



Cellars Clough, Marsden

Road Safety Audit
Stage 1
August 2018

Project No: 1048

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Quality Management

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Date: 20th August 2018

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Revision

0 – Issued 20/08/2018

Remarks

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1. Introduction

1.1. Request for Road Safety Audit

1.1.1. AC Road Safety Audits have been asked on behalf of Paragon Highways to carry out a Stage 1 Road Safety Audit of the proposed access and associated highway improvements to a residential development at Cellars Clough, off the A62 Manchester Road, Marsden, Huddersfield.

1.1.2. The overseeing Local Authority for the scheme is Kirklees Metropolitan Council.

1.1.3. The Audit Team comprised:

Alison Cockayne	[Audit Team Leader for this Audit]
MIHE, BSc (Hons) Civil Engineering HE Cert. Comp	Principal Road Safety Engineer
Kevin Moran	[Audit Team Member for this Audit]
	Senior Road Safety Engineer

1.1.4. This Audit was undertaken in accordance with HD 19 /15 'Road Safety Audit', which forms part of Volume 5 of the Design Manual for Roads and Bridges. It comprised an examination of the drawings and documents as provided with the audit brief; details of which are listed at **Appendix A**.

1.1.5. Alison Cockayne holds a Road Safety Certificate of Competence meeting the requirements of the European Directive 2008/96 EC and HD19/15 Annex J.

1.1.6. The Audit Team has examined and reported only on the road safety implications for the scheme as presented and has not examined or verified the compliance of the designs to any other standards or criteria. The comments and suggestions for road safety improvements made in this report are aimed to address matters that might have an adverse effect on road safety in the context of the chosen design. To clearly explain a safety problem or recommendation to resolve a problem, the Audit Team may refer to a Design Standard.

1.1.7. A site visit was carried out on Sunday 19th August 2018 at 11:30 hrs. The weather conditions were fine, visibility good and the road surface was damp. Vehicle and pedestrian volumes were low.

1.1.8. Any safety related issues resulting from the Stage 1 Road Safety Audit identified on the scheme are reported in **Section 3**. Problem locations have been marked on the Problem Location plan given at **Appendix B** or as listed on drawings accompanying each individual identified problem.

1.1.9. Where the Audit Team has identified potential existing road safety design problems within this area, that fall outside the scope of the audit brief, these matters are reported under **Section 4** of this report. The Design Organisation and Contracting Authority should give due regard to the matters raised.

1.2. Scheme Description

1.2.1. The proposals are to improve an existing access to serve a new residential development at Cellars Clough, off the A62 Manchester Road at Marsden, Huddersfield. The scheme includes:

- A new widened priority junction;
- Improved visibility splays and carriageway widening;
- A new right turn lane into the site;
- New hatched markings and refuge islands on Manchester Road either side of the access;
- New vehicle restraint barrier and pedestrian guard rail along the access road;
- A new footway leading to the development and
- Footway and Carriageway resurfacing / construction.

1.3. Supporting Information

1.3.1. The following information was provided to assist the Audit Team undertaking the Road Safety Audit.

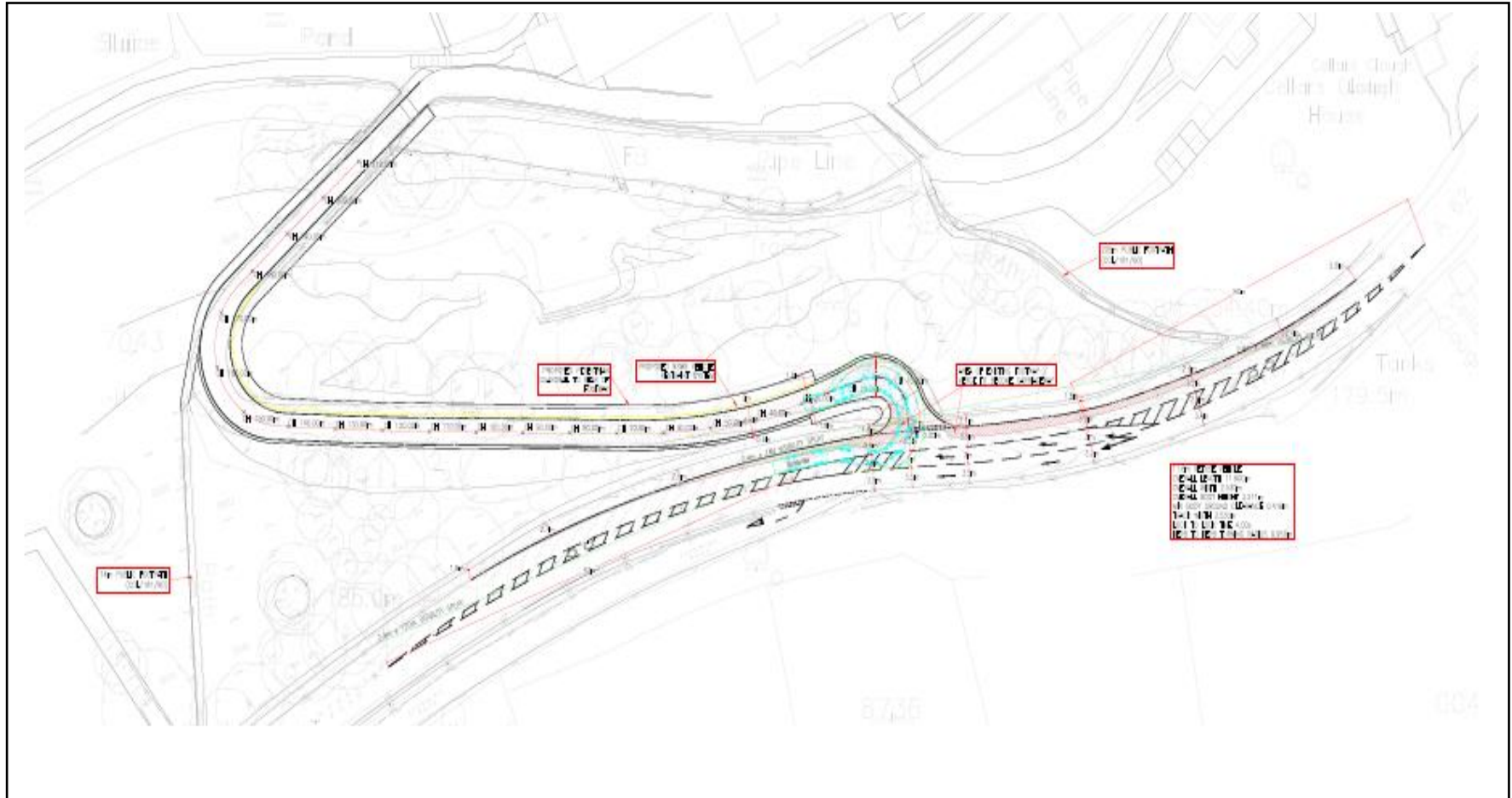
1.3.2. No collisions have been recorded on the A62 Manchester Road in the last 5 years within 200 metres of the access road.

1.3.3. Speed data was supplied and can be found at **Appendix A**.

1.3.4. The estimated traffic / trips to and from the site are given in the table below:

	Morning Peak			Evening Peak		
	Arrive	Depart	Total	Arrive	Depart	Total
Trip Rate	0.151	0.416	0.567	0.390	0.225	0.615
Generated Trips	8	23	31	21	12	33

Figure 1 indicates the extents of the scheme considered under this Stage 1 Road Safety Audit in accordance with the Audit Brief.



2. Matters Raised at Previous Road Safety Audits

2.1. Previous Audits

- 2.1.1. The Audit Team are not aware of any previous Road Safety Audits that have been carried out on this scheme.

Designers Response – 21/08/2018 – P A Howarth MCIHT MIHE

3 Items Identified at This Stage 1 Road Safety Audit

GENERAL

3.1.1 PROBLEM 1

Location: A62 Manchester Road at proposed refuges.

Summary: Risk of collisions due to limited forward visibility and inadequate illumination of refuges.

Detail: Two new refuges are proposed on the A62 Manchester Road on each approach to the access road. There is limited forward visibility especially travelling west bound and no details have been provided about the type of refuge and whether they are intended for pedestrians. There are no illuminated bollards shown and given that the road is bounded by trees and vegetation, which is very dense causing dark areas on the carriageway, there is a risk that vehicles may collide with them.

Recommendation: Ensure there is adequate forward visibility and type of refuge is suitable and they are adequately illuminated.

Design Team Response (1)

Accepted – indicated on drawings.

Road Safety Audit Team Response (1)

3.1.2 PROBLEM 2

Location: A62 Manchester Road

Summary: Risk of flooding / standing water resulting in vehicles losing control.

Detail: There are several gullies along the north side of the A62 Manchester Road where the carriageway is being widened (See Images below). There are no details of any proposed drainage or the relocation of the gullies. If the carriageway is not drained adequately there is a risk of flooding / standing water which may lead to vehicles losing control. This problem is exacerbated during the winter months due to low temperatures and freezing conditions.



A62 Manchester Road west of
access road



A62 Manchester Road east of access
road

Recommendation: Relocate the existing gullies to the proposed channel line and provide adequate drainage elsewhere if needed.

Design Team Response (1)

Accepted.

Road Safety Audit Team Response (1)

3.1.3 PROBLEM 3

Location: A62 Manchester Road

Summary: Risk of trip hazards / inadequate footway width.

Detail: There are several manholes in the footway along Manchester Road in the area where the carriageway is being widened. There are no details of the relocation of the manholes and some appear to be along the proposed kerb line. If these manholes cannot be relocated or adjusted they will create a hazard for pedestrians.



A62 Manchester Road



A62 Manchester Road

Recommendation: All manholes should be relocated / adjusted to be flush with any proposed levels.

Design Team Response (1)

Accepted.

Road Safety Audit Team Response (1)

3.1.4 PROBLEM 4

Location: A62 Manchester Road east of new access road.

Summary: Risk of vehicle collisions due to inadequate lighting and limited forward visibility of junction.

Detail: There is an abundance of vegetation including large mature trees on both sides of the carriageway on the A62 Manchester Road, east of the access road. This creates dark areas and obscures any light emitted from the street lighting. A new refuge is proposed on the bend approaching the junction and if lighting is not adequate there is a risk this could be struck or vehicles approaching from this direction may not see queuing traffic in the new right turn pocket for the junction resulting in shunt type collisions.



A62 Manchester Road looking West

Recommendation: Ensure the lighting levels are adequate for the proposed layout and there is advance warning of the junction.

Design Team Response (1)

Accepted – Street lighting will be considered at the 278 Agreement stage.

Road Safety Audit Team Response (1)

3.1.5 PROBLEM 5

Location: Access Road

Summary: Risk of vehicle collisions due to vegetation

Detail: There is heavy vegetation along the full length of the access road creating dark areas and overhanging into the carriageway (See Images below). No lighting details have been provided and it is unclear whether this road will be illuminated. It is also unclear how much vegetation is being removed to accommodate the changes to the road. If the levels of vegetation remain there is a risk of collisions between vehicles as they may not see each other or move into the path of oncoming vehicles to avoid the vegetation.



*Access Road looking East towards
Manchester Road*



Access Road approaching bend

Recommendation: Ensure the lighting levels are adequate and the vegetation is removed / cut back to accommodate the predicted levels of traffic using this road.

Design Team Response (1)

Accepted – Street lighting to be included within the full detailed design.

Road Safety Audit Team Response (1)

3.1.6 PROBLEM 6

Location: A62 Manchester Road west of new access.

Summary: Risk of collisions between maintenance vehicles and live traffic.

Detail: There is what appears to be a dropped crossing which is assumed to be for maintenance vehicles to access the BT / Communication Cabinets (See Images below).



A62 Manchester Road looking East



*A62 Manchester Road – BT Cabinets /
dropped crossing*

This dropped crossing is within the area which is proposed for carriageway widening and at present is within the double white line system. There are no details showing that this has been considered. If a maintenance vehicle cannot pull off the carriageway and has to park in the live running lane this could create a hazard for passing vehicles and a danger to the operative.

Recommendation: Ensure the dropped kerb has been considered so maintenance vehicles can access the communications cabinets.

Design Team Response (1)

Accepted.

Road Safety Audit Team Response (1)

3.1.7 PROBLEM 7

Location: Access Road

Summary: Unprotected embankment could increase the risk and severity of a collision of an errant vehicle at this location.

Detail: A new vehicle restraint barrier and pedestrian guard-rail is proposed along the new footway on the access road but the embankment between chainage 0 and 30 is unprotected. This could lead to an errant vehicle negotiating the bend leaving the carriageway with an increased risk of severity.



Access Road looking at section without proposed restraint system

Recommendation: Extend the safety fence to chainage 0.

Design Team Response (1)

Accepted.

Road Safety Audit Team Response (1)

LOCAL ALIGNMENT

3.1.8 PROBLEM 8

Location: A62 Manchester Road east of new access road

Summary: Risk of vehicle collisions due to inadequate sight lines.

Detail: Although the carriageway is being widened and a 90-metre visibility splay is shown, there is a stone wall on either side of the access and it is unclear if this is being removed to improve visibility. There is also heavy vegetation to the east of the access road, outside the highway boundary including large mature trees which obscure sightlines around the bend on Manchester Road, when pulling out of the junction; especially for larger vehicles. It is also not clear whether this vegetation is being removed or cut back.



*Manchester Road looking East
towards bend*

Recommendation: Ensure the sightlines in both directions are adequate and comply with DMRB and the vegetation is cut back adequately.

Design Team Response (1)

Accepted.

Road Safety Audit Team Response (1)

3.1.9 PROBLEM 9

Location: A62 Manchester Road west of access road

Summary: Risk of obscured sightlines and reduced footway width resulting in pedestrian / vehicle conflicts.

Detail: There are some posts in the footway to the west of the access road which are assumed to have had a chevron board on at some time (See Image below). If the footway is reduced at this point to 1.9 metres as shown on Drawing No.1048:101 there is a risk that the footway will not be wide enough for pedestrians with pushchairs or wheelchair users if the chevron board is reinstated. This may result in pedestrians stepping into the road. It may also obscure the sightlines when exiting the junction. There are chevron boards further west along the road which may also need relocating if the footway cannot accommodate them.



Manchester Road looking East

Recommendation: Determine if the chevron board is needed and if it is to be re-erected, ensure it does not obscure sightlines or reduce the footway to an unacceptable width. Check the footway width at the existing chevron boards.

Design Team Response (1)

Accepted – chevron board to be relocated or removed as per the requirements of the LHA.

Road Safety Audit Team Response (1)

JUNCTIONS

3.1.10 PROBLEM 10

Location: Access Road approx. at chainage 20

Summary: There is a risk of conflict between vehicles accessing and exiting the junction.

Detail: The access road has a severe bend near to the junction with the A62 Manchester Road with a steep gradient at the start. The forward visibility when turning in from the west is blind and due to the layout and topography there is a risk of collisions between vehicles at this point, especially larger vehicles which require a bigger turning circle. It is also unclear whether the stone wall is to remain at the back of the footway on the A62 which also restricts visibility.



A62 Manchester Road looking towards access road.



Access Road approaching blind bend towards Manchester Road

Recommendation: Improve the access in and out to minimise conflict between vehicles.

Design Team Response (1)

Accepted – access widened to accommodate a 11.85m long refuse vehicle.

Road Safety Audit Team Response (1)

3.1.11 PROBLEM 11

Location: Access Road at J/W Entrance to Healing Centre

Summary: Risk of vehicle collisions due to inadequate sight lines.

Detail: The access road to the new development also serves a Healing Centre and at the junction with the access to the Healing Centre there is limited visibility due to overgrown vegetation and the layout of the road. There are no details shown of any priority at this intersection and there is a risk that vehicles will be in conflict if increased traffic is using the road. Drawing No.1048:101 also appears to show that the pedestrian guard rail extends across this access.



*Access Road at J/W Entrance to
Healing Centre*

Recommendation: Ensure the vegetation is cut back adequately to improve sight lines, the pedestrian guard rail does not obstruct the access and provide priority Give Way markings.

Design Team Response (1)

Accepted.

Road Safety Audit Team Response (1)

NON-MOTORISED USER PROVISION

3.1.12 PROBLEM 12

Location: Access Road between chainage 0 and 30.

Summary: Risk of collisions between vehicles and pedestrians.

Detail: A new footway is being provided along the access road from chainage 30 but there is no provision at the start of the road for pedestrians. This road is also signed as a public footpath. This location is considered the most vulnerable as it is a very tight, blind bend with restricted turning movements, especially for large vehicles. The vehicle tracks shown on the drawing suggest that a refuse vehicle will take most of the carriageway at this point to manoeuvre round the bend. If pedestrians step off the new footway into the carriageway and a vehicle is turning in they may be unaware of each other resulting in an increased risk of a collision.

Recommendation: Ensure there is adequate provision for pedestrians at this location.

Design Team Response (1)

Provision for pedestrians considered as part of the design. Slow moving vehicles through the junction, therefore, potential for collision considerably reduced.

Road Safety Audit Team Response (1)

3.1.13 PROBLEM 13

Location: Access Road at junction with A62 Manchester Road and at access to Healing Centre

Summary: Risk of collisions between vehicles and pedestrians.

Detail: The proposals do not show any provision of dropped crossings on the access road at its junction with the A62 Manchester Road or at the access to the Healing Centre. Failure to provide crossing points for pedestrians could lead to trips and falls or crossing at inappropriate locations resulting in collisions with vehicles.

Recommendation: Ensure dropped crossings are provided at these junctions and any locations where pedestrians may cross within the scheme extents.

Design Team Response (1)

Accepted.

Road Safety Audit Team Response (1)

3.1.14 PROBLEM 14

Location: Proposed Refuge Island on A62 Manchester Road, east of access road.

Summary: Risk of collisions between vehicles and pedestrians.

Detail: The proposals show a new refuge island on the western approach to the junction with the access road, in the central hatching. It is proposed to be positioned opposite a public footpath which is signed and accessed from Manchester Road through a gap in the stone wall (see Image below). There are no dropped crossings shown on either side of the carriageway at this location and there is no footway on the southern side of Manchester Road so it is assumed that this refuge is not intended for pedestrians. The refuge may encourage pedestrians to cross at this location if it is not made clear that it is not intended for this purpose.



A62 Manchester Road at location of proposed refuge.

Recommendation: If the refuge is not intended for pedestrians to use as a crossing point make this clear or improve the standard of the refuge and facilities for pedestrians at this location.

Design Team Response (1)

Accepted – refuge islands shown.

Road Safety Audit Team Response (1)

3.1.15 PROBLEM 15

Location: Public Footpath between A62 Manchester Road and Access Road.

Summary: Risk of collisions between vehicles and pedestrians.

Detail: There is an existing public footpath that leads from the A62 Manchester Road and joins the access road at approximately chainage 160 metres. There is no detail of how pedestrians will transition from the footpath onto the access road.

Recommendation: Ensure the transition between the public footpath is maintained and is safe for pedestrians.

Design Team Response (1)

Accepted – Details to be agreed at detailed planning stage.

Road Safety Audit Team Response (1)

SIGNING & LINING

3.1.16 PROBLEM 16

Location: A62 Manchester Road

Summary: Risk of collisions resulting from inappropriate overtaking.

Detail: The proposals show some new hatching, a new right turn pocket and direction arrows. The existing lining is a double white line system through the series of bends that the scheme extends (See Image below). The double white lines prevent overtaking through this series of bends and restrict parking. If this is not included in the proposals, there is a risk of collisions from inappropriate overtaking with an increased risk of severity.



*Double white line system on A62
Manchester Road looking East*

Recommendation: Include the double line system in the proposed layout.

Design Team Response (1)

Accepted.

Road Safety Audit Team Response (1)

3.1.17 PROBLEM 17

Location: A62 Manchester Road at junction with Stubbin Road

Summary: Risk of collisions with traffic attempting to turn right into Stubbin Road.

Detail: The proposals show a gap in the hatching on Manchester Road at the junction with Stubbin Road. There is a no right turn ban into Stubbin Road and this may encourage drivers to use the gap to turn right. The signs indicating the no right turn are also obscured by vegetation (See Image below). Traffic wishing to turn right in two stages from Stubbin Lane will be able to sit in the hatched area.



*A62 Manchester Road looking East
approaching j/w Stubbin Road*

Recommendation: Extend the hatching, consider additional road markings to discourage this manoeuvre and trim back any vegetation obscuring the signs.

Design Team Response (1)

Accepted.

Road Safety Audit Team Response (1)

APPENDIX A – LIST OF DOCUMENTS PROVIDED

Drawing Number	Revision	Title
1048-101		Cellars Clough, Marsden – Proposed Access Alignment & Long Section
1048-102		Cellars Clough, Marsden – Proposed Cross Section

SPEED SURVEY

LOCATION Manchester Road Marsden
DIRECTION OF TRAVEL School Lane

SPEED (MPH)	NO. OF READINGS	SPEED (MPH)	NO. OF READINGS	SPEED (MPH)	NO. OF READINGS	SPEED (MPH)	NO. OF READINGS
1		26		51		76	
2		27		52		77	
3		28	4	53		78	
4		29	4	54		79	
5		30	6	55		80	
6		31	12	56		81	
7		32	31	57		82	
8		33	20	58		83	
9		34	23	59		84	
10		35	24	60		85	
11		36	19	61		86	
12		37	24	62		87	
13		38	10	63		88	
14		39	10	64		89	
15		40	6	65		90	
16		41	5	66		91	
17		42	1	67		92	
18		43	1	68		93	
19		44		69		94	
20		45		70		95	
21	1	46	1	71		96	
22		47	1	72		97	
23		48		73		98	
24		49		74		99	
25		50		75		100	

	..... 203	DUAL CARRIAGEWAY?

MEAN SPEED	34.679803	SINGLE CARRIAGEWAY? Y

STANDARD DEVIATION	3.3832634	WET ROAD SURFACE? N

85th PERCENTILE	38.0630664	
	
85th PERCENTILE WET WEATHER SPEED	35.5780664 ✓	
	



SPEED SURVEY

LOCATION Manchester Road Marsden 40MPH

DIRECTION OF TRAVEL From Marsden Centre

SPEED (MPH)	NO. OF READINGS	SPEED (MPH)	NO. OF READINGS	SPEED (MPH)	NO. OF READINGS	SPEED (MPH)	NO. OF READINGS
1		26		51		76	
2		27		52		77	
3		28		53		78	
4		29		54		79	
5		30	1	55		80	
6		31	1	56		81	
7		32	4	57		82	
8		33	5	58		83	
9		34	13	59		84	
10		35	19	60		85	
11		36	22	61		86	
12		37	27	62		87	
13		38	17	63		88	
14		39	27	64		89	
15		40	12	65		90	
16		41	11	66		91	
17		42	13	67		92	
18		43	15	68		93	
19		44	8	69		94	
20		45	4	70		95	
21		46	3	71		96	
22		47	2	72		97	
23		48		73		98	
24		49		74		99	
25		50		75		100	

	..... 204	DUAL CARRIAGEWAY?
MEAN SPEED	..... 38.416667	SINGLE CARRIAGEWAY? Y
STANDARD DEVIATION	..... 3.46380534	WET ROAD SURFACE? N
85th PERCENTILE	..... 41.880472	
85th PERCENTILE WET WEATHER SPEED	..... 39.395472 ✓	



APPENDIX B – PROBLEM LOCATION PLAN

