TRANSPORT STATEMENT

November 2021

Residential Development
Bolston House
Bonvilston
Vale of Glamorgan

acstro

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Revision History

Issue 1	16th September 2020	First Issue
Issue 2	22nd November 2021	

1401 Bolston House Transport Statement .docx

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1 Introduction

1.1 Acstro has been appointed to prepare a Transport Statement in respect to the proposed development of six dwellings on land at Bolston House, to the north of the A48 in the village of Bonvilston, Vale of Glamorgan.

1.2 The site currently accommodates one dwelling, Bolston House which will be demolished as part of the development.

2 Existing Conditions

2.1 The site is located to the west of the Red Lion public house and is shown in Figure 1.

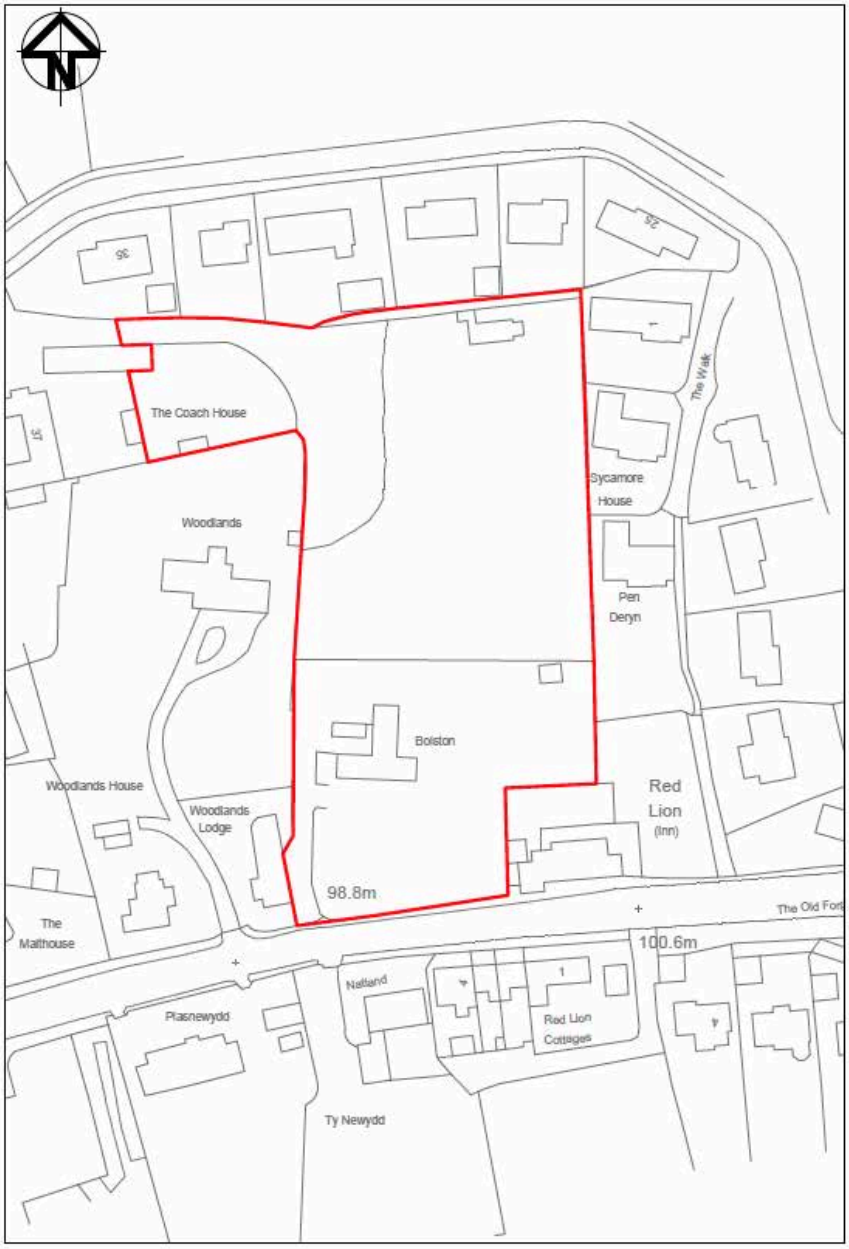

Figure 1 Location Plan

2.2 Bolston House has a direct access onto the A48 that is located at the south western corner of the site. The access is flanked by walls and the proposed development will seek to minimise any disruption to these walls for conservation reasons.

Figure 2 Existing Bolston House Access

2.3 The site is located in Bonvilston, which is some 8km east of Cowbridge and 5km west of Culverhouse Cross on the outskirts of Cardiff. Cardiff city centre is approximately 13km from the site. The village is linked to these larger settlements by the A48, which continues west of Bonvilston to Cowbridge and Bridgend.

2.4 The facilities available within the village include the Bonvilston Reading Rooms adjacent to the site, village shop and café opposite the site, Saint Mary's Church and Red Lion pub. At the edge of the village and approximately 1km to the east of the application site is the Cottrell Park Golf Resort.

2.5 There are footways on both sides of the A48 within the village. These benefit from street lighting. There is a signal-controlled pedestrian crossing facility adjacent to the Red Lion pub.

2.6 A broader range of services and facilities are available in Cowbridge, Culverhouse Cross and Cardiff that are all within easy reach of the site.

2.7 Journeys to these larger settlements can be made by public transport with bus stops located on either side of the A48, within 100m to the west of the site. These are served by the X2 'Cymru Clipper' bus service that runs between Cardiff and Porthcawl via Cowbridge and Bridgend. In each direction the bus services passes every 30 minutes on weekdays and Saturdays and hourly throughout Sundays.

2.8 The A48 that passes through the village is subject to a 40mph speed limit. The A48 has a wide carriageway (approximately 9m) and provides a single traffic lane in each direction. The flow of traffic is normally positioned in the centre of lane width of the traffic lanes allows the flow of traffic to normally be positA 7-day traffic count to measure vehicle speeds in both directions adjacent to the proposed development has been undertaken (December 2018). The survey found that the 85th percentile speed of traffic was 36mph westbound and 38mph eastbound. The survey data is provided as Appendix 1.

Appendix 1 Traffic Speed Survey

2.9 Guidance on appropriate visibility provision at accesses and junctions is provided within TAN18, Manual for Streets (MfS1), Manual for Streets 2 (MfS2) and the Design Manual for Roads and Bridges (DMRB). The guidance of visibility requirements differs depending on the situation of the access and the speed of traffic passing.

2.10 The most recent of these documents is MfS2 (October 2010), provides clarification on which of the design standards should be followed in which situations.

2.11 MfS2 states in 1.3.2 that 'for any scheme affecting non-trunk roads, designers should start with MfS'.

2.12 Advice on these parameters is provided within section 10 of MfS2, which states that visibility from an access (Y-distance) should be based upon the stopping sight distance (SSD) for the speed of approaching traffic. SSD should be calculated based on the following formula:

$$SSD = vt + v^2/2(d + 0.1a)$$

Where:

v = speed (m/s)
t = driver perception/reaction time (seconds)
d = deceleration (m/s2)
a=longitudinal gradient (%)

2.13 A reaction time (t) of 1.5 seconds is recommended where speeds are below 60kph (37.3mph) and 2 seconds where speeds are higher. A deceleration rate of 0.45g should be used for light vehicles and 0.375g for HGV's and buses.

2.14 Based on these parameters and allowing for HGV traffic it is calculated that the SSD for westbound traffic is 59m and for eastbound traffic is 73m.

3 Proposed Development

3.1 The proposal is to demolish the existing dwelling, Bolston House, and construct 14 dwellings in its place. The proposed access arrangement is shown in Appendix 2.

Appendix 2 Proposed Access

3.2 The existing access will be widened to an adoptable standard with a 5.5m wide carriageway and 2m footways on both sides. This leads to a turning head, capable of accommodating a refuse vehicle. Access to six properties will be from the eastern stub of the turning head.

3.3 The alignment of the boundary wall currently restricts visibility from the access. To overcome this it is proposed part of the wall will be demolished and also that localised widening of the footway be undertaken. The footway will be widened to a width of 2m across the site's frontage. This work has the effect of advancing the give-way line providing drivers that emerge from the site with 2.4m x 120m visibility in both directions.

3.4 Parking provision within the site will accord with the Council's current Parking Standards, which recommend one parking space per bedroom up to a maximum of 3 per dwelling.

3.5 To the north of the turning head and in order to respect the character of the site, an informal private shared drive arrangement is proposed. The driveway has a minimum width of 4.5m with a 2m wide footway along its eastern side. A turning area is provided to allow delivery vehicles to turn.

3.6 The maintenance of the private shared driveway will be the responsibility of a management company.

4 Conclusion

4.1 The proposal is to construct 14 dwellings on land in Bonvilston. They will replace an existing dwelling and so there will be an overall increase of 13 dwellings.

4.2 The village has a number of basic facilities including a shop, café and pub. A broader selection of services and facilities is available in Cowbridge to the west and Cardiff to the east and are accessible by way of the frequent and regular bus services that serve Bonvilston.

4.3 The new dwellings will be served by a new, adoptable access from the A48. Visibility splays of 2.4m x 120m will be provided, this being achieved through localised widening of the footway adjacent to the site.

4.4 In conclusion it is considered that the proposed development is acceptable in highway and transportation terms.

Appendix 1 Traffic Speed Survey

Site No: 99186001 Site Reference: 99186001

A48 Bonvilston on L/C as near to target as safe

Speed Summary (Mon to Fri)-Lin From 04/12/2018 To 12/12/201 Channel: East to Cowbridge

Time Begin	Total Vol.	85th %ile	Mean Ave.	Std. Dev.	Bin 1 <11Mph	Bin 2 11-<16	Bin 3 16-<21	Bin 4 21-<26	Bin 5 26-<31	Bin 6 31-<36	Bin 7 36-<41	Bin 8 41-<46	Bin 9 46-<51	Bin 10 51-<56	Bin 11 56-<61	Bin 12 61-<66	Bin 13 =>66
00:00	27	46.8	41.4	6.1	0	0	0	0	1	3	11	7	3	2	0	0	0
01:00	16	45.3	41.2	7.6	0	0	0	0	1	3	5	5	1	1	1	0	0
02:00	10	52.7	45.7	7.6	0	0	0	0	0	1	3	3	2	1	1	0	0
03:00	7	-	43.9	6.2	0	0	0	0	0	1	2	2	1	0	0	0	0
04:00	18	50.3	44.3	9	0	0	0	0	0	2	5	4	4	1	1	0	1
05:00	41	49.6	43.1	7.7	0	0	0	0	1	4	12	12	6	3	1	0	1
06:00	142	45.9	40.4	6.2	0	0	0	0	3	26	55	36	14	5	2	1	0
07:00	402	40.2	35.7	4.8	0	0	0	2	44	171	146	30	7	1	1	0	0
08:00	499	39.6	35	4.5	0	0	1	6	56	246	159	24	5	1	0	0	0
09:00	368	39.1	34.6	4.6	1	1	2	2	45	197	103	14	2	0	0	0	0
10:00	364	38.9	34.4	4.6	1	1	1	6	45	196	102	10	2	1	0	0	0
11:00	417	38.5	34	4.3	0	0	2	5	68	229	100	11	1	0	1	0	0
12:00	491	37.5	33.5	4.2	1	1	2	8	86	292	93	8	1	0	0	0	0
13:00	493	38.2	33.9	4	0	0	1	5	81	282	111	11	2	0	0	0	0
14:00	556	38	33.6	4.3	1	1	2	6	105	309	121	8	2	0	0	0	0
15:00	646	37.4	33.1	4.3	0	1	2	16	154	344	117	11	1	1	0	0	0
16:00	842	35.7	32.1	4	1	0	2	16	313	410	91	8	1	0	0	0	0
17:00	843	36.2	32.5	4.2	0	1	2	16	271	421	113	15	2	0	0	0	0
18:00	609	38.2	33.5	4.5	0	1	3	13	132	308	135	15	1	0	0	0	0
19:00	328	40	35.6	4.5	0	0	1	2	30	151	118	21	4	1	0	0	0
20:00	243	40.2	36.3	4.4	0	0	0	1	13	107	102	15	5	1	0	0	0
21:00	169	40.8	37.1	4.9	0	0	0	0	9	64	73	16	5	1	1	0	0
22:00	157	40.7	37.3	4.7	0	0	0	0	5	56	75	14	4	1	1	0	0
23:00	84	44.3	38.8	6	0	0	0	0	4	22	35	14	4	2	0	1	0
12H,7-19	6530	38.2	33.6	4.5	5	7	19	101	1400	3404	1391	165	27	5	2	0	0
16H,6-22	7412	38.7	34	4.7	5	7	20	104	1455	3752	1739	253	55	13	5	1	0
18H,6-24	7653	38.9	34.1	4.7	5	7	20	104	1464	3830	1849	280	63	16	6	2	0
24H,0-24	7772	39.1	34.2	4.9	5	7	20	104	1467	3844	1888	312	79	24	10	2	2
Am	08:00	-	02:00	04:00	09:00	09:00	09:00	08:00	11:00	08:00	08:00	06:00	06:00	06:00	06:00	06:00	05:00
Peak	499	-	45.7	9	1	1	2	6	68	246	159	36	14	5	2	1	1

Pm	17:00	23:00	23:00	23:00	16:00	18:00	18:00	17:00	16:00	17:00	18:00	19:00	20:00	23:00	21:00	23:00	16:00
Peak	843	44.3	38.8	6	1	1	3	16	313	421	135	21	5	2	1	1	0

Created at 20:18:37 on 12 Dec 2018

Site No: 99186001 Site Reference: 99186001

A48 Bonvilston on L/C as near to target as safe

Speed Summary (Mon to Fri)-Lin From 04/12/2018 To 12/12/201 Channel: West to Cardiff

Time Begin	Total Vol.	85th %ile	Mean Ave.	Std. Dev.	Bin 1 <11Mph	Bin 2 11-<16	Bin 3 16-<21	Bin 4 21-<26	Bin 5 26-<31	Bin 6 31-<36	Bin 7 36-<41	Bin 8 41-<46	Bin 9 46-<51	Bin 10 51-<56	Bin 11 56-<61	Bin 12 61-<66	Bin 13 =>66
00:00	16	44.8	38.5	6	0	0	0	0	1	5	5	2	2	0	0	0	0
01:00	8	-	40	6.7	0	0	0	0	1	2	3	1	1	0	0	0	0
02:00	5	-	40.7	6.5	0	0	0	0	0	1	1	1	1	0	0	0	0
03:00	11	48.4	41.5	7.7	0	0	0	0	1	2	3	2	2	1	0	0	0
04:00	26	46	39.8	8.4	0	0	0	2	2	3	7	8	3	1	1	0	0
05:00	87	46.8	40.4	5.9	0	0	0	0	2	18	34	18	11	4	0	0	0
06:00	303	40.7	36.5	5	0	0	0	6	19	113	127	28	8	1	1	0	0
07:00	911	35.5	30.9	5.4	8	10	21	75	288	415	88	4	1	0	0	0	0
08:00	825	35.6	31.1	5.5	6	15	22	46	249	395	88	5	0	0	0	0	0
09:00	633	36.6	32.4	4.7	0	2	11	33	151	329	101	6	0	0	0	0	0
10:00	536	36	32.5	4.2	0	0	3	20	150	282	76	5	1	0	0	0	0
11:00	511	36.2	32.1	4.8	1	2	8	27	140	252	75	5	0	0	0	0	0
12:00	479	36.9	32.2	5.1	1	4	10	21	121	235	80	4	1	0	0	0	0
13:00	474	37.1	32.6	4.7	1	2	5	20	114	242	85	4	0	0	0	0	0
14:00	496	36.9	32.3	4.9	1	2	8	21	139	235	83	6	1	0	0	0	0
15:00	553	37	32.6	4.6	0	2	6	27	128	287	97	5	1	0	0	0	0
16:00	584	35.8	31.7	5	1	5	9	33	183	275	70	6	1	0	0	0	0
17:00	567	36.9	32.6	4.5	0	1	7	20	146	290	94	8	0	0	0	0	0
18:00	349	38.5	33.6	4.7	0	1	1	9	76	170	80	10	2	0	0	0	0
19:00	217	39.5	34.6	4.6	0	0	0	3	35	103	60	13	2	0	0	0	0
20:00	134	40.3	35.7	5	0	0	0	1	15	61	42	11	3	1	0	0	0
21:00	114	40.8	36.3	5.2	0	0	0	1	11	48	38	10	4	1	0	0	0
22:00	88	41.7	36.7	5.4	0	0	0	0	9	35	28	10	4	1	0	0	0
23:00	44	43.2	37.8	5.4	0	0	0	0	2	15	16	7	2	1	0	0	0
12H,7-19	6918	36.3	32	5	19	45	111	352	1885	3407	1016	69	8	0	0	0	0
16H,6-22	7686	37.1	32.4	5.1	19	45	111	363	1965	3732	1283	130	25	3	1	0	0
18H,6-24	7818	37.3	32.5	5.1	19	45	111	363	1976	3782	1327	147	31	5	1	0	0

24H,0-24	7971	37.6	32.6	5.3	19	45	111	365	1982	3813	1380	179	51	12	2	0	0
Am	07:00	-	03:00	04:00	07:00	08:00	08:00	07:00	07:00	07:00	06:00	06:00	05:00	05:00	06:00	08:00	04:00
Peak	911	-	41.5	8.4	8	15	22	75	288	415	127	28	11	4	1	0	0
Pm	16:00	23:00	23:00	23:00	12:00	16:00	12:00	16:00	16:00	17:00	15:00	19:00	21:00	21:00	23:00	23:00	16:00
Peak	584	43.2	37.8	5.4	1	5	10	33	183	290	97	13	4	1	0	0	0

Created at 20:18:37 on 12 Dec 2018

Appendix 2 Proposed Access

O.S. Grid North

2m Wide Grass Verge

2m Wide Footway

Proposed Private Shared Access

Limit of Adoption

2m Wide Grass Verge

Proposed Adoptable Standard Access

2m Wide Footway

Rumble Strip

Existing Footway

Re-align Kerb to Provide 2m Wide Footway Across Site Frontage

Proposed Kerb

Existing Kerb

Pedestrian Crossing (Dropped Kerbs & Tactile Paving)

BOLSTON HOUSE

WOODLANDS LODGE

RED LION (PH)

C	Revised Layout	21-11-21
B	Revised Layout	17-09-21
A	First Issue	03-09-21

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BOLSTON HOUSE
BONVILSTON

PROPOSED ACCESS
OPTION 2

1401	008	C
	1:200	@ A1

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1:200

Limit of Adoption

Turning Head Dimensions
as per CSS Wales'
"Common Standards for
Wales Design Guide"

5504
11000
R6000
13500
2000
2000
R6000
2m Wide Footway
2m Wide Verge
Proposed Adoptable Standard Access
2000.0m
Rumble Strip / Entry Feature
5500
R4m
24m
Existing Footway
Existing Kerb
Proposed Kerb
Existing Footway
Re-align Kerb to Provide 2m Wide
Footway Across Site Frontage

BOLSTON HOUSE
WOODLANDS LODGE
A 4 8

REFUSE VEHICLE
TRACKING
1:200

1:200

4500
4500
2000
Turning Area Designed to
Accommodate Delivery Vehicles
(Tracking of 7.5T Lorry Shown)
Z12
102.941

Limit of Adoption
5500
Proposed Adoptable Standard Access

BOLSTON HOUSE
Z7
102.260

1:500

Proposed Private Shared Access

Limit of Adoption

Proposed Adoptable Standard Access

2m Wide Footway Across Site Frontage
2.4m x 120m Visibility Splay

2.4m x 120m Visibility Splay

Signal Controlled Pedestrian Crossing

A48
40mph Speed Limit
Recorded 85th Percentile Speed:
36mph Westbound (SSD = 59m)
38mph Eastbound (SSD = 73m)

TY NEWYDD
GREAT HOUSE
ST MARY THE VIRGIN
CHURCH
RED LION (PH)

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D	Revised Layout	22-11-21
C	Revised Layout	17-09-21
B	Revised Layout	03-09-21
A	First Issue	23-08-21

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BOLSTON HOUSE
BONVILSTON

PROPOSED ACCESS
OPTION 2

1401	**007**	**D**
	1:500 & 1:200	**@ A1**

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