Kilgallioch Windfarm Extension

Route Survey Report

September 2019

The Cube, 45 Leith Street, Edinburgh, EH1 3AT, United Kingdom
www.wyg.com

Document Control

Document:	Route Survey Report		
Project:			
Client:	ScottishPower Renewables		
Job Number:	A112434		
Revision: -	**Issue**		
Date: 06.09.19			
Prepared by	Checked by	Approved By	
Jordan Stirrat	Andrew Combe	Jordan Dunn	
Description of Revision	**-**		
Revision:			
Date:			
Prepared by	Checked by	Approved By	
Description of Revision			
Revision:			
Date:			
Prepared by	Checked by	Approved By	
Description of Revision			

Contents

Appendices

1 INTRODUCTION

Report Purpose

1.1 WYG has been commissioned by ScottishPower Renewables (SPR) to undertake a route review for the delivery of abnormal loads associated with the proposed Kilgallioch Windfarm Extension (Proposed Development). This report reviews the constraints associated with the transportation of wind turbine components from KVG Docks in Glasgow to the proposed site access.

1.2 This report has been prepared in accordance with instructions from SPR on the above project details. No liability is accepted for the use of all or part of this report by third parties.

1.4 WYG has been commissioned to prepare this route survey report as a source of guidance. The report identifies the key points and issues associated with the routes that may require remedial works to accommodate the predicted loads. The detailed design of these remedial works, however, are beyond the agreed scope of works. It is the responsibility of the turbine supplier (depending on contract) to ensure that the access route from the POE to the site is fit for purpose and that appropriate consideration for all road users has been made in accordance with the relevant health and safety legislation and ruling transport requirements.

Report Structure

1.5 Following this introduction, the proceeding chapters of the report are structured as follows:

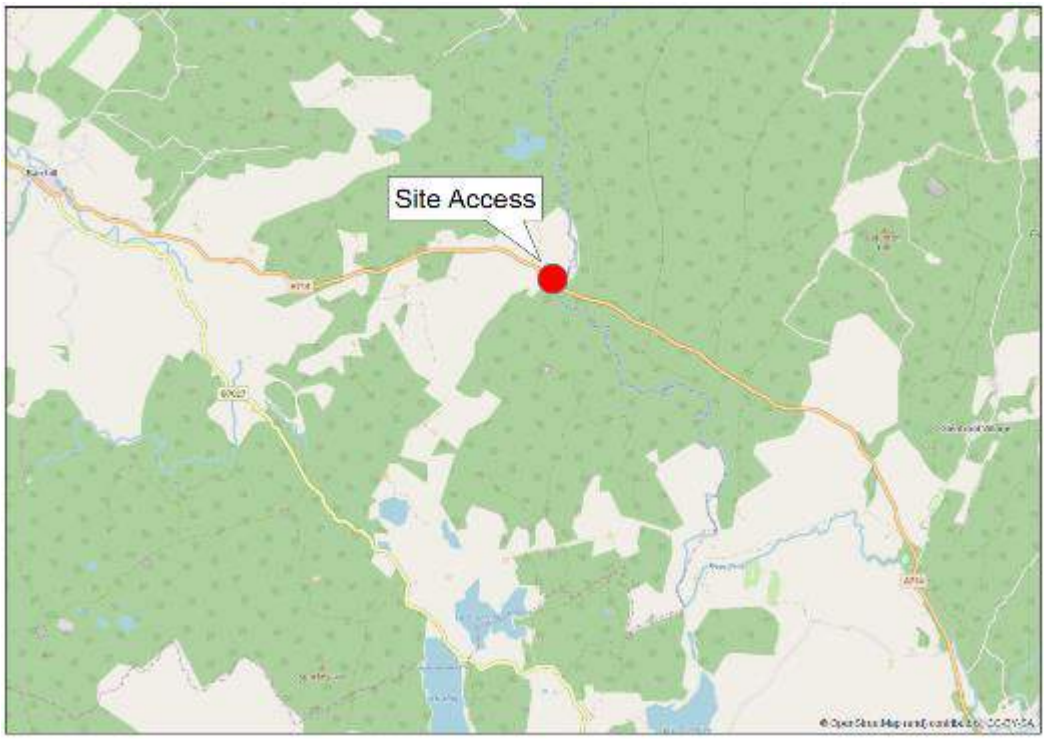
- **Chapter Two** describes the location of the proposed windfarm development;
- **Chapter Three** describes the route options reviewed on the site visit along with areas of potential significant constraints; and
- **Chapter Four** provides a summary of the report and an outline of suggested further works, actions and recommendations for consideration by SPR.

2 PROPOSED SITE AND ACCESS STRATEGY

Site Description and Location

2.1 The proposed Kilgallioch site is located 3km southeast of Barhill, East Ayrshire. The site entrance is illustrated below in Figure 2.1.

Figure 2.1: Site Access Location



Candidate Turbine

2.2 SPR have indicated that they wish to consider a Vestas V150 turbine as being the worst-case turbine for the proposed site.

2.3 A worst-case blade and tower combination have been assumed with the dimensions illustrated within Table 2.1.

Table 2.1: Worst Case Turbine Loads and Dimensions

Component	Length	Maximum Width on Vehicle
Blade	74m	4.03m
Towers	33.88m	4.5m

2.4 WYG has assumed that all loads will follow the relevant manufacturers transport guidelines.

2.5 The components can be delivered on a variety of transport platforms all of which feature independent rear wheel steering and would be provided with both Police and civilian escorts.

2.6 At this point in time, no assessment of the erection crane has been undertaken.

3 ROUTE REVIEW

3.1 The port of entry (POE) from the components of the Proposed Development is Glasgow KGV Docks. This provides direct access to the trunk road network and is well known as a renewable energy delivery hub.

3.2 If consented, SPR would then engage in detailed discussions with the turbine suppliers, haulage contractors, Transport Scotland, Police Scotland and road authorities regarding the port of entry strategy and delivery route. Blades for previous developments in the vicinity of the site have been undertaken from Glasgow and a significant number of road junction improvements have been made on the A75 to support these deliveries (to support other nearby windfarms).

3.3 A route review was undertaken by video survey on Thursday 7th February 2019 from Glasgow KGV to the proposed site access. This method allows a full record of the route to be undertaken, with notes recorded following completion of the survey. Not only is this process efficient, it also provides a much safer working environment for staff. The video survey allows a full record of the route to be kept for future reference. To accompany the video survey, various Points of Interest (POIs) were recorded using a Global Positioning System (GPS) tracker that logs the locations of points on the routes to Ordnance Survey (OS) co-ordinates.

3.4 The site visit did not include any geotechnical, utility or environmental reviews and as such the information provided in this report is based solely on the observations noted on the site visit and subsequent swept path assessments.

3.5 Plans illustrating the location of the constraints and a detailed list of POIs are provided in Appendix A.

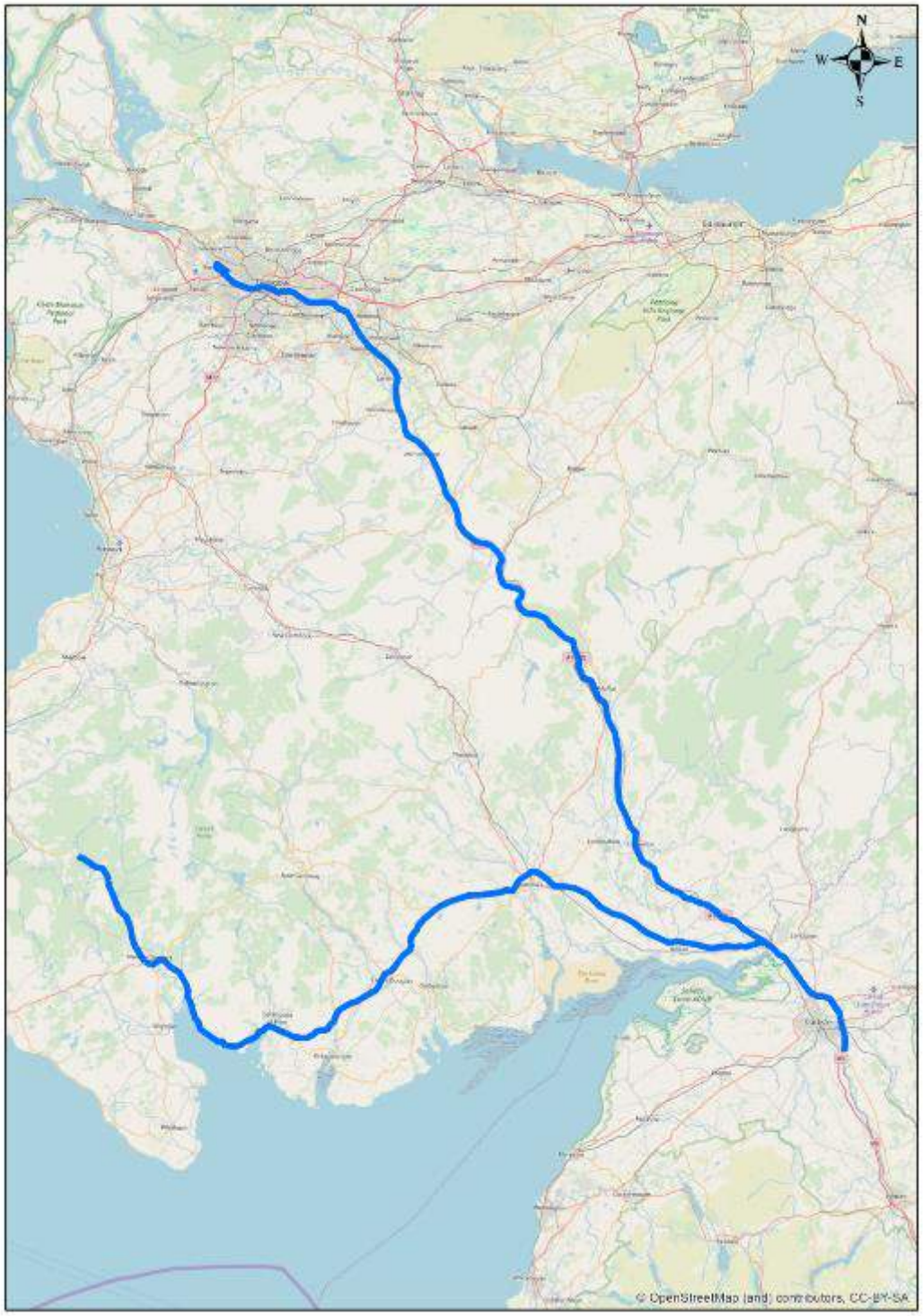
Route Description

3.6 It is proposed that all loads will follow the route described below:

- The route from KGV Depart KGV Docks and proceed to M8;
- Join M74 and proceed south onto M6;
- U turn to the south of Carlisle at Junction 44 or 42 (Police dependent) and proceed northbound on the M6 and M74;
- Diverge from the M74 and proceed westbound on the A75;
- Depart the A75 to the west of Newton Stewart and proceed north via an unclassified minor road and continue north on the A714; and
- Depart the A714 at the site access track junction and proceed to site via a private haul road.

3.7 Within the windfarm site, loads would then proceed ahead to the turbine locations. All on-site access roads should be designed to the selected turbine manufactures minimum standards and as such are excluded from this report.

Figure 3.1: Proposed Access Route



Network Constraints

3.8 Tables 3.1 details the potential constraint point locations on the route from the KVG Docks through to the proposed site access.

3.9 Where street furniture is to be removed to allow movement, it is suggested that socket foundations are used. All elements can be reinstated following the manoeuvre.

Table 3-1: Route Constraint Points

POI	Constraint	Details
1	**KGV Docks Gate**   	Loads exit the docks and proceed across the roundabout using the existing over-run surface. All signage in the existing over-run area to be removed in advance of deliveries commencing. Two lit road signs to be removed from the exit arm splitter island in the over-sail area. Loads will over-sail the southern verge on the exit arm. Swept path drawing SPA001 is included in Appendix B.

POI	Constraint	Details
2	**Kings Inch Roundabout 1** 	Loads will proceed ahead at the junction, taking the second exit. Escorts should hold side traffic back and ensure the loads have full access to the circulating and exit lanes. Loads will over-sail the northern and southern footways on approach to the roundabout. Loads will over-sail the southern edge of the central island. No physical mitigation measures are expected at this location. Swept path drawing SPA002 is included in Appendix B.
3	**Kings Inch Roundabout 2** 	Loads will proceed ahead at the junction, taking the second exit. Escorts should hold side traffic back and ensure the loads have full access to the circulating and exit lanes. Loads will over-sail the southern edge on entry to the roundabout. No physical mitigation measures are expected at this location. Swept path drawing SPA003 is included in Appendix B.

POI	Constraint	Details
4	**M8 Junction 25A / Kings Inch Drive**  	Loads will turn left onto the M8 Spur Road. Loads will over-sail the central reservations into the oncoming traffic lanes of both roads, escorts should hold oncoming traffic at a safe distance. Loads will over-sail and over-run the inside of the bend where an over-run should be laid, vegetation should be cleared back and the pedestrian call button column on the inside of the turn is to be set down. Loads will over-run and over-sail the central reservation after the turn. Load bearing surfaces to be laid in over-run areas and traffic held back. All signage on the reservation within the indicated area to be removed. Swept path drawing SPA004 is included in Appendix B.

5	**Junction 42, M6** 	Loads will undertake a U turn at this junction to allow a northbound diverge onto the A75. Loads will proceed around the junction, taking the M6 northbound exit. Various sections of verge are over-run and over-sailed by the loads to minimize alterations to lighting columns. Load bearing surfaces to be laid in all over-run areas and verges confirmed suitable for proposed load weights. On entry loads will over-sail both western and eastern where tree canopy's to be trimmed and proximity to one road sign should be confirmed during test run or topographical survey. The height of the barrier in the western verge should be confirmed suitable for blade-tip over-sail. One road sign should be removed. On the south east side on the junction loads will over-run and over-sail both verges of the carriageway where one lit chevron sign is to be removed and vegetation trimmed back. Loads are to be raised to over-sail a section of barrier on the inside bend. Heights to be confirmed suitable for proposed loads. On approach a test-run or topographical survey should be utilised to confirm proximity to one road sign on the south east splitter island. On the south west side of the junction loads will over-run and over-sail both verges of the carriageway where one lit chevron sign is to be removed and vegetation trimmed back on both sides. Loads are to be raised to over-sail a section of barrier on the inside

POI	Constraint	Details
		bend. Heights to be confirmed suitable for proposed loads. On the north west of the junction loads will over-run the inside verge and over-sail both sides of the carriageway. Vegetation should be trimmed from both locations. Swept path drawing SPA005 is included in Appendix B.

POI	Constraint	Details
6	**M74 Junction 22 Diverge** 	Loads will diverge from the M74 at this location. Escorts must ensure that the lanes are clear of traffic and that traffic does not try to cut into the convoy.
7	**A75 / A780 Roundabout** 	Loads will proceed ahead on the A75, taking the 2nd exit using a contra flow manoeuvre. Loads will over-sail the northern and southern verges on approach. In the southern verge vegetation is to be trimmed back and the proximity to one road sign confirmed through topographical survey or test-run. Loads will over sail the north eastern verge of the centre island and the eastern verge of the exit arm. Swept path drawing SPA006 is included in Appendix B.

POI	Constraint	Details
8	**A75 / A709 Roundabout**  	Loads will proceed ahead on the A75, taking the 2nd exit using a contra flow manoeuvre. Confirmation is required that the existing mitigation measures are available for use. The existing over-run surface on the approach arm verge will be reused. A small area of additional load bearing surface will need to be laid and the length of the existing safety barrier shortened. Vegetation is to be trimmed back and the limits of adoption confirmed. Loads will over-sail the roundabout centre island and one chevron sign should be relocated. Vegetation to be cleared and the height of the roundabout confirmed suitable for proposed loads. Loads will over-sail the eastern verge on the exit arm. Swept path drawing SPA007 is included in Appendix B.

POI	Constraint	Details
9	**A75 / A701 Roundabout**  	Loads will take the 2nd exit, proceeding ahead on to the A75. Confirmation is required that the existing mitigation measures are available for use. Loads will over-sail the splitter island and southern verges on approach. Trees and vegetation to be cleared from the southern verge and the barrier height confirmed suitable for proposed blade-tip over-sail. Limits of adoption to be confirmed. One chevron sign on the central island of the junction should be removed or socketed for removal during deliveries. Loads to utilise the existing mitigation measures in the north west verge. Swept path drawing SPA008 is included in Appendix B.

POI	Constraint	Details
10	**A75 / A76 Roundabout** 	Loads will take the 4th exit, proceeding ahead on to the A75. Loads will over-sail the southern verge on approach where vegetation is to be cleared to allow blade-tip over-sail. Loads will over-sail the south eastern verge of the centre island where one lit chevron sign should be set-back and the proximity to the bridge support should be confirmed through a topographical survey. Loads will over-sail the south western verge of the centre island where one lit chevron sign should be set-back and the roundabout height confirmed suitable for over-sail by proposed loads. On exit loads over-sail the southern verge. Swept path drawing SPA009 is included in Appendix B.

POI	Constraint	Details
11	**A75 / A780 Roundabout** 	Loads would pass through the junction, taking the second exit. Confirmation is required that the existing mitigation measures are available for use. The existing over-run surface on the central island should be utilised, where one chevron sign should be removed. Loads will over sail the eastern verges on entry and exit. Both entry and exit slitter islands will be over-sailed on the eastern edges. Swept path drawing SPA010 is included in Appendix B.
12	**A75 Garroch Roundabout** 	Loads would pass through the junction, taking the third exit using a contra flow manoeuvre. The central island will be over-run and over-sail. A load bearing surface is to be laid in the over-run area and two chevron signs should be socketed for removal. Loads will over-sail the northern verge where a test-run or topographical survey should be undertaken to confirm proximity to one road sign. Swept path drawing SPA011 is included in Appendix B.

POI	Constraint	Details
13	**Drummore Roundabout** 	Loads will procced ahead at the junction, taking the second exit. Confirmation is required that the existing mitigation measures are available for use. Loads will over-sail the southern verge on approach. The existing over-run surface on the central island should be reused with two lit chevron signs to be removed or socketed to allow over-sail. Swept path drawing SPA012 is included in Appendix B.
14	**A75** 	Loads will procced ahead on the A75 at this location where trees should be trimmed.
15	**A75 Crocketford East** 	Loads will proceed ahead through the village. The street furniture on the central islands will need to be cleared to accommodate the wider loads.

POI	Constraint	Details
16	**A75 Crocketford West** 	Loads will proceed ahead on the A75 though this location. The street furniture on the central islands will need to be cleared to accommodate the wider loads.
17	**A75** 	Loads will proceed ahead on the A75 though this location. Loads will over-sail the footway/verge of the carriageway through this section and the proximity to the traffic signal pole should be confirmed following a test run. Swept path drawing SPA013 is included in Appendix B.
18	**A75 / A745 Roundabout** 	Loads will proceed ahead on the A75. Confirmation is required that the existing mitigation measures are available for use. Loads will over-sail the eastern verge on approach where one lighting column should be removed. Loads to utilise existing mitigation area on central island. One lit chevron sign and one partial chevron sign to be removed. Loads will over-sail the splitter island and southern verge on exit. Swept path drawing SPA014 is included in Appendix B.

POI	Constraint	Details
19	**A75 / B736 Roundabout** 	Loads will proceed ahead on the A75. Confirmation is required that the existing mitigation measures are available for use. Loads will over-sail both the splitter island and eastern verge on approach. One bollard and one road sign to be removed from the splitter island. Loads to utilise existing mitigation area on central island. Loads will over-sail outwith this area. Two socketed lit chevron signs to be removed during deliveries. Loads will over-sail the splitter island on exit where one road sign plate should be turned or removed during deliveries to increase available clearances. Swept path drawing SPA015 is included in Appendix B.
20	**A75** 	Loads will proceed ahead on the A75 though this location. Low utilities were observed at this location. It is recommended a utility search is undertaken to ensure suitable clearances.

POI	Constraint	Details
21	**A75 / A714 Roundabout** 	Loads will proceed ahead onto the A75 westbound using a contra-flow manoeuvre. Loads over-sail both northern and southern verges of the carriageway where vegetation should be cleared. Loads will over-run and over-sail the northern edge of the centre island where a load bearing surface should be laid and two chevron signs be removed. Loads will over-sail the northern verge on exiting the roundabout utilising the existing mitigation works. Loads to over-sail a section of barrier, height clearances to be confirmed suitable during test-run. Loads will over-sail the exit splitter island where one road sign is to be removed and one bollard over-sailed. Swept path drawing SPA016 is included in Appendix B.
22	**A75 / Newton Stewart Bypass** 	Loads will turn right onto the bypass route, thus avoiding a transit through the town centre. A load bearing surface is required on the inside of the junction. Three road signs on the inside of the junction will need to be relocated and three bollards removed. Vegetation should be trimmed back from the southern verge. Swept path drawing SPA017 is included in Appendix B.

POI	Constraint	Details
23	**A714 / Barnkirk Road Junction** 	Loads will turn left onto the A714. The existing junction widening works will be reused. Loads will over-sail both sides of the carriageway. Inside the bend one road sign, trees, vegetation and section of fence should be removed. Loads will over-sail and over-run the eastern verge where one tree is to be removed. Blade tip will over-sail the fence and a load bearing surface should be laid in the overrun area. **Third party land required. SPR are noted to already have secured ownership of the required extents.** Swept path drawing SPA018 is included in Appendix B.
24	**A714 / Left bend** 	Loads will continue ahead on the A714. No mitigation works are required at this location. Swept path drawing SPA019 is included in Appendix B.
25	**A714 left bend** 	Loads will continue ahead on the A714. No mitigation works are required at this location. Low utilities were observed at this location. It is recommended a utility search is undertaken to ensure suitable clearances. Swept path drawing SPA020 is included in Appendix B.

POI	Constraint	Details
26	**A714 right bend** 	Loads will continue ahead on the A714. No mitigation works are required at this location. Low utilities were observed at this location. It is recommended a utility search is undertaken to ensure suitable clearances. Swept path drawing SPA021 is included in Appendix B.
27	**A714 / Left bend** 	Loads will continue ahead on the A714 through the left bend. Low utilities were observed at this location. It is recommended a utility search is undertaken to ensure suitable clearances.
28	**A714 alongside River Cree** 	Loads will continue ahead on the A714. No mitigation works are required at this location. Swept path drawing SPA022 is included in Appendix B.

POI	Constraint	Details
29	**A714 Double Bend River Cree** 	Loads will proceed ahead on the A714 though this location. Tree canopies should be trimmed within the over-sail area. The embankment height should be confirmed in the western verge of the second bend to ensure loads can over-sail safely. Minor re-profiling works may be required. These would take place within the existing highway boundary, there are no requirements for third party land. Swept path drawing SPA023 is included in Appendix B.
30	**A714 Series of Bends River Cree** 	Loads will proceed ahead on the A714 though this location. Trees to be removed from within the over-sail area. Swept path drawing SPA024 is included in Appendix B.
31	**A714 / Clachaneasy** 	Loads will continue ahead on the A714. No mitigation works are expected at this location. Tree canopy to be trimmed back to provide a minimum 5m clearance.

POI	Constraint	Details
32	**A714 Bargrennan Bridge** 	Loads will proceed ahead through the right turn bend at Bargrennan. Confirmation is required that the existing mitigation measures are available for use. Loads will over-sail the sides of the carriageway into **third party land** and require an over-run area to the west of the carriageway. Section of fence, road signs and one telegraph pole to be removed from the western side of the carriageway. The blade tip will over-sail the section of barrier. In the eastern verge two road signs to be removed, section of fence and associated gate to be set-back and stone wall to be over-sailed. Loads will over-sail the bridge parapet and confirmation of height clearances should be confirmed. Parapet reductions may be required. **Third party land is required** at multiple locations. **SPR are noted to already have secured land rights at this location to allow for any modifications.** Swept path drawing SPA025 is included in Appendix B.

POI	Constraint	Details
33	**A714 Bargrennan Series of Bends** 	Loads will proceed ahead through the series of bends on the A714 at this location. Loads will over-run and over-sail the eastern verge upon exiting the bridge. A load bearing surface is to be laid, the land re-profiled to carriageway level and the ditch culverted. Utilities to be protected, section of crash barrier to be set-back and trees and vegetation to be cleared. Loads will over-sail both verges of the carriageway where one road sign, one telegraph pole and vegetation to be removed. Swept path drawing SPA026 is included in Appendix B.
34	**A714** 	Loads will continue ahead on the A714. Loads will straddle the full carriageway through this section. No mitigation works are expected at this location.
35	**A714** 	Loads will continue ahead on the A714. No mitigation works are required at this location. Swept path drawing SPA027 is included in Appendix B.

POI	Constraint	Details
36	**Site Access** 	Loads will turn left into the site access track. Loads will over-sail the northern verge when entering the junction. One road sign and a section of fence should be removed. Blade tip will over-sail the stone wall. **Third party land required. SPR are noted to already have secured land rights at this location to allow for any modifications.** Loads will over-sail the inside of the junction. All temporary signs should be removed from the over-sail area. Swept path drawing SPA028 is included in Appendix B.

Swept Path Assessment Results

3.10 The drawings in Appendix B illustrate tracking undertaken at each location with a number of locations based upon the Kilgallioch Wind Farm reinstatement proposals that are currently being agreed with Transport Scotland. The colours provided on the swept paths are:

- Green – vehicle/trailer outline (body swept path);
- Red – wheel tracked pathway (wheel swept path); and
- Purple – load over-sail tracked path (load swept path).

3.11 Where mitigation works are required, the locations are illustrated on the swept path drawings. Please note that any alterations to the specified load or vehicle details will invalidate the assessment results.

3.12 It is important to note that a number of the swept path assessments undertaken have been based on OS data. There can be measurement errors associated with the use of this data.

3.13 The drawings illustrate the street furniture modifications required to enable transit. The exact individual location of all street furniture in the vicinity of the POIs is not shown as these cannot be accurately plotted on the OS data without recourse to the various road authorities. Please note that WYG cannot accept any liability for errors on the data source.

Route Summary

3.14 Where required SPR have secured the necessary land to accommodate the proposed route. Assuming that the outlined mitigation is performed, the route from the KVG Docks to the site access is considered feasible for the delivery of proposed components.

Land Ownership and Utilities

3.15 The limits of road adoption can vary depending upon the location of the site and the history of the adopting agency. In general, the adopted area is that contained within a defined boundary where the affected Council areas or Transport Scotland holds the maintenance rights for the land from the original land owner. In urban areas, this usually defined as the area from the edge of the footway across the road to the opposing footway back edge.

3.16 In rural areas the area of adoption can be open to greater interpretation as defined boundaries may not be readily visible. In these locations, the general rule is that the area of adoption is between established fence / hedges lines or a maximum 2m from the road edge. This can vary between areas and every location can be different.

General Comments

3.17 WYG has undertaken a review of the potential access routes from the KVG Docks through to the proposed site access. WYG would strongly suggest that a review of the following is undertaken prior to the delivery of the abnormal loads, to ensure load and road user safety:

- A review of maximum axle loading on structures along the entire access route with the various road agencies is undertaken immediately prior to the loads being transported in case of last minute changes to structures;
- A review of clear heights with utility providers and the transport agencies along the route.
- The chosen haulier is recommended to ensure with utility providers that there is sufficient clearance with an appropriate safety factor (especially with respect to power lines);
- That any vegetation which may foul the loads is trimmed back to allow passage (this is of concern once the load is on the local road network and should be assessed for summer conditions);
- That there are no roadwork's or closures that could affect the passage of the loads. A check with the affected Council areas and Transport Scotland should be made before the transit of the first abnormal load;
- That a test run is completed to further assess the route for all components and confirm findings of the swept path assessments;
- That there are no new or diverted underground services on the access route that are at risk from the abnormal loads.

4 SUMMARY AND FURTHER WORKS

Summary

4.1.1 This report identifies the key points and issues associated with the proposed route from the KVG Docks through to the Kilgallioch Windfarm site access.

4.1.2 The route to site is presented for consideration by ScottishPower Renewables. The route is considered feasible subject to the implementation of the proposed mitigation measures however these will need to be agreed with Transport Scotland and affected Council areas.

Initial Considerations and Further Work

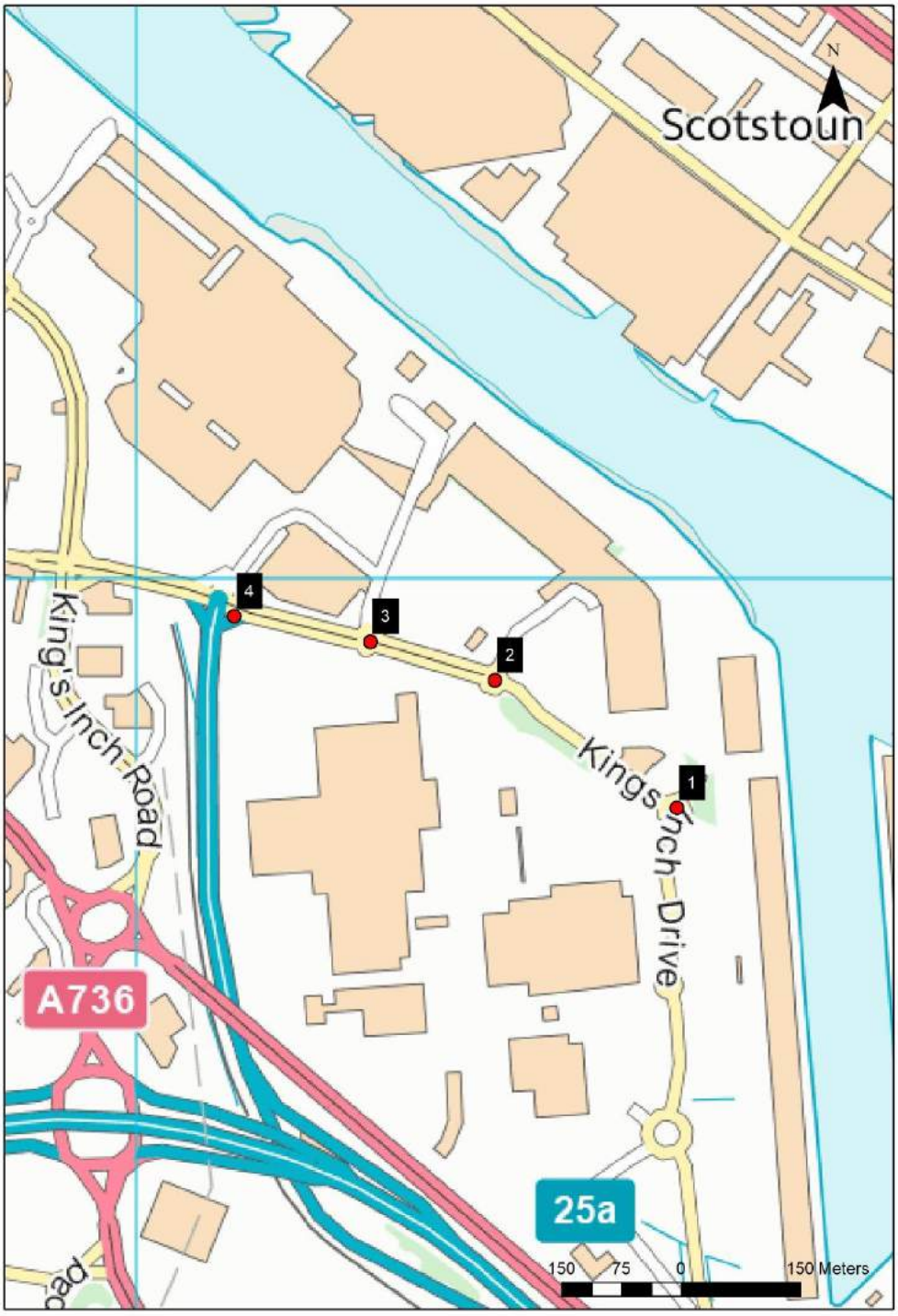
4.1.3 From this review, WYG would suggest any mitigation works are designed to be permanent to ensure that future windfarm maintenance can be undertaken without the need to re-open land and access rights on site.

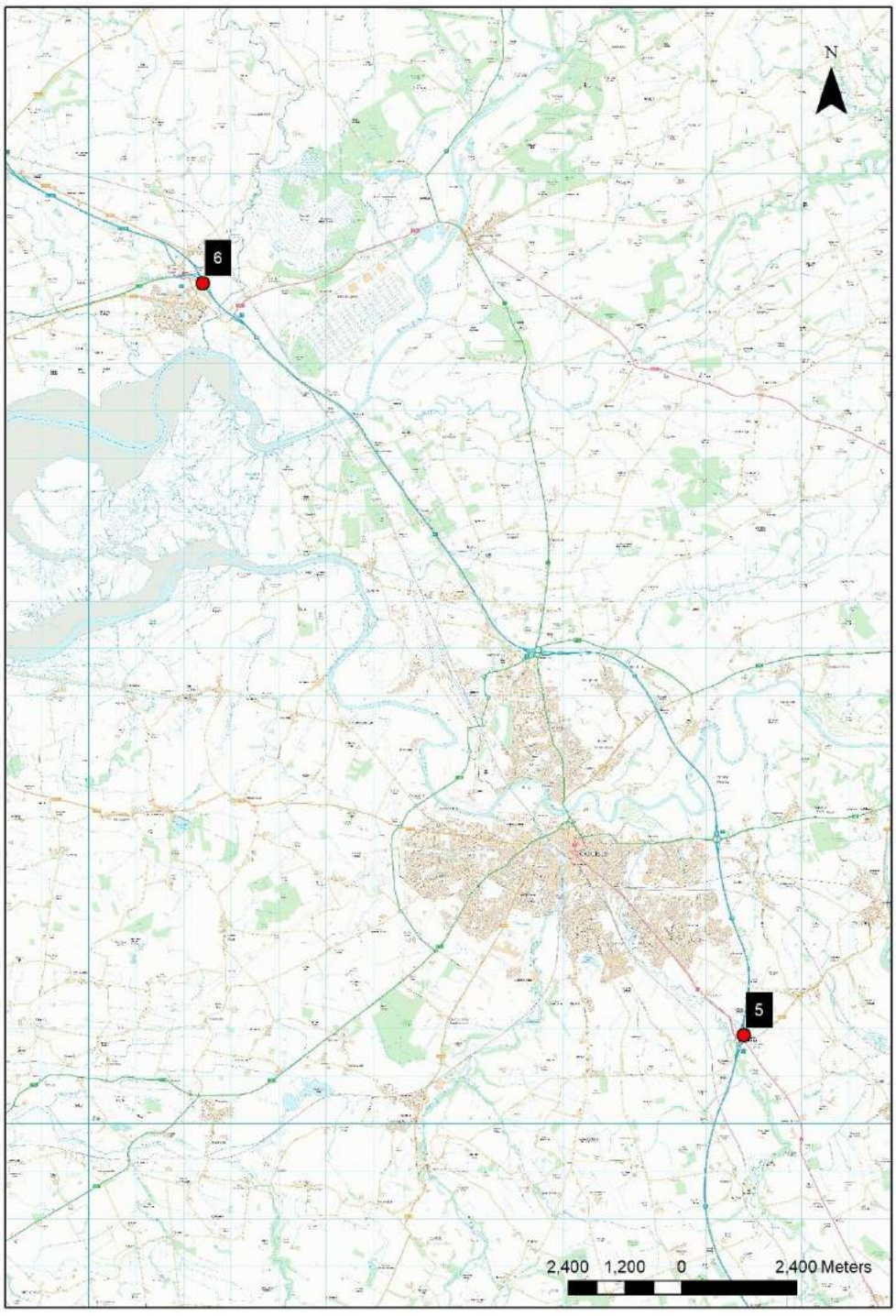
4.1.4 The following work is recommended to ScottishPower Renewables for consideration in relation to the proposed access routes:

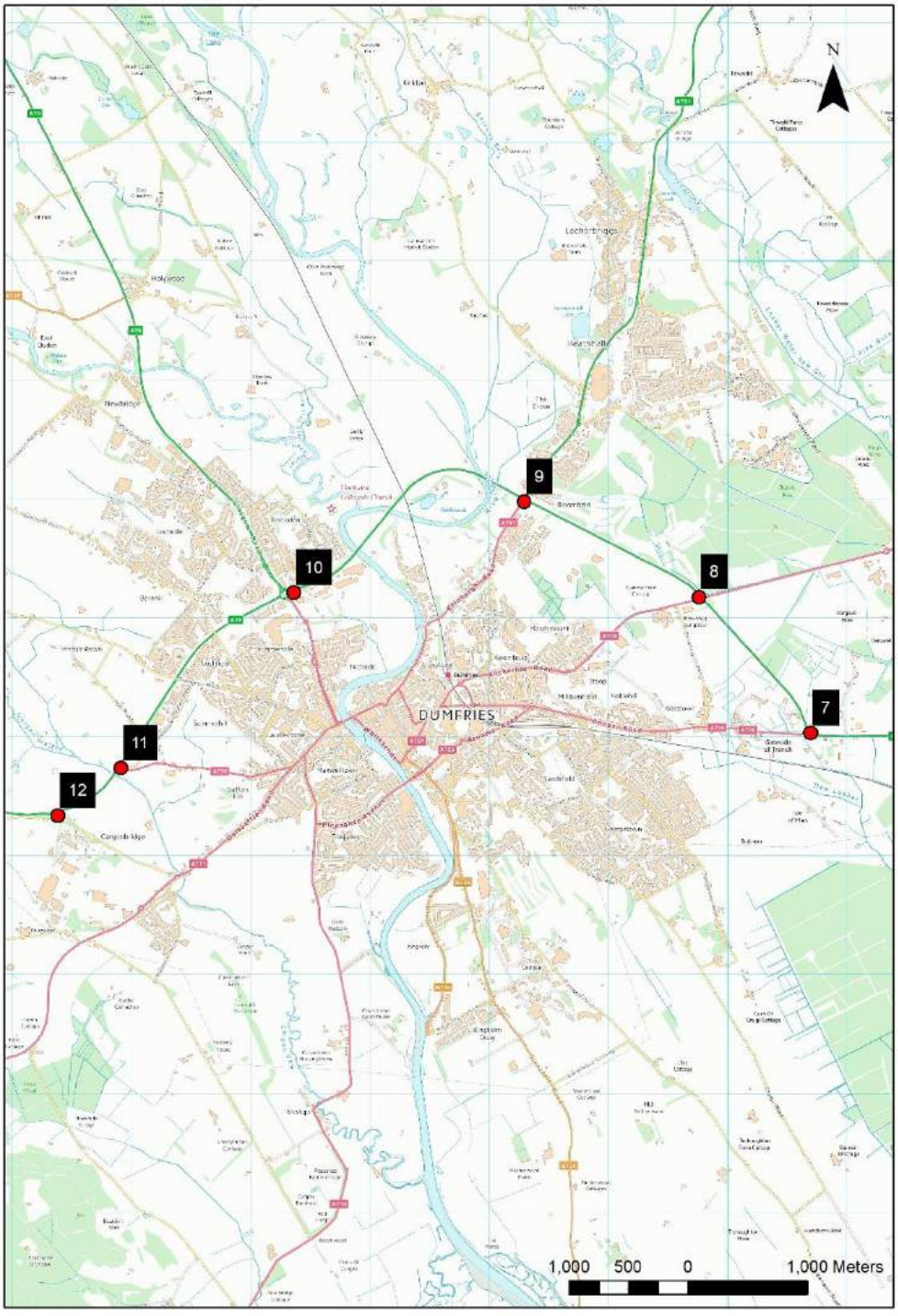
- Detailed design review of the proposed mitigation works;
- A test run is recommended in order to confirm the required mitigation due to the limited clearances in a number of locations;
- Topographical surveys are undertaken at the identified locations; and
- A Traffic Management Plan - a detailed Traffic Management Plan (TMP) will be essential for this project given the level of constraint in a number of areas.

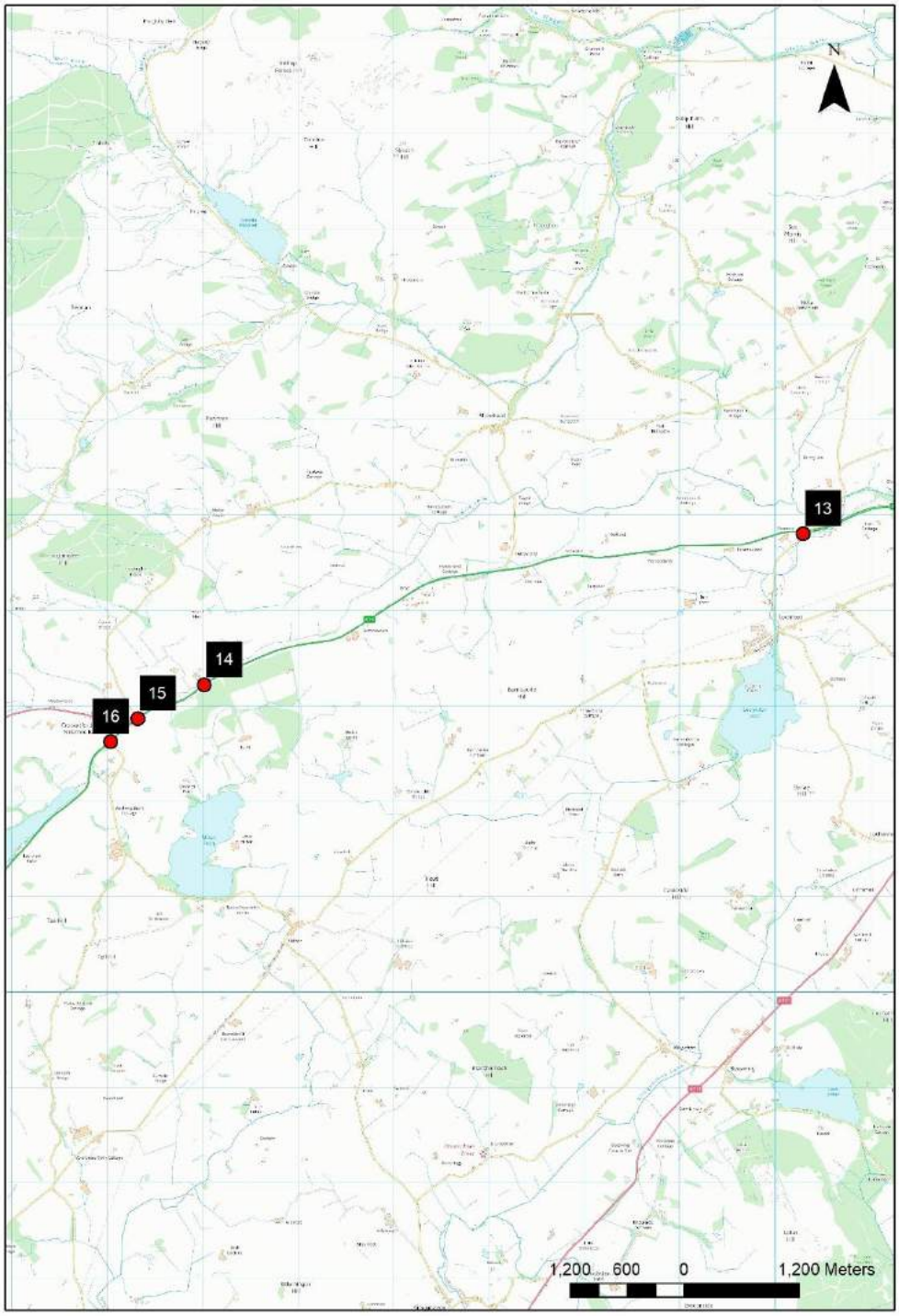
APPENDIX A

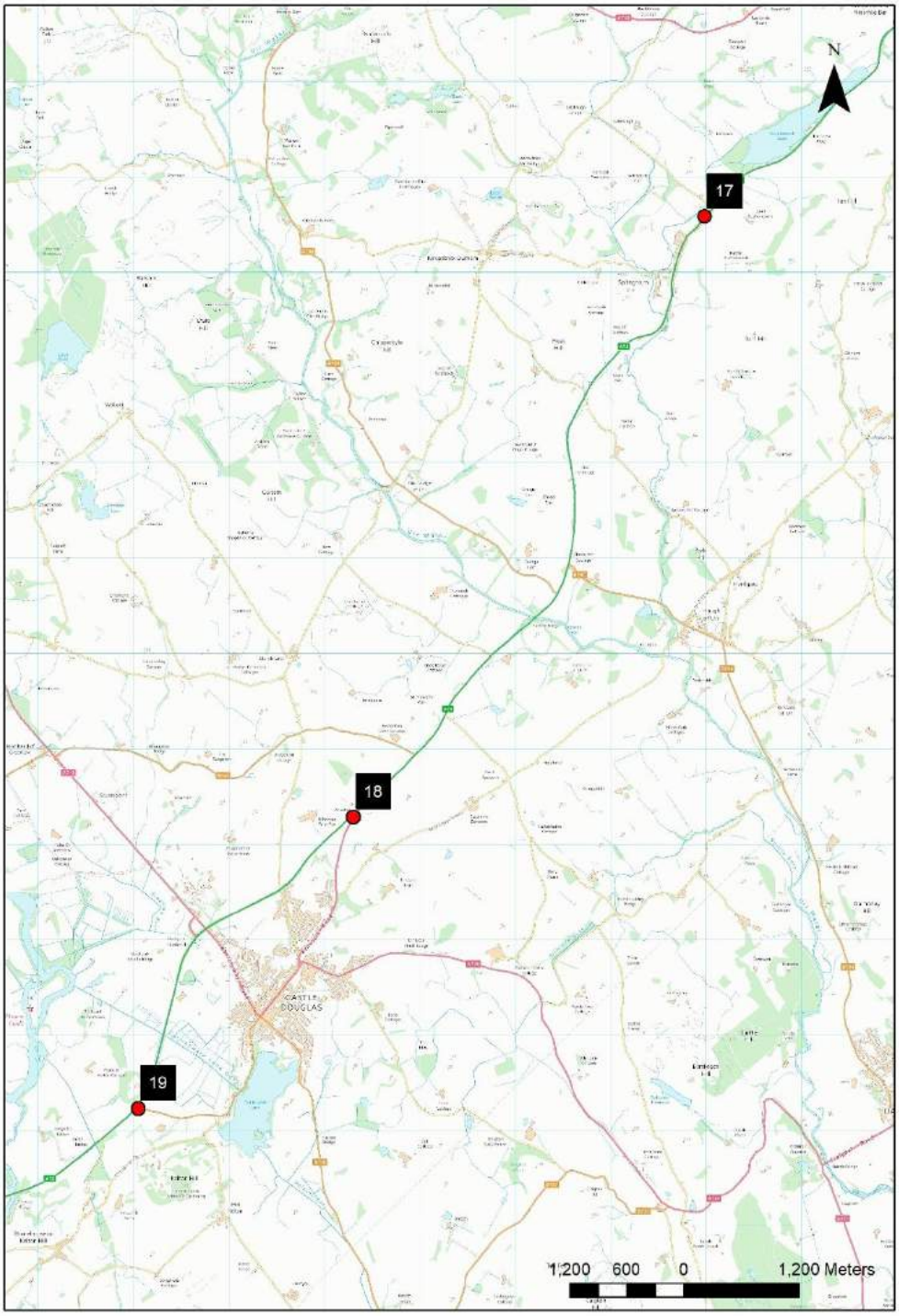
POI PLANS

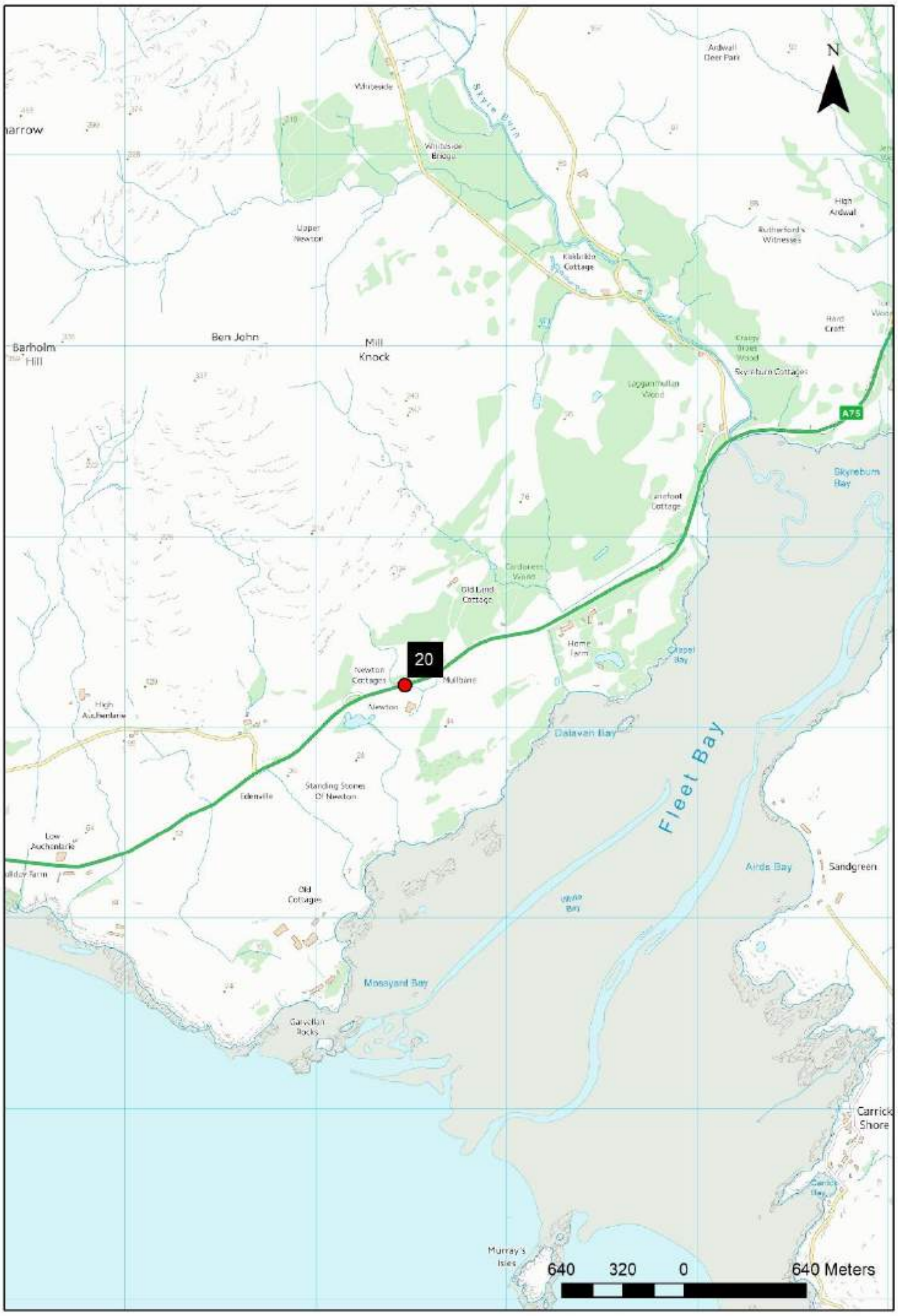



N
6
5
2,400 1,200 0 2,400 Meters

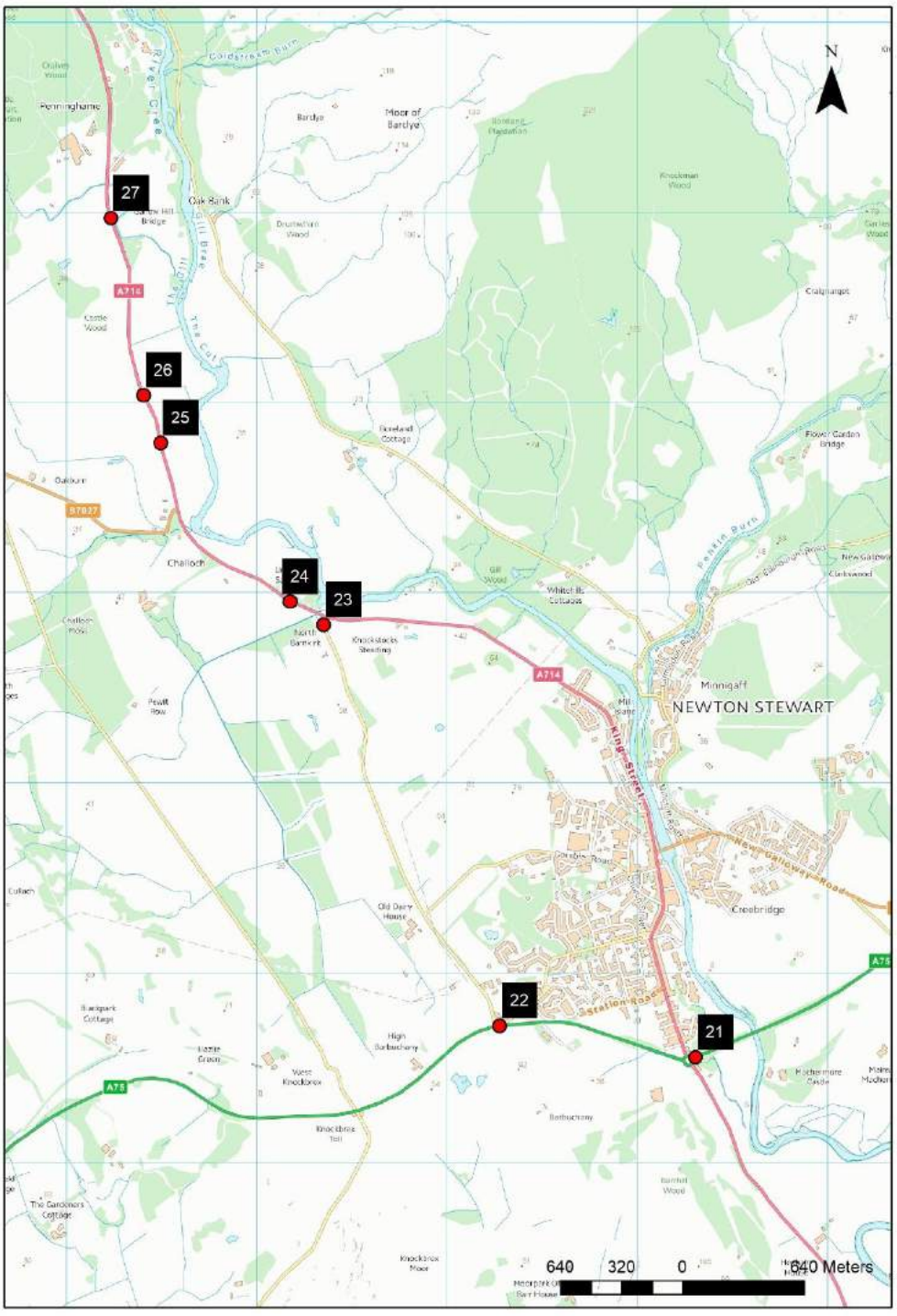

N
9
10
8
7
11
12
DUMFRIES
1,000 500 0 1,000 Meters

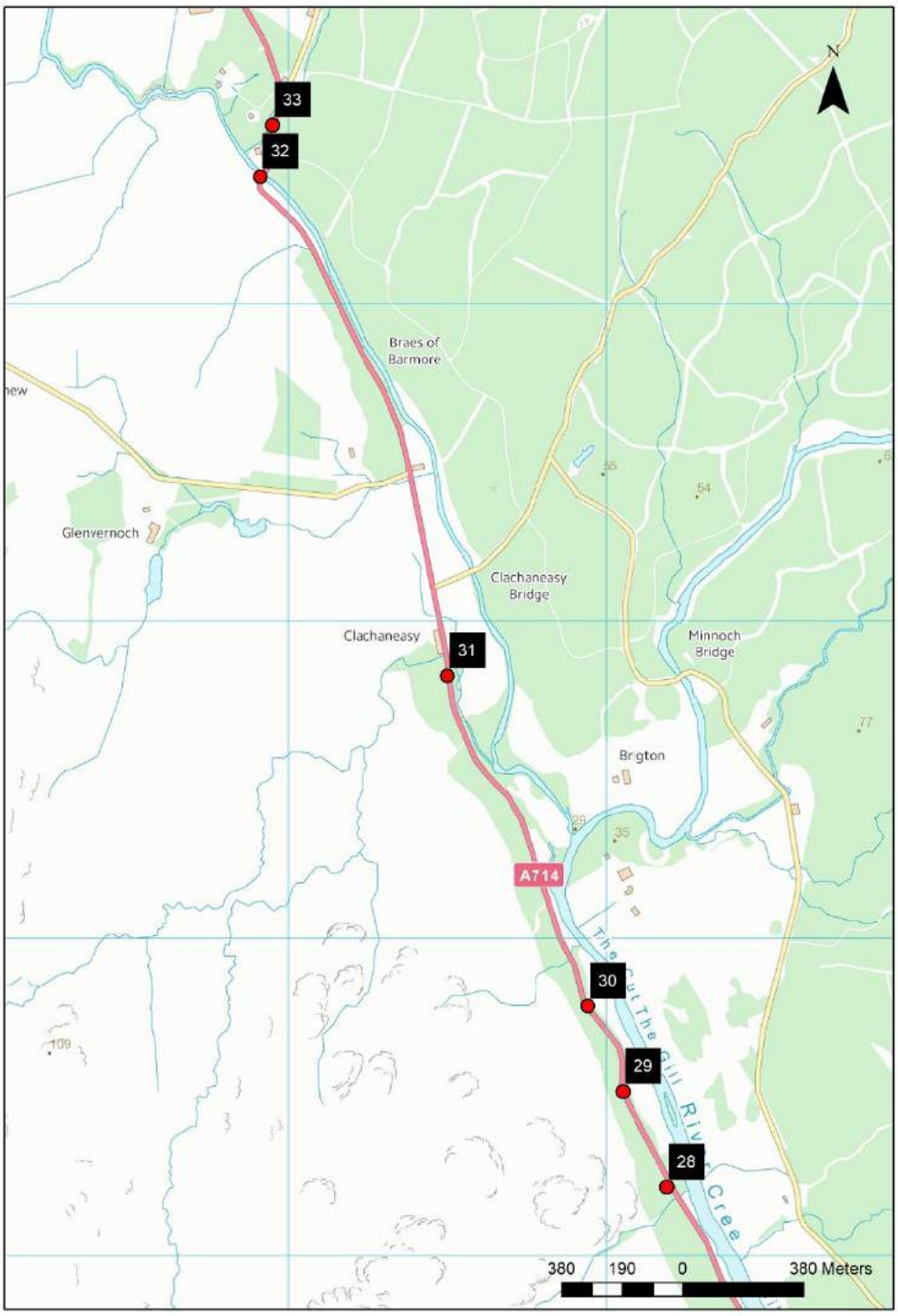

N
13
14
15
16
1,200 600 0 1,200 Meters

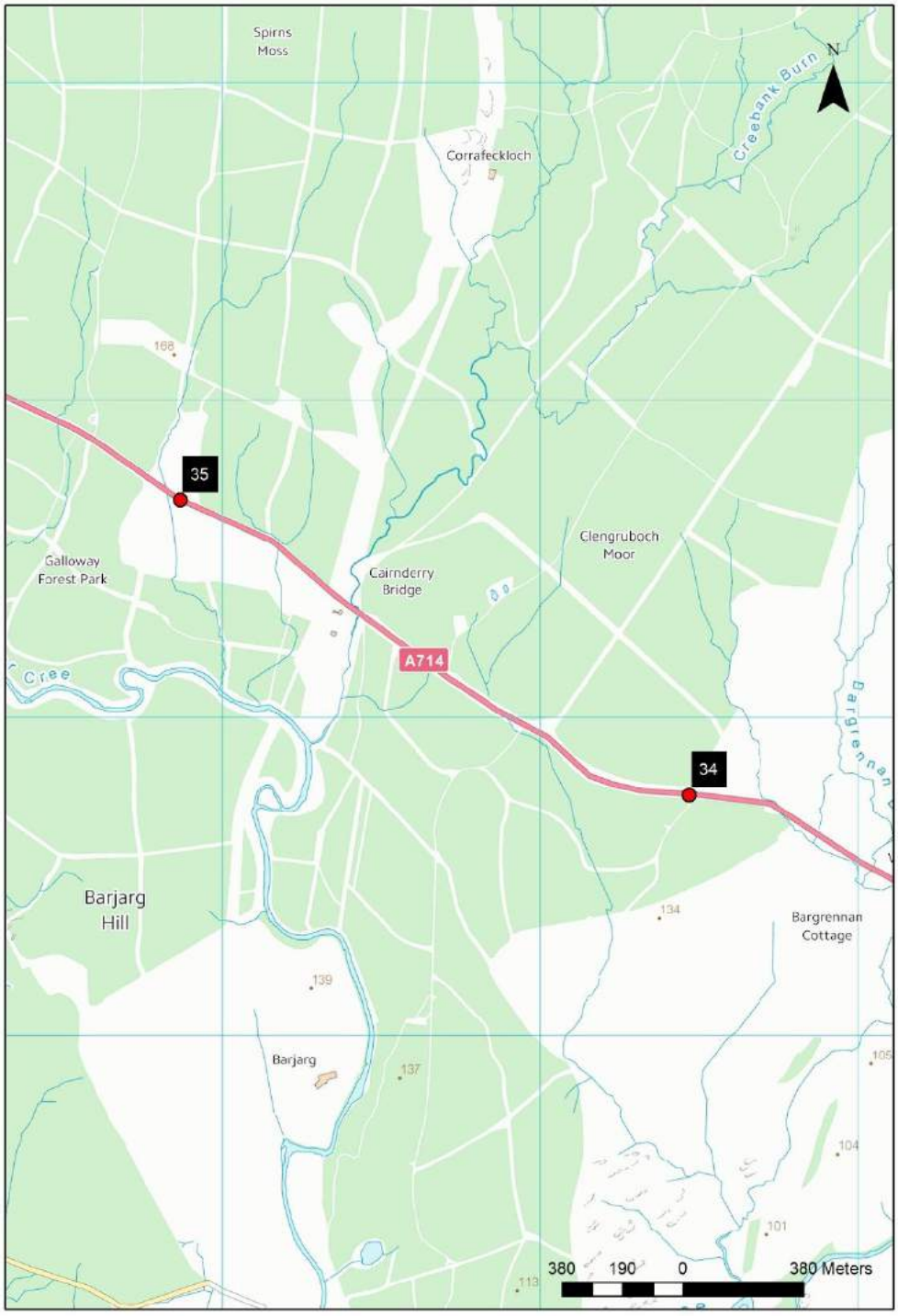

N
17
18
19
CASTLE DOUGLAS
1,200 600 0 1,200 Meters

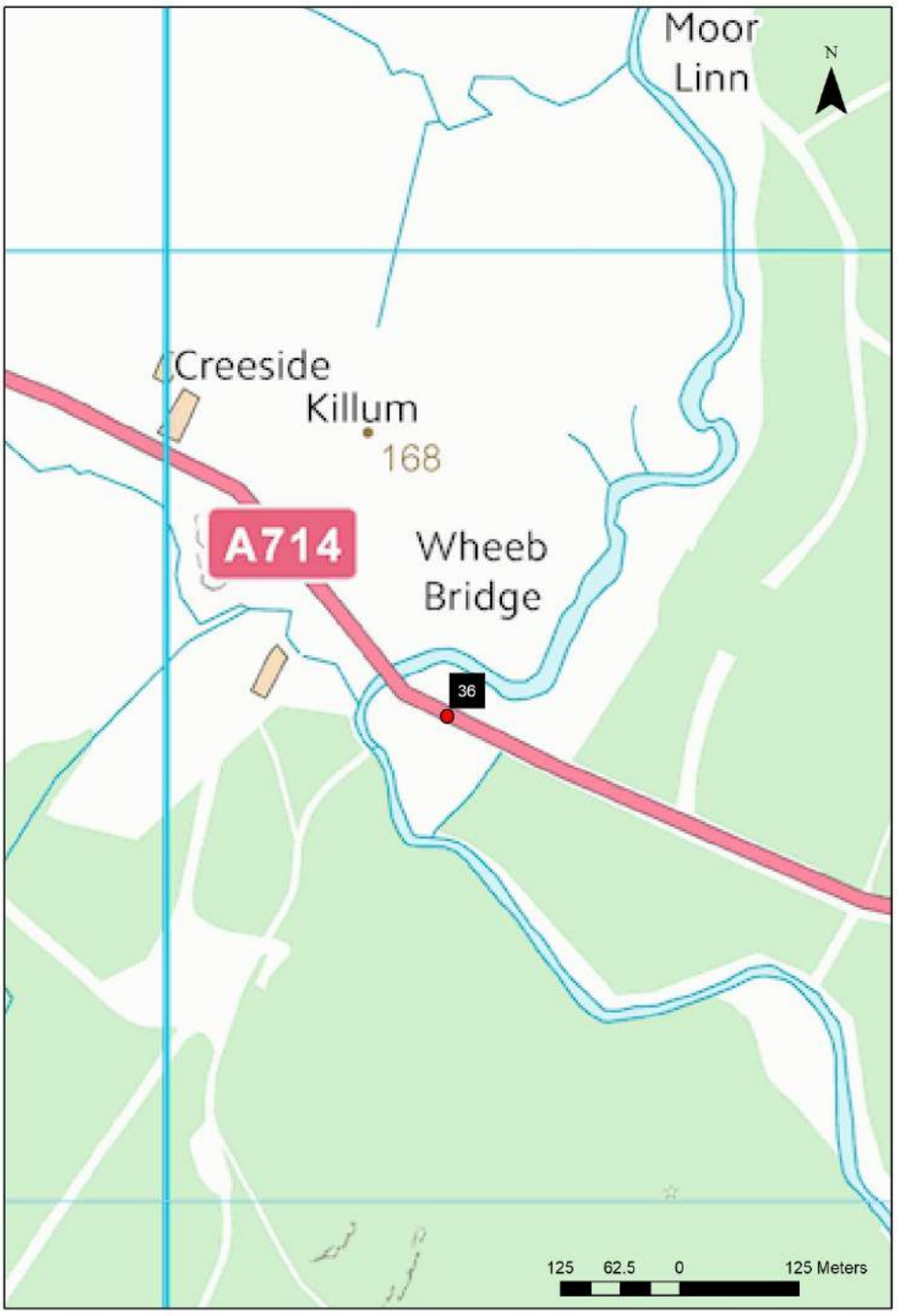


N
20
Fleet Bay
Ben John
Mill Knock
Barholm Hill
A75
Newton Cottages
Newton
Datavan Bay
Mossyard Bay
Airds Bay
Sandgreen
Carrick Shore
640 320 0 640 Meters


N
27
26
25
24
23
22
21
NEWTON STEWART
A714
A75
B7027
640
320
0
1,040 Meters


N
33
32
Braes of
Barmore
Glenvernoch
Clachaneasy
Bridge
Clachaneasy
31
Minnoch
Bridge
Brgton
A714
30
29
28
380
190
0
380 Meters


Spirns
Moss
N
Creebank Burn
Corrafeckloch
168
35
Galloway
Forest Park
Cairnderry
Bridge
Clengruboch
Moor
A714
Cree
34
Barjarg
Hill
134
Bargrennan
Cottage
139
Barjarg
137
104
101
113
380 190 0 380 Meters


Moor
Linn
N
Creeside
Killum
168
A714
Wheeb
Bridge
36
125
62.5
0
125 Meters

APPENDIX B

Swept Path Assessment

Blade

Mid Tower

Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.

Key:

- Load Swept Path
- Vehicle Swept Path
- Wheel Swept Path
- Ordnance Survey Mapping

Kilgallioch Wind Farm Extension

ScottishPower Renewables

LOCATION: KVG Dock

POI: 1

COMPONENTS: Vestas V150 Blade and Mid Tower

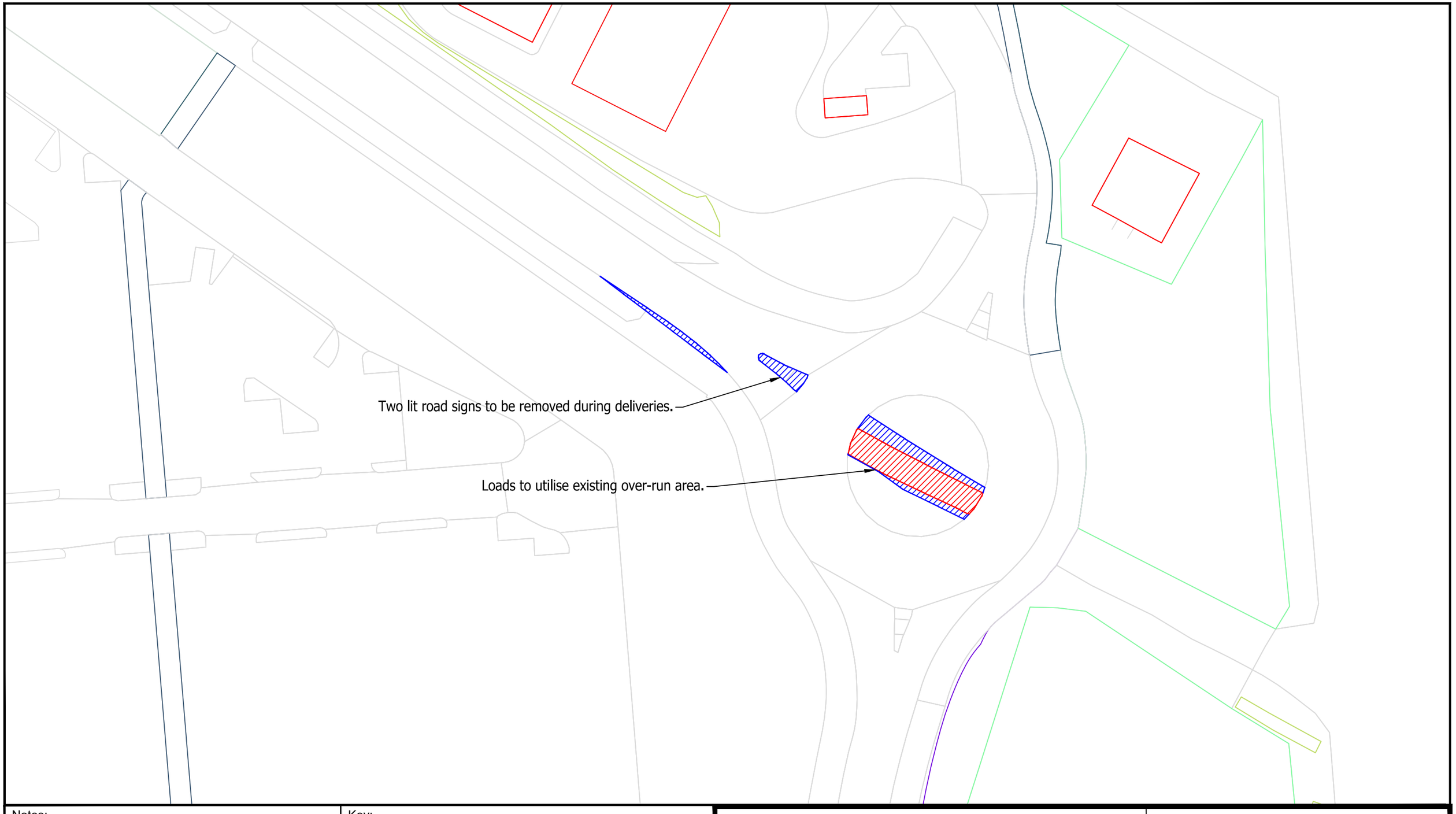
Swept Path Assessment

DRAWN:	CHECKED:	DATE:	SCALES:
JS	JD	Sep 2019	1:1000 @ A3

WYG Transport Planning
part of the WYG group

The Cube 45 Leith Street Edinburgh EH1 3AT
t: +44 (0)131 247 5700 e: edinburgh@wyg.com

PROJECT NUMBER:	DRAWING NUMBER:	REVISION:
A112434	SPA001	-



Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.

Key:

- Over-run Required
- Over-sail Required
- Ordnance Survey Mapping

Kilgallioch Wind Farm Extension

LOCATION: KVG Dock

POI: 1

COMPONENTS:

Vestas V150 Blade and Mid Tower

Required Remedial Works

DRAWN:	CHECKED:	DATE:	SCALES:
JS	JD	Sep 2019	1:500 @ A3

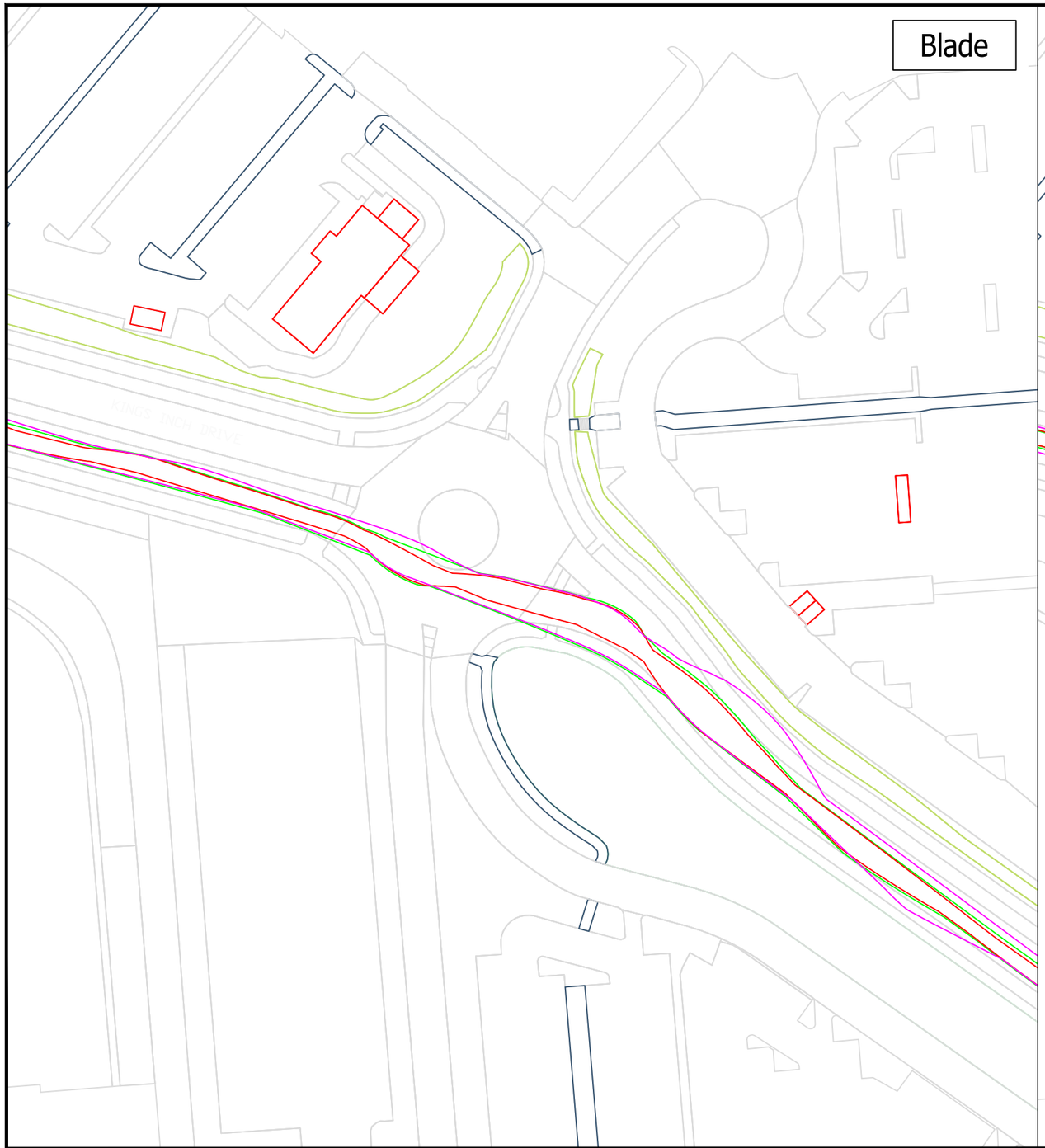
ScottishPower Renewables

WYG Transport Planning
part of the WYG group

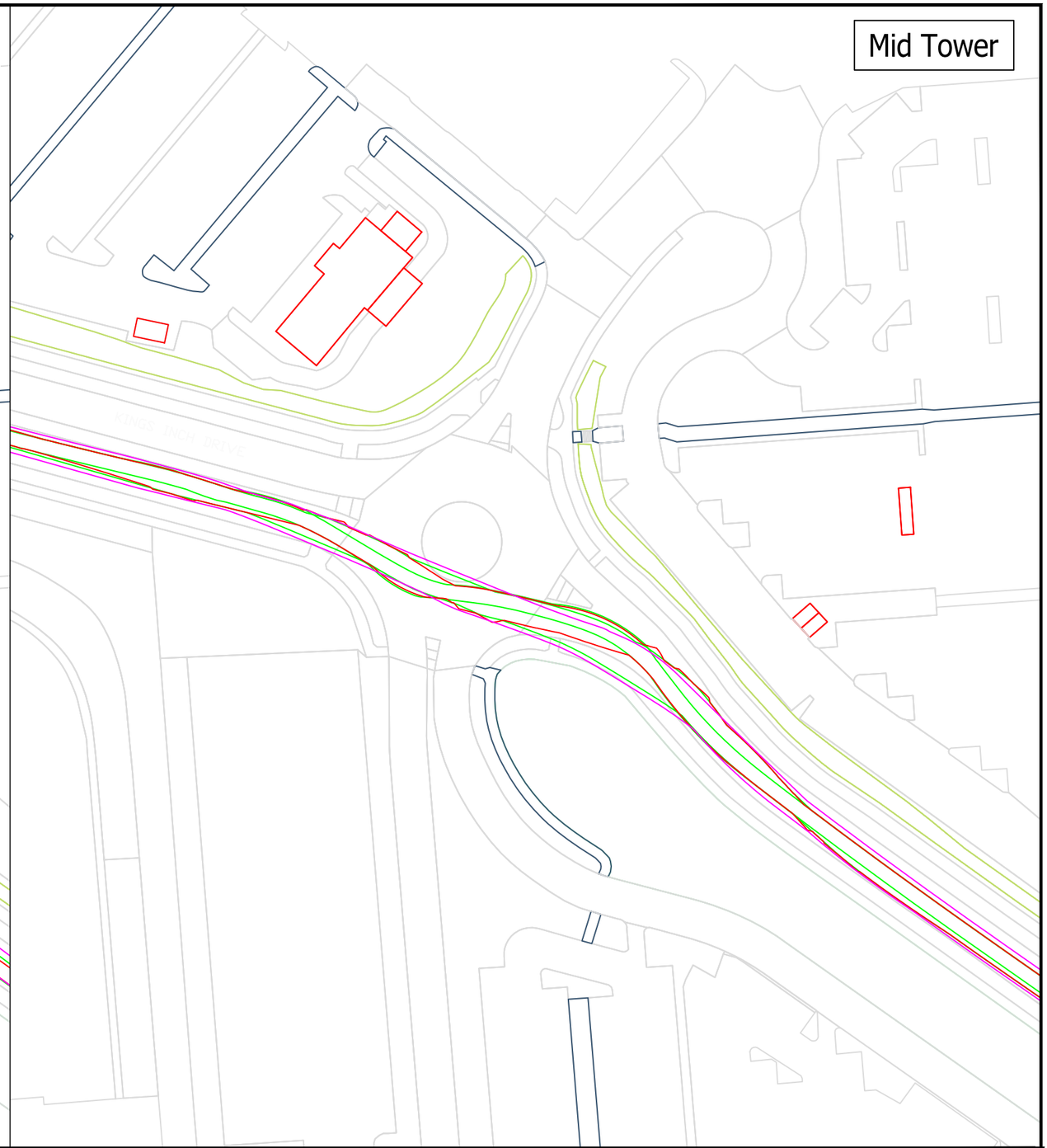
The Cube 45 Leith Street Edinburgh EH1 3AT
t: +44 (0)131 247 5700 e: edinburgh@wyg.com

PROJECT NUMBER:	DRAWING NUMBER:	REVISION:
A112434	SPA001-2	-

Blade



Mid Tower



Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.

Key:

- Load Swept Path
- Vehicle Swept Path
- Wheel Swept Path
- Ordnance Survey Mapping

Kilgallioch Wind Farm Extension

ScottishPower Renewables

LOCATION: Kings Inch Roundabout 1

POI: 2

COMPONENTS: Vestas V150 Blade and Mid Tower

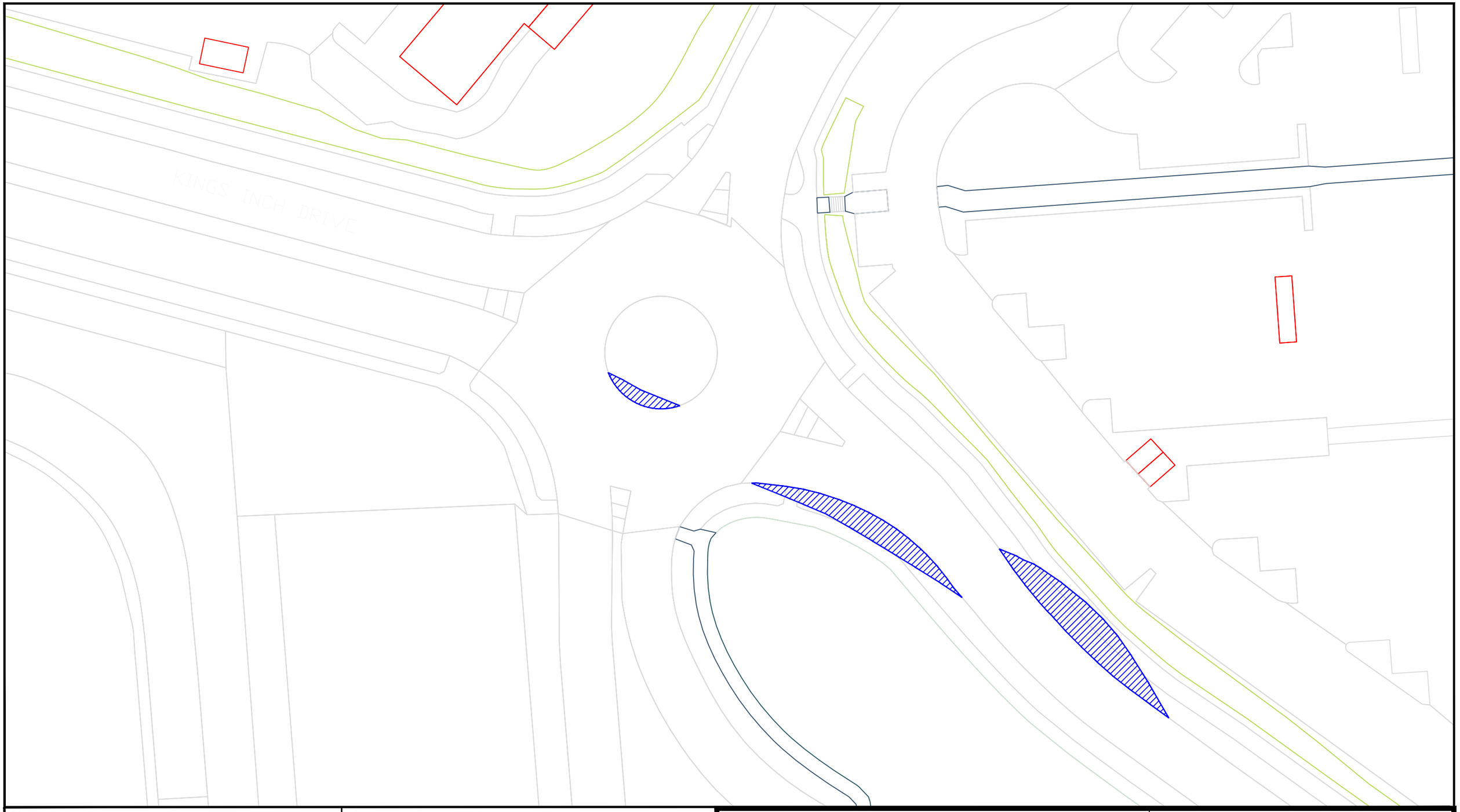
Swept Path Assessment

DRAWN:	CHECKED:	DATE:	SCALES:
JS	JD	Sep 2019	1:1000 @ A3

WYG Transport Planning
part of the WYG group

The Cube 45 Leith Street Edinburgh EH1 3AT
t: +44 (0)131 247 5700 e: edinburgh@wyg.com

PROJECT NUMBER:	DRAWING NUMBER:	REVISION:
A112434	SPA002	-



Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.

Key:

- Over-run Required
- Over-sail Required
- Ordnance Survey Mapping

Kilgallioch Wind Farm Extension

ScottishPower Renewables

LOCATION: Kings Inch Roundabout 1

POI: 2

COMPONENTS:

Vestas V150 Blade and Mid Tower

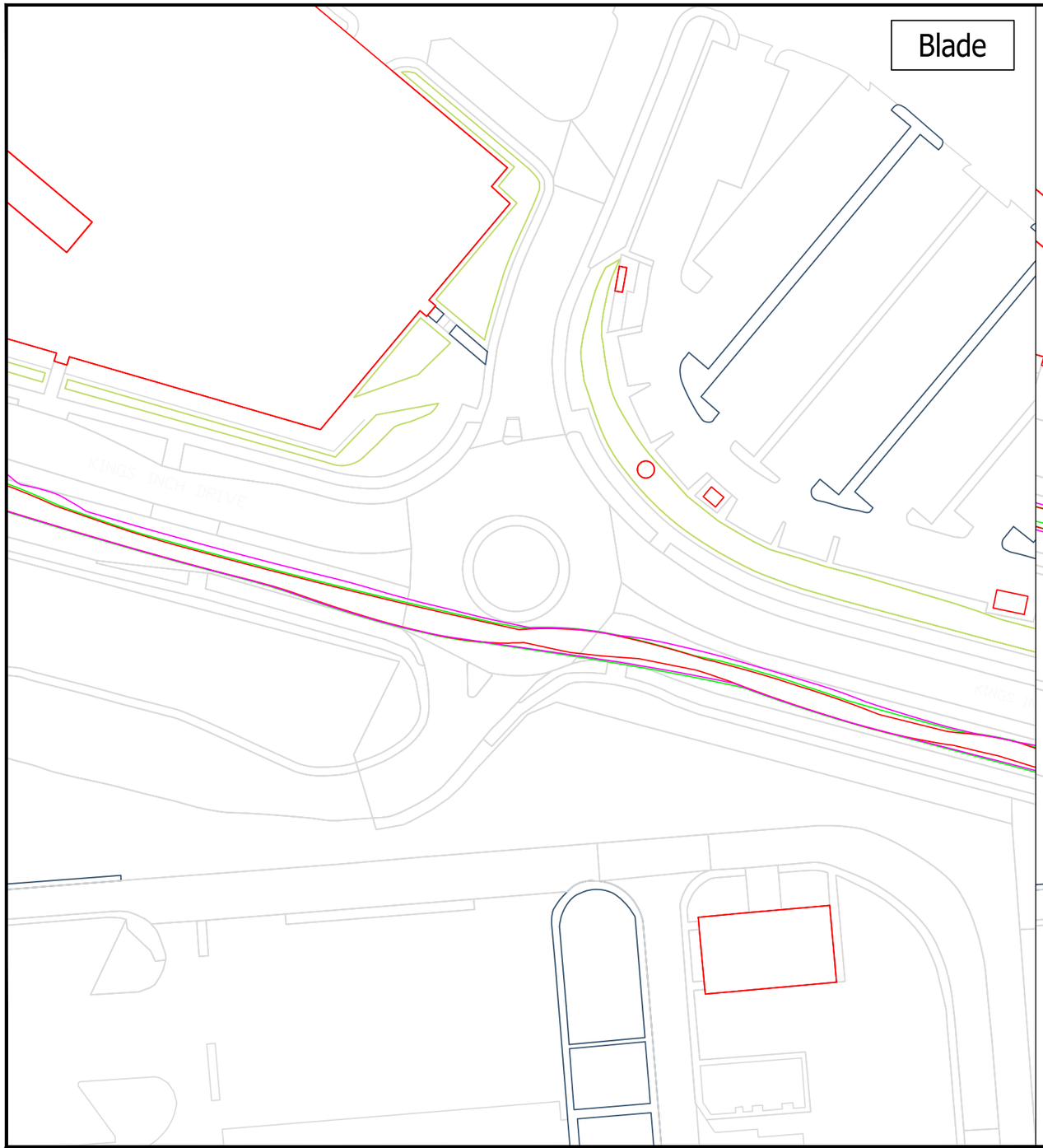
Required Remedial Works

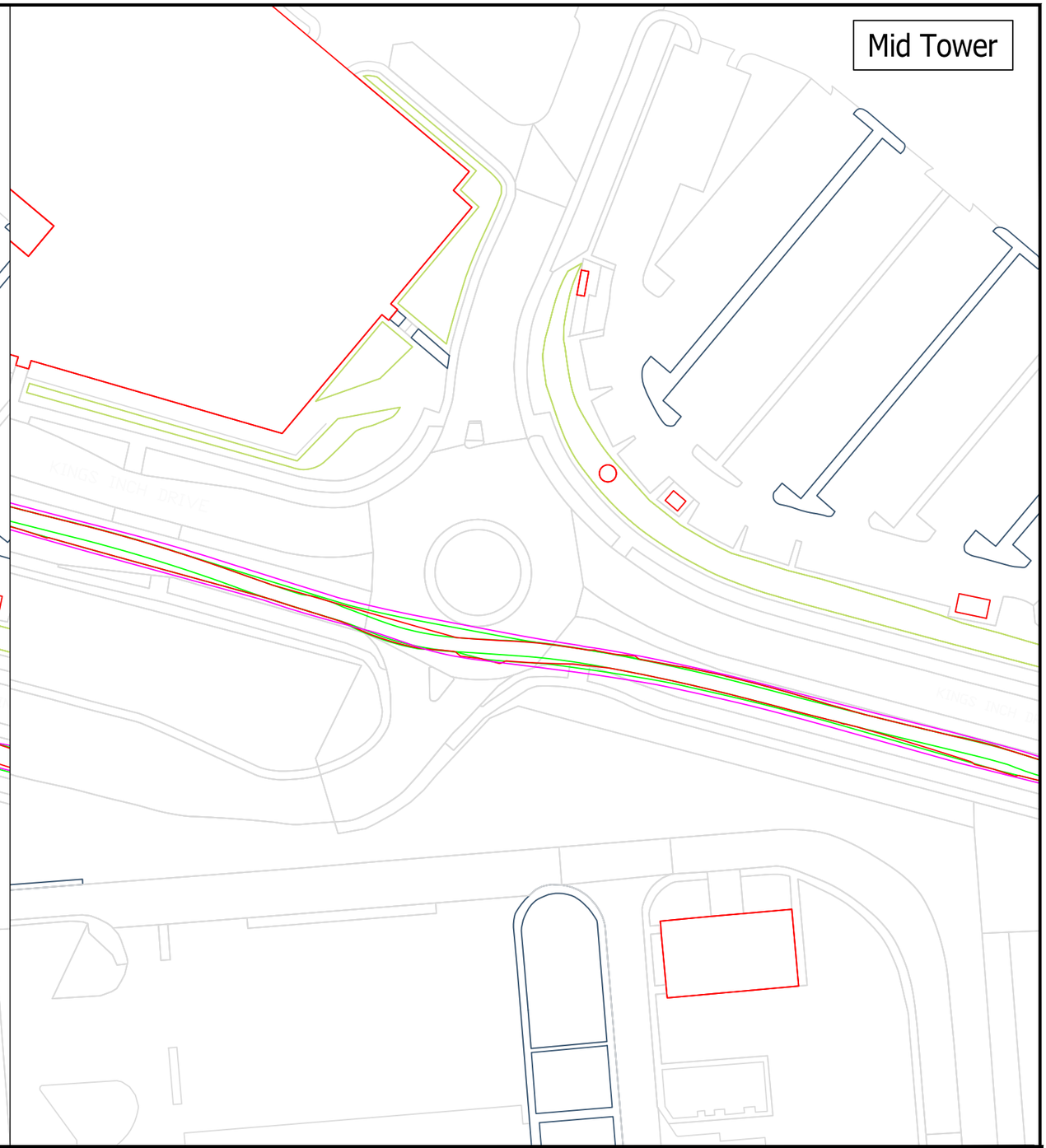
DRAWN:	CHECKED:	DATE:	SCALES:
JS	JD	Sep 2019	1:500 @ A3

WYG Transport Planning
part of the WYG group

The Cube 45 Leith Street Edinburgh EH1 3AT
t: +44 (0)131 247 5700 e: edinburgh@wyg.com

PROJECT NUMBER:	DRAWING NUMBER:	REVISION:
A112434	SPA002-2	-





Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.

Key:

- Load Swept Path
- Vehicle Swept Path
- Wheel Swept Path
- Ordnance Survey Mapping

Kilgallioch Wind Farm Extension

ScottishPower Renewables

LOCATION: Kings Inch Roundabout 2

POI: 3

COMPONENTS: Vestas V150 Blade and Mid Tower

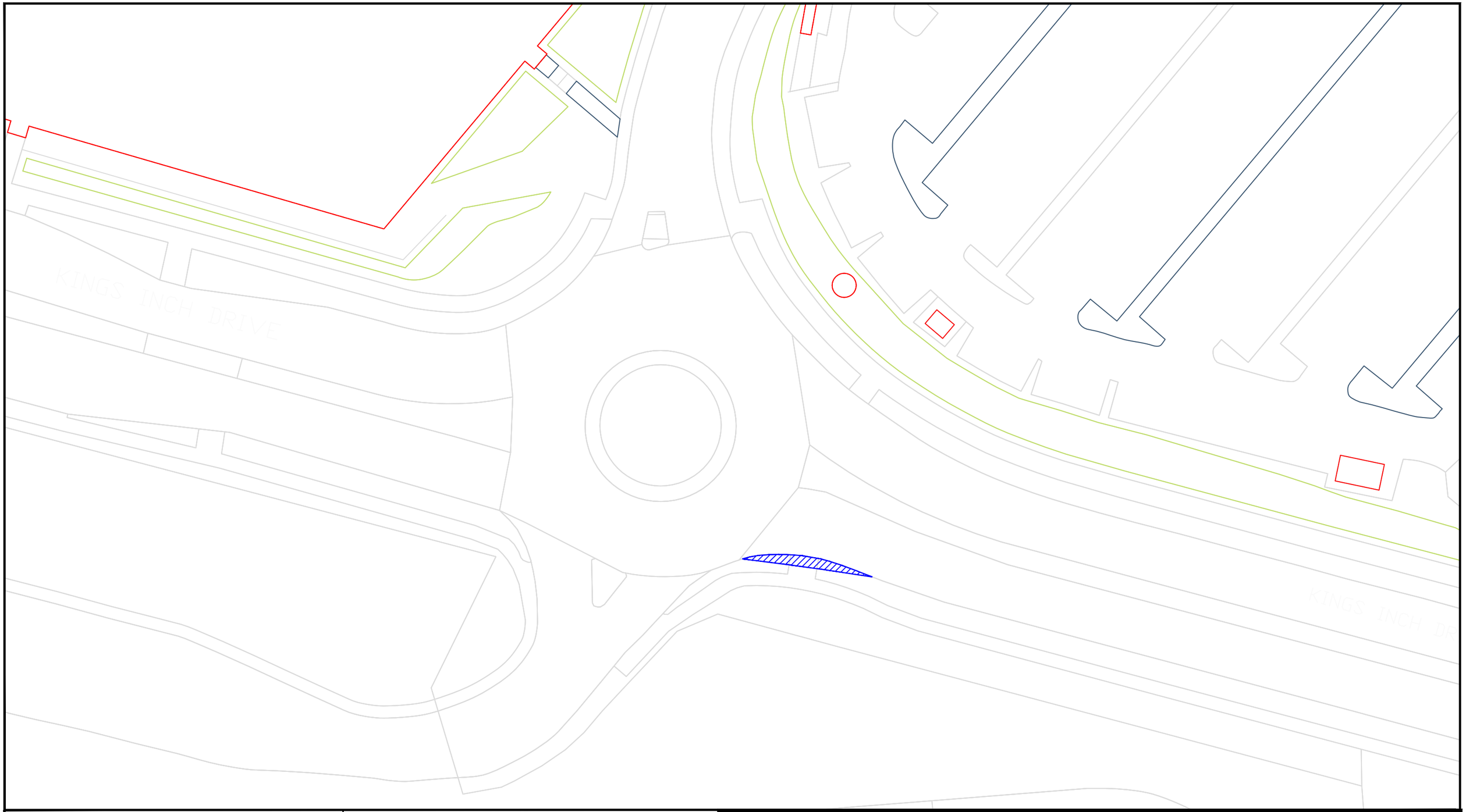
Swept Path Assessment

DRAWN:	CHECKED:	DATE:	SCALES:
JS	JD	Sep 2019	1:1000 @ A3

WYG Transport Planning
part of the WYG group

The Cube 45 Leith Street Edinburgh EH1 3AT
t: +44 (0)131 247 5700 e: edinburgh@wyg.com

PROJECT NUMBER:	DRAWING NUMBER:	REVISION:
A112434	SPA003	-



Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.

Key:

- Over-run Required
- Over-sail Required
- Ordnance Survey Mapping

Kilgallioch Wind Farm Extension

LOCATION: Kings Inch Roundabout 2

POI: 3

COMPONENTS:

Vestas V150 Blade and Mid Tower

Required Remedial Works

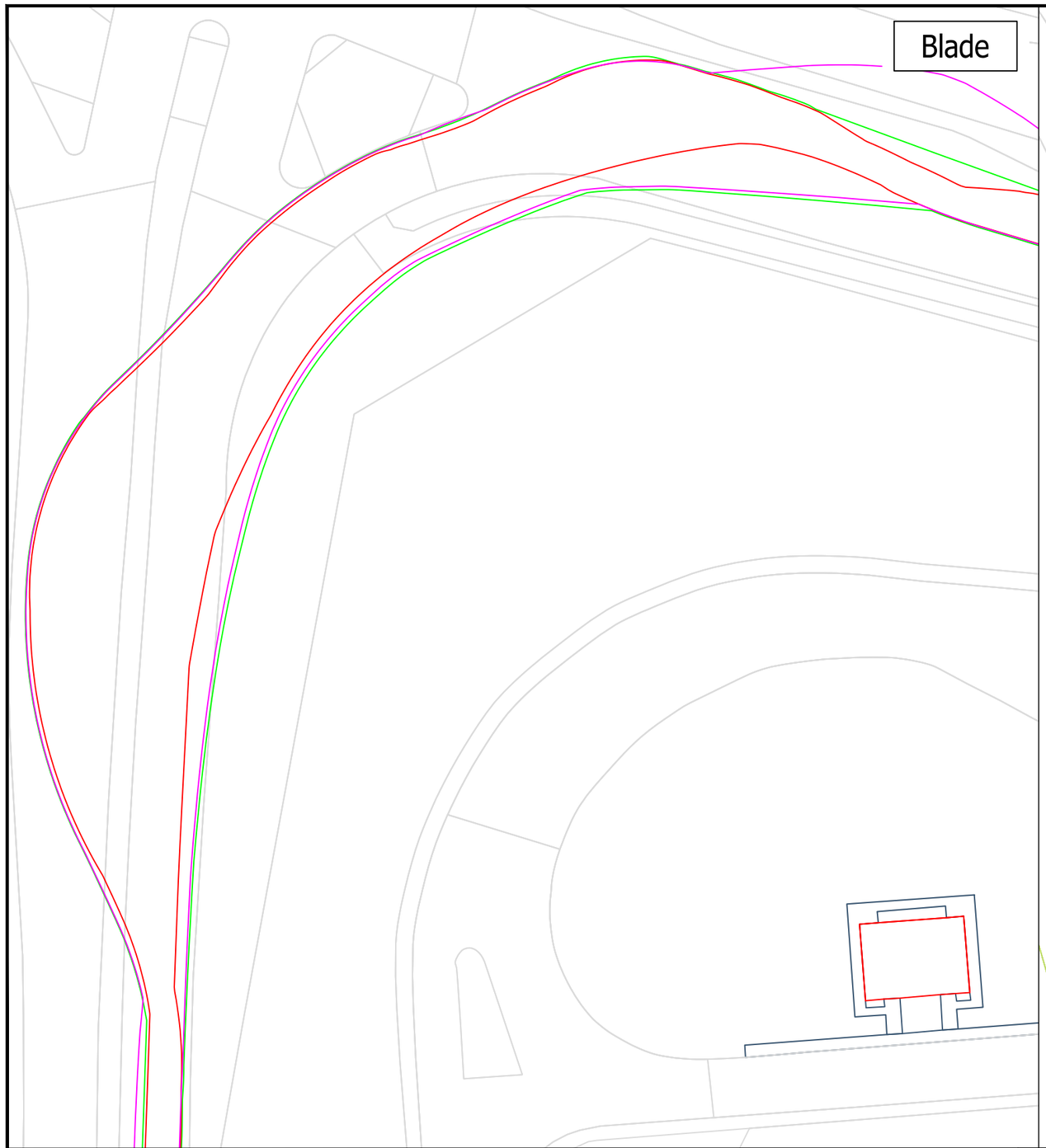
DRAWN:	CHECKED:	DATE:	SCALES:
JS	JD	Sep 2019	1:500 @ A3

ScottishPower Renewables

WYG Transport Planning
part of the WYG group

The Cube 45 Leith Street Edinburgh EH1 3AT
t: +44 (0)131 247 5700 e: edinburgh@wyg.com

PROJECT NUMBER:	DRAWING NUMBER:	REVISION:
A112434	SPA003-2	-



Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.

Key:

- Load Swept Path
- Vehicle Swept Path
- Wheel Swept Path
- Ordnance Survey Mapping

Kilgallioch Wind Farm Extension

ScottishPower Renewables

LOCATION:	POI:
M8 Junction 25A / Kings Inch Drive	4

COMPONENTS:

Vestas V150 Blade and Mid Tower

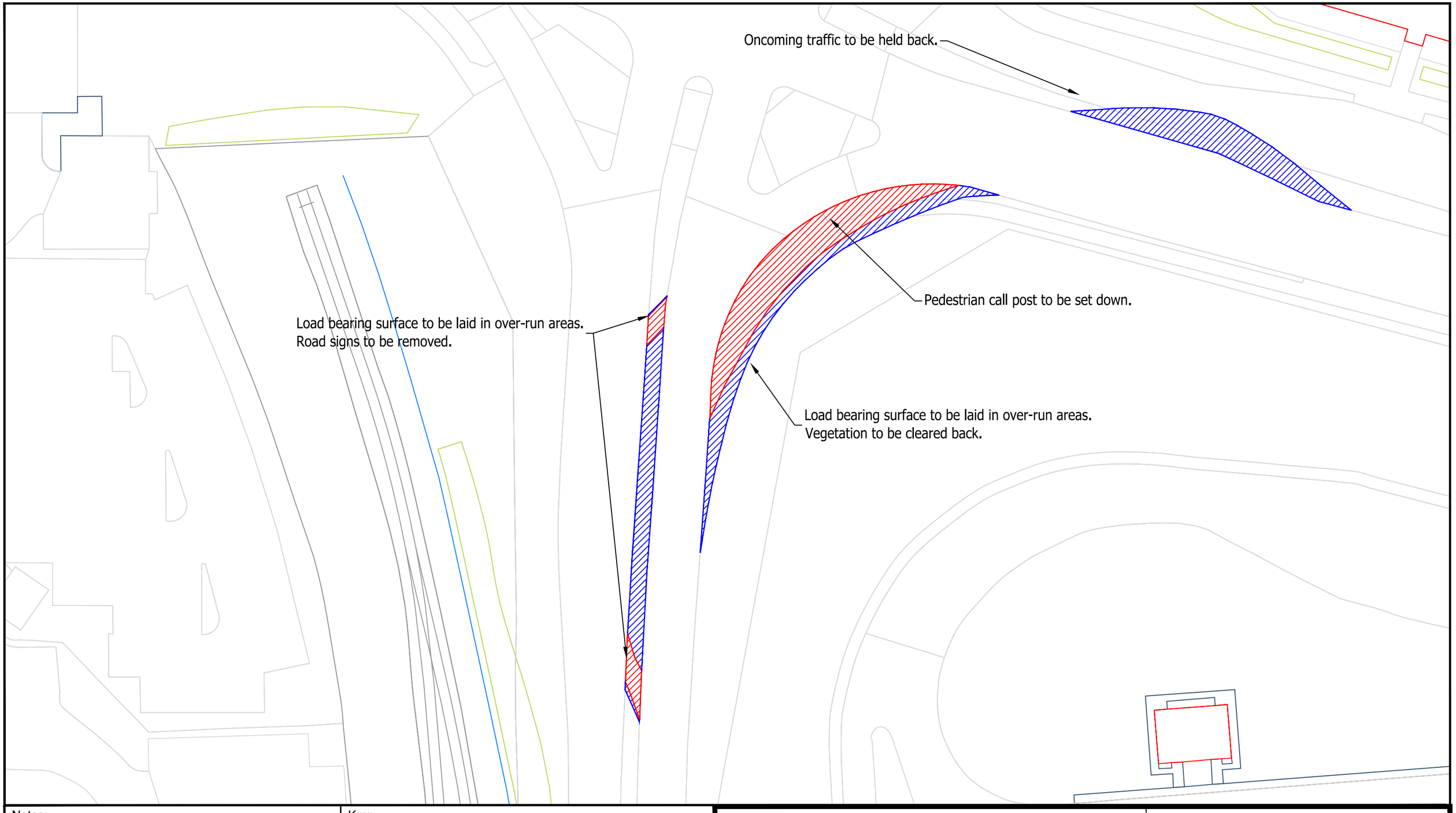
Swept Path Assessment

DRAWN:	CHECKED:	DATE:	SCALES:
JS	JD	Sep 2019	1:500 @ A3

WYG Transport Planning
part of the WYG group

The Cube 45 Leith Street Edinburgh EH1 3AT
t: +44 (0)131 247 5700 e: edinburgh@wyg.com

PROJECT NUMBER:	DRAWING NUMBER:	REVISION:
A112434	SPA004	-



Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.

Key:

- Over-run Required
- Over-sail Required
- Ordnance Survey Mapping

Kilgallioch Wind Farm Extension

ScottishPower Renewables

LOCATION:	POI:
M8 Junction 25A / Kings Inch Drive	4

COMPONENTS:

Vestas V150 Blade and Mid Tower

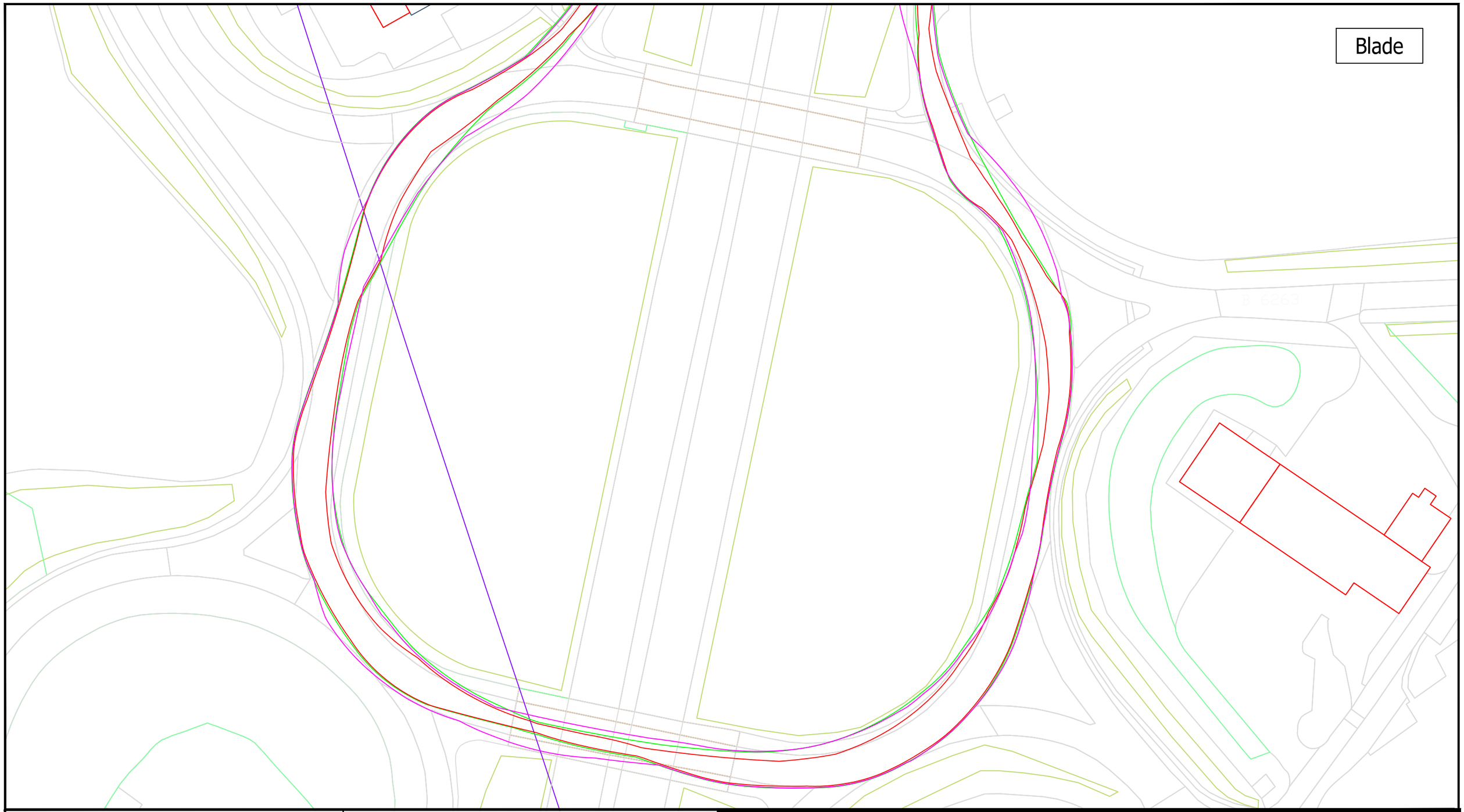
Required Remedial Works

DRAWN:	CHECKED:	DATE:	SCALES:
JS	JD	Sep 2019	1:500 @ A3

WYG Transport Planning
part of the WYG group

The Cube 45 Leith Street Edinburgh EH1 3AT
t: +44 (0)131 247 5700 e: edinburgh@wyg.com

PROJECT NUMBER:	DRAWING NUMBER:	REVISION:
A112434	SPA004-2	-



Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.

Key:

- Load Swept Path
- Vehicle Swept Path
- Wheel Swept Path
- Ordnance Survey Mapping

Kilgallioch Wind Farm Extension

LOCATION: M74 Junction 22 Diverge

POI: 5

COMPONENTS: Vestas V150 Blade and Mid Tower

Swept Path Assessment

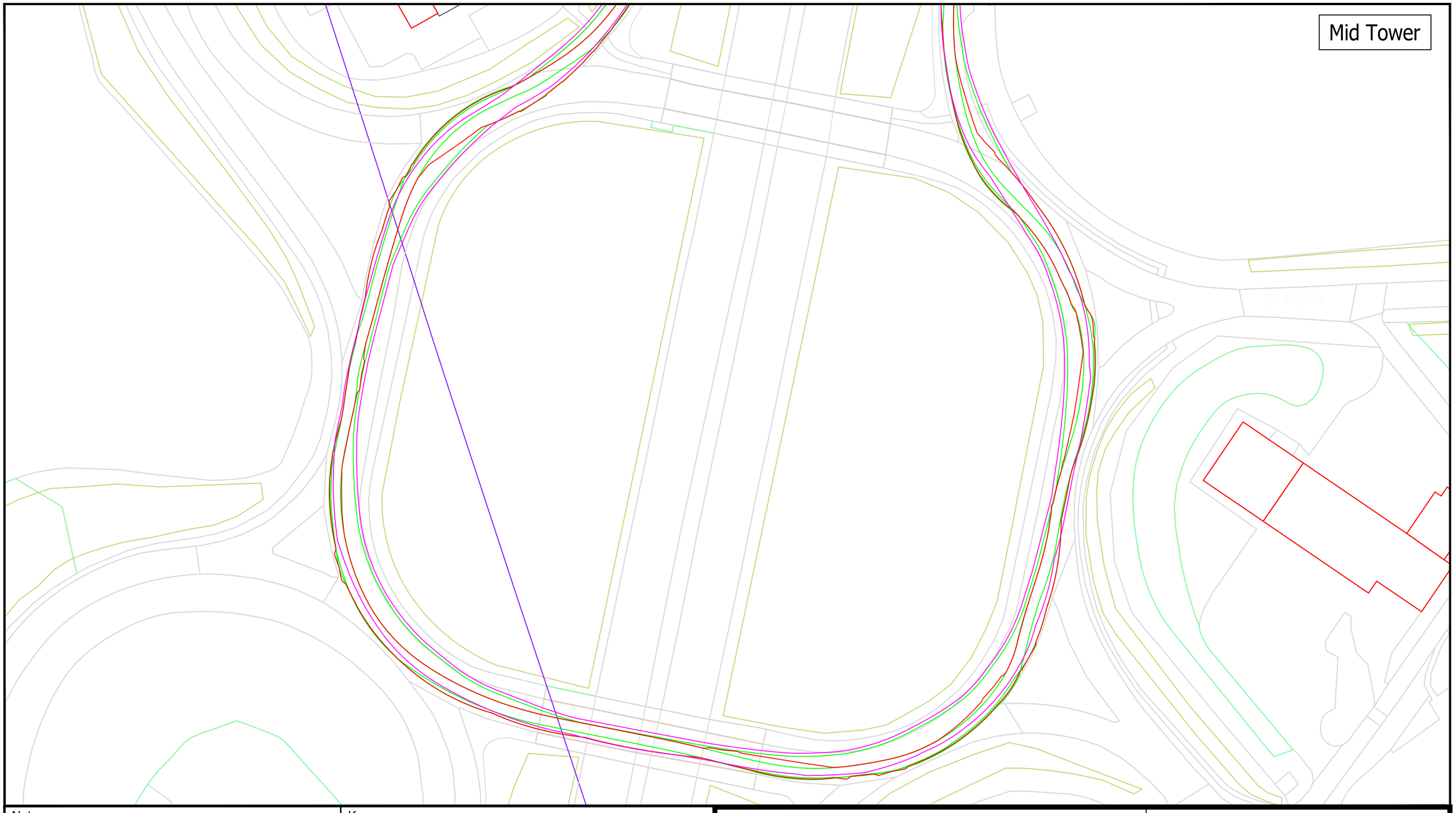
DRAWN:	CHECKED:	DATE:	SCALES:
JS	JD	Sep 2019	1:1000 @ A3

ScottishPower Renewables

WYG Transport Planning
part of the WYG group

The Cube 45 Leith Street Edinburgh EH1 3AT
t: +44 (0)131 247 5700 e: edinburgh@wyg.com

PROJECT NUMBER:	DRAWING NUMBER:	REVISION:
A112434	SPA005	-



Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.

Key:

- Load Swept Path
- Vehicle Swept Path
- Wheel Swept Path
- Ordnance Survey Mapping

Kilgallioch Wind Farm Extension

LOCATION: M74 Junction 22 Diverge

POI: 5

COMPONENTS: Vestas V150 Blade and Mid Tower

Swept Path Assessment

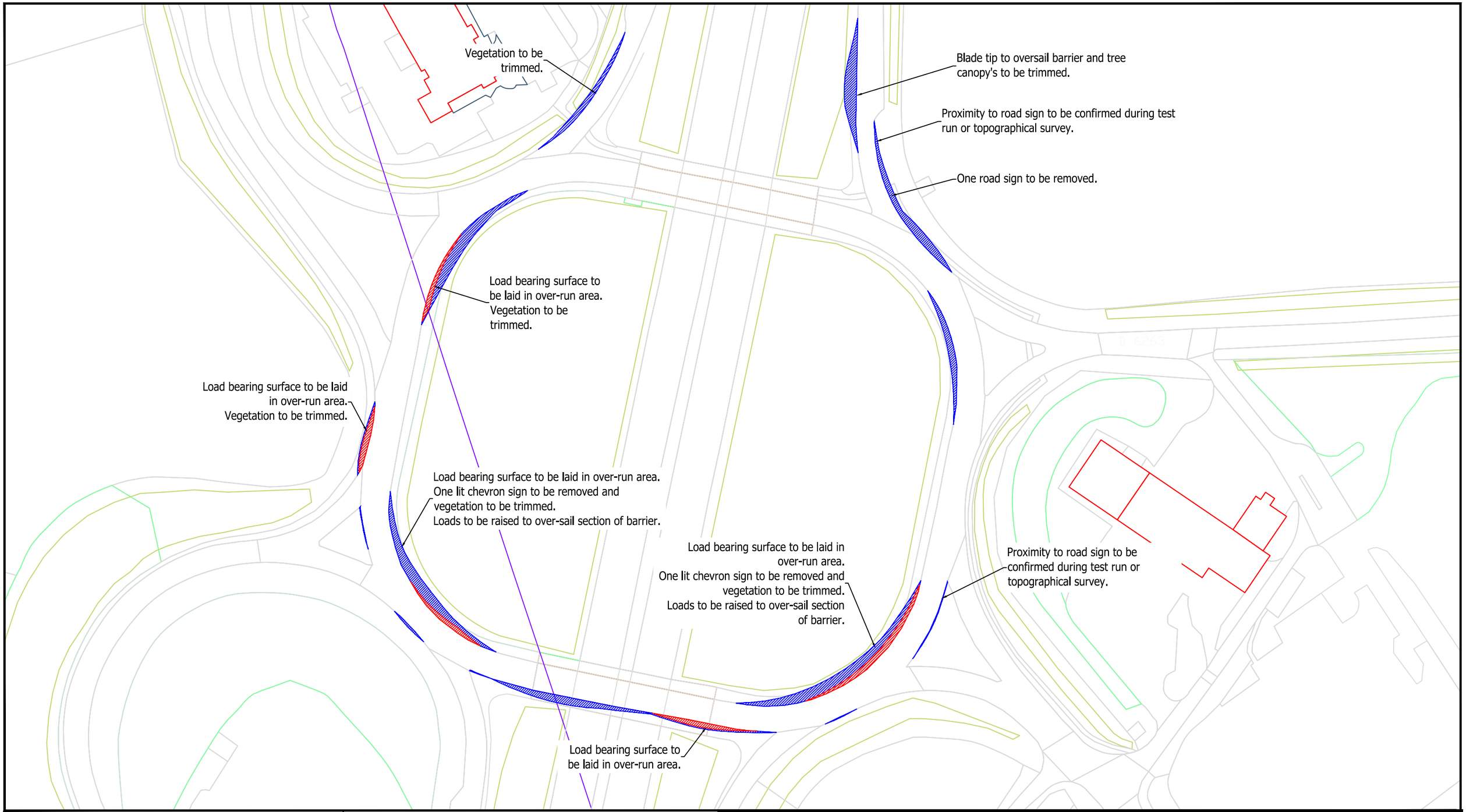
DRAWN:	CHECKED:	DATE:	SCALES:
JS	JD	Sep 2019	1:1000 @ A3

ScottishPower Renewables

WYG Transport Planning
part of the WYG group

The Cube 45 Leith Street Edinburgh EH1 3AT
t: +44 (0)131 247 5700 e: edinburgh@wyg.com

PROJECT NUMBER:	DRAWING NUMBER:	REVISION:
A112434	SPA005-2	-



Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.

Key:

- Over-run Required
- Over-sail Required
- Ordnance Survey Mapping

Kilgallioch Wind Farm Extension

ScottishPower Renewables

LOCATION: M74 Junction 22 Diverge

POI: 5

COMPONENTS: Vestas V150 Blade and Mid Tower

Required Remedial Works

DRAWN:	CHECKED:	DATE:	SCALES:
JS	JD	Sep 2019	NTS @ A3

WYG Transport Planning
part of the WYG group

The Cube 45 Leith Street Edinburgh EH1 3AT
t: +44 (0)131 247 5700 e: edinburgh@wyg.com

PROJECT NUMBER:	DRAWING NUMBER:	REVISION:
A112434	SPA005-3	-

Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.

Key:

- Load Swept Path
- Vehicle Swept Path
- Wheel Swept Path
- Ordnance Survey Mapping

Kilgallioch Wind Farm Extension

ScottishPower Renewables

LOCATION: A75 / A780 Roundabout

POI: 7

COMPONENTS: Vestas V150 Blade and Mid Tower

Swept Path Assessment

DRAWN:	CHECKED:	DATE:	SCALES:
JS	JD	Sep 2019	1:1000 @ A3

WYG Transport Planning
part of the WYG group

The Cube 45 Leith Street Edinburgh EH1 3AT
t: +44 (0)131 247 5700 e: edinburgh@wyg.com

PROJECT NUMBER:	DRAWING NUMBER:	REVISION:
A112434	SPA006	-

Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.

Key:

- Over-run Required
- Over-sail Required
- Ordnance Survey Mapping

Kilgallioch Wind Farm Extension

LOCATION: A75 / A780 Roundabout

POI: 7

COMPONENTS: Vestas V150 Blade and Mid Tower

Required Remedial Works

DRAWN:	CHECKED:	DATE:	SCALES:
JS	JD	Sep 2019	1:500 @ A3

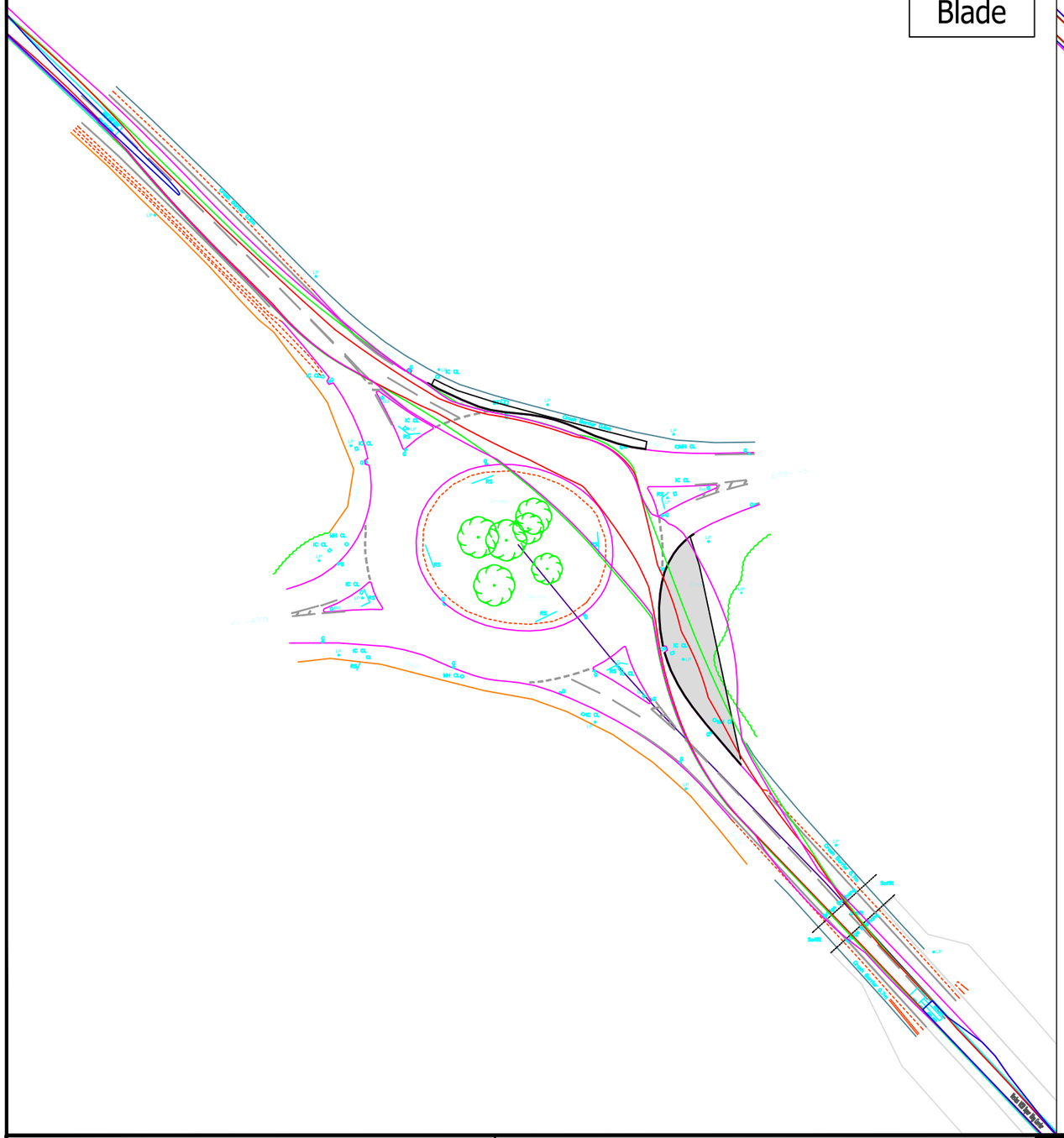
ScottishPower Renewables

WYG Transport Planning
part of the WYG group

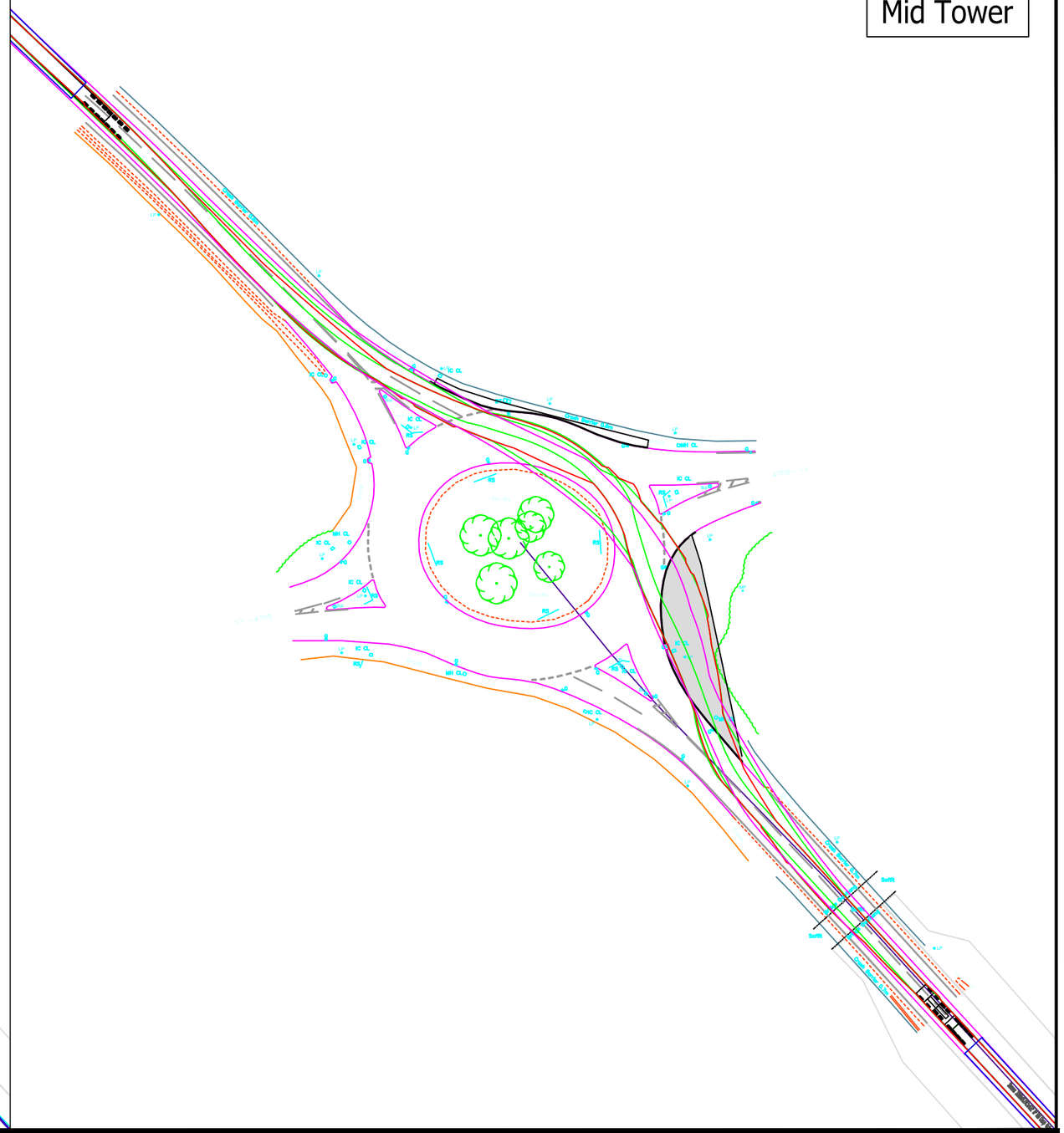
The Cube 45 Leith Street Edinburgh EH1 3AT
t: +44 (0)131 247 5700 e: edinburgh@wyg.com

PROJECT NUMBER:	DRAWING NUMBER:	REVISION:
A112434	SPA006-2	-

Blade



Mid Tower



Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.

Key:

- Load Swept Path
- Vehicle Swept Path
- Wheel Swept Path
- Ordnance Survey Mapping

Kilgallioch Wind Farm Extension

ScottishPower Renewables

LOCATION: A75 / A709 Roundabout

POI: 8

COMPONENTS: Vestas V150 Blade and Mid Tower

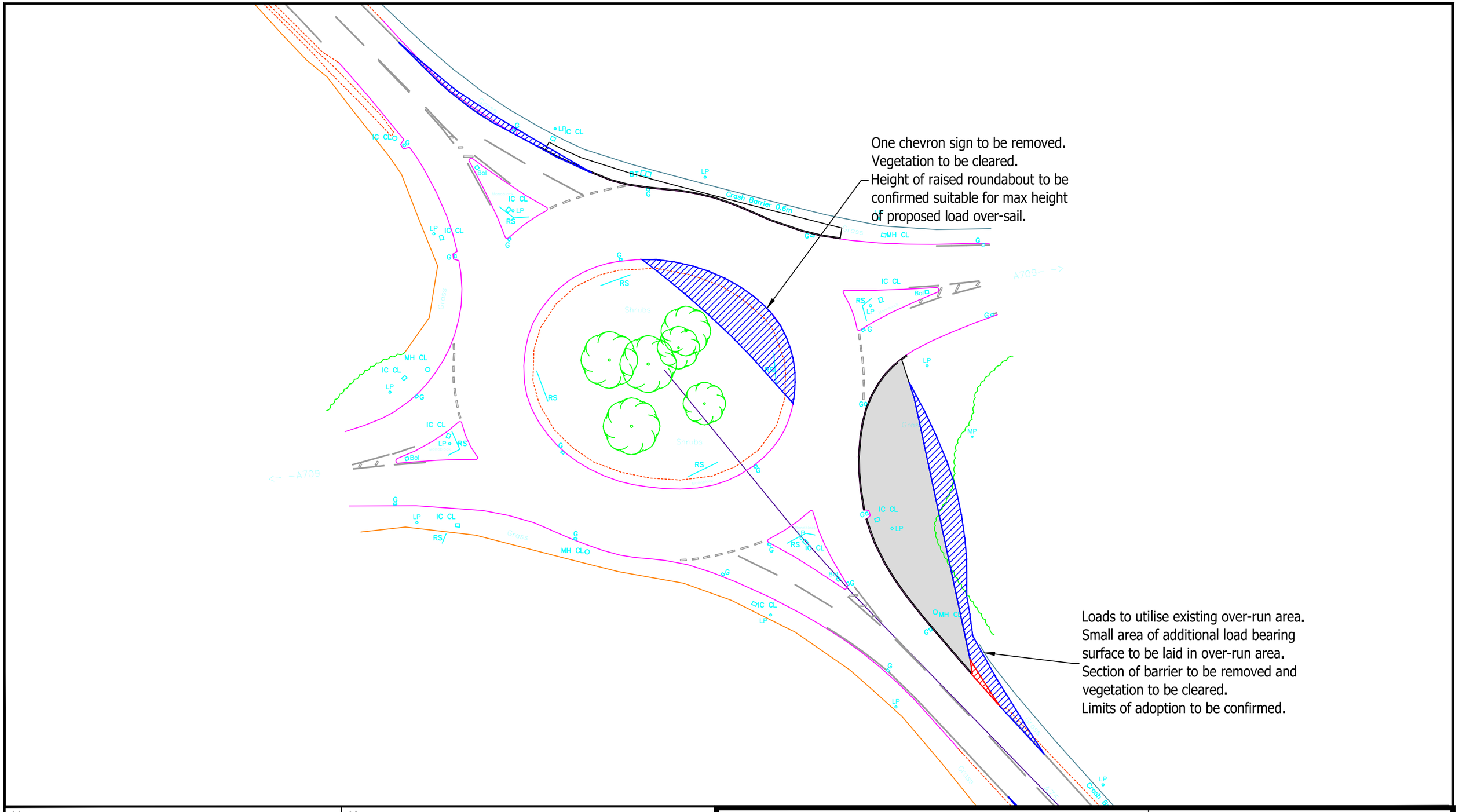
Swept Path Assessment

DRAWN:	CHECKED:	DATE:	SCALES:
JS	JD	Sep 2019	1:1000 @ A3

WYG Transport Planning
part of the WYG group

The Cube 45 Leith Street Edinburgh EH1 3AT
t: +44 (0)131 247 5700 e: edinburgh@wyg.com

PROJECT NUMBER:	DRAWING NUMBER:	REVISION:
A112434	SPA007	-



Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.

Key:

- Over-run Required
- Over-sail Required
- Ordnance Survey Mapping

Kilgallioch Wind Farm Extension

ScottishPower Renewables

LOCATION: A75 / A709 Roundabout

POI: 8

COMPONENTS: Vestas V150 Blade and Mid Tower

Required Remedial Works

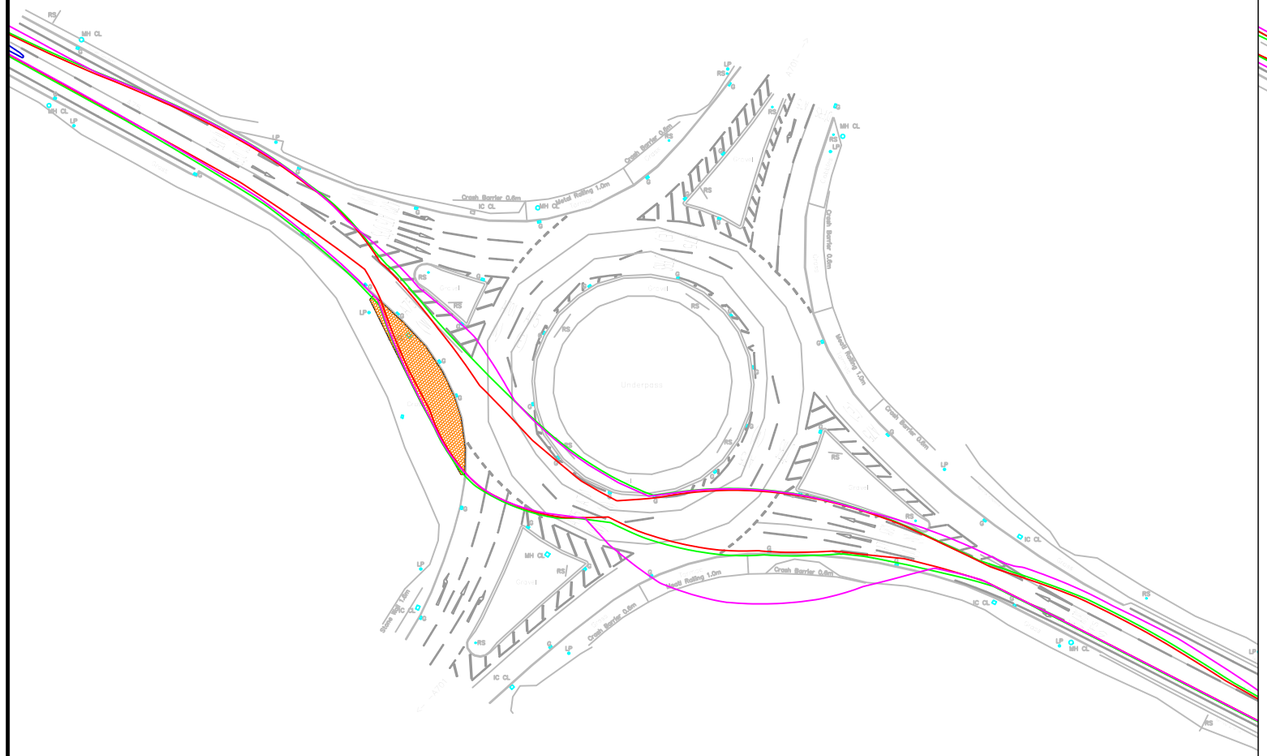
DRAWN:	CHECKED:	DATE:	SCALES:
JS	JD	Sep 2019	1:500 @ A3

WYG Transport Planning
part of the WYG group

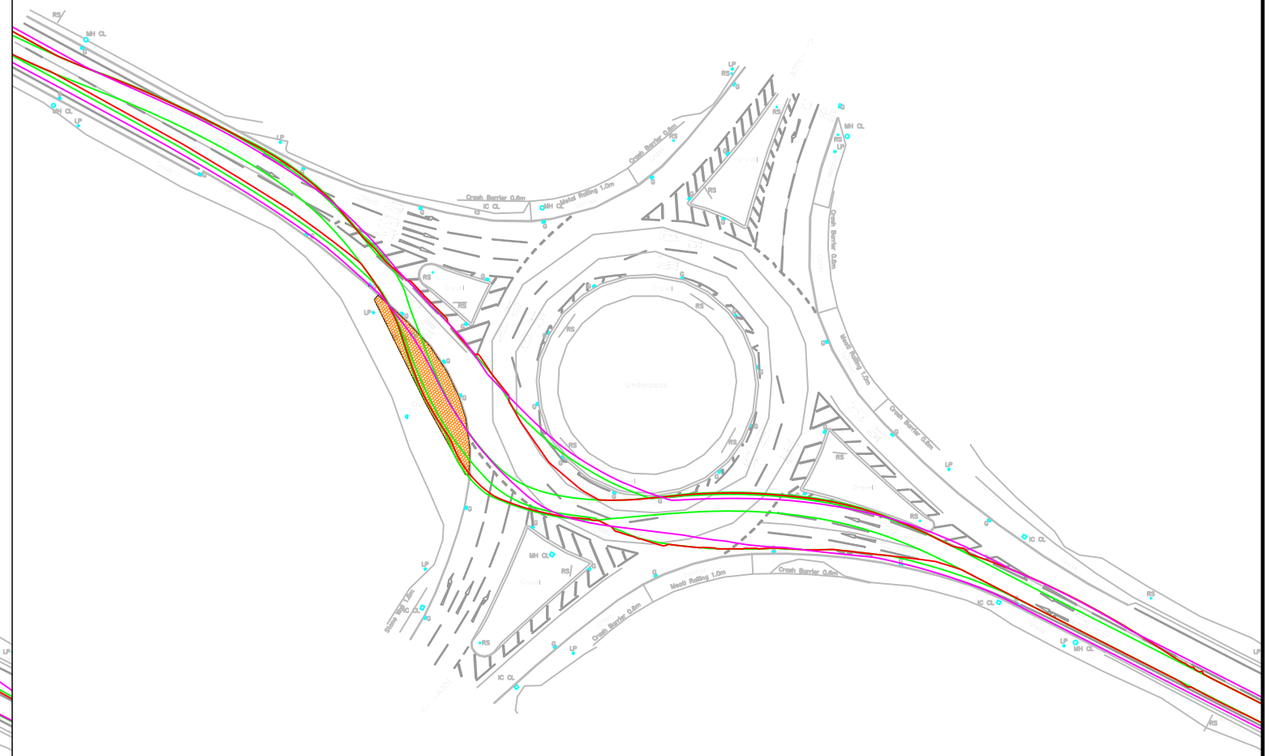
The Cube 45 Leith Street Edinburgh EH1 3AT
t: +44 (0)131 247 5700 e: edinburgh@wyg.com

PROJECT NUMBER:	DRAWING NUMBER:	REVISION:
A112434	SPA007-2	-

Blade



Mid Tower



Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.

Key:

- Load Swept Path
- Vehicle Swept Path
- Wheel Swept Path
- Ordnance Survey Mapping

Kilgallioch Wind Farm Extension

LOCATION: A75 / A701 Roundabout

POI: 9

COMPONENTS: Vestas V150 Blade and Mid Tower

Swept Path Assessment

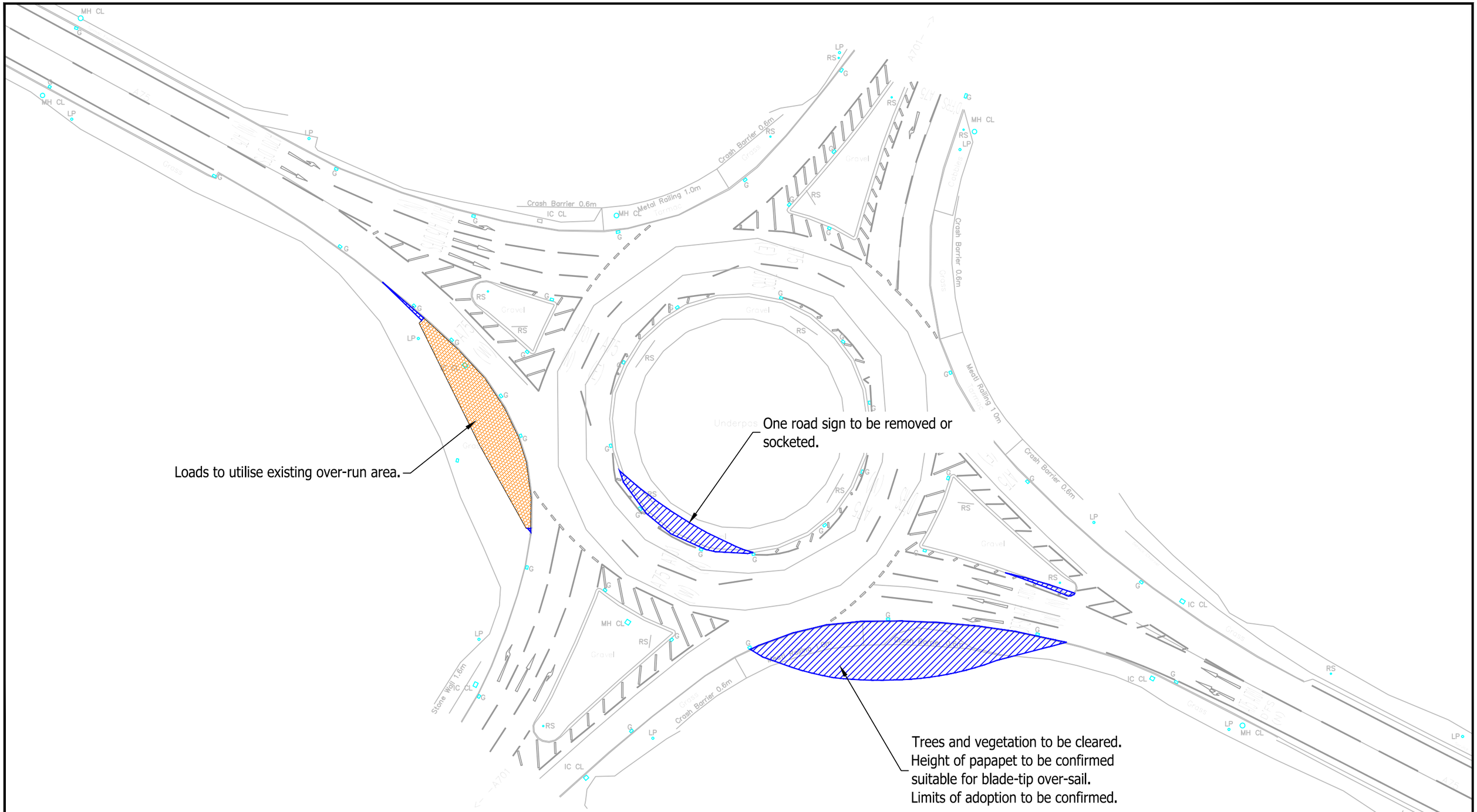
DRAWN:	CHECKED:	DATE:	SCALES:
JS	JD	Sep 2019	1:1000 @ A3

ScottishPower Renewables

WYG Transport Planning
part of the WYG group

The Cube 45 Leith Street Edinburgh EH1 3AT
t: +44 (0)131 247 5700 e: edinburgh@wyg.com

PROJECT NUMBER:	DRAWING NUMBER:	REVISION:
A112434	SPA008	-



Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.

Key:

- Over-run Required
- Over-sail Required
- Ordnance Survey Mapping

Kilgallioch Wind Farm Extension

ScottishPower Renewables

LOCATION:	POI:
A75 / A701 Roundabout	9

COMPONENTS:

Vestas V150 Blade and Mid Tower

Required Remedial Works

DRAWN:	CHECKED:	DATE:	SCALES:
JS	JD	Sep 2019	1:500 @ A3

WYG Transport Planning
part of the WYG group

The Cube 45 Leith Street Edinburgh EH1 3AT
t: +44 (0)131 247 5700 e: edinburgh@wyg.com

PROJECT NUMBER:	DRAWING NUMBER:	REVISION:
A112434	SPA008-2	-

Blade

Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.

Key:

- Load Swept Path
- Vehicle Swept Path
- Wheel Swept Path
- Ordnance Survey Mapping

Kilgallioch Wind Farm Extension

ScottishPower Renewables

LOCATION: A75 / A76 Roundabout

POI: 10

COMPONENTS: Vestas V150 Blade and Mid Tower

Swept Path Assessment

DRAWN:	CHECKED:	DATE:	SCALES:
JS	JD	Sep 2019	1:1000 @ A3

WYG Transport Planning
part of the WYG group

The Cube 45 Leith Street Edinburgh EH1 3AT
t: +44 (0)131 247 5700 e: edinburgh@wyg.com

PROJECT NUMBER:	DRAWING NUMBER:	REVISION:
A112434	SPA009	-

Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.

Key:

- Load Swept Path
- Vehicle Swept Path
- Wheel Swept Path
- Ordnance Survey Mapping

Kilgallioch Wind Farm Extension

LOCATION: A75 / A76 Roundabout

POI: 10

COMPONENTS: Vestas V150 Blade and Mid Tower

Swept Path Assessment

DRAWN:	CHECKED:	DATE:	SCALES:
JS	JD	Sep 2019	1:1000 @ A3

ScottishPower Renewables

WYG Transport Planning
part of the WYG group

The Cube 45 Leith Street Edinburgh EH1 3AT
t: +44 (0)131 247 5700 e: edinburgh@wyg.com

PROJECT NUMBER:	DRAWING NUMBER:	REVISION:
A112434	SPA009-2	-

One lit chevron sign to be set back. Height of roundabout to be confirmed suitable for load over-sail. Proximity to bridge support to be confirmed.

Vegetation to be cleared to allow for blade-tip over-sail.

One lit chevron sign to be set back. Height of roundabout to be confirmed suitable for load over-sail.

Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.

Key:

- Over-run Required
- Over-sail Required
- Ordnance Survey Mapping

Kilgallioch Wind Farm Extension

ScottishPower Renewables

LOCATION: A75 / A76 Roundabout

POI: 10

COMPONENTS:

Vestas V150 Blade and Mid Tower

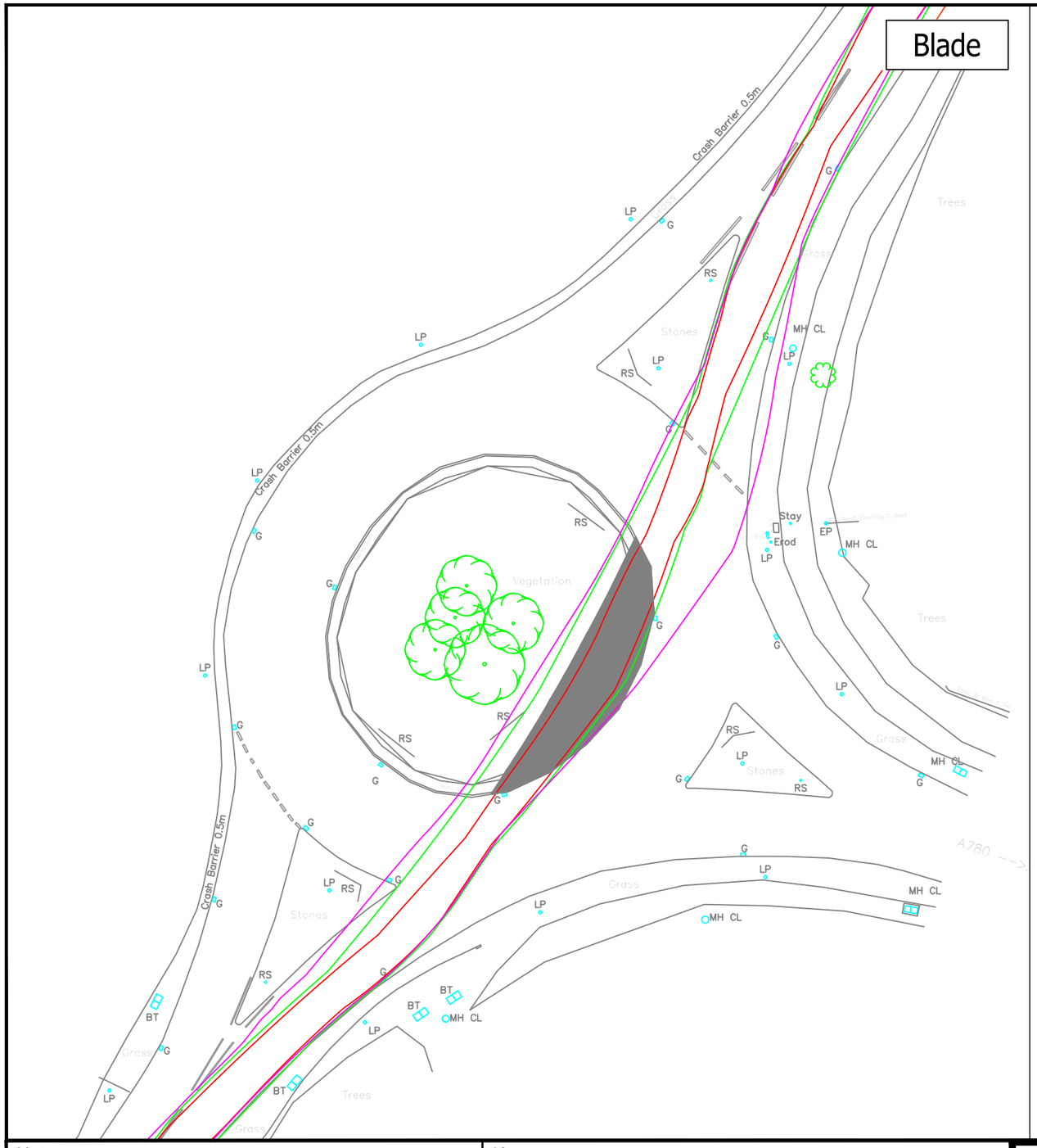
Required Remedial Works

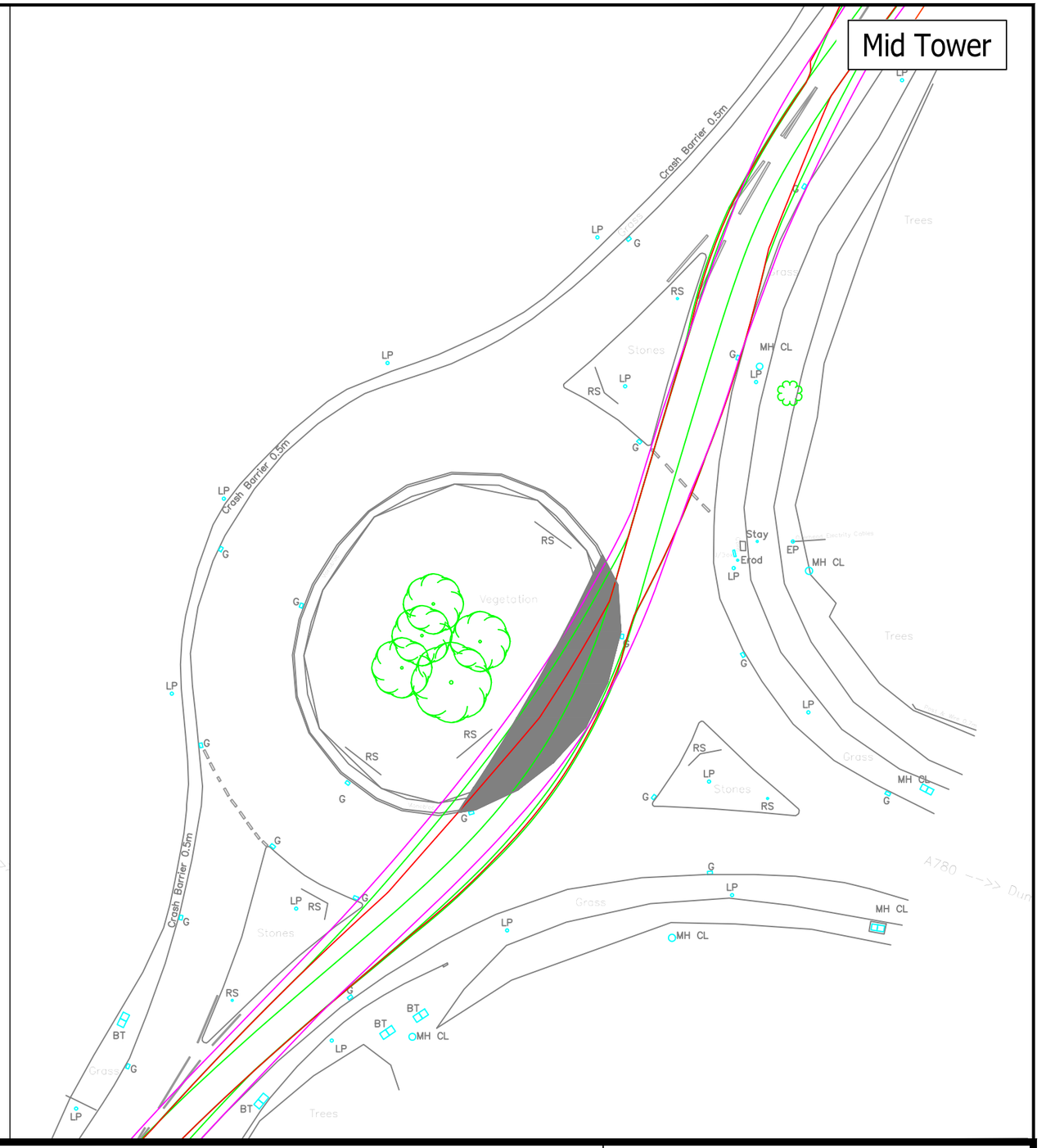
DRAWN:	CHECKED:	DATE:	SCALES:
JS	JD	Sep 2019	1:500 @ A3

WYG Transport Planning
part of the WYG group

The Cube 45 Leith Street Edinburgh EH1 3AT
t: +44 (0)131 247 5700 e: edinburgh@wyg.com

PROJECT NUMBER:	DRAWING NUMBER:	REVISION:
A112434	SPA009-3	-





Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.

Key:

- Load Swept Path
- Vehicle Swept Path
- Wheel Swept Path
- Ordnance Survey Mapping

Kilgallioch Wind Farm Extension

ScottishPower Renewables

LOCATION: A75 / A780 Roundabout

POI: 11

COMPONENTS: Vestas V150 Blade and Mid Tower

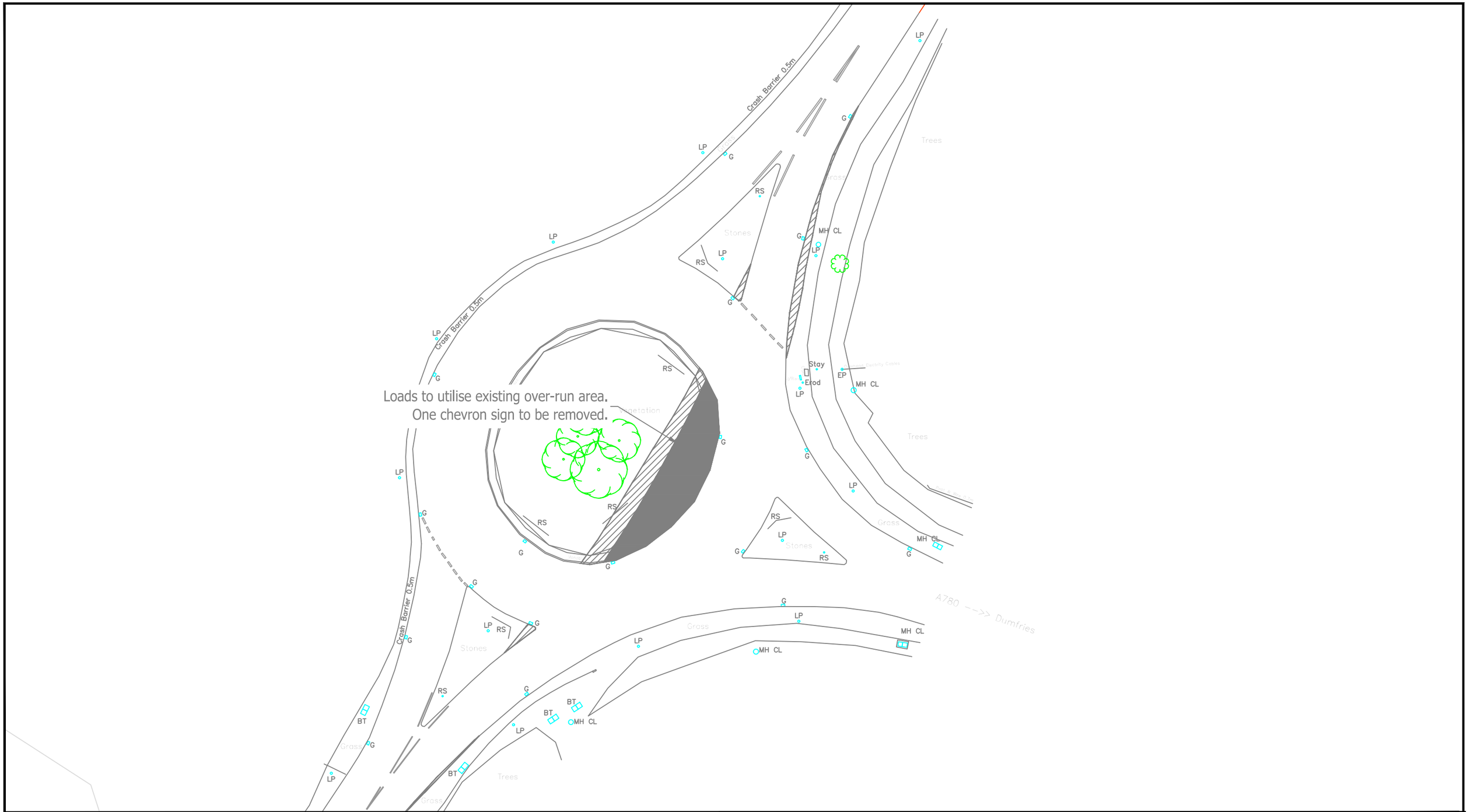
Swept Path Assessment

DRAWN:	CHECKED:	DATE:	SCALES:
JS	JD	Sep 2019	1:500 @ A3

WYG Transport Planning
part of the WYG group

The Cube 45 Leith Street Edinburgh EH1 3AT
t: +44 (0)131 247 5700 e: edinburgh@wyg.com

PROJECT NUMBER:	DRAWING NUMBER:	REVISION:
A112434	SPA0010	-



Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.

Key:

- Over-run Required
- Over-sail Required
- Ordnance Survey Mapping

Kilgallioch Wind Farm Extension

ScottishPower Renewables

LOCATION: A75 / A780 Roundabout

POI: 11

COMPONENTS: Vestas V150 Blade and Mid Tower

Required Remedial Works

DRAWN:	CHECKED:	DATE:	SCALES:
JS	JD	Sep 2019	1:500 @ A3

WYG Transport Planning
part of the WYG group

The Cube 45 Leith Street Edinburgh EH1 3AT
t: +44 (0)131 247 5700 e: edinburgh@wyg.com

PROJECT NUMBER:	DRAWING NUMBER:	REVISION:
A112434	SPA010-2	-