There are no previous FRAs for this area or nearby sites.
• *Topographical maps, in particular digital elevation models produced by aerial survey or ground survey techniques;*
The average level of the site is 85.9 m O.D.
• *Expert advice from OPW & Local Authorities who may be able to provide reports containing the results of detailed modelling and flood-mapping studies, including critical drainage areas, and information on historic flood events, including flooding from all sources;*
The Local Authority Dun Laoghaire Rathdown County Council and the OPW have been consulted and no additional data regarding significant risk of flooding has been procured.
• *Alluvial deposit maps of the Geological Survey of Ireland (which would allow the potential for the implementation of source control and infiltration techniques, groundwater and overland flood risk to be assessed). These maps, whilst not providing full coverage, could be used to identify areas, where alluvium has been deposited, which have flooded in the recent geological past, since that is the source of the alluvium;*
Not applicable to urban site.
• *Local libraries and newspaper reports;*
No relevant information has been found.
• *Interviews with local people, local history/natural history societies etc.;*
No relevant information has been uncovered.
• *Walkover survey to assess potential sources of flooding, likely routes for flood waters and the site's key features, including flood defences, and their condition;*
A walk over survey was carried out. No sources of flooding were observed. The existing drainage infrastructure was found to be in good condition.

• *National, regional and local spatial plans, such as the National spatial strategy, regional planning guidelines, development plans and local area plans provide key information on existing and potential future receptors.*
The Dun Laoghaire Rathdown County Council Development Plan was consulted. It does not identify this area as being subject to historical flooding.

Based on the above screening, the site is not thought to be at risk from significant flooding. In view of the small size of the site and its urban location a more detailed Flood Risk Assessment (FRA) is not deemed necessary.

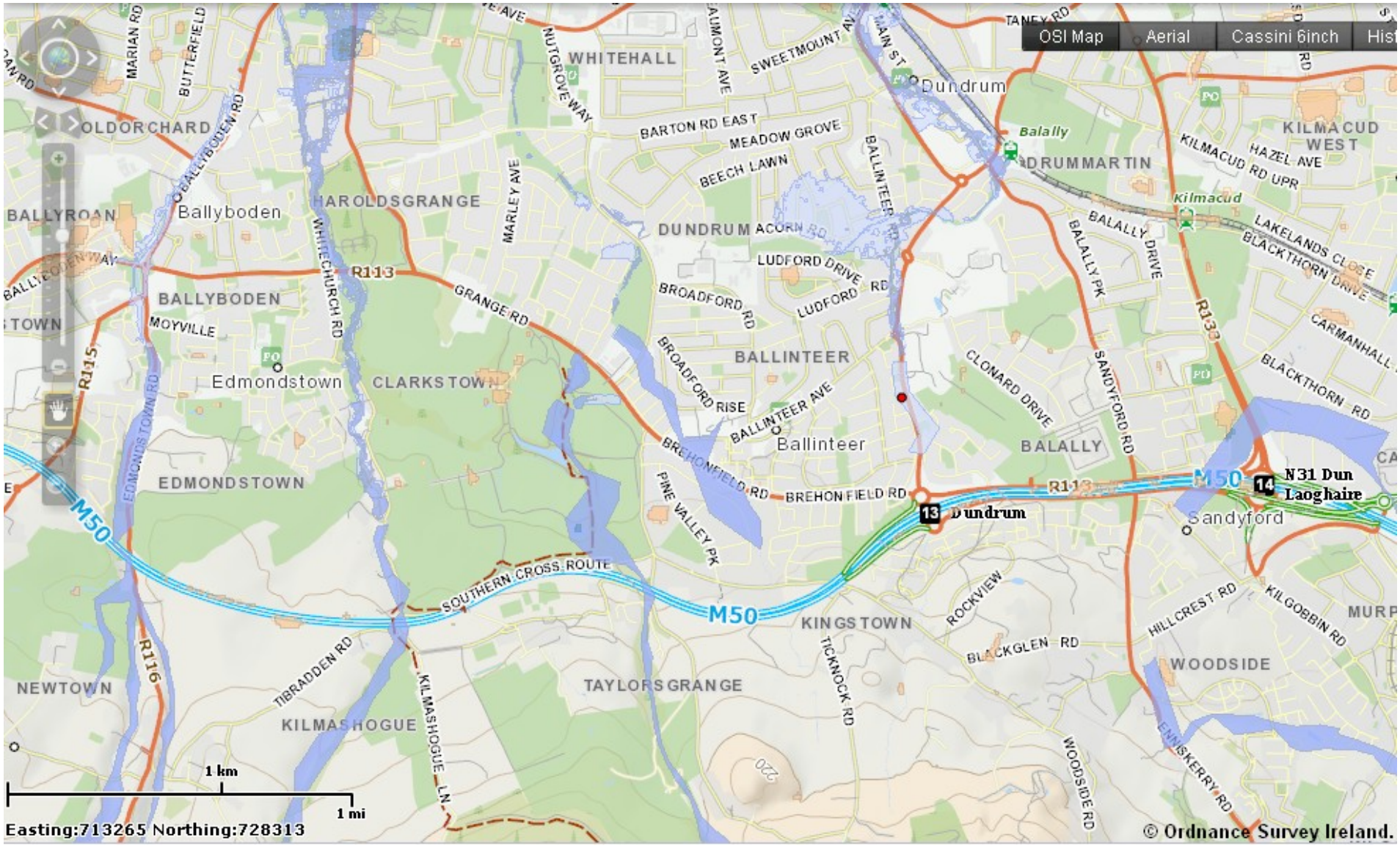
Furthermore the proposed construction of the infiltration systems will mitigate the risk of flooding downstream.

1.4 Legal Consent

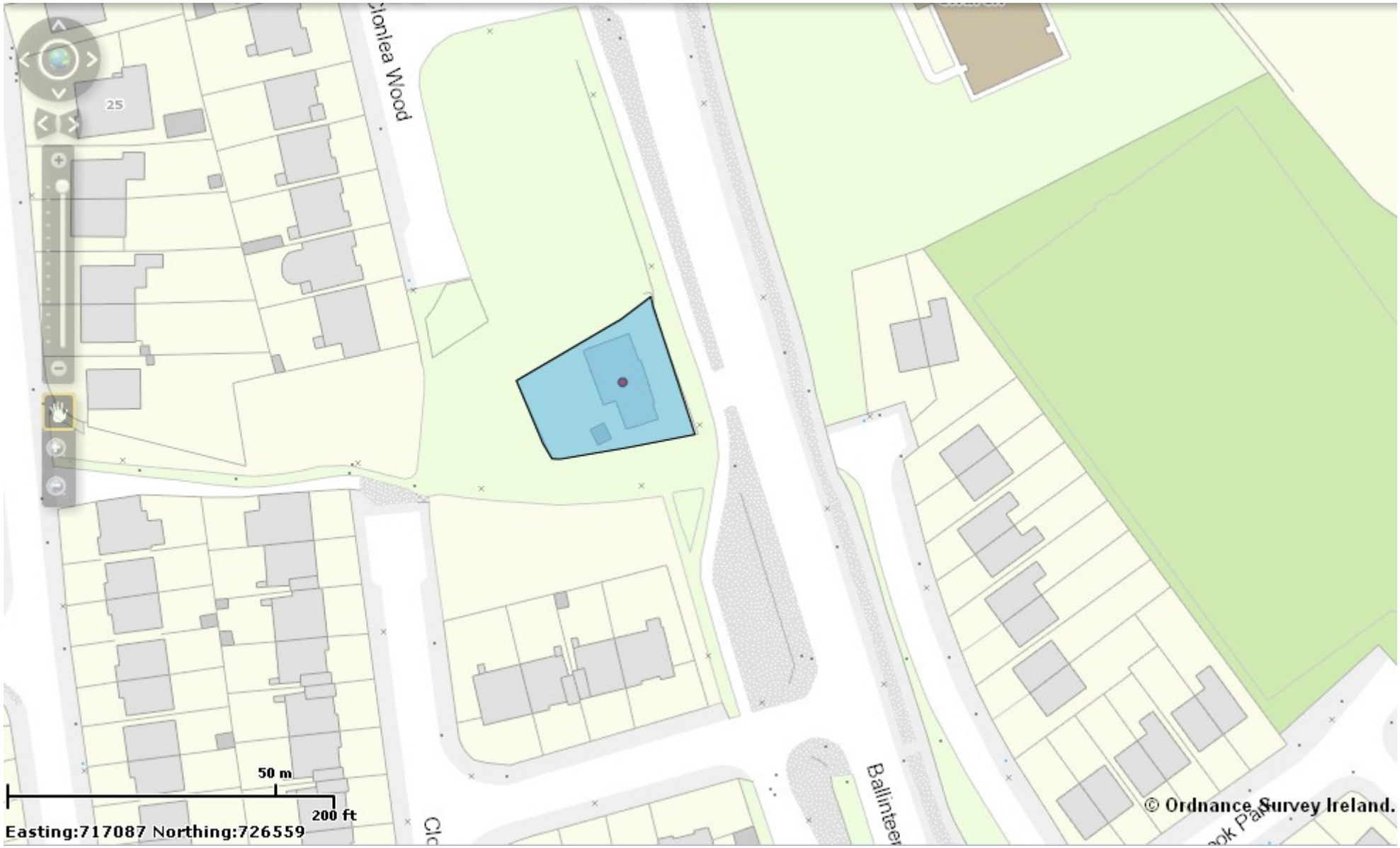
No legal consent is required as the applicant's own site and infrastructure are used.

Appendices

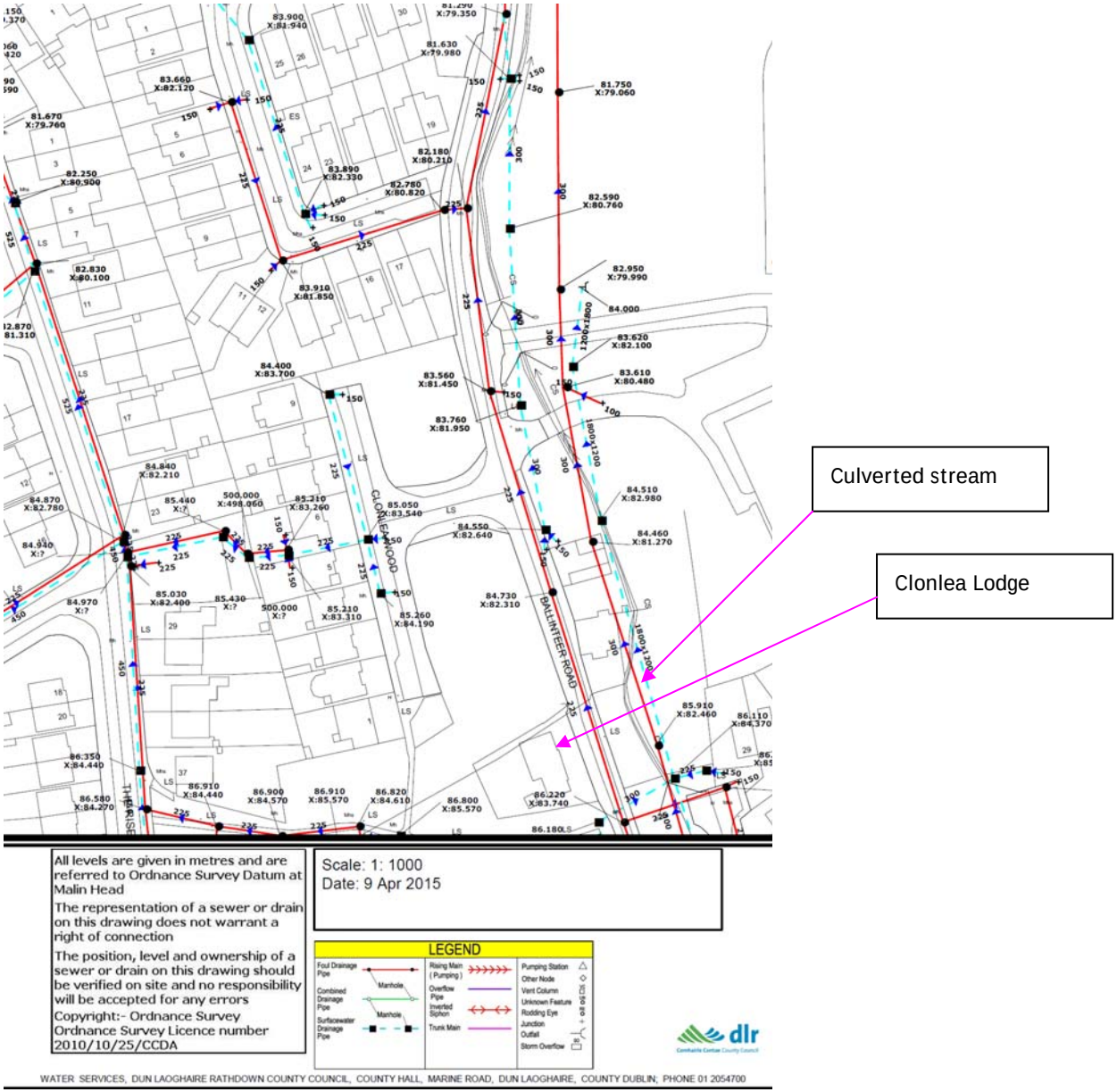
Sewer record map, flood map and location map



Map 1 _ flood risk map, location of site indicated by red dot, blue shade denotes risk of fluvial flooding, green shade denoted risk of coastal flooding, orange shade denotes pluvial risk of flooding (reference OPW flood map), note blue shading around site location.



Map 2 _ location of site indicated by red dot and blue shading.



Map 3 _ Dun Laoghaire Rathdown County Council public sewers in area.