Higher Road, Longridge
Vehicle Restraint Risk Assessment

Prepared by

Distribution List

1. Neil Hughes - Stanley
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REPORT NUMBER 2022/S/1579

CONTACT

Naresh Madhavan
Highway Associates
International House
Aviation Park
Flint Road
Chester
CH4 0GZ

Tel: 07715109788

Email: Naresh@HighwayAssociates.co.uk
Web: www.HighwayAssociates.co.uk

Issue and revision record

Revision	Date	Originator	Checker	Approver	Description
FINAL	30/03/22	N Madhavan	R Sawczyn	L Madhavan	For Issue

CONTENTS

1 INTRODUCTION

1.1 This report results from a review of the proposed installation of SuDS basins as part of a proposed residential development off Higher Road, Longridge. In particular the south side of the carriageway where there are unprotected embankments leading to the two basins. Location plans are shown in Appendix A.

1.2 The assessment was undertaken by:

Naresh Madhavan, Director - Highway Associates

1.3 The terms of reference for this assessment are as described in the 2011 DfT publication - *Provision of Road Restraint Systems on Local Authority Roads.*

1.4 The assessment has been carried out taking into consideration proposed carriageway and footway works off Higher Lane, Longridge.

2 BACKGROUND AND EXISTING CONDITIONS

2.1 As part of a reserved matter planning application, the local planning authority, Lancashire Cunty Council have requested that a Vehicular Restraint Assessment be submitted due to the existing and proposed topography. As a RRRAP assessment may not be appropriate due to the nature of the road and low speed status, an assessment under the 2011 DfT publication - *Provision of Road Restraint Systems on Local Authority Roads* has been deemed necessary to quantify the likely risk and suggest possible containment measures.

2.2 The proposed works consist of new local access roads and footways together with two SuDS basins.

2.3 The area of access road under assessment is located to the south of the works where unprotected embankments are present.

2.4 A 20mph speed limit will be in force along this stretch of carriageway and is subject to a system of street lighting.

2.5 The general alignment of the carriageway in the location of both SuDS basins is relatively straight however the eastern most basin is approached via a right-hand bend when travelling southbound. The carriageway falls longitudinally from east to west and is bound by a 3 metre wide footway/cycleway to the south of the carriageway.

2.6 The adjacent embankments vary between 1 and 3 metres high with batter slopes of between 1:3 and 1:4

2.7 Should an errant vehicle travel down either embankments, concern is expressed that there could be an increased potential for higher occupant casualty severities.

2.8 Under the guidance shown within the DfT publication, Methods A or C may be used to assess the locations, however in the absence of any reported injury collisions within the scheme extents due to the new build nature, Method C has been utilised below.

3 Assessment

3.1 The indicative scores for Method C are shown in the table below.

Eastern side SuDS basin

Factor	Priority Rank	Risk Factor Score
Location	0 – All other roads	0
Layout	0 – Bend alignment but complies with Standards	0
	1 – Some potential of positioning manoeuvres or avoiding actions	2
Collision	0 – Individual spot hazard	0
	1 – Percentage of KSI for primary hazard 20-30%	1
Consequential	0 – No secondary events likely	0
	0 – No impact on network availability	0
	0 – No significant costs implications	0
	Total Priority Score	**3** (Low Priority Site)

Western side SuDS basin

Factor	Priority Rank	Risk Factor Score
Location	0 – All other roads	0
Layout	0 – Straight alignment but complies with Standards	0
	1 – Some potential of positioning manoeuvres or avoiding actions	2
Collision	1 – Longitudinal hazard that may be reached	1
	0 – Percentage of KSI for primary hazard <20%	0
Consequential	0 – No secondary events likely	0
	0 – No impact on network availability	0
	0 – No significant costs implications	0
	Total Priority Score	**3** (Low Priority Site)

4 DISCUSSION

4.1 The “low” risk scores are largely due to the low speed nature of access roads in these locations and their status which takes into account likely traffic flow. It is noted that whilst the eastern embankment is nearly 3 metres high, it is located some 8 metres from the carriageway edge and 5 metres from the edge of footway/cycleway so the likelihood of the hazard being reached are very low in consideration of likely approach speeds. The western most SuDs basin is only around 1 metre deep and located 7 metres from the carriageway edge and 4 metres from the edge of footway cycleway so again unlikely the hazard is unlikely to be reached and any incursion is thought to only have slight consequences with respect to casualty severity.

4.2 Even given the low risks, the hazard of unprotected embankments still exists and therefore should be mitigated if a practical option exists. A fully compliant vehicle restraint system (VRS) would successfully mitigate however given the low traffic flow, approach speeds and distance from the carriageway it is not thought to be practical in this situation.

4.3 Instead, it is thought a more pragmatic option based on the low risk score would be to provide a post and rail fence together with soft landscaping which should be located adjacent to the proposed footway / cycleway to prevent any errant pedestrian or cyclist incursion. It is not thought that vehicular incursion is likely given the hazards distance away from the carriageway.

5 CONCLUSION

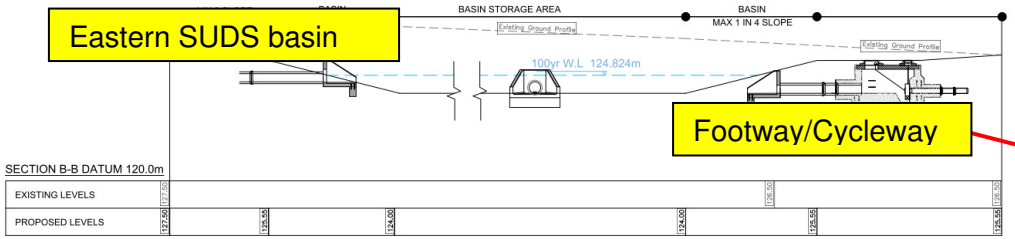
5.1 Both embankments have been identified as posing a low risk in the identified locations. Consequential on-network events as a result of incursion are not applicable however given the location of both hazards not far from the edge of the proposed footway / cycleway some minor mitigation should be provided.

5.2 Based on this, it is felt that a post and rail fence should be provided together with soft landscaping in the form of plant and tree planting should be provided for the lengths of the hazards.

5.3 The situation should be further monitored as part of road safety audit / post scheme monitoring process as necessary.

APPENDIX A

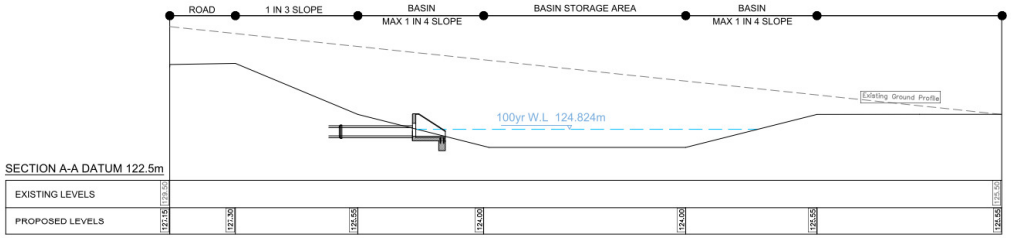
LOCATION PLANS



Eastern SUDS basin

Footway/Cycleway

SCALE 1:100



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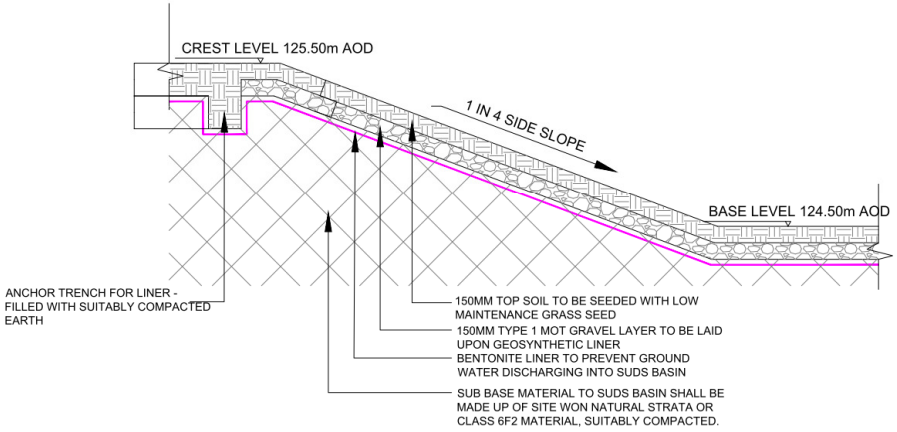
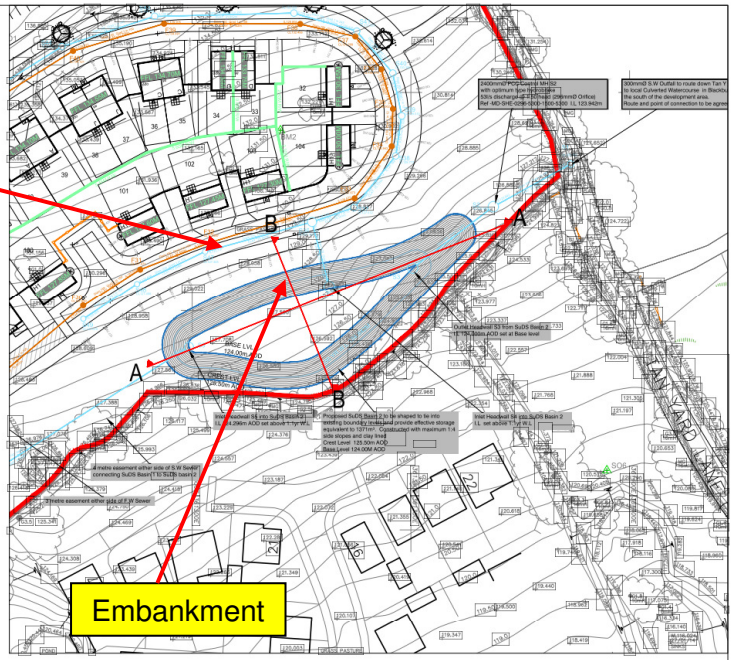


SUDS BASIN CONSTRUCTION DETAIL SCALE 1:20



REV	DATE	DESCRIPTION	BY	CHK	APP
P01	14.05.2021	INITIAL ISSUE	JCM	JLS	JLS

DRAWING STATUS: **PRELIMINARY**

CLIENT: STANLEY INVESTMENTS

ARCHITECT: MPSL

PROJECT: HIGHER ROAD LONGRIDGE

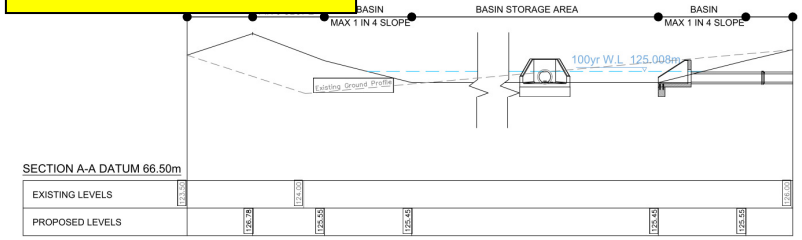
TITLE: SuDS BASIN 2 SECTIONS

STATUS	PROJECT No.	PROJECT	ORIGINATOR	VOL/SYS	LEVEL	TYPE	ROLE	DRAWING No.	REV.
S2	220-248	HIG	AJP	ZZ	00	DR	C	1071	P01

SCALE @ A1	DESIGNED	DRAWN	CHECKED	APPROVED	DATE
1:500	JCM	JCM	JLS	JLS	14.05.2021

AJP consulting engineers
0151 227 1462 info@ajpltd.co.uk 1 Dale Street, Liverpool, L2 2ET

Western SUDS basin



SECTION A-A DATUM 66.50m

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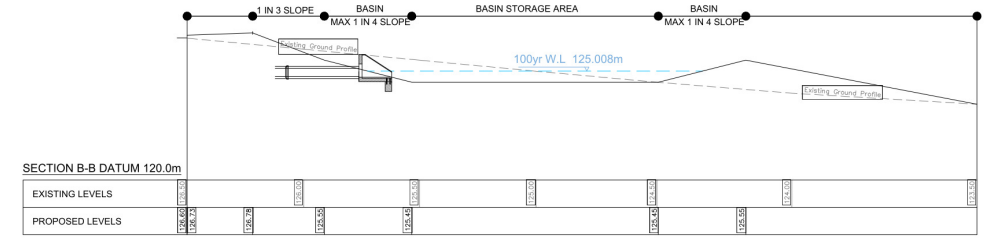
PROPOSED LEVELS		126.78		125.55	125.45		125.45	125.55

SCALE 1:100



SECTION B-B DATUM 120.0m

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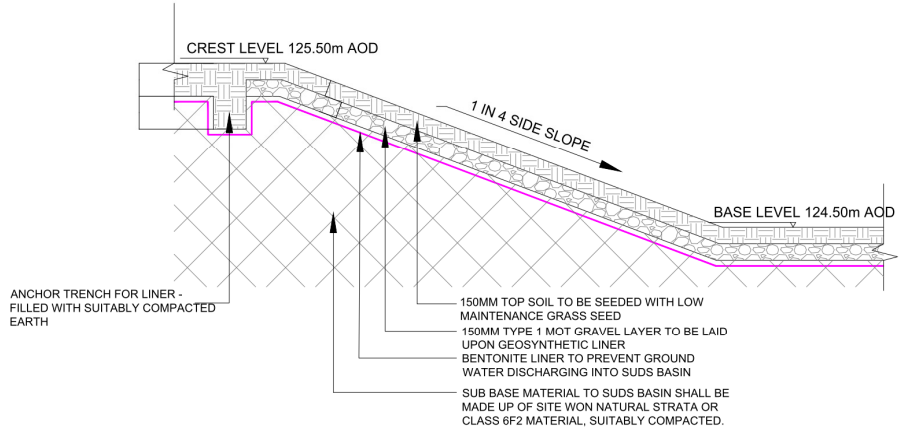
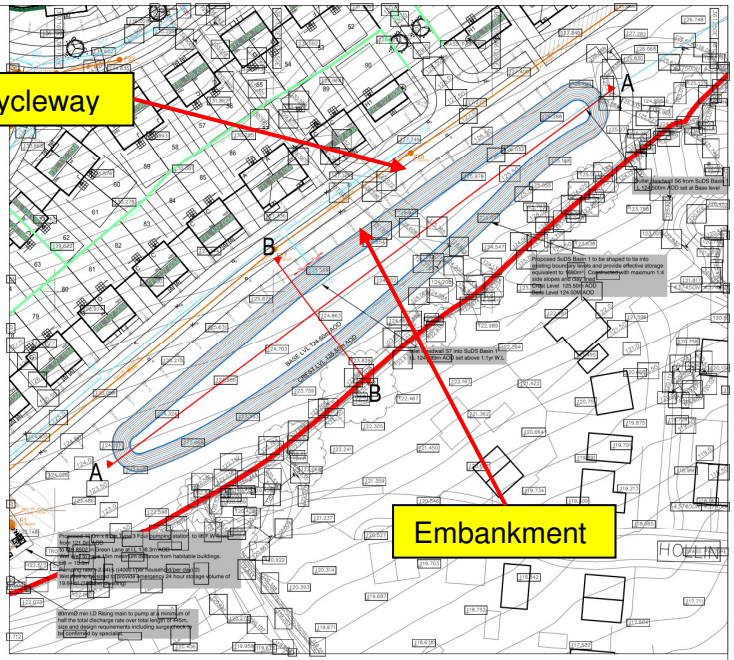


SUDS BASIN CONSTRUCTION DETAIL SCALE 1:20

Footway/Cycleway



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P01	14.05.2021	INITIAL ISSUE	JCM	JLS	JLS

DRAWING STATUS: **PRELIMINARY**

CLIENT: STANLEY INVESTMENTS

ARCHITECT: MPSL

PROJECT: HIGHER ROAD LONGRIDGE

TITLE: SuDS BASIN 1 SECTIONS

STATUS	PROJECT No.	PROJECT	ORIGINATOR	VOL/SYS/LEVEL	TYPE	ROLE	DRAWING No.	REV
S2	220-248	HIG	AJP	ZZ	00	DR	C - 1070	P01

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1:500	JCM	JCM	JLS	JLS	14.05.2021

AJP consulting engineers
0151 227 1462 ✉ info@ajpltd.co.uk 1 Dale Street, Liverpool, L2 2ET