

Appendix A

FLOOD MAP PACK

115/1



FLOOD RISK PACK



Client:
Hallam Land Management Limited

Project Reference:
70088068 -
ExistingBognorGolfCourse

Site Reference:
70088068 - Existing Bognor Golf
Course

Site Location
494991, 101204

Site Area:
39.72 hectares

Map Scale:
1:11000

CONTENTS:

Page 1 - Site Location

Page 2 - Flood Map for Planning

Page 3 - Risk of Flooding from Rivers
and the Sea

Page 4 - Risk of Flooding from Surface
Water

Page 5 - Risk of Flooding from
Reservoirs

Page 6 - Risk of Flooding from Multiple
Sources

Page 7 - Historic Flood Map

Page 8 - Source Protection Zones

Page 9 - Aquifer Designation

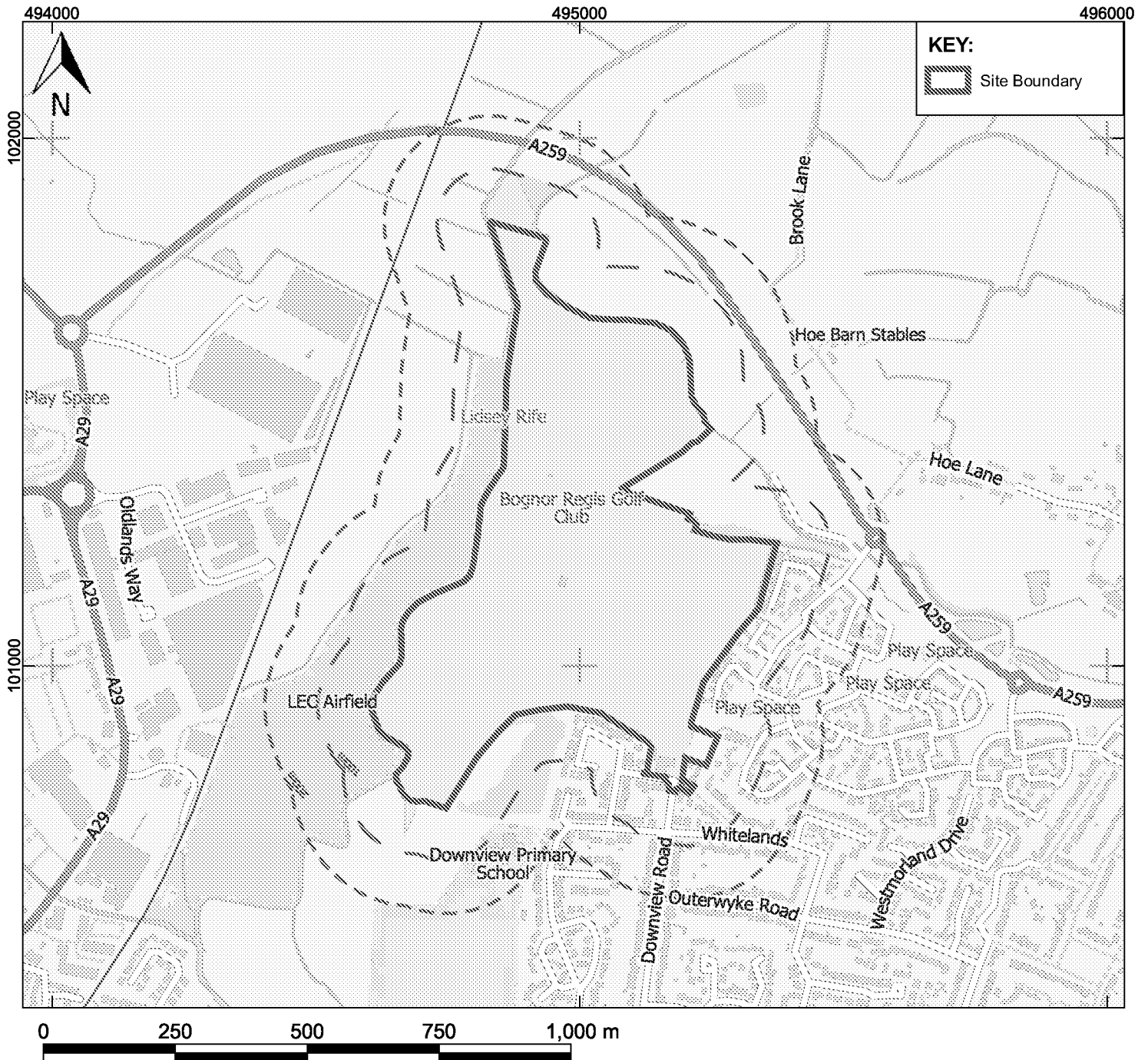
CONTAINS OS DATA © CROWN COPYRIGHT AND DATABASE RIGHT 2021 - <https://www.ordnancesurvey.co.uk/business-and-government/licensing/using-creating-data-with-os-products/os-opendata.html>
ENVIRONMENT AGENCY INFORMATION © ENVIRONMENT AGENCY AND DATABASE RIGHT 2021 - <http://apps.environment-agency.gov.uk/legal/35768.aspx>
BRITISH GEOLOGICAL SURVEY MATERIALS © NERC 2021 - http://www.bgs.ac.uk/help/terms_of_use.html

Created by: UKAMW009 - 2021-12-08 13:08:26

\\uk.wspgroup.com\central data\Projects\70088xxx\70088068 - Bognor Regis Golf Course Planning\03 WIP\Water\GIS\SINGLE- SITE_ExistingGolfCourse\70088068 - ExistingBognorGolfCourse.qgs



SITE LOCATION

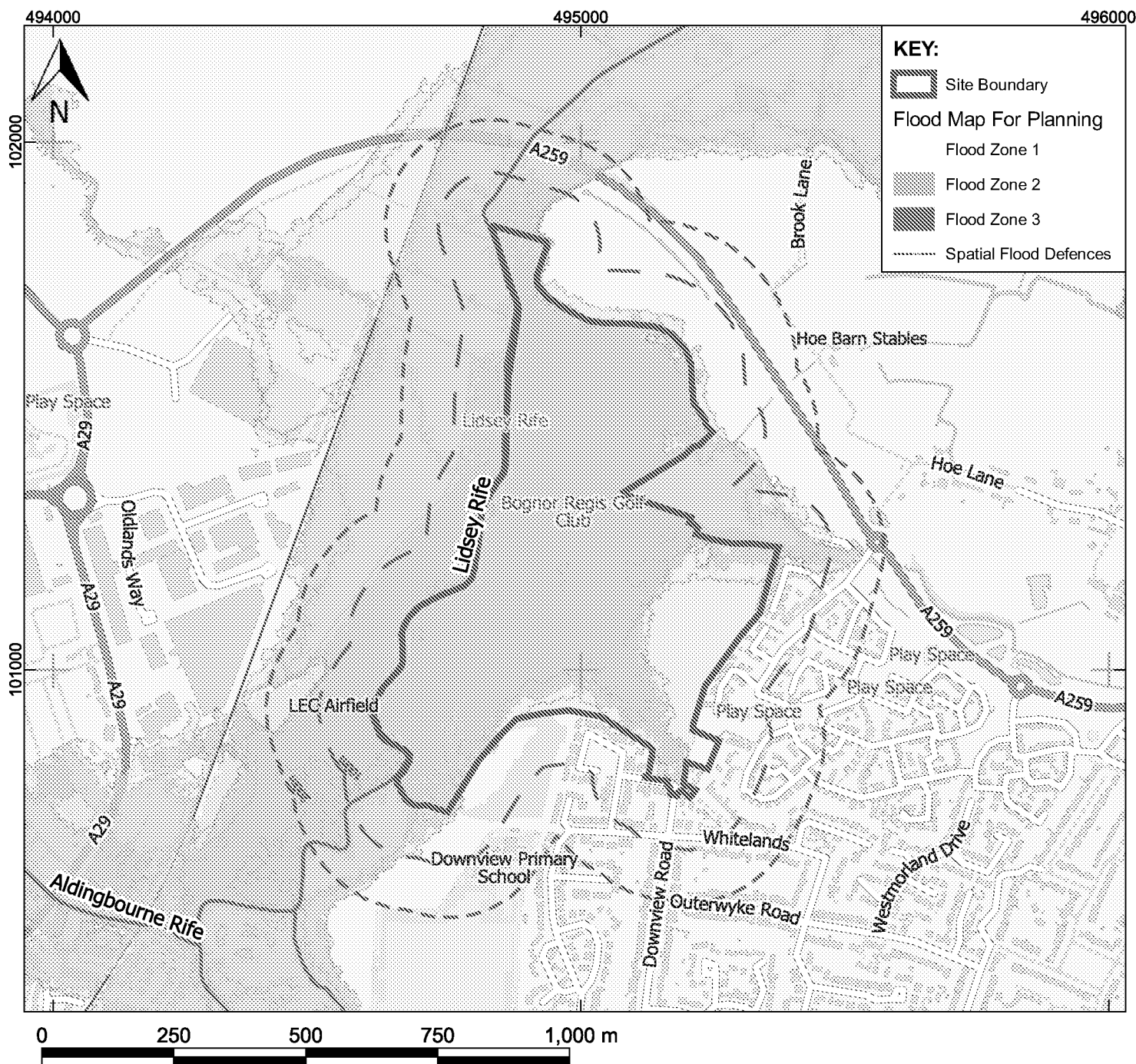


CONTAINS OS DATA © CROWN COPYRIGHT AND DATABASE RIGHT 2021 - <https://www.ordnancesurvey.co.uk/business-and-government/licensing/using-creating-data-with-os-products/os-opendata.html>
ENVIRONMENT AGENCY INFORMATION © ENVIRONMENT AGENCY AND DATABASE RIGHT 2021 - <http://apps.environment-agency.gov.uk/legal/35768.aspx>

Created by: UKAMW009 - 2021-12-08 13:08:30
\\uk.wspgroup.com\central data\Projects\70088xxx\70088068 - Bognor Regis Golf Course Planning\03 WIP\Water\GIS\SINGLE- SITE_ExistingGolfCourse\70088068 - ExistingBognorGolfCourse.qgs



ENVIRONMENT AGENCY FLOOD MAP FOR PLANNING



Flood zone maps are modelled using local and national river and sea data. This information provides an indication of the likelihood of flooding and is intended for planning use only.

Flood Zone 1 - Land having a less than 1 in 1,000 annual probability of river or sea flooding. (Shown as 'clear' on the Flood Map – all land outside Zones 2 and 3).

Flood Zone 2 - Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding. (Land shown in light blue on the Flood Map)

Flood Zone 3 - Land having a 1 in 100 or greater annual probability of river flooding; or Land having a 1 in 200 or greater annual probability of sea flooding. (Land shown in dark blue on the Flood Map)

CONTAINS OS DATA © CROWN COPYRIGHT AND DATABASE RIGHT 2021 - <https://www.ordnancesurvey.co.uk/business-and-government/licensing/using-creating-data-with-os-products/os-opendata.html>

ENVIRONMENT AGENCY INFORMATION © ENVIRONMENT AGENCY AND DATABASE RIGHT 2021 - <http://apps.environment-agency.gov.uk/legal/35768.aspx>

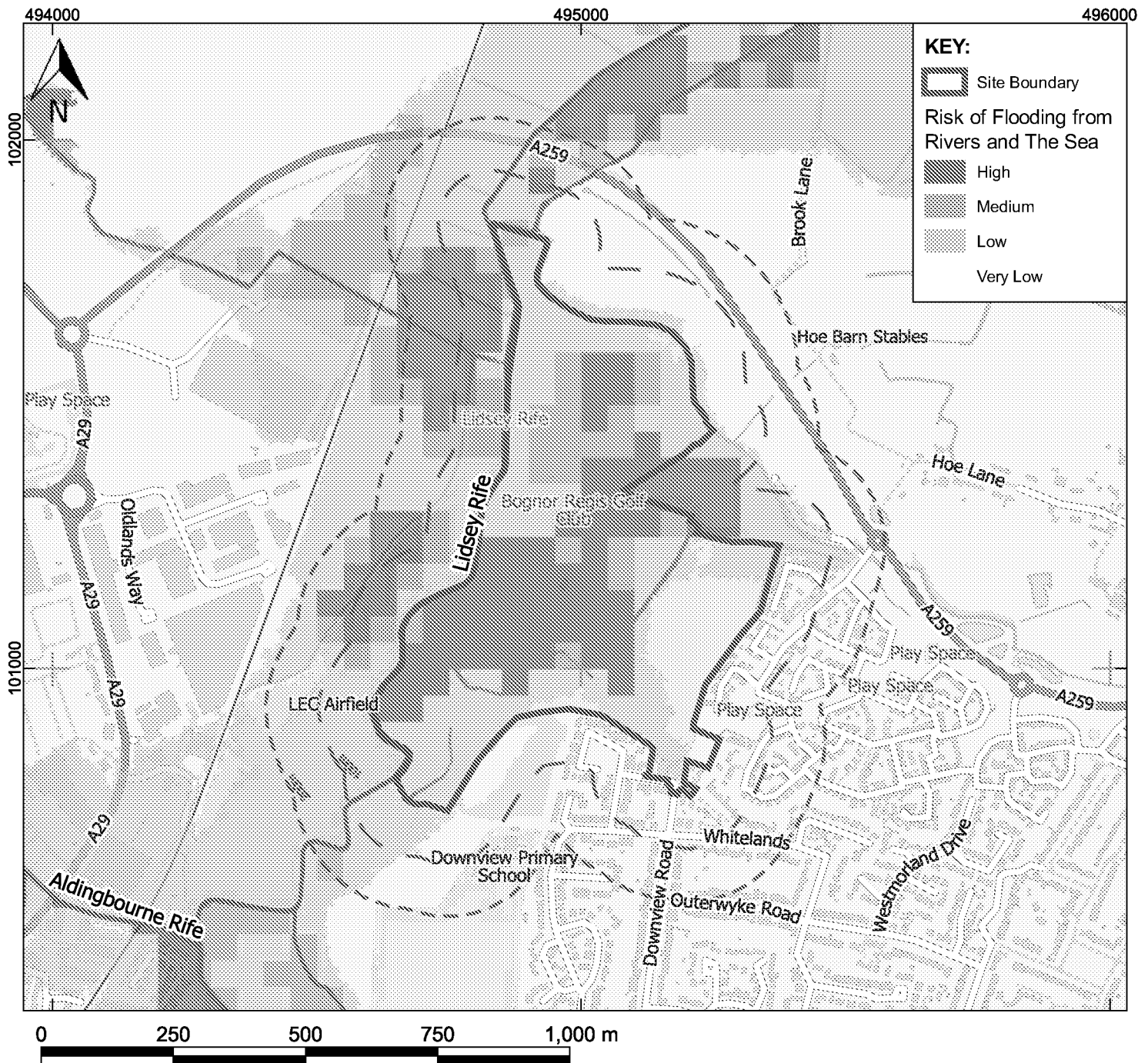
Created by: UKAMW009 - 2021-12-08 13:08:39

\\uk.wspgroup.com\central data\Projects\70088xxx\70088068 - Bognor Regis Golf Course Planning\03 WIP\Water\GIS\SINGLE- SITE_ExistingGolfCourse\70088068 - ExistingBognorGolfCourse.qgs

WSP UK Limited | Registered address: WSP House, 70 Chancery Lane, London WC2A 1AF
Registered in England and Wales No. 01383511



ENVIRONMENT AGENCY RISK OF FLOODING FROM RIVERS AND THE SEA



High risk means that each year this area has a chance of flooding of greater than 3.3%.

Medium risk means that each year this area has a chance of flooding of between 1% and 3.3%.

Low risk means that each year this area has a chance of flooding of between 0.1% and 1%.

Very low risk means that each year this area has a chance of flooding of less than 0.1%.

This takes into account the effect of any flood defences in the area. These defences reduce but do not completely stop the chance of flooding as they can be overtopped, or fail.

CONTAINS OS DATA © CROWN COPYRIGHT AND DATABASE RIGHT 2021 - <https://www.ordnancesurvey.co.uk/business-and-government/licensing/using-creating-data-with-os-products/os-opendata.html>
ENVIRONMENT AGENCY INFORMATION © ENVIRONMENT AGENCY AND DATABASE RIGHT 2021 - <http://apps.environment-agency.gov.uk/legal/35768.aspx>

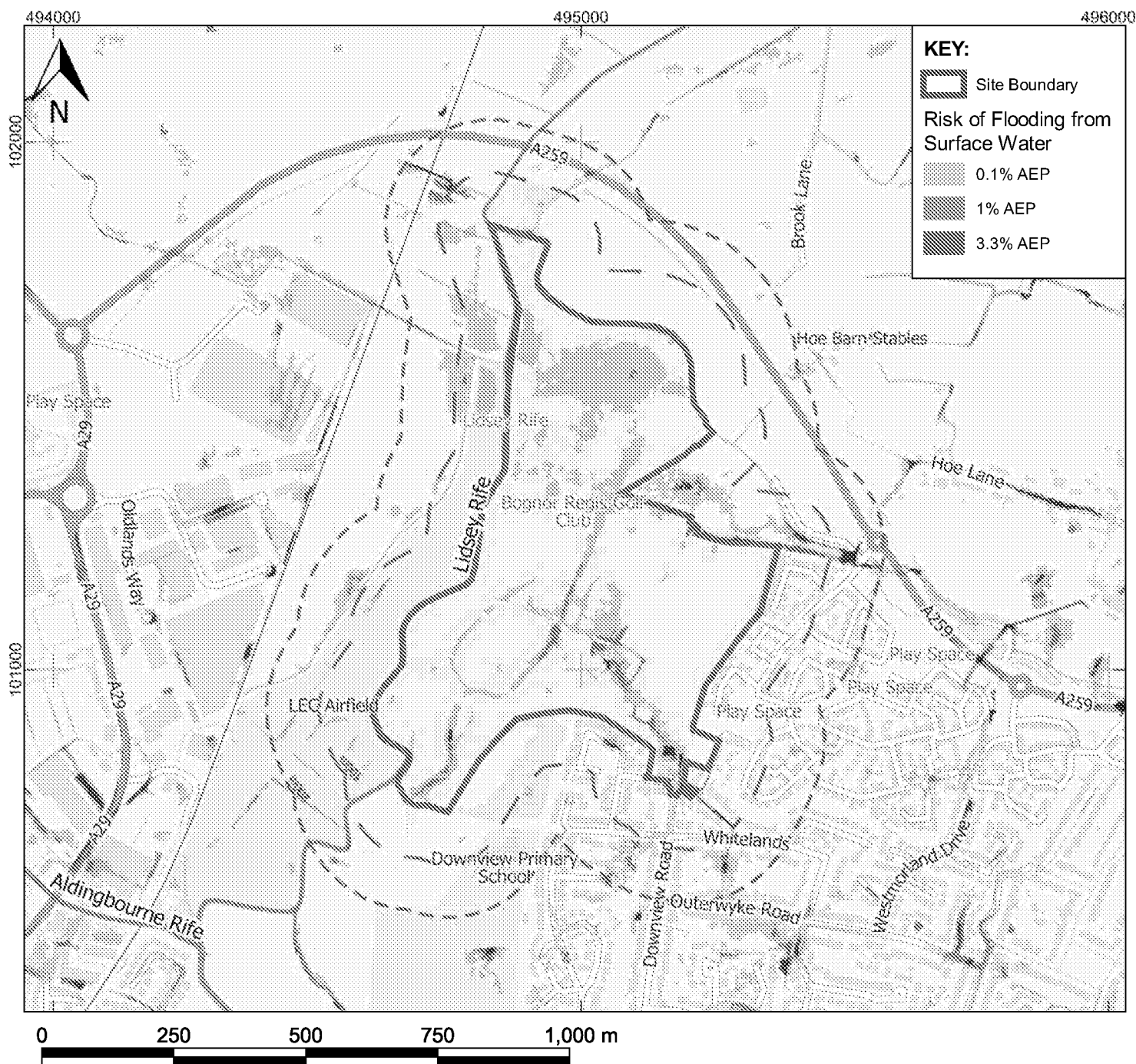
Created by: UKAMW009 - 2021-12-08 13:08:42

\\uk.wspgroup.com\central data\Projects\70088xxx\70088068 - Bognor Regis Golf Course Planning\03 WIP\Water\GIS\SINGLE- SITE_ExistingGolfCourse\70088068 - ExistingBognorGolfCourse.qgs

WSP UK Limited | Registered address: WSP House, 70 Chancery Lane, London WC2A 1AF
Registered in England and Wales No. 01383511



ENVIRONMENT AGENCY RISK OF FLOODING FROM SURFACE WATER



High risk means that each year this area has a chance of flooding of greater than 3.3%.

Medium risk means that each year this area has a chance of flooding of between 1% and 3.3%.

Low risk means that each year this area has a chance of flooding of between 0.1% and 1%.

Very low risk means that each year this area has a chance of flooding of less than 0.1%.

Flooding from surface water is difficult to predict as rainfall location and volume are difficult to forecast. In addition, local features can greatly affect the chance and severity of flooding.

CONTAINS OS DATA © CROWN COPYRIGHT AND DATABASE RIGHT 2021 - <https://www.ordnancesurvey.co.uk/business-and-government/licensing/using-creating-data-with-os-products/os-opendata.html>

ENVIRONMENT AGENCY INFORMATION © ENVIRONMENT AGENCY AND DATABASE RIGHT 2021 - <http://apps.environment-agency.gov.uk/legal/35768.aspx>

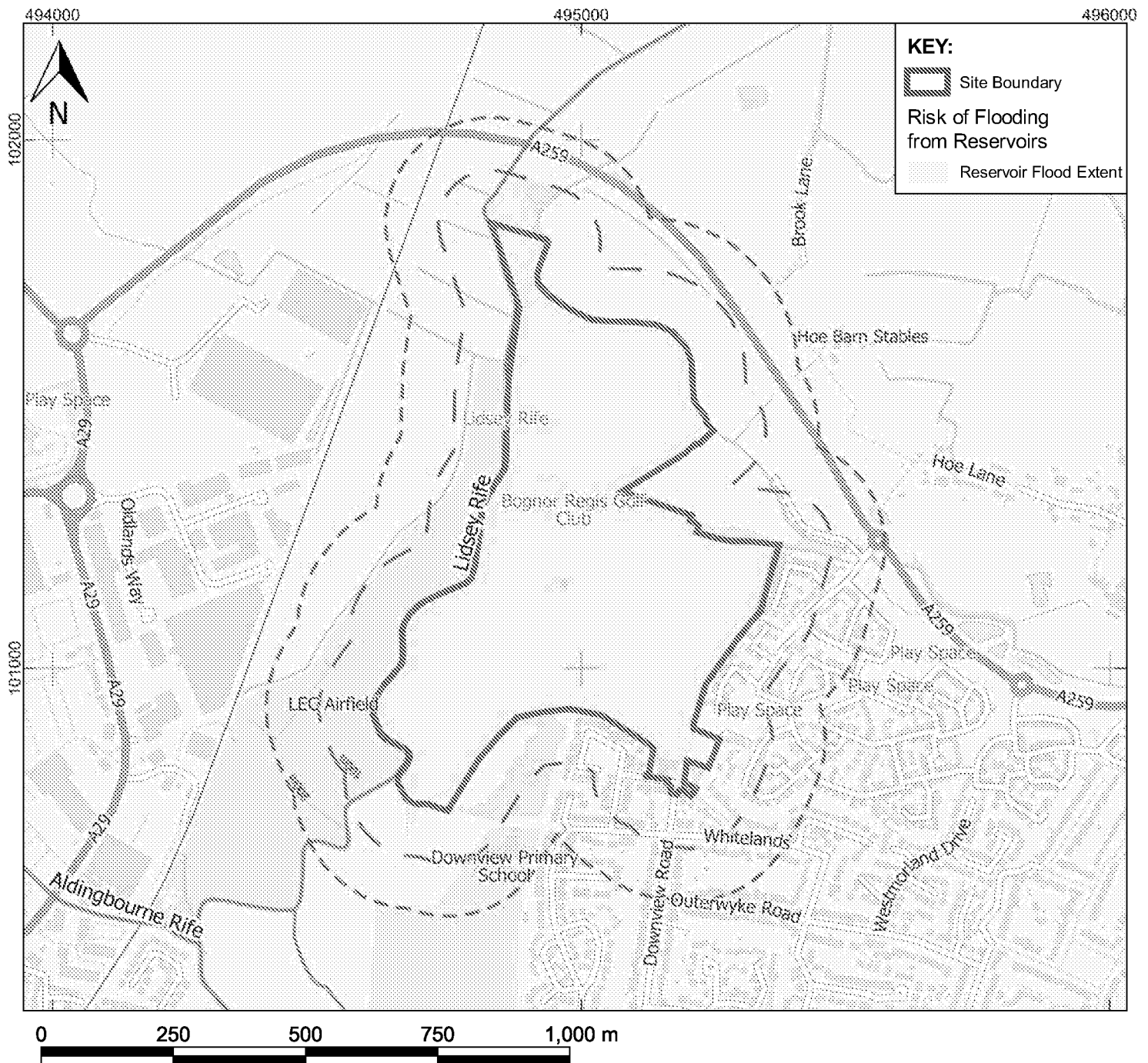
Created by: UKAMW009 - 2021-12-08 13:08:48

\\uk.wspgroup.com\central data\Projects\70088xxx\70088068 - Bognor Regis Golf Course Planning\03 WPI\Water\GIS\SINGLE- SITE_ExistingGolfCourse\70088068 - ExistingBognorGolfCourse.qgs

WSP UK Limited | Registered address: WSP House, 70 Chancery Lane, London WC2A 1AF
Registered in England and Wales No. 01383511



ENVIRONMENT AGENCY RISK OF FLOODING FROM RESERVOIRS



This data shows the individual flood extents for all large raised reservoirs in the event that they were to fail and release the water held on a “wet day” when local rivers had already overflowed their banks.

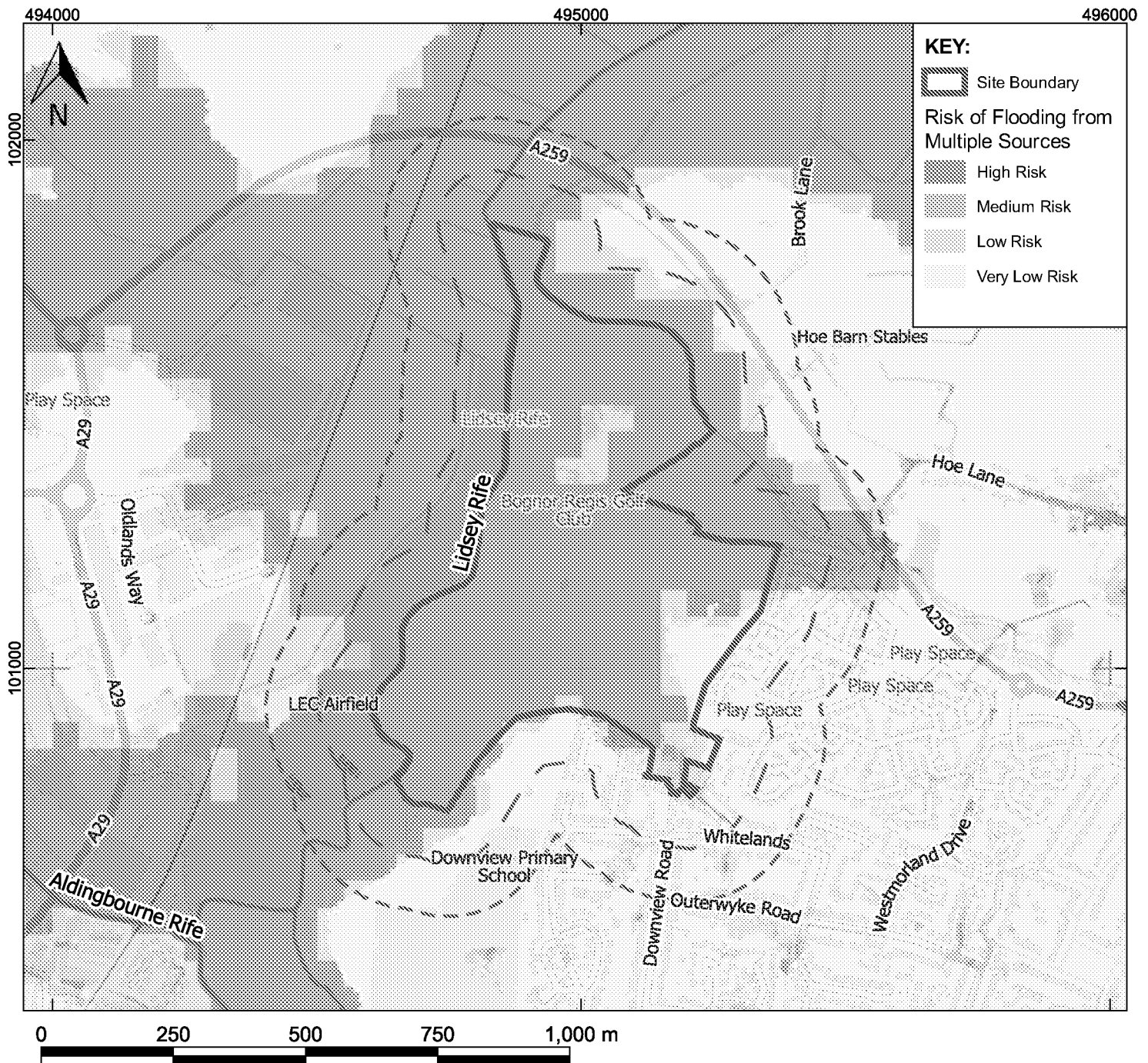
It represents a prediction of a credible worst case scenario, however it’s unlikely that any actual flood would be this large. The data gives no indication of likelihood or probability of reservoir flooding.

CONTAINS OS DATA © CROWN COPYRIGHT AND DATABASE RIGHT 2021 - <https://www.ordnancesurvey.co.uk/business-and-government/licensing/using-creating-data-with-os-products/os-opendata.html>
ENVIRONMENT AGENCY INFORMATION © ENVIRONMENT AGENCY AND DATABASE RIGHT 2021 - <http://apps.environment-agency.gov.uk/legal/35768.aspx>

Created by: UKAMW009 - 2021-12-08 13:08:53
\\uk.wspgroup.com\central data\Projects\70088xxx\70088068 - Bognor Regis Golf Course Planning\03 WIP\Water\GIS\SINGLE- SITE_ExistingGolfCourse\70088068 - ExistingBognorGolfCourse.qgs

WSP UK Limited | Registered address: WSP House, 70 Chancery Lane, London WC2A 1AF
Registered in England and Wales No. 01383511

ENVIRONMENT AGENCY RISK OF FLOODING FROM MULTIPLE SOURCES



High risk means that each year this area has a chance of flooding of greater than 3.3%.

Medium risk means that each year this area has a chance of flooding of between 1% and 3.3%.

Low risk means that each year this area has a chance of flooding of between 0.1% and 1%.

Very low risk means that each year this area has a chance of flooding of less than 0.1%.

This dataset is not suitable for identifying whether an individual property will flood. The Risk of Flooding from Multiple Sources (RoFMS) information is a national scale assessment. It gives an indication of what areas of land may be at risk of flooding from more than one source. This first version of the assessment considers flooding from rivers, the sea and surface water.

CONTAINS OS DATA © CROWN COPYRIGHT AND DATABASE RIGHT 2021 - <https://www.ordnancesurvey.co.uk/business-and-government/licensing/using-creating-data-with-os-products/os-opendata.html>

ENVIRONMENT AGENCY INFORMATION © ENVIRONMENT AGENCY AND DATABASE RIGHT 2021 - <http://apps.environment-agency.gov.uk/legal/35768.aspx>

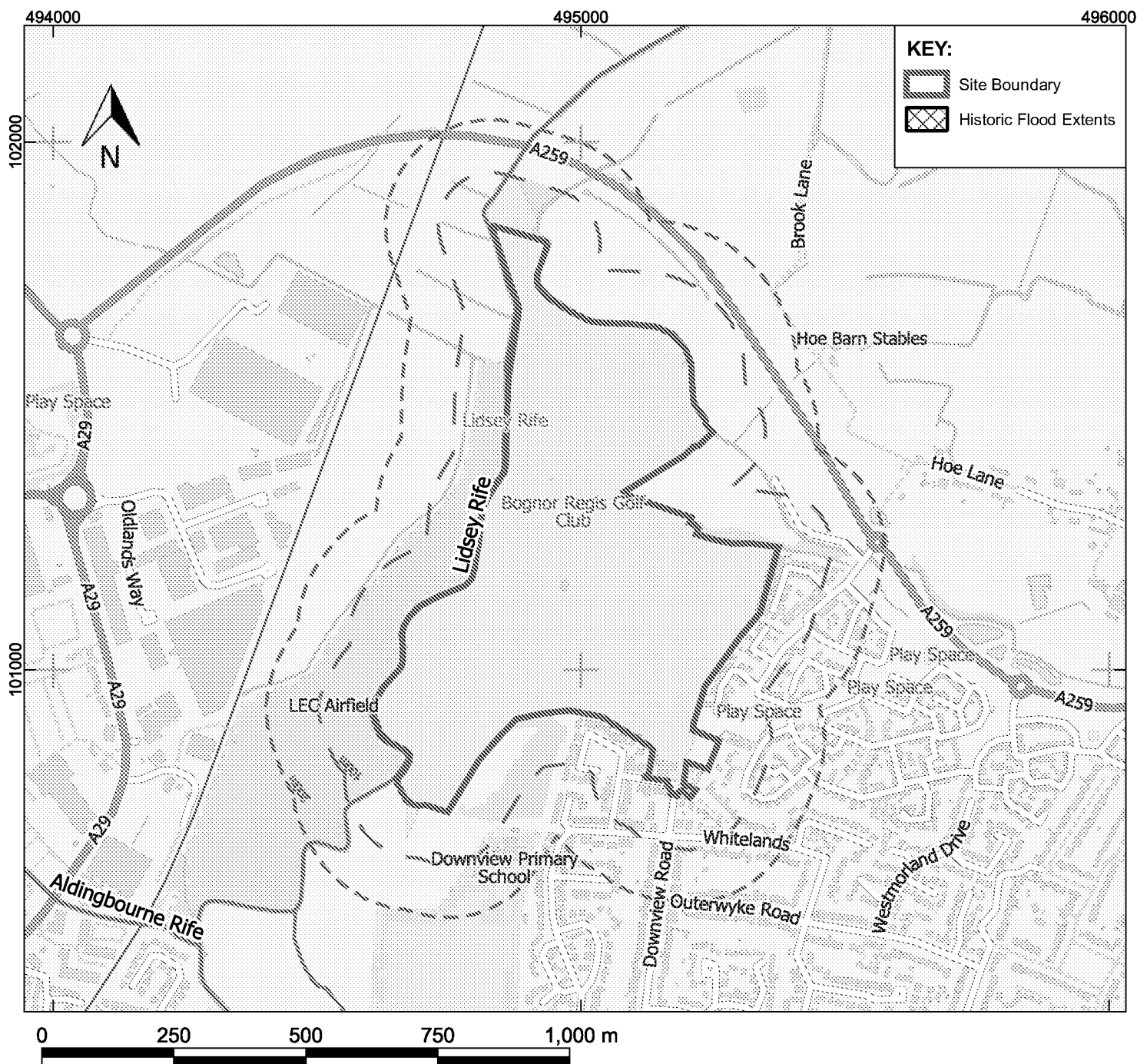
Created by: UKAMW009 - 2021-12-08 13:08:57

\\uk.wspgroup.com\central data\Projects\70088xxx\70088068 - Bognor Regis Golf Course Planning\03 WIP\Water\GIS\SINGLE- SITE_ExistingGolfCourse\70088068 - ExistingBognorGolfCourse.qgs

WSP UK Limited | Registered address: WSP House, 70 Chancery Lane, London WC2A 1AF
Registered in England and Wales No. 01383511



ENVIRONMENT AGENCY HISTORIC FLOOD MAP



The Historic Flood Map is a GIS layer showing the maximum extent of all individual Recorded Flood Outlines from river, the sea and groundwater springs and shows areas of land that have previously been subject to flooding in England. Records began in 1946 when predecessor bodies to the Environment Agency started collecting detailed information about flooding incidents, although limited details may be held about flooding incidents prior to this date.

The absence of coverage by the Historic Flood Map for an area does not mean that the area has never flooded, only that we do not currently have records of flooding in this area. It is also possible that the pattern of flooding in this area has changed and that this area would now flood under different circumstances. The Historic Flood Map will take into account of the presence of defences, structures, and other infrastructure where they existed at the time of flooding. It will include flood extents that may have been affected by overtopping, breaches or blockages. Flooding shown to the land and does not necessarily indicate that properties were flooded internally.

CONTAINS OS DATA © CROWN COPYRIGHT AND DATABASE RIGHT 2021 - <https://www.ordnancesurvey.co.uk/business-and-government/licensing/using-creating-data-with-os-products/os-opendata.html>

ENVIRONMENT AGENCY INFORMATION © ENVIRONMENT AGENCY AND DATABASE RIGHT 2021 - <http://apps.environment-agency.gov.uk/legal/35768.aspx>

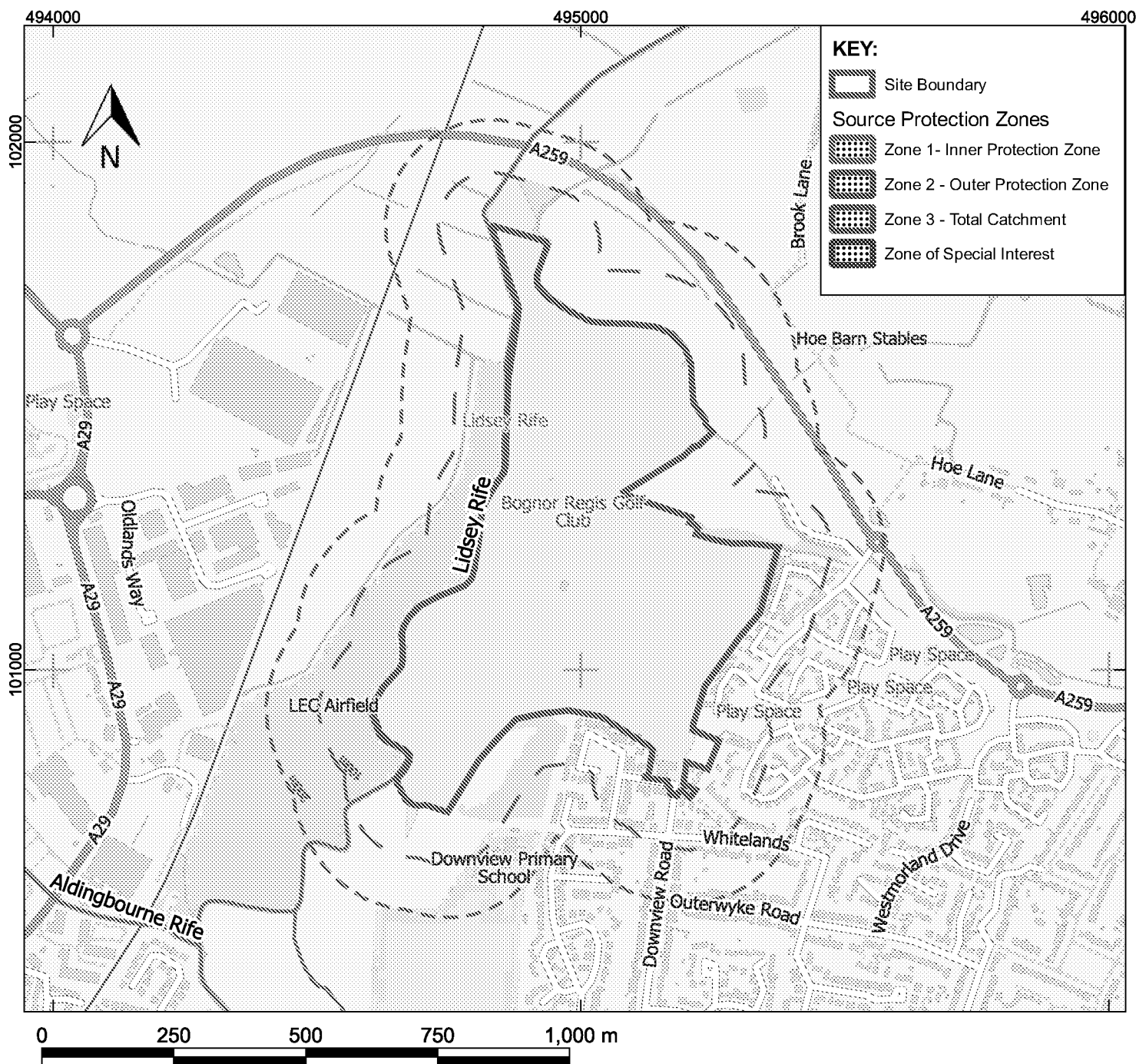
Created by: UKAMW009 - 2021-12-08 13:09:01

\\uk.wspgroup.com\central\data\Projects\70088xxx\70088068 - Bognor Regis Golf Course Planning\03 WPI\Water\GIS\SINGLE- SITE_ExistingGolfCourse\70088068 - ExistingBognorGolfCourse.qgs

WSP UK Limited | Registered address: WSP House, 70 Chancery Lane, London WC2A 1AF
Registered in England and Wales No. 01383511



ENVIRONMENT AGENCY SOURCE PROTECTION ZONES



Inner zone (Zone 1) - Defined as the 50 day travel time from any point below the water table to the source. This zone has a minimum radius of 50 metres;

Outer zone (Zone 2) - Defined by a 400 day travel time from a point below the water table. The previous methodology gave an option to define SPZ2 as the minimum recharge area required to support 25 per cent of the protected yield. This option is no longer available in defining new SPZs and instead this zone has a minimum radius of 250 or 500 metres around the source, depending on the size of the abstraction;

Total catchment (Zone 3) - Defined as the area around a source within which all groundwater recharge is presumed to be discharged at the source.

Special interest (Zone 4) - A fourth zone SPZ4 or 'Zone of Special Interest' was previously defined for some sources. SPZ4 usually represented a surface water catchment which drains into the aquifer feeding the groundwater supply (i.e. catchment draining to a disappearing stream).

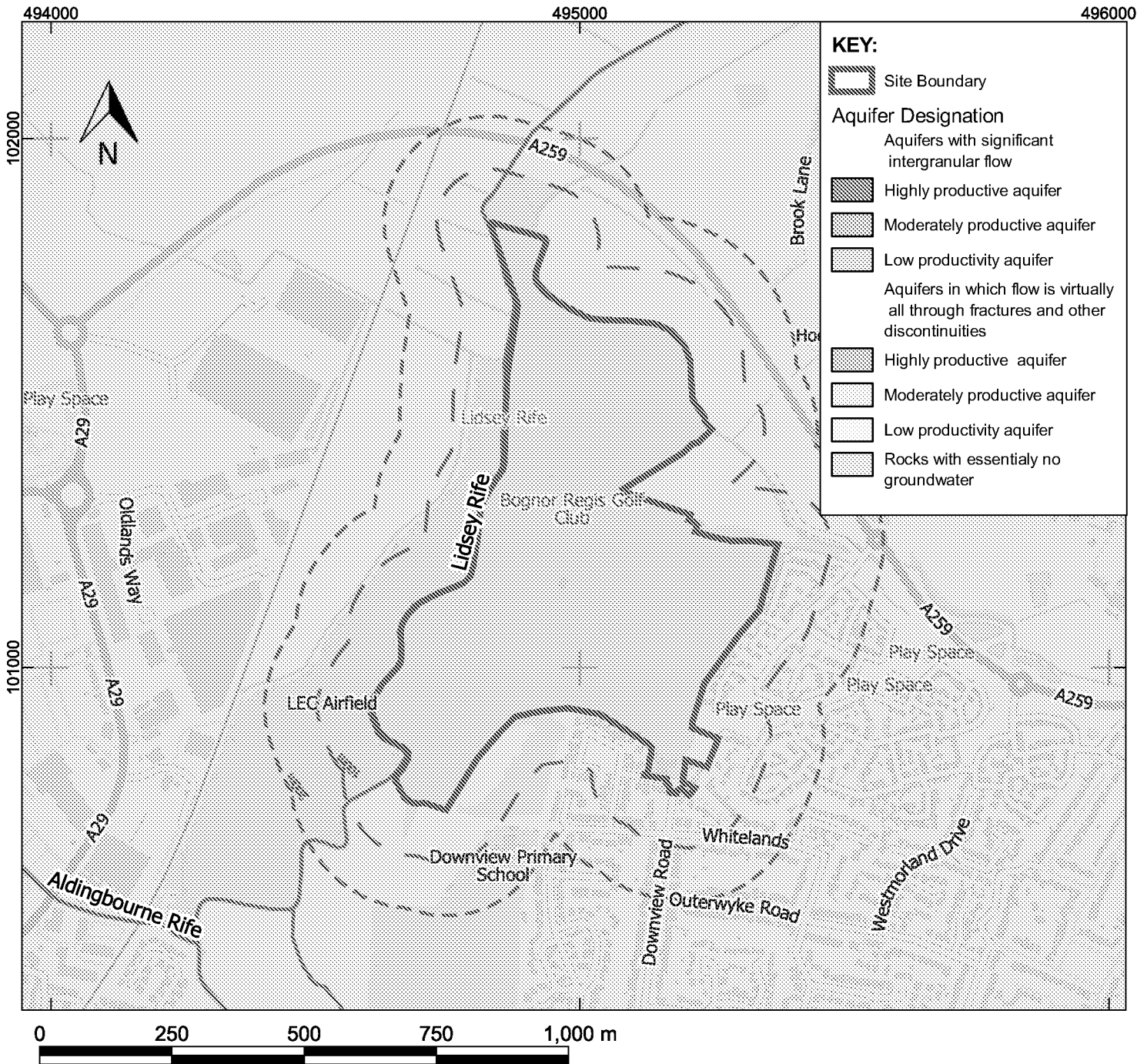
CONTAINS OS DATA © CROWN COPYRIGHT AND DATABASE RIGHT 2021 - <https://www.ordnancesurvey.co.uk/business-and-government/licensing/using-creating-data-with-os-products/os-opendata.html>
BRITISH GEOLOGICAL SURVEY MATERIALS © NERC 2021 - http://www.bgs.ac.uk/help/terms_of_use.html

Created by: UKAMW009 - 2021-12-08 13:09:05
\\uk.wspgroup.com\central data\Projects\70088xxx\70088068 - Bognor Regis Golf Course Planning\03 WIP\Water\GIS\SINGLE- SITE_ExistingGolfCourse\70088068 - ExistingBognorGolfCourse.qgs

WSP UK Limited | Registered address: WSP House, 70 Chancery Lane, London WC2A 1AF
Registered in England and Wales No. 01383511



BRITISH GEOLOGICAL SURVEY 1:625,000 SCALE AQUIFER DESIGNATION



The hydrogeological map indicates aquifer potential in generalised terms using a threefold division of geological formations:

1. those in which intergranular flow in the saturated zone is dominant
2. those in which flow is controlled by fissures or discontinuities
3. less permeable formations including aquifers concealed at depth beneath covering layers

Highly productive aquifers are distinguished from those that are only of local importance or have no significant groundwater. Within each of these classes the strata are grouped together according to age or lithology.

The 1:625 000 scale data may be used as a guide to the aquifers at a regional or national level, but should not be relied on for local information.

CONTAINS OS DATA © CROWN COPYRIGHT AND DATABASE RIGHT 2021 - <https://www.ordnancesurvey.co.uk/business-and-government/licensing/using-creating-data-with-os-products/os-opendata.html>
BRITISH GEOLOGICAL SURVEY MATERIALS © NERC 2021 - http://www.bgs.ac.uk/help/terms_of_use.html

Created by: UKAMW009 - 2021-12-08 13:09:08

\\uk.wspgroup.com\central data\Projects\70088\70088068 - Bognor Regis Golf Course Planning\03 WIP\Water\GIS\SINGLE- SITE_ExistingGolfCourse\70088068 - ExistingBognorGolfCourse.qgs

WSP UK Limited | Registered address: WSP House, 70 Chancery Lane, London WC2A 1AF
Registered in England and Wales No. 01383511