

Our Ref: 20234

16 March 2021

Land and House Corporation
Level 5, 219-241 Cleveland Street
Strawberry Hills NSW 2016

Attention: Mr Jared Marsh

Dear Jared,

**RE: BONNYRIGG SUBDIVISION STAGES 8 – 11 DEVELOPMENT APPLICATION
REVISED SWEEP PATHS**

As requested, please find herein The Transport Planning Partnership (TPPP) response to issues raised by Council regarding the swept paths prepared for the development application for the Bonnyrigg Subdivision Stages 8 – 11.

The swept paths presented in the traffic and transport assessment (Bonnyrigg Stage 8 to 11 Subdivision, Traffic and Transport Assessment, TPPP September 2020) showed the swept paths for an 11 metre garbage truck and included the 0.5 metre clearances as specified by Austroads. With the 0.5 metre clearance the diagrams showed that there would be cross over of the clearances but not the vehicle body.

This approach was conservative for local streets as Austroads AP-G34-13 – Austroads Design Vehicles and Turning Path Template Guide, 2013, (section 4.6 point 7) provides guidelines that state that the 0.5 metre clearance need not be applied to local streets in urban areas where space is restricted.

- 7 Design vehicle turning path templates should be applied to road intersection layouts to accommodate the swept path with a minimum offset of 0.5 m from the extremities of the vehicle path to a kerb, pavement edge or centreline. Note that experience and engineering judgement should be used when applying clearances.**

The 0.5 m offset need not be provided for local streets in urban areas where space is restricted or local access/minor roads in rural areas where the shoulder is partly sealed. However, it is desirable that the vehicle (i.e. swept path) should not cross the centreline of a minor rural road. A minimum clearance of 0.5 m outside the swept path should be provided to objects such as road furniture and utility poles.

Source: Austroads AP-G34-13 – Austroads Design Vehicles and Turning Path Template Guide, 2013

Therefore, please find attached the update swept paths with the 0.5 metre clearances removed. These have been undertaken for an 11 metre garbage truck. The revised turning

paths show that a garbage truck would be able to manoeuvre at intersections and avoid on coming traffic. These paths are in accordance with the Austroads guidelines for local streets.

We trust the above is to your satisfaction. Should you have any queries regarding the above or require further information, please do not hesitate to contact the undersigned on 8437 7800.

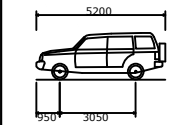
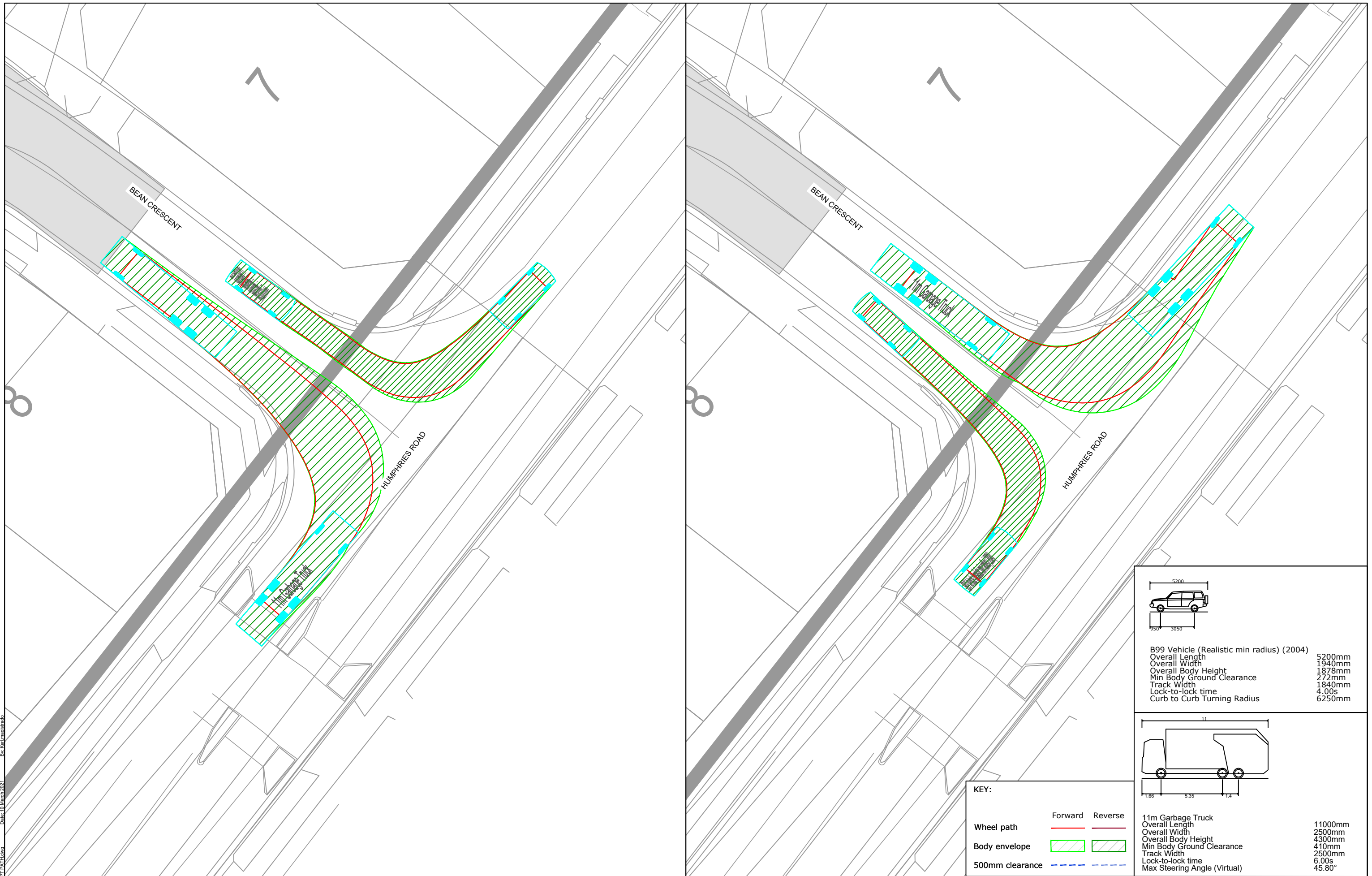
Yours sincerely,



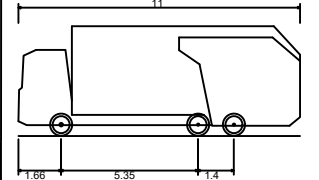
Stephen Read
Associate

Attachment One

Vehicle Swept Paths



B99 Vehicle (Realistic min radius) (2004)
 Overall Length 5200mm
 Overall Width 1940mm
 Overall Body Height 1878mm
 Min Body Ground Clearance 272mm
 Track Width 1840mm
 Lock-to-lock time 4.00s
 Curb to Curb Turning Radius 6250mm



11m Garbage Truck
 Overall Length 11000mm
 Overall Width 2500mm
 Overall Body Height 4300mm
 Min Body Ground Clearance 410mm
 Track Width 2500mm
 Lock-to-lock time 6.00s
 Max Steering Angle (Virtual) 45.80°

KEY:

	Forward	Reverse
Wheel path		
Body envelope		
500mm clearance		

File name: 20234CAD003-2.03.05-SWEPT PATH.dwg Date: 10 March 2021 By: Kerl magistrado

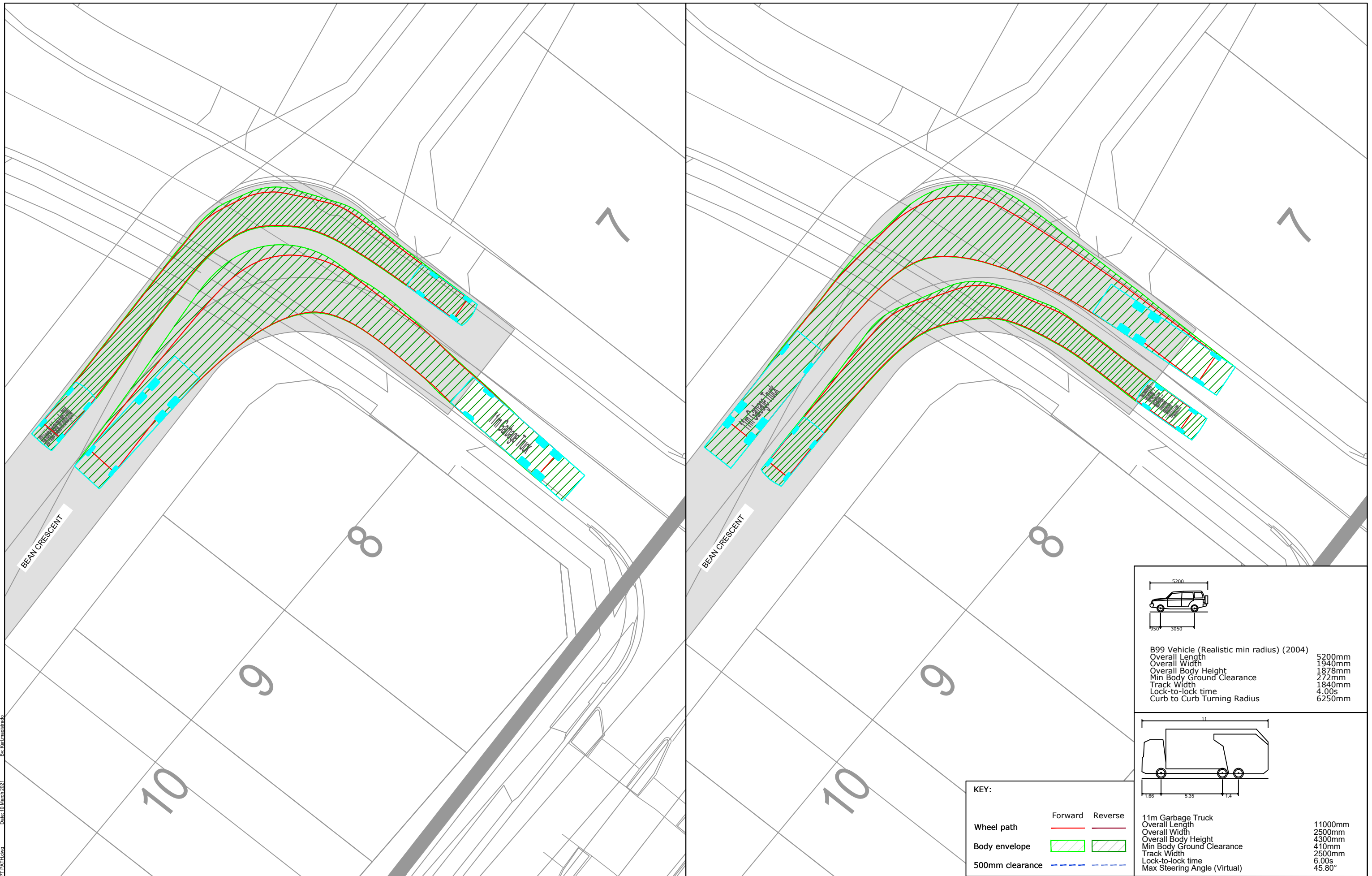
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A	ISSUE FOR DISCUSSION	KM	SR	SR	10/03/21

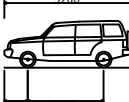


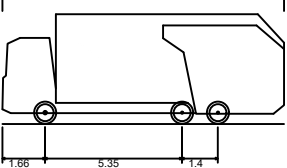
PROJECT: HUMPHRIES ROAD, BONNYRIGG

TITLE: SWEPT PATH ANALYSIS - HUMPHRIES ROAD TO BEAN CRESCENT
 11m WASTE TRUCK & AS2890.1 5.2m B99 VEHICLE





DWG No. 20234CAD003	
FIGURE 1	
DATE STAMP 10 MARCH 2021	
PROJECT No. 20234	SCALE 1:250 @A3
REV. A	



	
B99 Vehicle (Realistic min radius) (2004)	
Overall Length	5200mm
Overall Width	1940mm
Overall Body Height	1878mm
Min Body Ground Clearance	272mm
Track Width	1840mm
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6250mm

	
11m Garbage Truck	
Overall Length	11000mm
Overall Width	2500mm
Overall Body Height	4300mm
Min Body Ground Clearance	410mm
Track Width	2500mm
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	45.80°

KEY:

Wheel path	Forward	Reverse
Body envelope		
500mm clearance		

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	SR	SR	10/03/21

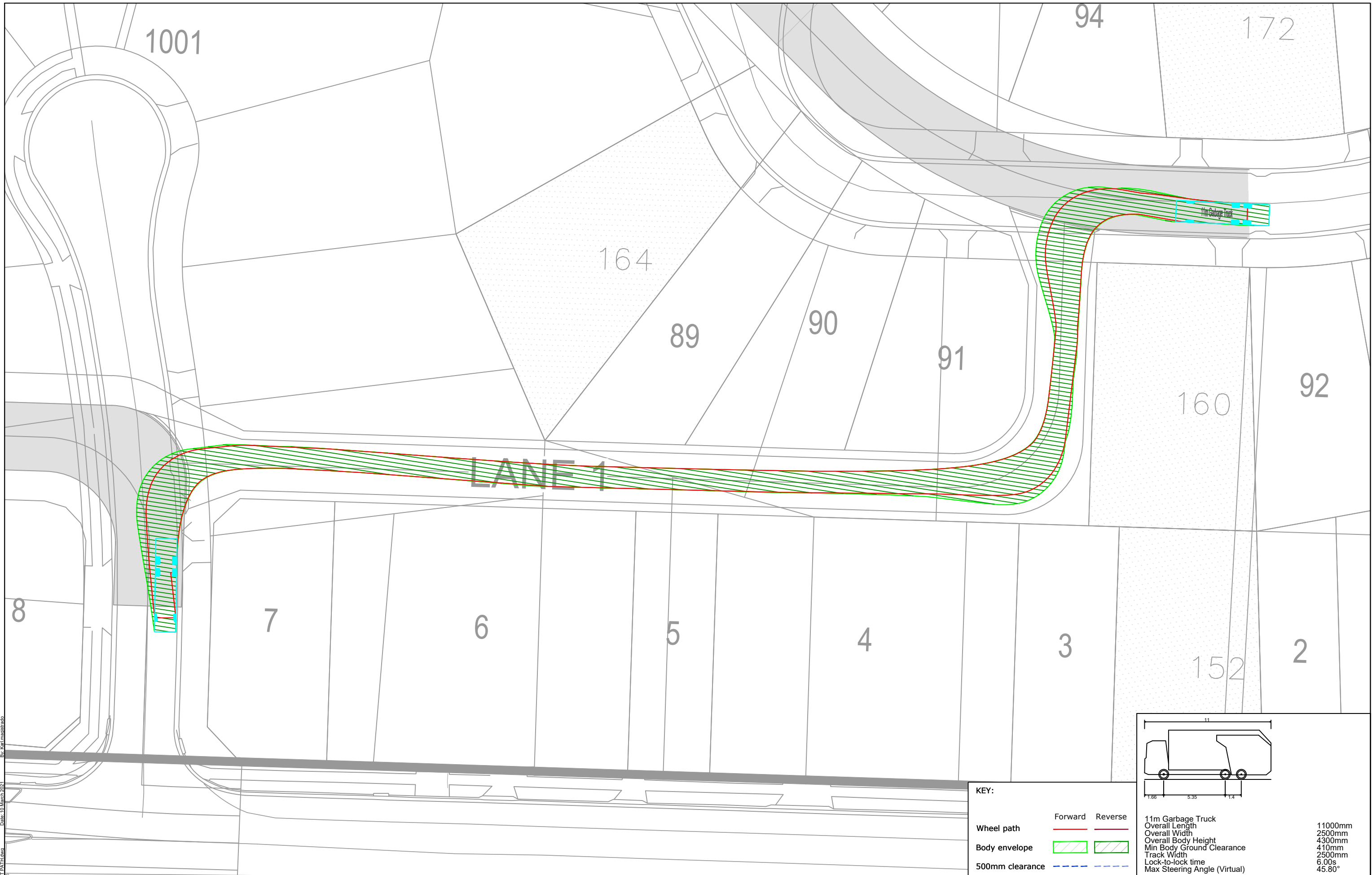


PROJECT: HUMPHRIES ROAD, BONNYRIGG

TITLE: SWEPT PATH ANALYSIS - BEAN CRESCENT
11m WASTE TRUCK & AS2890.1 5.2m B99 VEHICLE

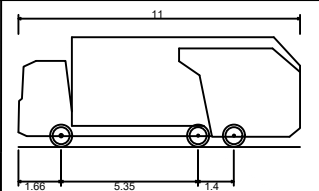
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DATE STAMP	10 MARCH 2021		
PROJECT No.	SCALE	REV.	
20234	1:250 @A3	A	

File name: 20234CAD003-2 (3) 10 SWEPT PATH.dwg Date: 10 March 2021 By: Karl mapstrada



KEY:

Wheel path	Forward	Reverse
Body envelope		
500mm clearance		



11m Garbage Truck	11000mm
Overall Length	2500mm
Overall Width	4300mm
Overall Body Height	410mm
Min Body Ground Clearance	2500mm
Track Width	6.00s
Lock-to-lock time	45.80°
Max Steering Angle (Virtual)	

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	SR	SR	10/03/21

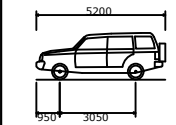
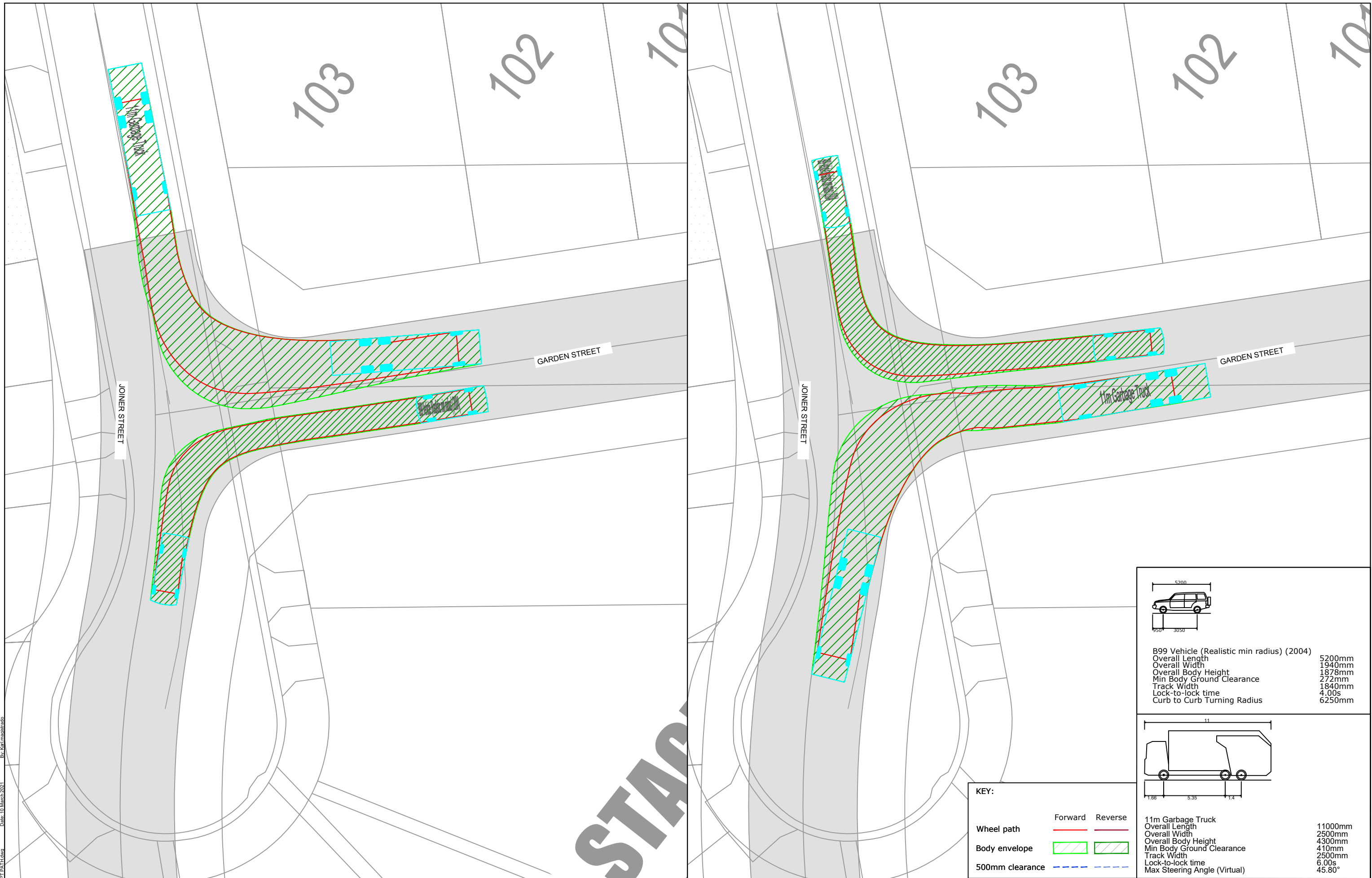


PROJECT: HUMPHRIES ROAD, BONNYRIGG

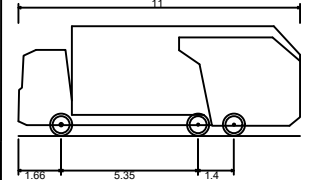
TITLE: SWEPT PATH ANALYSIS - LANE 1
11m WASTE TRUCK

DWG No.	20234CAD003		
	FIGURE 3		
DATE STAMP	10 MARCH 2021		
PROJECT No.	SCALE	REV.	
20234	1:400 @A3	A	

File name: 20234CAD003-2 (3) 10 SWEPT PATH.dwg Date: 10 March 2021 By: Kerin Magill



B99 Vehicle (Realistic min radius) (2004)
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 Overall Body Height 1878mm
 Min Body Ground Clearance 272mm
 Track Width 1840mm
 Lock-to-lock time 4.00s
 Curb to Curb Turning Radius 6250mm



11m Garbage Truck
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 Overall Body Height 4300mm
 Min Body Ground Clearance 410mm
 Track Width 2500mm
 Lock-to-lock time 6.00s
 Max Steering Angle (Virtual) 45.80°

KEY:

Wheel path	Forward	Reverse
Body envelope		
500mm clearance		

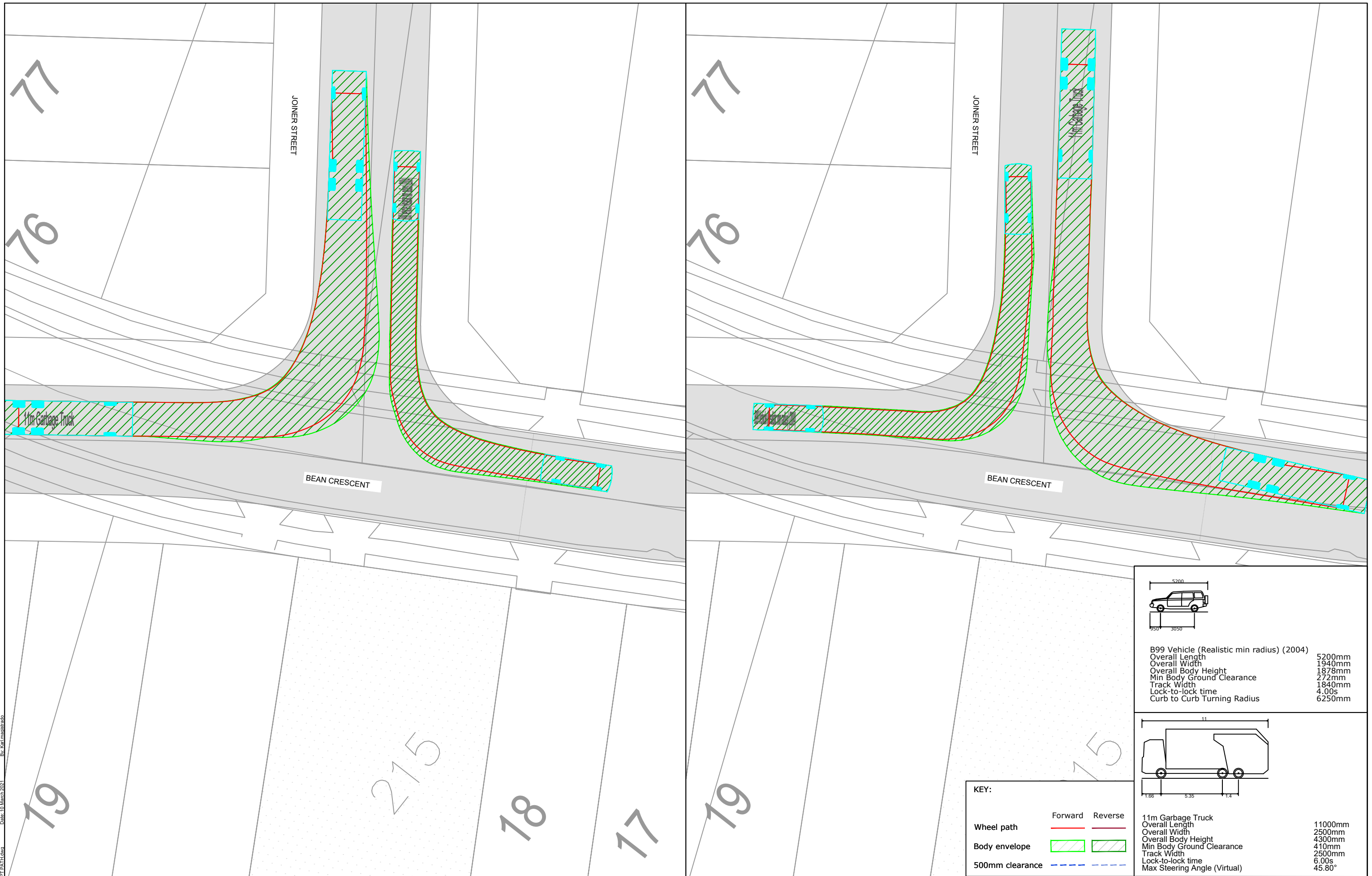
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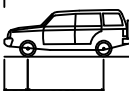


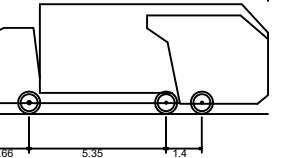
PROJECT: HUMPHRIES ROAD, BONNYRIGG
 TITLE: SWEPT PATH ANALYSIS - JOINER STREET - GARDEN STREET
 11m WASTE TRUCK & AS2890.1 5.2m B99 VEHICLE

DWG No.	20234CAD003		
	FIGURE 4		
DATE STAMP	10 MARCH 2021		
PROJECT No.	SCALE	REV.	
20234	1:250 @A3	A	





File name: 20234CAD003-2 (3) 10 SWEPT PATH.dwg Date: 10 March 2021 By: Kerl magistrado



	
B99 Vehicle (Realistic min radius) (2004)	
Overall Length	5200mm
Overall Width	1940mm
Overall Body Height	1878mm
Min Body Ground Clearance	272mm
Track Width	1840mm
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6250mm

	
11m Garbage Truck	
Overall Length	11000mm
Overall Width	2500mm
Overall Body Height	4300mm
Min Body Ground Clearance	410mm
Track Width	2500mm
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	45.80°

KEY:

Wheel path	Forward	Reverse
Body envelope		
500mm clearance		

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	SR	SR	10/03/21

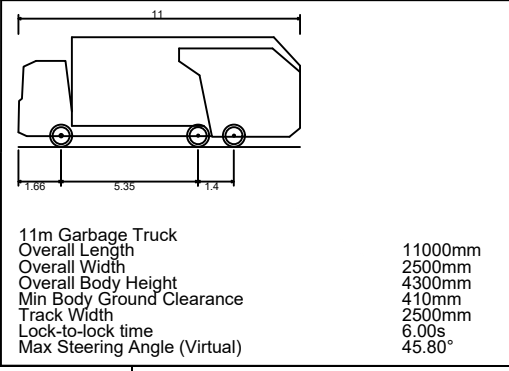
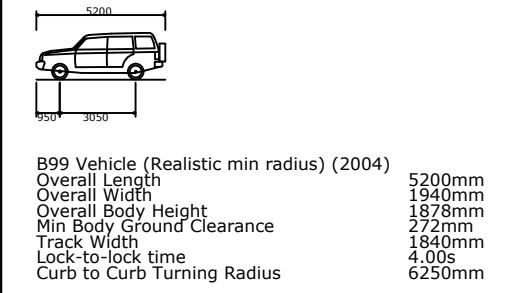
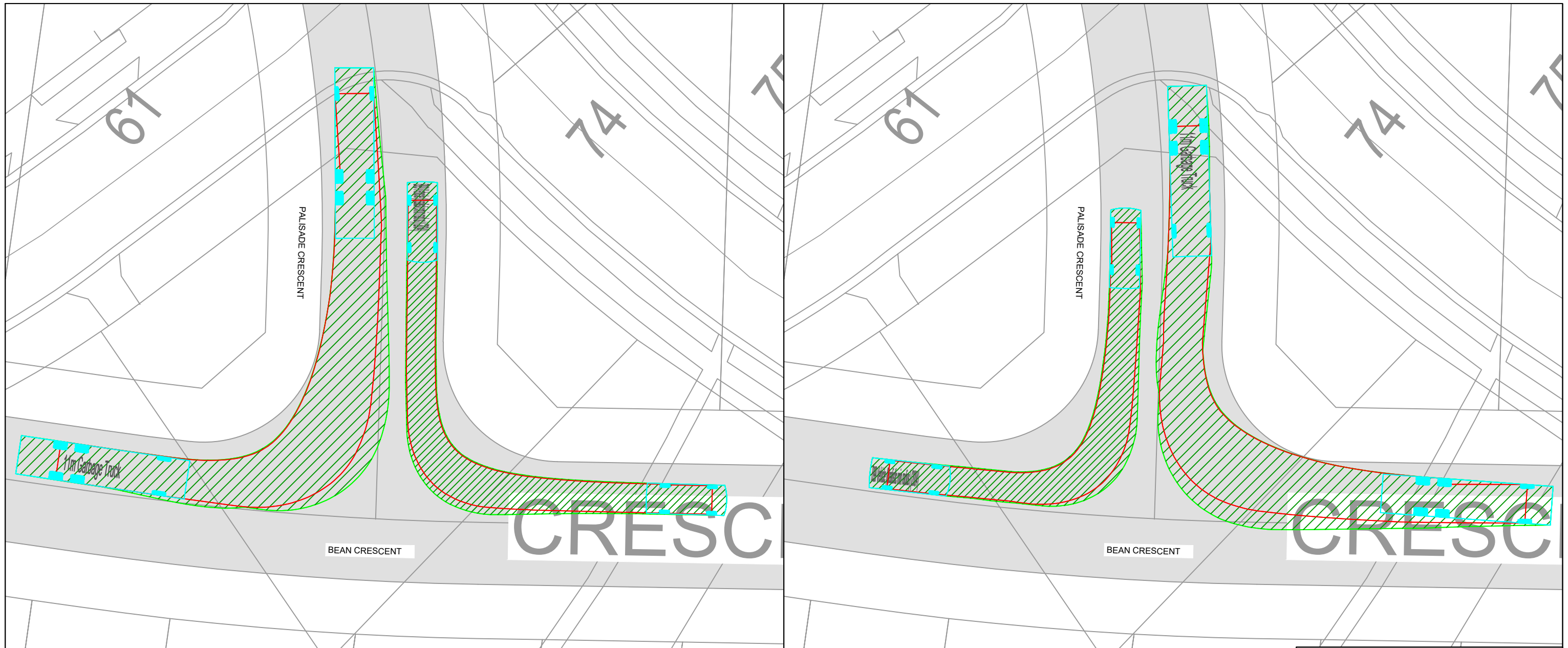


PROJECT: HUMPHRIES ROAD, BONNYRIGG

TITLE: SWEEP PATH ANALYSIS - BEAN CRESCENT - JOINER STREET
11m WASTE TRUCK & AS2890.1 5.2m B99 VEHICLE

DWG No.	20234CAD003		
	FIGURE 5		
DATE STAMP	10 MARCH 2021		
PROJECT No.	SCALE	REV.	
20234	1:250 @A3	A	

File name: 20234CAD003-2 (3) 10 SWEEP PATH.dwg Date: 10 March 2021 By: Karl Magnusson



KEY:

Wheel path	Forward	Reverse
Body envelope		
500mm clearance		

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	SR	SR	10/03/21



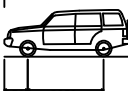
PROJECT: HUMPHRIES ROAD, BONNYRIGG

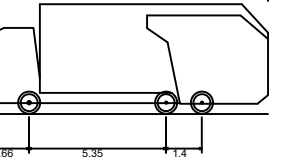
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11m WASTE TRUCK & AS2890.1 5.2m B99 VEHICLE

DWG No. 20234CAD003		REV. A
FIGURE 6		
DATE STAMP 10 MARCH 2021		
PROJECT No. 20234	SCALE 1:250 @A3	REV. A





File name: 20234CAD003-2 (3) 10 SWEPT PATH.dwg Date: 10 March 2021 By: Kerl mapstrada



	
B99 Vehicle (Realistic min radius) (2004)	
Overall Length	5200mm
Overall Width	1940mm
Overall Body Height	1878mm
Min Body Ground Clearance	272mm
Track Width	1840mm
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6250mm

	
11m Garbage Truck	
Overall Length	11000mm
Overall Width	2500mm
Overall Body Height	4300mm
Min Body Ground Clearance	410mm
Track Width	2500mm
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	45.80°

KEY:

Wheel path	Forward	Reverse
Body envelope		
500mm clearance		

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	SR	SR	10/03/21

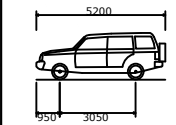
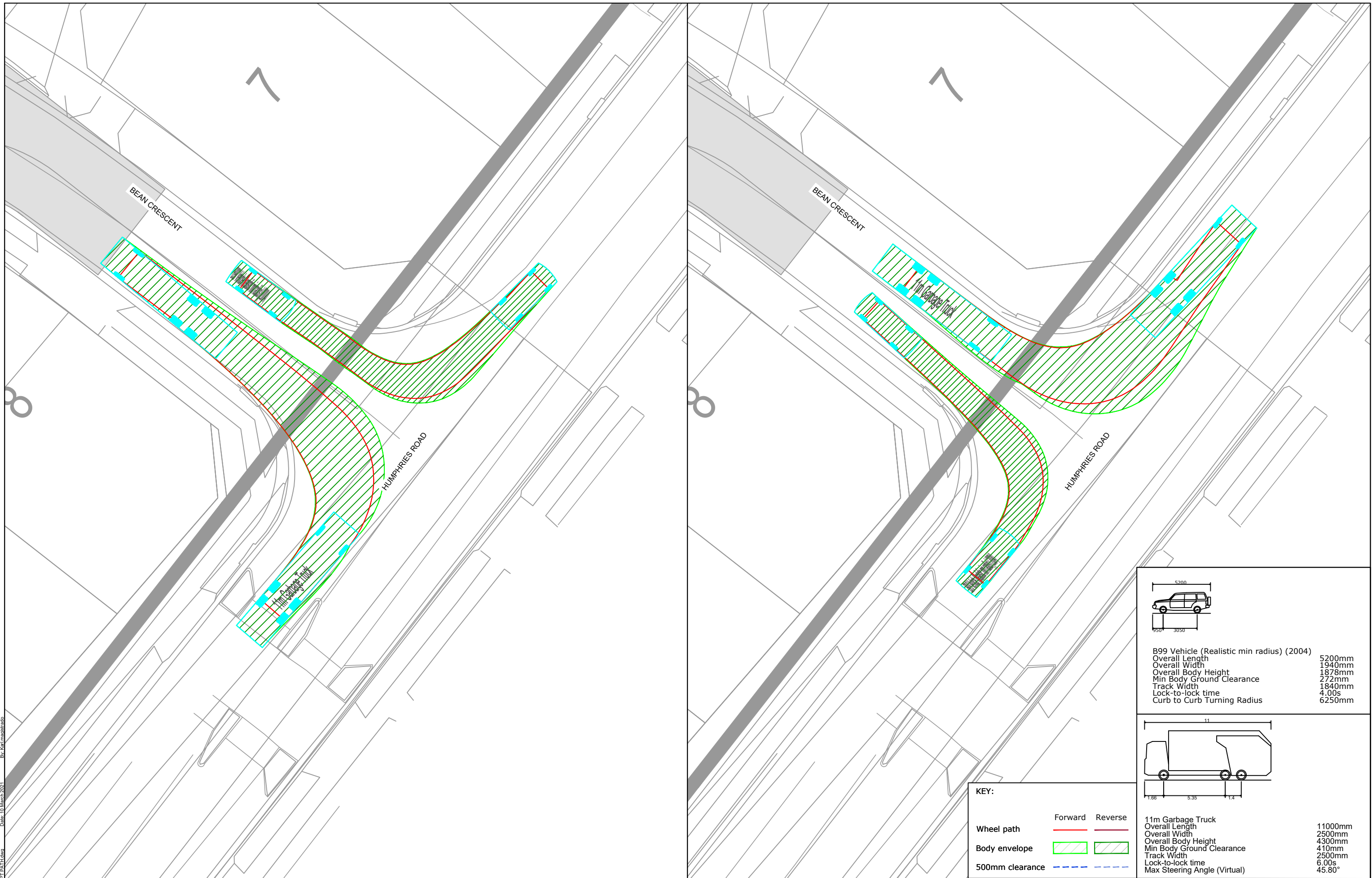


PROJECT: HUMPHRIES ROAD, BONNYRIGG

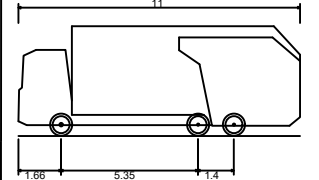
TITLE: SWEEP PATH ANALYSIS - BEAN CRESCENT - NO.3 ROAD
11m WASTE TRUCK & AS2890.1 5.2m B99 VEHICLE

DWG No.	20234CAD003		
	FIGURE 7		
DATE STAMP	10 MARCH 2021		
PROJECT No.	SCALE	REV.	
20234	1:250 @A3	A	

File name: 20234CAD003-2 (3) 10 SWEEP PATH.dwg Date: 10 March 2021 By: Kerl mapstrada



B99 Vehicle (Realistic min radius) (2004)
 Overall Length 5200mm
 Overall Width 1940mm
 Overall Body Height 1878mm
 Min Body Ground Clearance 272mm
 Track Width 1840mm
 Lock-to-lock time 4.00s
 Curb to Curb Turning Radius 6250mm



11m Garbage Truck
 Overall Length 11000mm
 Overall Width 2500mm
 Overall Body Height 4300mm
 Min Body Ground Clearance 410mm
 Track Width 2500mm
 Lock-to-lock time 6.00s
 Max Steering Angle (Virtual) 45.80°

KEY:

	Forward	Reverse
Wheel path		
Body envelope		
500mm clearance		

File name: 20234CAD003-2 (3) 10 SWEEP PATH.dwg Date: 10 March 2021 By: Kerl magistrado

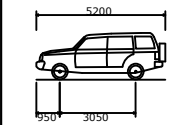
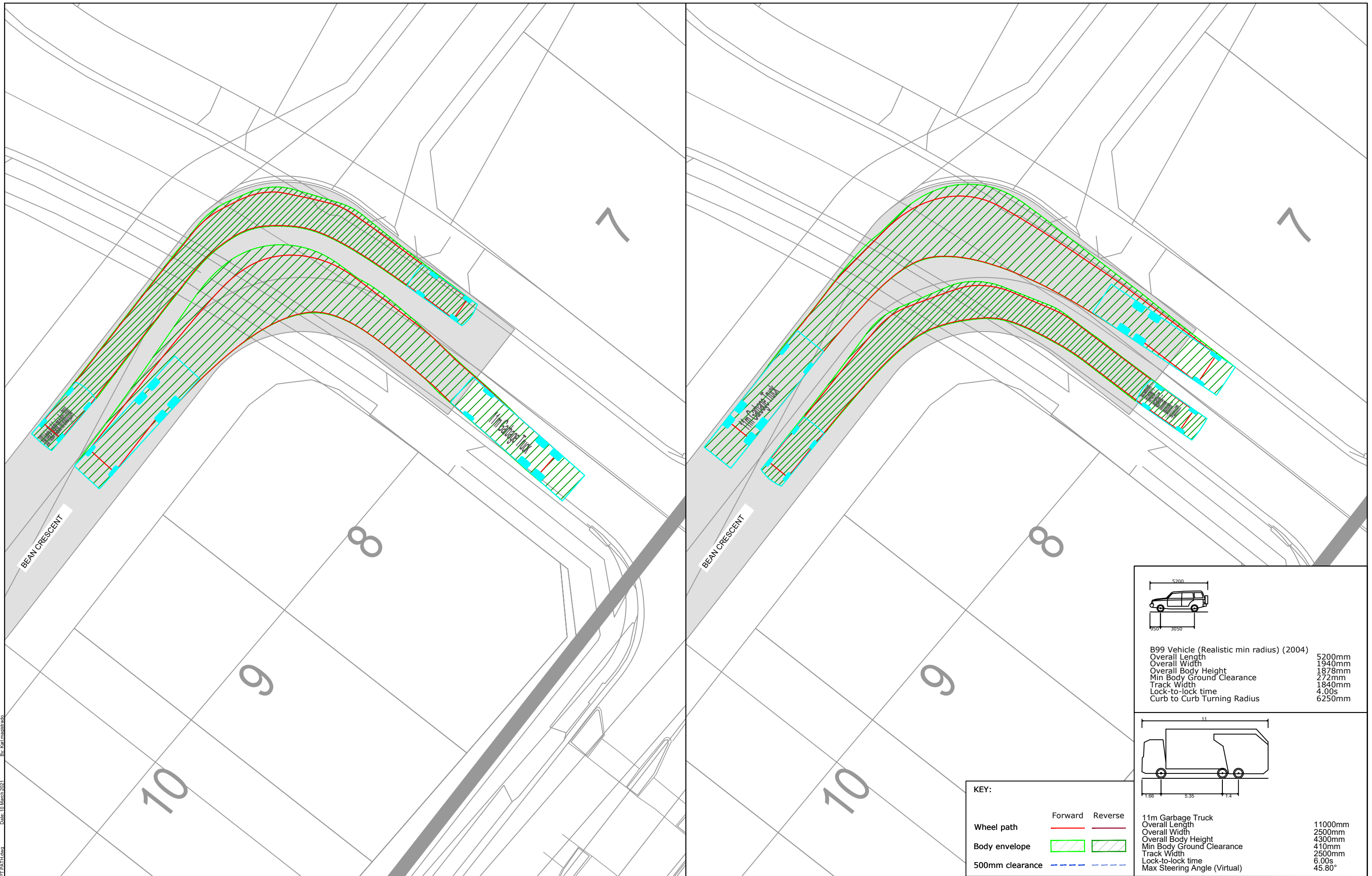
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A	ISSUE FOR DISCUSSION	KM	SR	SR	10/03/21



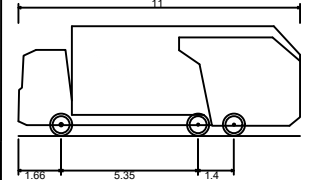
PROJECT: HUMPHRIES ROAD, BONNYRIGG

TITLE: SWEEP PATH ANALYSIS - HUMPHRIES ROAD TO BEAN CRESCENT
 11m WASTE TRUCK & AS2890.1 5.2m B99 VEHICLE

DWG No. 20234CAD003	
FIGURE 1	
DATE STAMP 10 MARCH 2021	
PROJECT No. 20234	SCALE 1:250 @A3
REV. A	



B99 Vehicle (Realistic min radius) (2004)
 Overall Length 5200mm
 Overall Width 1940mm
 Overall Body Height 1878mm
 Min Body Ground Clearance 272mm
 Track Width 1840mm
 Lock-to-lock time 4.00s
 Curb to Curb Turning Radius 6250mm



11m Garbage Truck
 Overall Length 11000mm
 Overall Width 2500mm
 Overall Body Height 4300mm
 Min Body Ground Clearance 410mm
 Track Width 2500mm
 Lock-to-lock time 6.00s
 Max Steering Angle (Virtual) 45.80°

KEY:

	Forward	Reverse
Wheel path		
Body envelope		
500mm clearance		

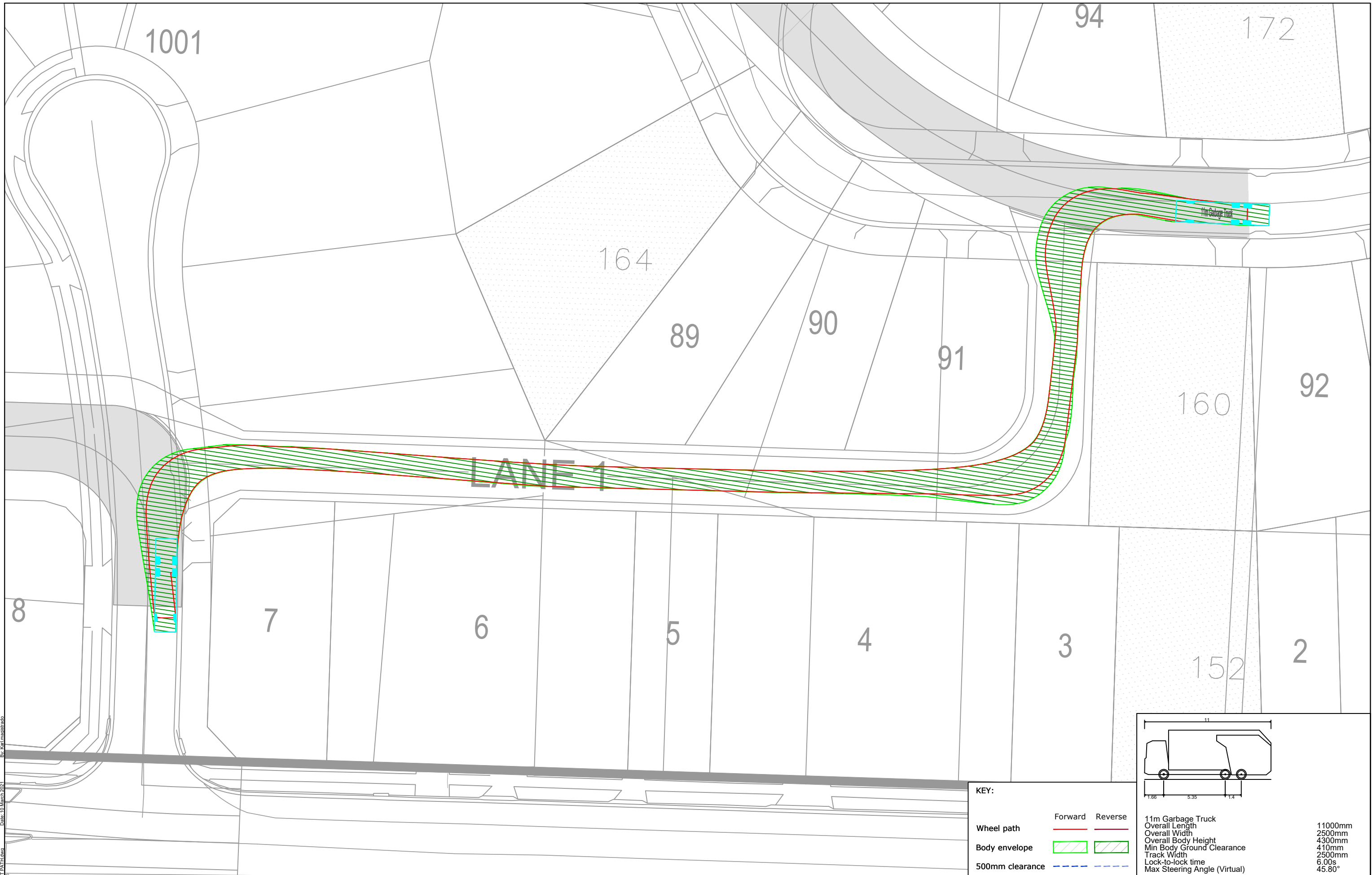
REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	SR	SR	10/03/21



PROJECT: HUMPHRIES ROAD, BONNYRIGG
 TITLE: SWEEP PATH ANALYSIS - BEAN CRESCENT
 11m WASTE TRUCK & AS2890.1 5.2m B99 VEHICLE

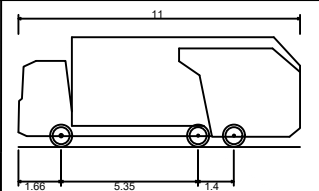
DWG No. 20234CAD003		REV. A
FIGURE 2		
DATE STAMP 10 MARCH 2021		
PROJECT No. 20234	SCALE 1:250 @A3	REV. A

File name: 20234CAD003-2.03.05.SWEEP PATH.dwg Date: 10 March 2021 By: Karl mapstrada



KEY:

Wheel path	Forward	Reverse
Body envelope		
500mm clearance		



11m Garbage Truck	11000mm
Overall Length	2500mm
Overall Width	4300mm
Overall Body Height	410mm
Min Body Ground Clearance	2500mm
Track Width	6.00s
Lock-to-lock time	45.80°
Max Steering Angle (Virtual)	

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	SR	SR	10/03/21

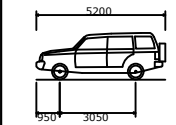
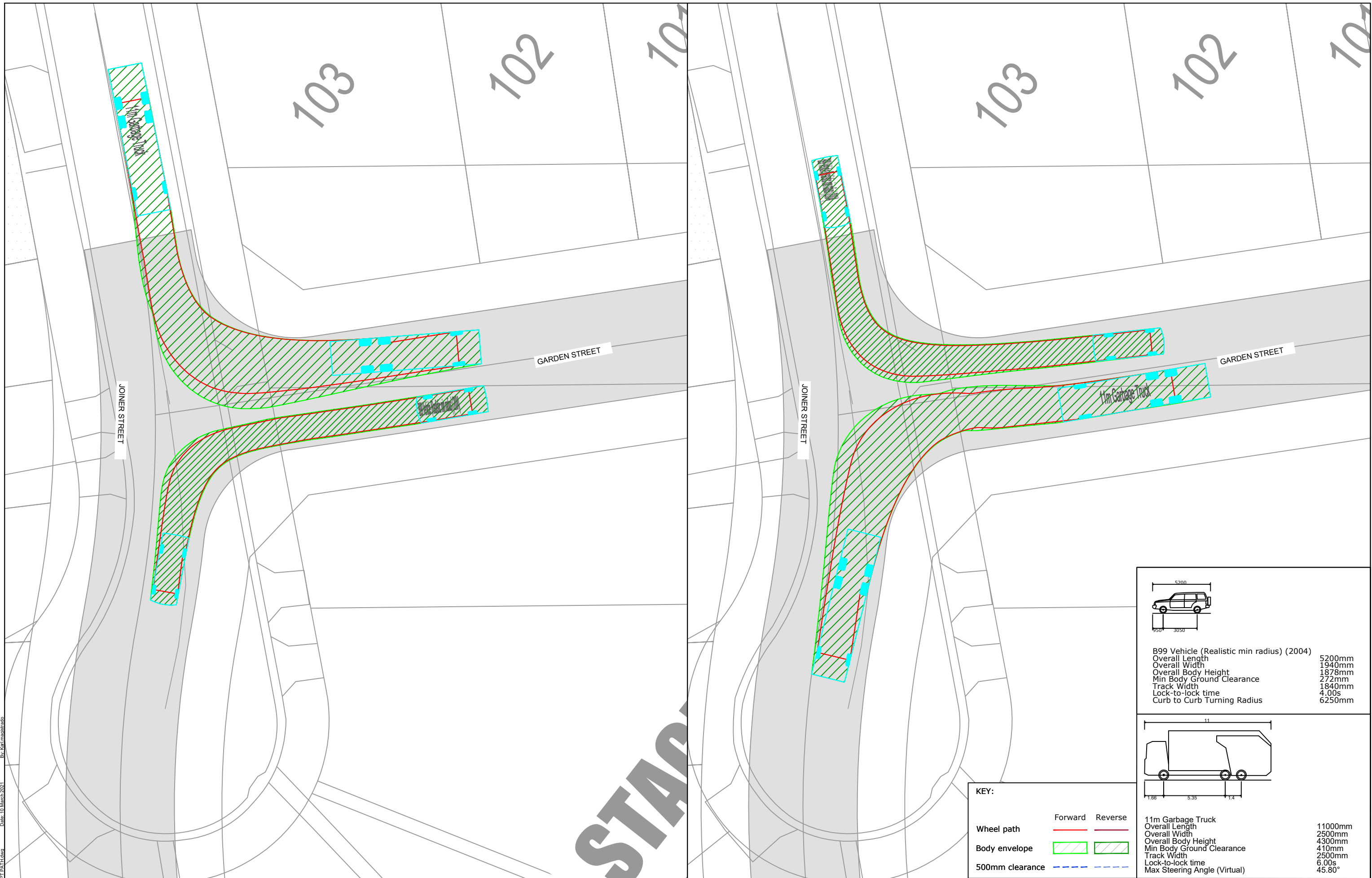


PROJECT: HUMPHRIES ROAD, BONNYRIGG

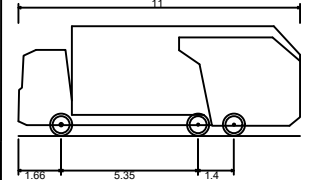
TITLE: SWEEP PATH ANALYSIS - LANE 1
11m WASTE TRUCK

DWG No.	20234CAD003		
	FIGURE 3		
DATE STAMP	10 MARCH 2021		
PROJECT No.	SCALE	REV.	
20234	1:400 @A3	A	

File name: 20234CAD003-2 (3) 10 SWEEP PATH.dwg Date: 10 March 2021 By: Kerin Magill



B99 Vehicle (Realistic min radius) (2004)
 Overall Length 5200mm
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 Overall Length 11000mm
 Overall Width 2500mm
 Overall Body Height 4300mm
 Min Body Ground Clearance 410mm
 Track Width 2500mm
 Lock-to-lock time 6.00s
 Max Steering Angle (Virtual) 45.80°

KEY:

Wheel path	Forward	Reverse
Body envelope	Green hatched	Light green hatched
500mm clearance	Blue dashed	Blue dashed

File name: 20234CAD003-2 (3) 10 SWEEP PATH.dwg Date: 10 March 2021 By: Kerl magistrado

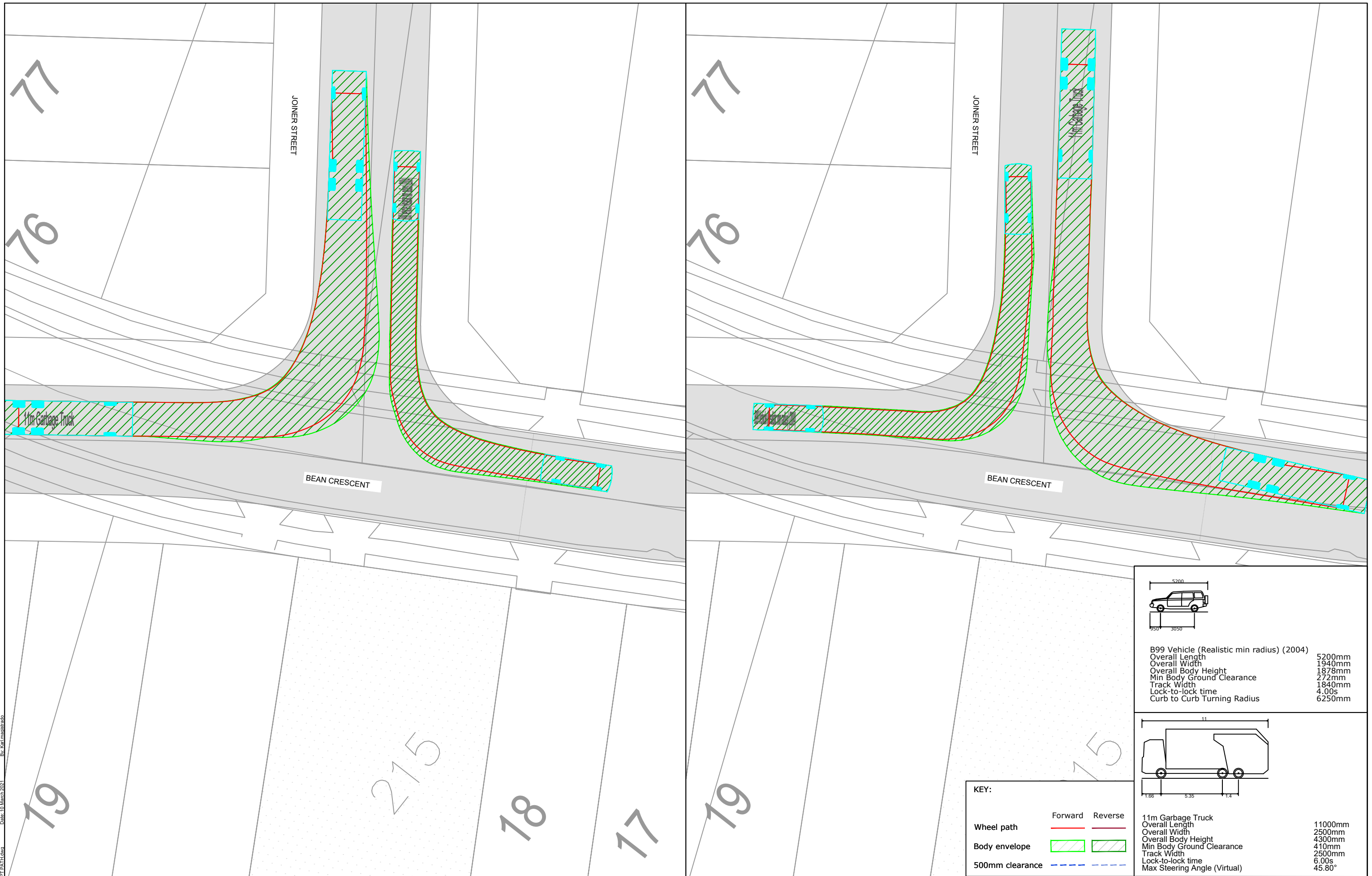
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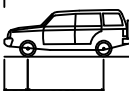


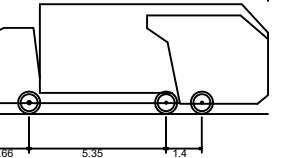
PROJECT: HUMPHRIES ROAD, BONNYRIGG

TITLE: SWEPT PATH ANALYSIS - JOINER STREET - GARDEN STREET
 11m WASTE TRUCK & AS2890.1 5.2m B99 VEHICLE





DWG No. 20234CAD003		REV. A
FIGURE 4		
DATE STAMP 10 MARCH 2021		
PROJECT No. 20234	SCALE 1:250 @A3	REV. A



	
B99 Vehicle (Realistic min radius) (2004)	
Overall Length	5200mm
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Curb to Curb Turning Radius	6250mm

	
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KEY:

Wheel path	Forward	Reverse
Body envelope		
500mm clearance		

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
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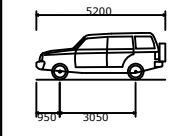
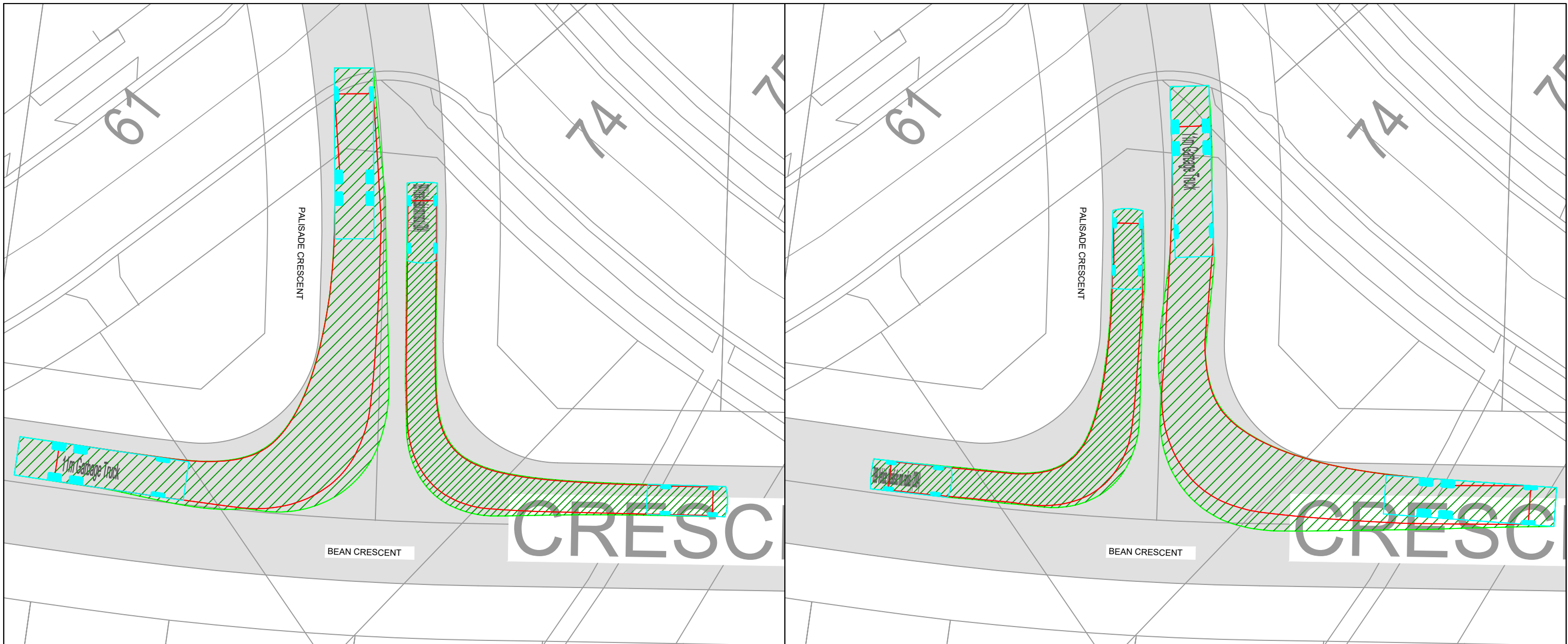


PROJECT: HUMPHRIES ROAD, BONNYRIGG

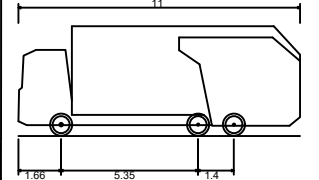
TITLE: SWEEP PATH ANALYSIS - BEAN CRESCENT - JOINER STREET
11m WASTE TRUCK & AS2890.1 5.2m B99 VEHICLE

DWG No.	20234CAD003		
	FIGURE 5		
DATE STAMP	10 MARCH 2021		
PROJECT No.	SCALE	REV.	
20234	1:250 @A3	A	

File name: 20234CAD003-2 (3) 10 SWEEP PATH.dwg Date: 10 March 2021 By: Karl Magnus



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Overall Width	4300mm
Overall Body Height	410mm
Min Body Ground Clearance	250mm
Track Width	2500mm
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	45.80°

KEY:

Wheel path	Forward	Reverse
Body envelope	Green hatched	Blue hatched
500mm clearance	Red dashed	Blue dashed

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	SR	SR	10/03/21



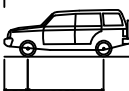
PROJECT: HUMPHRIES ROAD, BONNYRIGG

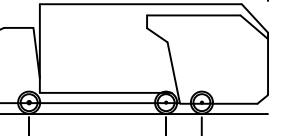
TITLE: SWEEP PATH ANALYSIS - BEAN CRESCENT - PALISADE CRESCENT
11m WASTE TRUCK & AS2890.1 5.2m B99 VEHICLE

DWG No. 20234CAD003	
FIGURE 6	
DATE STAMP 10 MARCH 2021	
PROJECT No. 20234	SCALE 1:250 @A3
REV. A	





File name: 20234CAD003-2 (3).dwg Date: 10 March 2021 By: Kerl.magnifico



	
B99 Vehicle (Realistic min radius) (2004)	
Overall Length	5200mm
Overall Width	1940mm
Overall Body Height	1878mm
Min Body Ground Clearance	272mm
Track Width	1840mm
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6250mm

	
11m Garbage Truck	
Overall Length	11000mm
Overall Width	2500mm
Overall Body Height	4300mm
Min Body Ground Clearance	410mm
Track Width	2500mm
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	45.80°

KEY:

Wheel path	Forward	Reverse
Body envelope		
500mm clearance		

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	SR	SR	10/03/21



PROJECT: HUMPHRIES ROAD, BONNYRIGG

TITLE: SWEEP PATH ANALYSIS - BEAN CRESCENT - NO.3 ROAD
11m WASTE TRUCK & AS2890.1 5.2m B99 VEHICLE

DWG No.	20234CAD003		
	FIGURE 7		
DATE STAMP	10 MARCH 2021		
PROJECT No.	SCALE	REV.	
20234	1:250 @A3	A	

File name: 20234CAD003-2 (3) 05 SWEEP PATH.dwg Date: 10 March 2021 By: Kerl mapstrada