

LLANBRYNMAIR WIND FARM

Supplementary Environmental Information
December 2013

Volume 3 - Supporting Figures



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CCVP6	A470, Caersws (X pages, fold out panoramic figure)
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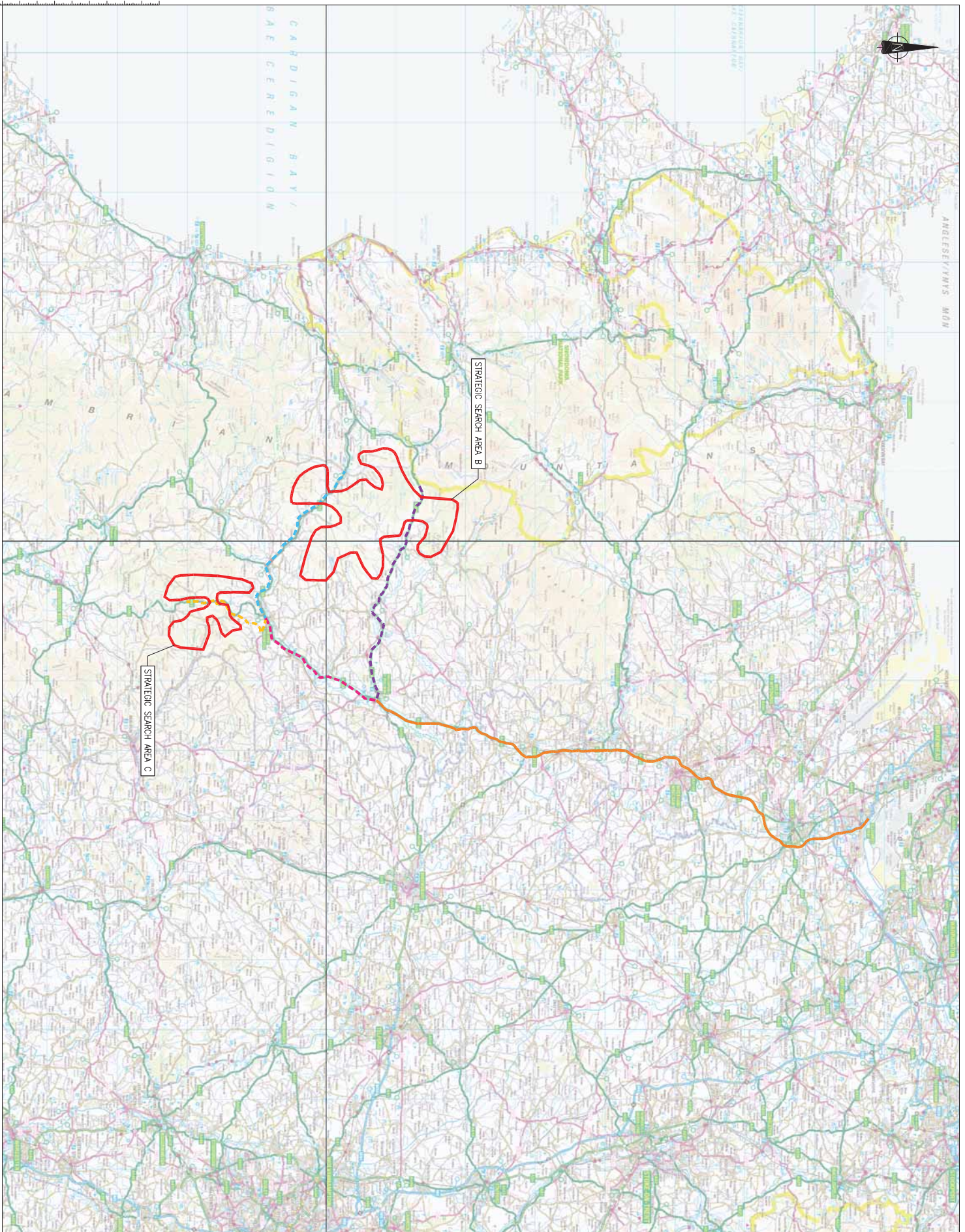
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NOTES

- LEGEND**
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 - SECTION 2: COMMON SECTION OF ROUTE
 - SECTION 3: WELSHPOOL TO SSA B (NORTH)
 - SECTION 4: WELSHPOOL TO NEWTOWN
 - SECTION 5: NEWTOWN TO SSA B (SOUTH)
 - SECTION 6: NEWTOWN TO SSA C

GRONTMIJ
 Global. Connected. Local. Enterprise. Design. Project. Connect. Performance. Safety. Skills & Innovation.
 108526-FIG 1-1

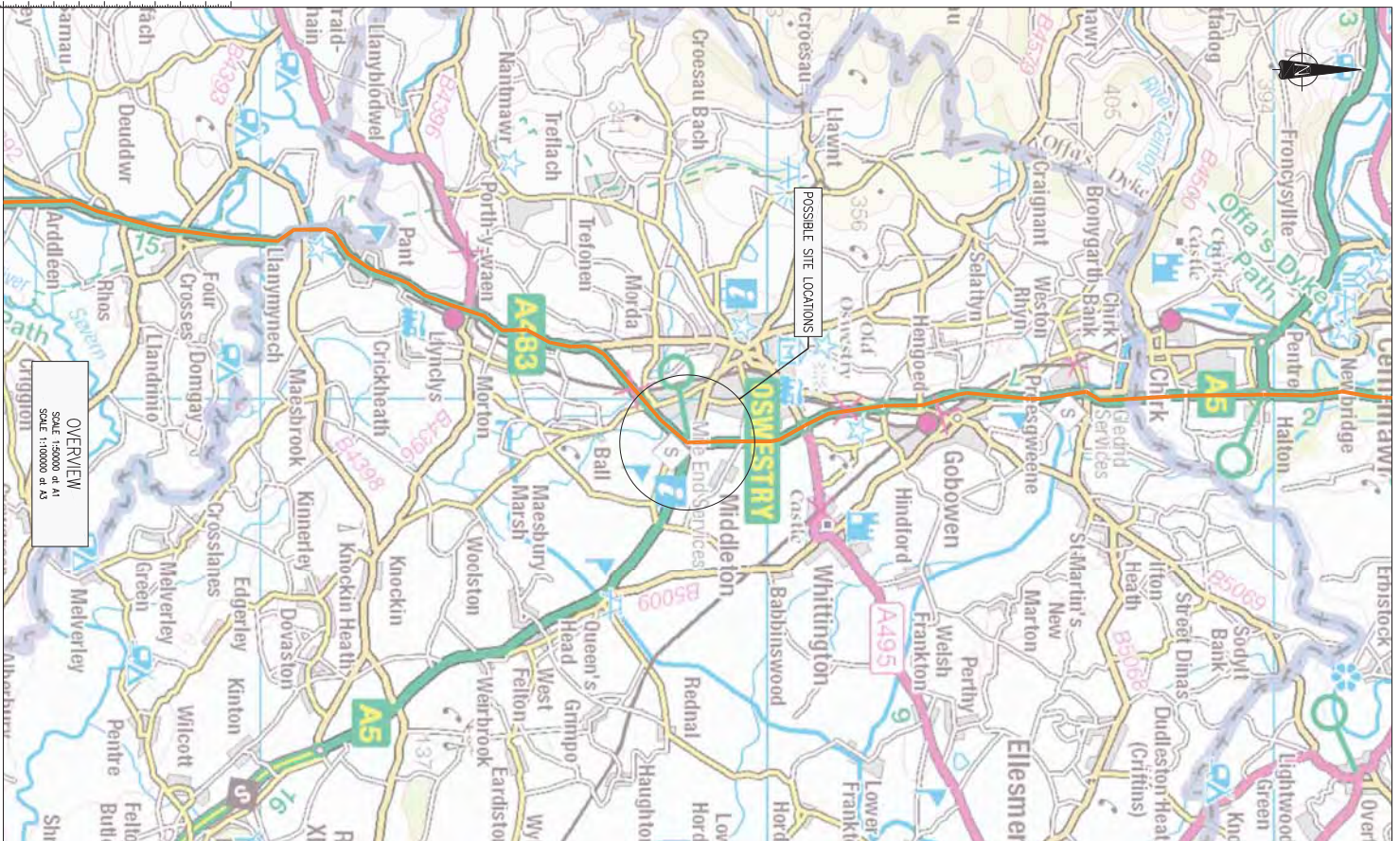
RENEWABLEUK CYMRU

STRATEGIC TRAFFIC MANAGEMENT PLAN FOR MID WALES WIND FARMS

**FIGURE 1-1
 STRATEGIC ROUTES INTO MID WALES**

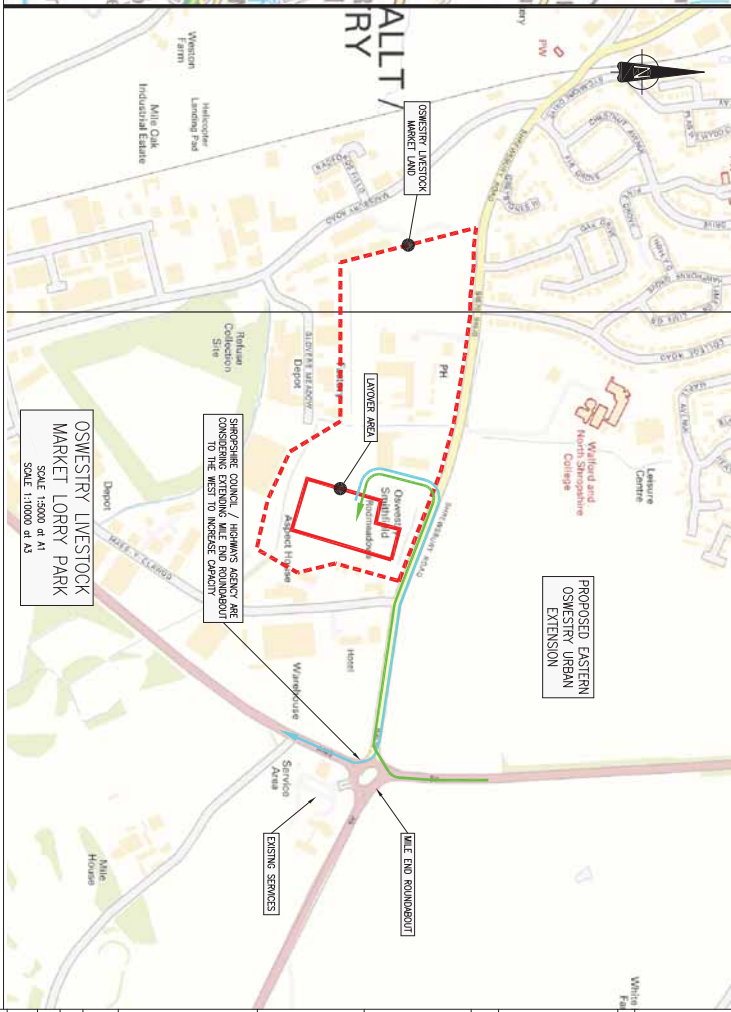
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ISSUE	DATE	VERSION	DESCRIPTION
16.08.11	16.08.11	16.08.11	ISSUE 1
1250000	1250000	594	841 - A1
1500000	1500000	594	841 - A1

108526-FIG 1-1



OVERVIEW
SCALE 1:6000 @ A1
SCALE 1:10000 @ A3

POSSIBLE SITE LOCATIONS



OSWESTRY WEST END
SCALE 1:6000 @ A1
SCALE 1:10000 @ A3

SHROPSHIRE COUNCIL / HIGHWAYS AGENCY ARE CONSIDERING EXTENDING MILE END ROUNDABOUT TO THE WEST TO INCREASE CAPACITY

OSWESTRY MARKET LAND

PROPOSED EASTERN OSWESTRY URBAN EXTENSION

LAYOVER AREA

SHROPSHIRE COUNCIL SITE
SCALE 1:6000 @ A1
SCALE 1:10000 @ A3

EXISTING SERVICES TO BE USED AS ESCORT AND HAULER IF REQUIRED

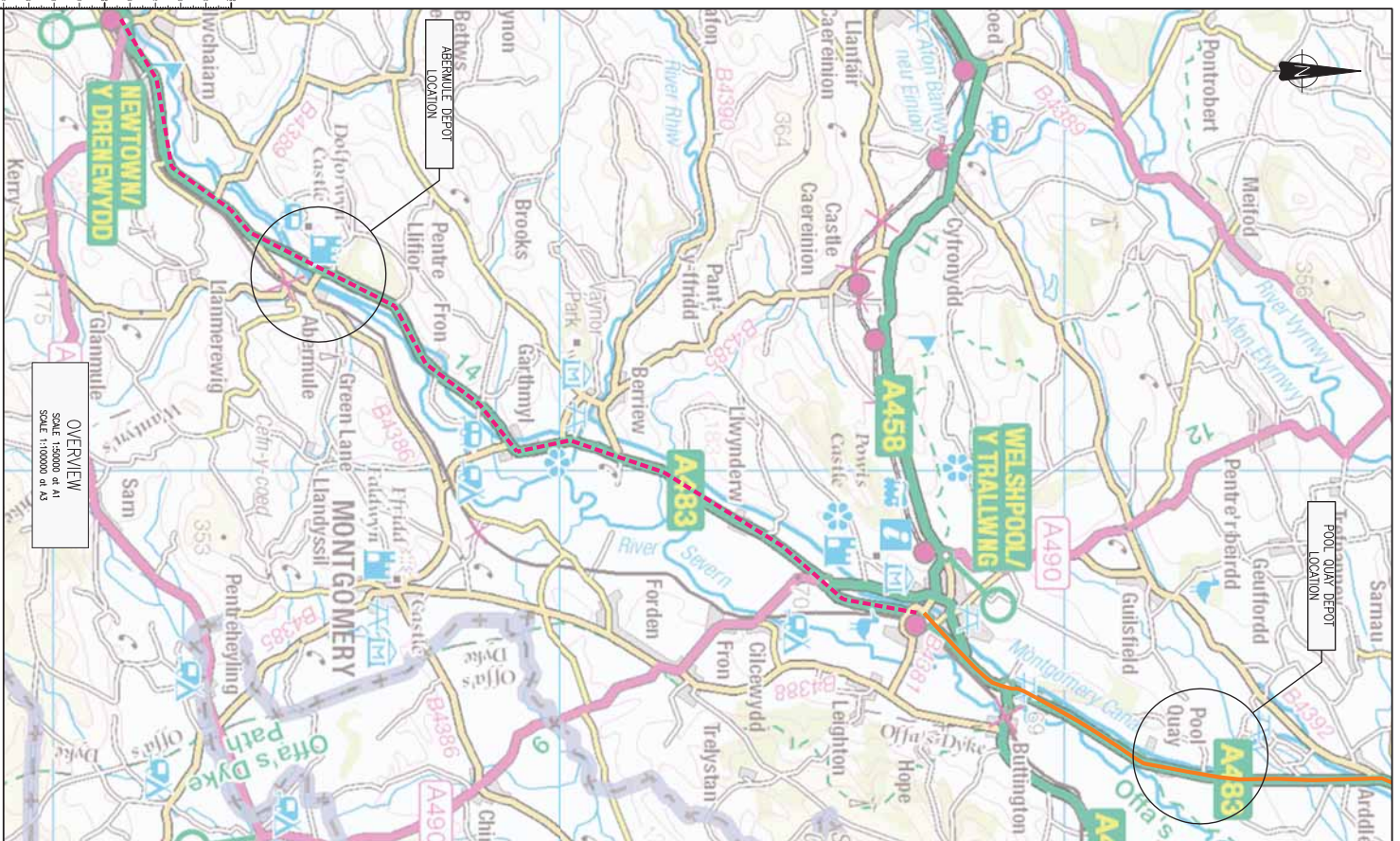
NEW LEFT IN LEFT OFF ACCESS TO BE USED BY COWBOYS UNDER POLICE ESCORT ONLY

NEW PEDESTRIAN LINK TO MILE END SERVICES

SHROPSHIRE COUNCIL / HIGHWAYS AGENCY ARE CONSIDERING MODIFICATIONS TO THE ROUNDABOUT TO INCREASE CAPACITY

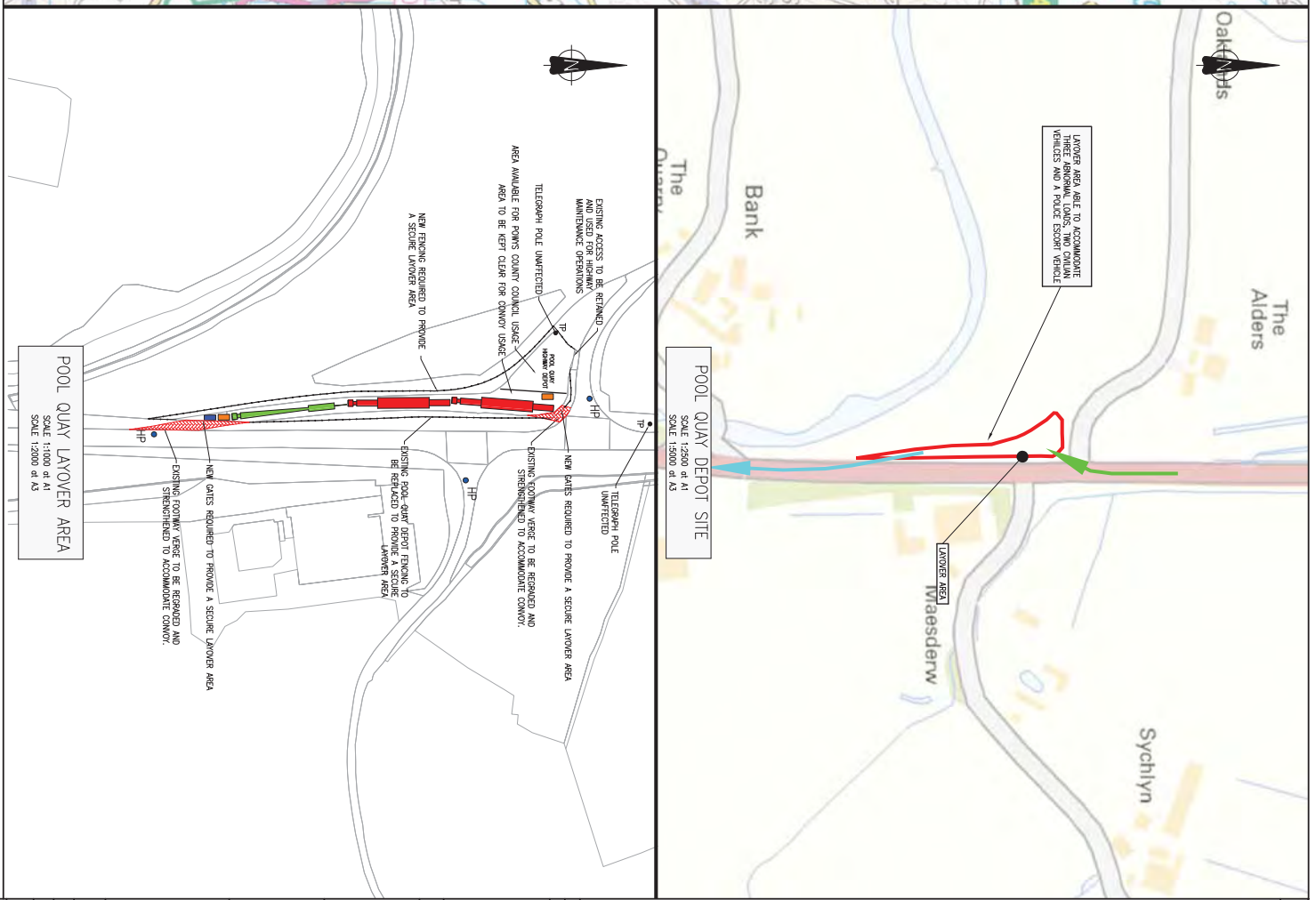
PROPOSED EASTERN OSWESTRY URBAN EXTENSION

<p>NOTES</p> <p>LEGEND</p> <ul style="list-style-type: none"> COMMON SECTION OF ROUTE COWBOY IN COWBOY OUT 																															
<p>PROJECT</p> <p>STRATEGIC TRAFFIC MANAGEMENT PLAN FOR MID WALES WIND FARMS</p>																															
<p>CLIENT</p> <p>RENEWABLEUK CYMRU</p>																															
<p>FOR INFORMATION</p> <table border="1"> <tr> <th>STATUS</th> <th>DATE</th> <th>BY</th> <th>APP'D</th> <th>DATE</th> </tr> <tr> <td>DESIGNED</td> <td>22.03.12</td> <td>AS</td> <td></td> <td></td> </tr> <tr> <td>CHECKED</td> <td>22.03.12</td> <td>AS</td> <td></td> <td></td> </tr> <tr> <td>APPROVED</td> <td>22.03.12</td> <td>AS</td> <td></td> <td></td> </tr> <tr> <td>DATE</td> <td>22.03.12</td> <td>SCALE</td> <td>594 x 841 - A1</td> <td></td> </tr> <tr> <td colspan="2">AS SHOWN</td> <td colspan="3"></td> </tr> </table>		STATUS	DATE	BY	APP'D	DATE	DESIGNED	22.03.12	AS			CHECKED	22.03.12	AS			APPROVED	22.03.12	AS			DATE	22.03.12	SCALE	594 x 841 - A1		AS SHOWN				
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DATE	22.03.12	SCALE	594 x 841 - A1																												
AS SHOWN																															
<p>CONTACT</p> <p>Head Office: 01978 866 6200 Fax: 01978 866 6229 www.grontmij.co.uk</p>																															
<p>GRONTMIJ</p> <p>Ballinacorney House Ash Road South Wrexham LL13 5UG</p>																															
<p>PROJECT INFORMATION</p> <p>108526-FIG 1-2a P1</p>																															



OVERVIEW
SCALE 1:5000 at A1
SCALE 1:10000 at A5

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POOL QUAY DEPOT SITE
SCALE 1:2500 at A1
SCALE 1:5000 at A5

POOL QUAY LAWYER AREA
SCALE 1:1000 at A1
SCALE 1:2000 at A5

NOTES

—	COMMON SECTION OF ROUTE
—	SECTION 4: WESHPOOL TO NEWTOWN
→	CONVOY IN
←	CONVOY OUT

NO.	DATE	BY	FOR	STATUS
P2	22.03.12	AS	AS	AS SHOWN

Gronthyl
 5th Floor
 Ash Road South
 Wrexham Industrial Estate
 Wrexham
 LL13 3UG
 Tel: +44 (0)1978 868 6200
 Fax: +44 (0)1978 868 6229
 www.gronthyl.co.uk

PROJECT: STRATEGIC TRAFFIC MANAGEMENT PLAN FOR MID WALES WIND FARMS

CLIENT: RENEWABLELEUK CYMRU

TITLE: FIGURE 1-2B
 POTENTIAL LAWYER AREA
 LOCATION
 POOL QUAY HIGHWAY DEPOT

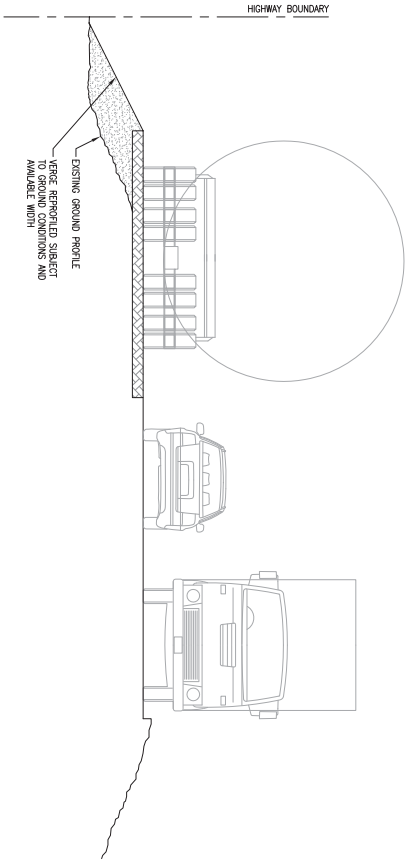
FOR INFORMATION

DATE	BY	FOR	STATUS
22.03.12	AS	AS	AS SHOWN

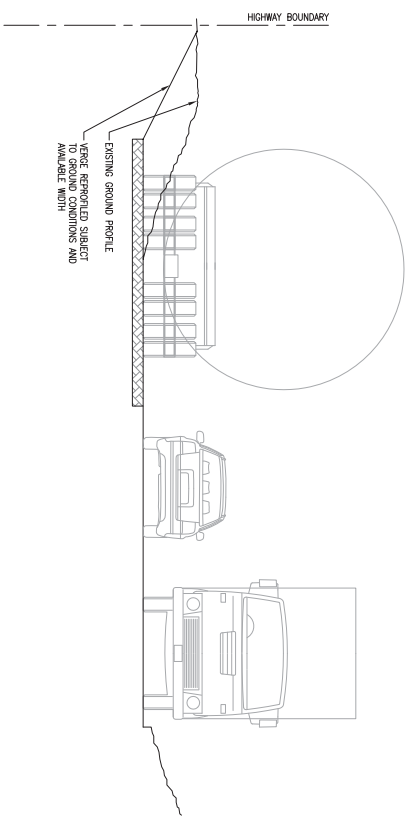
108526-FIG 1-2B P2

NOTES

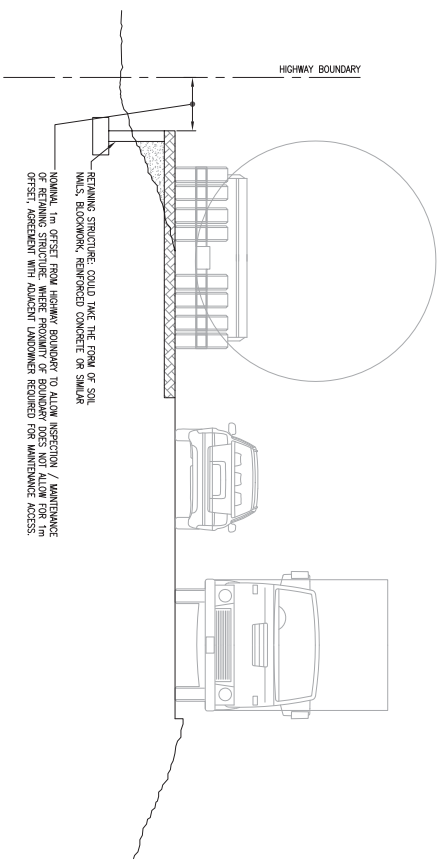
1. PASSING PLACES ASSUME POLICE ESCORT IS PRESENT.
2. CONVOY VEHICLE BASED ON TYPICAL 2-3MM TONNAGE TOWER BUS, 45000KVA.
3. REQUIRED HIGHWAY WIDTHS FOR VEHICLE RESCUE BASED UPON DEPARTMENT FOR TRANSPORT MANUAL FOR STREETS.
4. HARDENED VERGES TO BE FORMED IN CELLULAR GRASSSED REINFORCED CONCRETE FINISH OR SIMILAR.
5. REQUIRED HIGHWAY WIDTHS FOR VEHICLE RESCUE BASED UPON DEPARTMENT FOR TRANSPORT MANUAL FOR STREETS.
6. ANY EXISTING WATERCOURSES TO BE RETAINED. OVERTHROW ASSESSMENTS TO BE UNDERTAKEN AS REQUIRED.



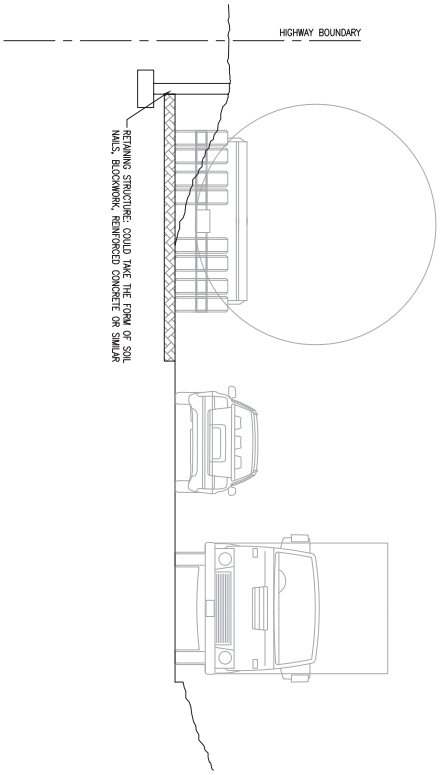
HARDENED VERGE ON EMBANKMENT WHERE SLOPE REPROFILING IS POSSIBLE WITHIN HIGHWAY BOUNDARY



HARDENED VERGE IN CUTTING WHERE SLOPE REPROFILING IS POSSIBLE WITHIN HIGHWAY BOUNDARY



HARDENED VERGE ON EMBANKMENT WHERE SLOPE REPROFILING IS NOT FEASIBLE WITHIN HIGHWAY BOUNDARY



HARDENED VERGE IN CUTTING WHERE SLOPE REPROFILING IS NOT FEASIBLE WITHIN HIGHWAY BOUNDARY

REV	DATE	BY	CHKD	APP'D	CONTR

Gronmij
 Planning & Design
 Ash Road South
 Wrexham Industrial Estate
 Wrexham
 LL13 3UG
 Tel: +44 (0)1978 868 6200
 Fax: +44 (0)1978 868 6229
 www.gronmij.co.uk

Client: **RENEWABLEUK CYMRU**

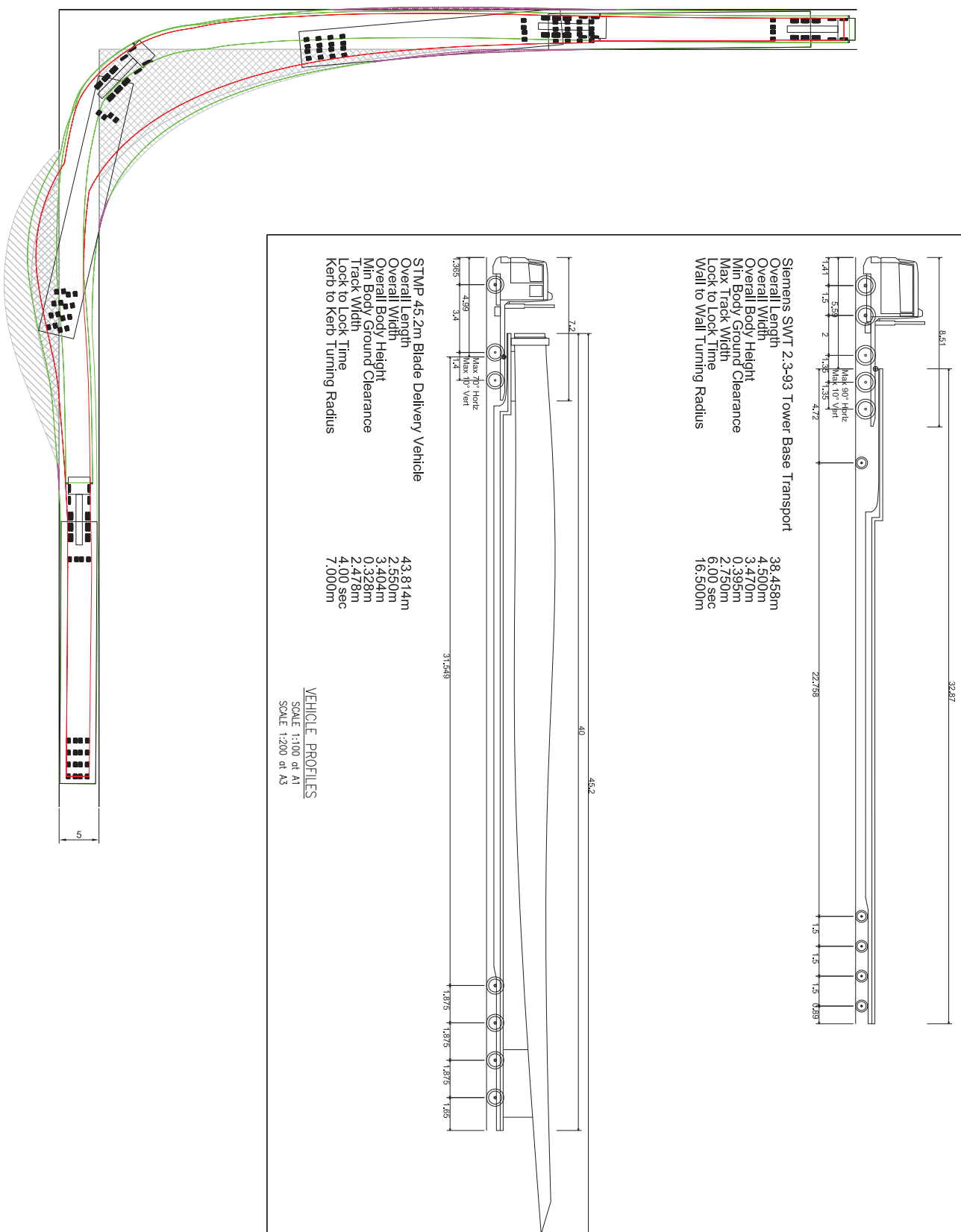
Project: **STRATEGIC TRAFFIC MANAGEMENT PLAN FOR MID WALES WIND FARMS**

Title: **PASSING PLACE TYPICAL DETAILS**
 SHEET 2 OF 2

STATUS	DATE	BY	CHKD	APP'D
DESIGNED				
CHECKED				
APPROVED				

NO.	DATE	BY	CHKD	APP'D
1	07/09/11			
2	07/09/11			

108526-FIG 1-3b



Siemens SWT 2.3-93 Tower Base Transport
 Overall Length 38.458m
 Overall Width 4.500m
 Overall Body Height 3.470m
 Min Body Ground Clearance 0.395m
 Max Track Width 2.750m
 Lock to Lock Time 6.00 sec
 Wall to Wall Turning Radius 16.500m

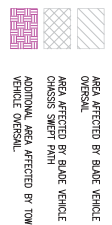
STMV 45.2m Blade Delivery Vehicle
 Overall Length 43.814m
 Overall Width 2.550m
 Overall Body Height 3.404m
 Min Body Ground Clearance 0.328m
 Track Width 2.478m
 Lock to Lock Time 4.00 sec
 Kerb to Kerb Turning Radius 7.000m

VEHICLE PROFILES
 SCALE 1:100 at A1
 SCALE 1:200 at A3

SWEPT PATH MOVEMENTS
 SCALE 1:250 at A1
 SCALE 1:500 at A3

NOTES

- 1. ALL DIMENSIONS IN METRES UNLESS OTHERWISE STATED.
- 2. BLADE DELIVERY VEHICLE BASED UPON THE DRY RUN VEHICLE INFORMATION.
- 3. TOWER BASE DELIVERY VEHICLE BASED UPON THE SIEMENS 2.3 - 93 AS A WORSE CASE VEHICLE FOR WIDTH.
- 4. VEHICLES SIMULATED USING PASSIVE STEERING AS THE WORST CASE.
- 5. BLADE VEHICLE HITCHED AREA TAKEN AS THE MINIMUM NEEDED FOR THE SWEEP PATH. DURING THE DESIGN A 500mm CLEARANCE TO THE AUTOBACK PATH WILL BE USED. DUE TO THE OCULAR NATURE OF THE TOWER SECTIONS, THE EXTREMITIES ARE AT AN APPROXIMATE HEIGHT OF 2.5m.



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FIGURE 1-4a
 SWEPT PATH ANALYSIS
 VEHICLE COMPARISON

FOR INFORMATION

STATUS	DATE	BY	FOR
DESIGNED	25/08/11	MC	AS SHOWN
CHECKED	25/08/11	MC	AS SHOWN
APPROVED	25/08/11	MC	AS SHOWN

NOTES

COMMON SECTION OF ROUTE

HIGHWAY AUTHORITY BOUNDARIES

NOTES

1. AOT = ANNUAL AVERAGE ONLY TRAFFIC. THE NUMBER OF VEHICLES PASSING A POINT ON THE ROAD NETWORK EACH DAY AVERAGED OVER A YEAR, FACTORED TO 2010 BY THE DEPARTMENT OF TRANSPORT.
2. PEAK HOUR TAKEN FROM 12 MANUAL CLASSIFIED COUNTS FROM 07:00-19:00.
3. POWYS ATC SITES PROVIDE HOURLY DATA FOR 2008

LEGEND

COMMON SECTION OF ROUTE

HIGHWAY AUTHORITY BOUNDARIES

NOTES

1. AOT = ANNUAL AVERAGE ONLY TRAFFIC. THE NUMBER OF VEHICLES PASSING A POINT ON THE ROAD NETWORK EACH DAY AVERAGED OVER A YEAR, FACTORED TO 2010 BY THE DEPARTMENT OF TRANSPORT.
2. PEAK HOUR TAKEN FROM 12 MANUAL CLASSIFIED COUNTS FROM 07:00-19:00.
3. POWYS ATC SITES PROVIDE HOURLY DATA FOR 2008

LEGEND

COMMON SECTION OF ROUTE

HIGHWAY AUTHORITY BOUNDARIES

NOTES

1. AOT = ANNUAL AVERAGE ONLY TRAFFIC. THE NUMBER OF VEHICLES PASSING A POINT ON THE ROAD NETWORK EACH DAY AVERAGED OVER A YEAR, FACTORED TO 2010 BY THE DEPARTMENT OF TRANSPORT.
2. PEAK HOUR TAKEN FROM 12 MANUAL CLASSIFIED COUNTS FROM 07:00-19:00.
3. POWYS ATC SITES PROVIDE HOURLY DATA FOR 2008

LEGEND

COMMON SECTION OF ROUTE

HIGHWAY AUTHORITY BOUNDARIES

NOTES

1. AOT = ANNUAL AVERAGE ONLY TRAFFIC. THE NUMBER OF VEHICLES PASSING A POINT ON THE ROAD NETWORK EACH DAY AVERAGED OVER A YEAR, FACTORED TO 2010 BY THE DEPARTMENT OF TRANSPORT.
2. PEAK HOUR TAKEN FROM 12 MANUAL CLASSIFIED COUNTS FROM 07:00-19:00.
3. POWYS ATC SITES PROVIDE HOURLY DATA FOR 2008

LEGEND

COMMON SECTION OF ROUTE

HIGHWAY AUTHORITY BOUNDARIES

NOTES

1. AOT = ANNUAL AVERAGE ONLY TRAFFIC. THE NUMBER OF VEHICLES PASSING A POINT ON THE ROAD NETWORK EACH DAY AVERAGED OVER A YEAR, FACTORED TO 2010 BY THE DEPARTMENT OF TRANSPORT.
2. PEAK HOUR TAKEN FROM 12 MANUAL CLASSIFIED COUNTS FROM 07:00-19:00.
3. POWYS ATC SITES PROVIDE HOURLY DATA FOR 2008

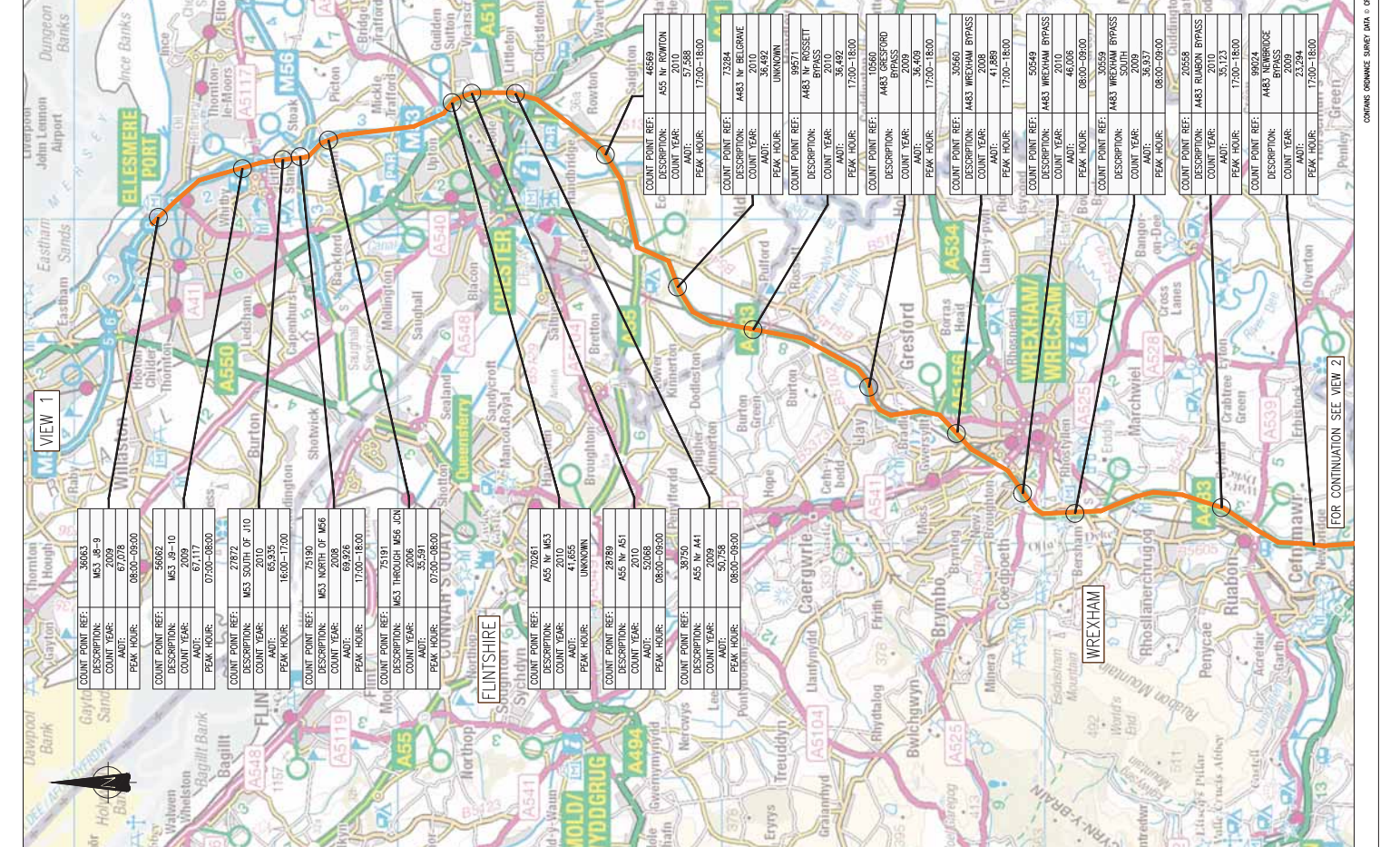
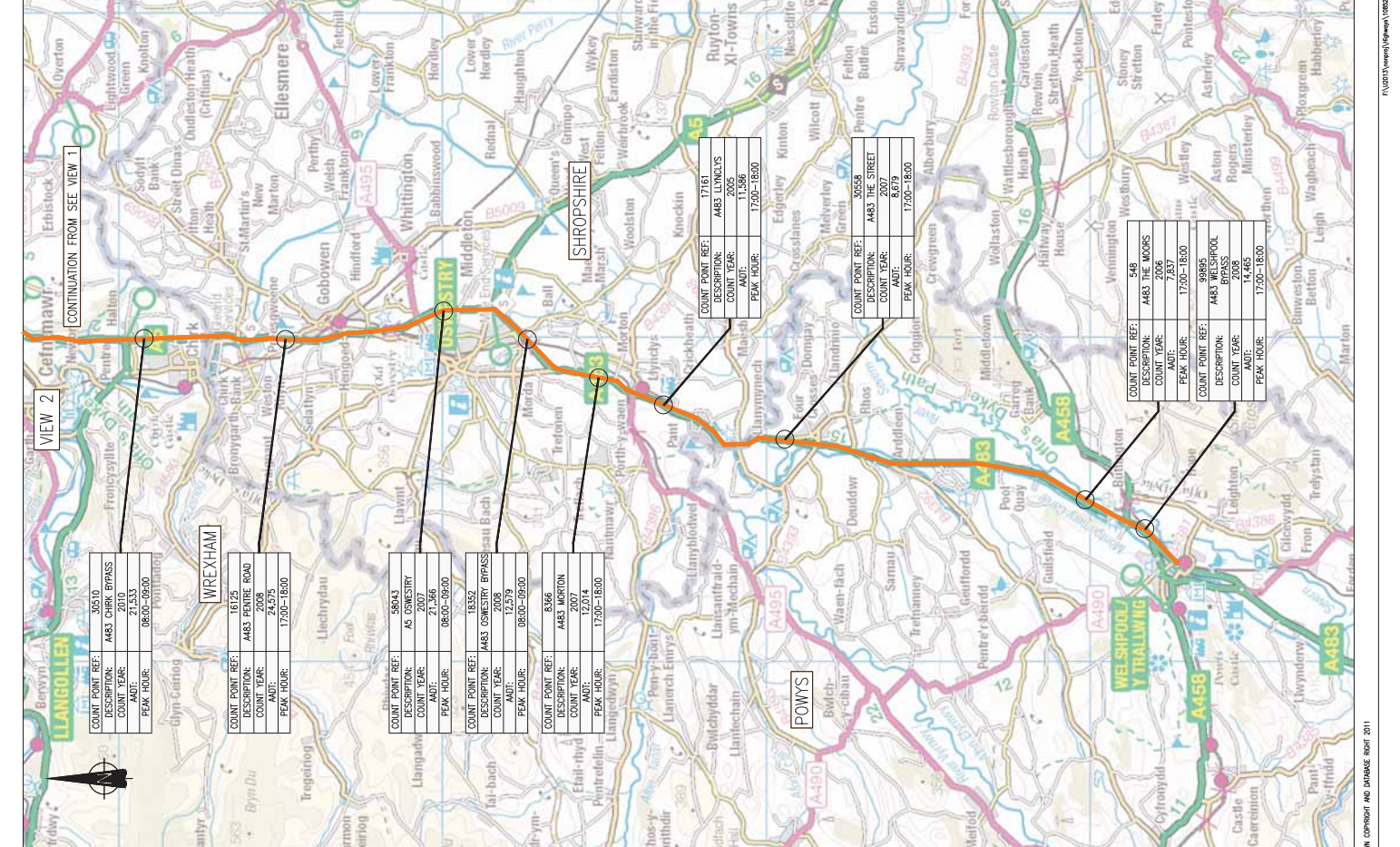
LEGEND

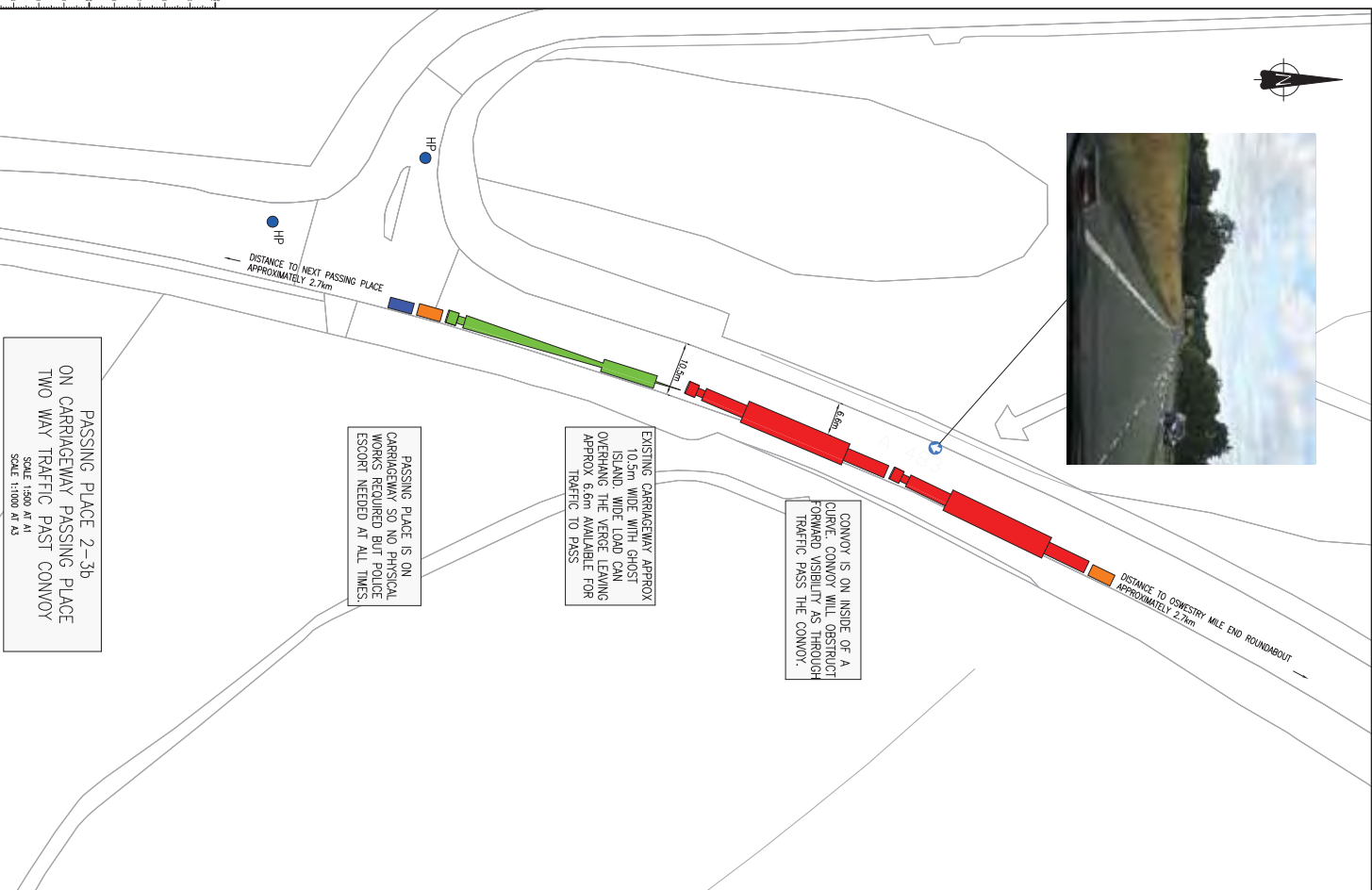
COMMON SECTION OF ROUTE

HIGHWAY AUTHORITY BOUNDARIES

NOTES

1. AOT = ANNUAL AVERAGE ONLY TRAFFIC. THE NUMBER OF VEHICLES PASSING A POINT ON THE ROAD NETWORK EACH DAY AVERAGED OVER A YEAR, FACTORED TO 2010 BY THE DEPARTMENT OF TRANSPORT.
2. PEAK HOUR TAKEN FROM 12 MANUAL CLASSIFIED COUNTS FROM 07:00-19:00.
3. POWYS ATC SITES PROVIDE HOURLY DATA FOR 2008





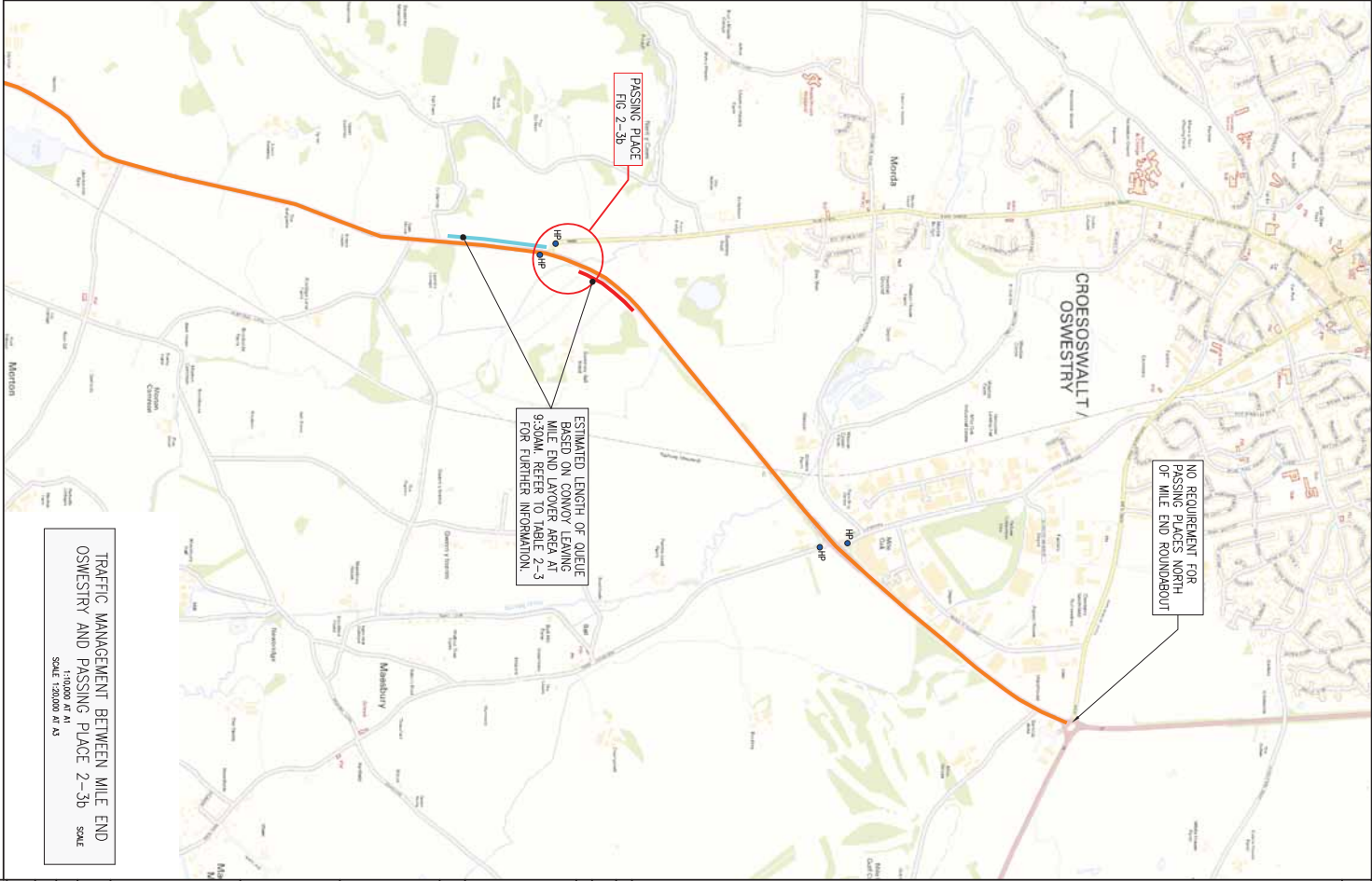
PASSING PLACE 2-3b
ON CARRIAGEWAY PASSING PLACE
TWO WAY TRAFFIC PAST CONVOY
SCALE 1:1000 AT A3

PASSING PLACE IS ON
CARRIAGEWAY SO NO PHYSICAL
WORKS REQUIRED BUT POLICE
ESCORT NEEDED AT ALL TIMES.

EXISTING CARRIAGEWAY APPROX
10.5m WIDE WITH GHOST
ISLAND. WIDE LOAD CAN
OVERHANG THE VERGE LEAVING
APPROX 6.6m AVAILABLE FOR
TRAFFIC TO PASS.

CONVOY IS ON INSIDE OF A
CURVE. CONVOY WILL OBSTRUCT
FORWARD VISIBILITY AS THROUGH
TRAFFIC PASSES THE CONVOY.

DISTANCE TO OSWESTRY MILE END ROUNDABOUT
APPROXIMATELY 2.7km



TRAFFIC MANAGEMENT BETWEEN MILE END
OSWESTRY AND PASSING PLACE 2-3b
SCALE 1:20000 AT A3

ESTIMATED LENGTH OF QUEUE
BASED ON CONVOY LEAVING
MILE END LAYOVER AREA AT
9:30AM. REFER TO TABLE 2-3
FOR FURTHER INFORMATION.

NO REQUIREMENT FOR
PASSING PLACES NORTH
OF MILE END ROUNDABOUT

NOTES

- COMMON SECTION OF ROUTE
- POLICE HOLDING POINT
- HP
- ROAD SIGN
- TELEGRAPH POLE
- HORIZONTAL VERGE
- RETAINING STRUCTURE
- SAFETY BARRIER
- ESTIMATED FOLLOWING TRAFFIC QUEUE
- ESTIMATED OPPOSING TRAFFIC QUEUE
- PHOTOGRAPH LOCATION AND DIRECTION
- NEW CARRIAGEWAY SURFACE

- VEHICLES LEGEND
- TOWER BASE SECTION VEHICLE
 - 45m BLADE VEHICLE
 - OSULAN ESCORT VEHICLE
 - POLICE ESCORT VEHICLE

- NOTES
1. REFER TO FIGURE 1-4 FOR FURTHER INFORMATION ON ASSUMED DELIVERY VEHICLES.
 2. BLADE DELIVERY VEHICLE ASSUMED TO LOAD AS IT WILL SET THE CONVOY SPEED.
 3. ENVIRONMENTAL ASSESSMENT OF PROPOSED WORKS TO BE UNDERTAKEN BY OTHERS.
 4. THE WORKS IDENTIFIED ARE PRELIMINARY SOLUTIONS ONLY. PROPOSALS SUBJECT OF PUBLIC COMMENT MAY BE REQUIRED PRIOR TO FURTHER DESIGN DEVELOPMENT.
 5. ONLINE MEASUREMENTS TAKEN AT LOCATIONS OF PROPOSED PASSING PLACES.

NO.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
P1	RESURFACING INFORMATION/ADDITION	FT	MAC	£3.0	£30.00
P2	FOULWEATHER STRIP/ADDITION/REPLACEMENT	SB	FT	£3.0	£30.00
P3	NON-STRUCTURAL/REINFORCED CONCRETE/FORM	CM	CM	£10.0	£10.00
P4	STRUCTURAL/REINFORCED CONCRETE/FORM	CM	CM	£10.0	£10.00
AMOUNTS					
SVT	CONV	AMOUNT	CONV		

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Client: **RenewableLek Cymru**

Project: **Strategic Traffic Management Plan for Mid Wales Wind Farms**

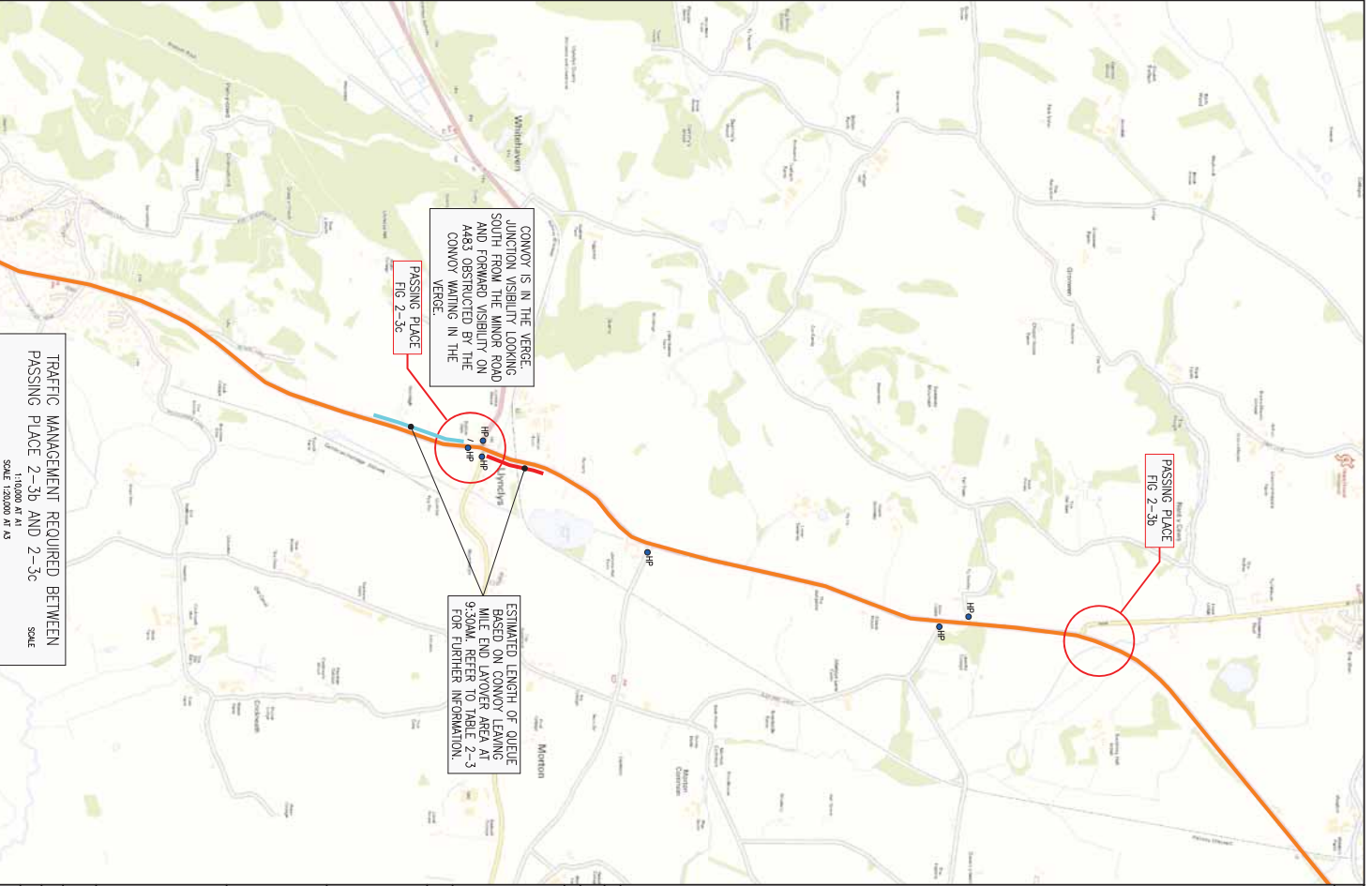
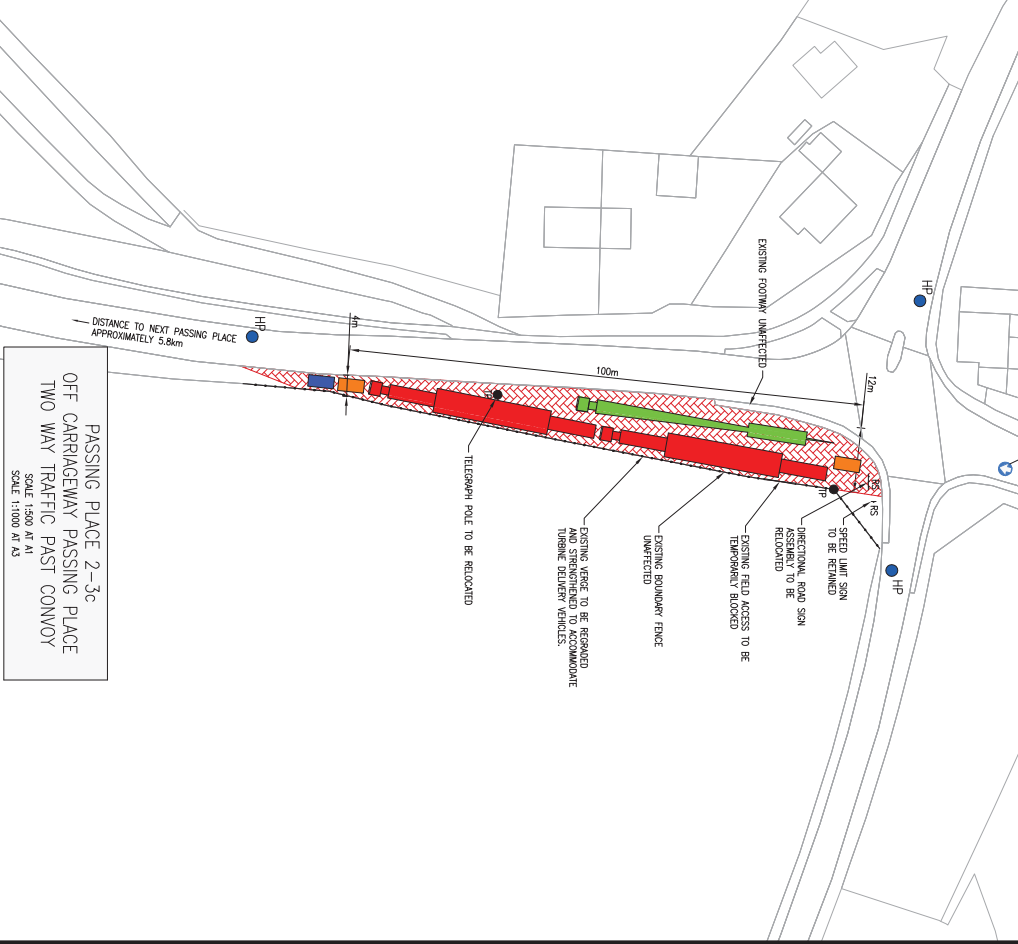
Title: **Figure 2-3b Passing Place B5069 South of Oswestry**

FOR INFORMATION

DATE	BY	REVISION
16.08.11	DM	16.08.11
16.08.11	DM	16.08.11

AS SHOWN 594 X 841 - A1

108528-Fig 2-3b P4



NOTES

- LEGEND**
- COMMON SECTION OF ROUTE
 - HP HOLDING POINT
 - ROAD SIGN
 - TELEPHONE POLE
 - HATCHED VERGE
 - REMAINING STRUCTURE
 - SAFETY BARRIER
 - ESTIMATED FOLLOWING TRAFFIC QUEUE
 - ESTIMATED OPPOSING TRAFFIC QUEUE
 - PHOTOGRAPH LOCATION AND DIRECTION
 - NEW CARPARK/SURFACE
- VEHICLES LEGEND**
- TOWER BASE SECTION VEHICLE
 - 45m BASE VEHICLE
 - ONULAM ESCORT VEHICLE
 - POLICE ESCORT VEHICLE

- NOTES**
1. REFER TO FIGURE 1-4-4 FOR FURTHER INFORMATION ON ASSUMED DELIVERY VEHICLES
 2. RIDE DELIVERY VEHICLE ASSUMED TO LOAD AS IT WILL SET THE CONVOY SPEED
 3. ENVIRONMENTAL ASSESSMENT OF PROPOSED WORKS TO BE UNDERTAKEN BY OTHERS
 4. THE WORKS IDENTIFIED ARE PRELIMINARY SOLUTIONS ONLY. THE PROPOSED SOLUTIONS WILL BE REFINED AS MORE INFORMATION IS GAINED.
 5. ON-SITE MEASUREMENTS TAKEN AT LOCATIONS OF PROPOSED PASSING PLACES.

NO.	DESCRIPTION	UNIT	QTY	DATE	STATUS
P1	RESURFACING INFORMATION/ADDITION	FT	MAC	13.0	PROPOSED
P2	FOULWEATHER STRIP/CONCRETE/PAVING	SB	4FT	13.0	PROPOSED
P3	NOISE MAPPING	NO	1	17.0	PROPOSED
P4	ENVIRONMENTAL IMPACT STATEMENT	NO	1	17.0	PROPOSED

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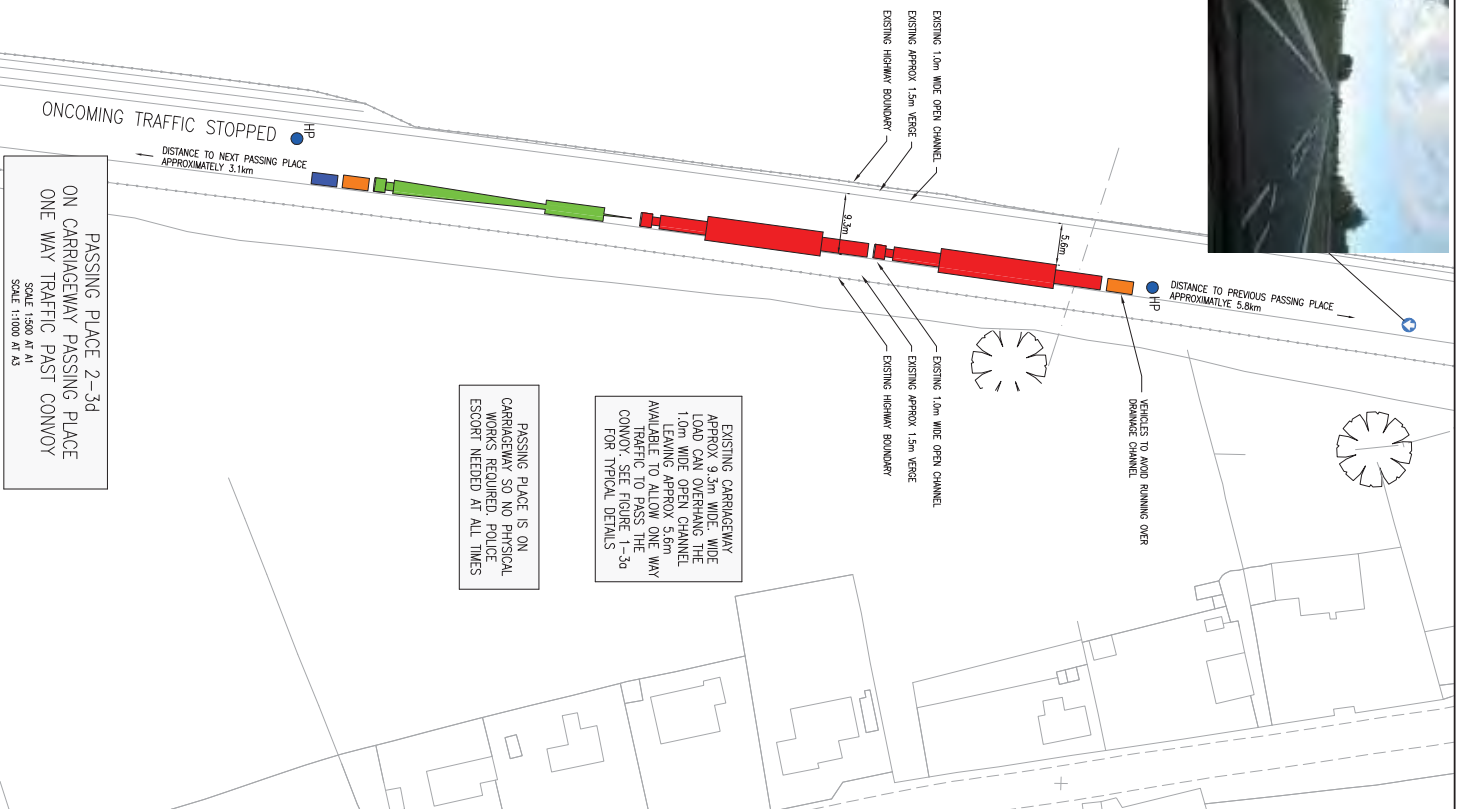
PROJECT
 STRATEGIC TRAFFIC MANAGEMENT PLAN FOR MID WALES WIND FARMS

TITLE
 FIGURE 2-3c
 PASSING PLACE LLYNCYLS CROSSROADS

FOR INFORMATION

DATE	BY	DATE	BY
16.08.11	DM	16.08.11	DM
16.08.11	DM	16.08.11	DM

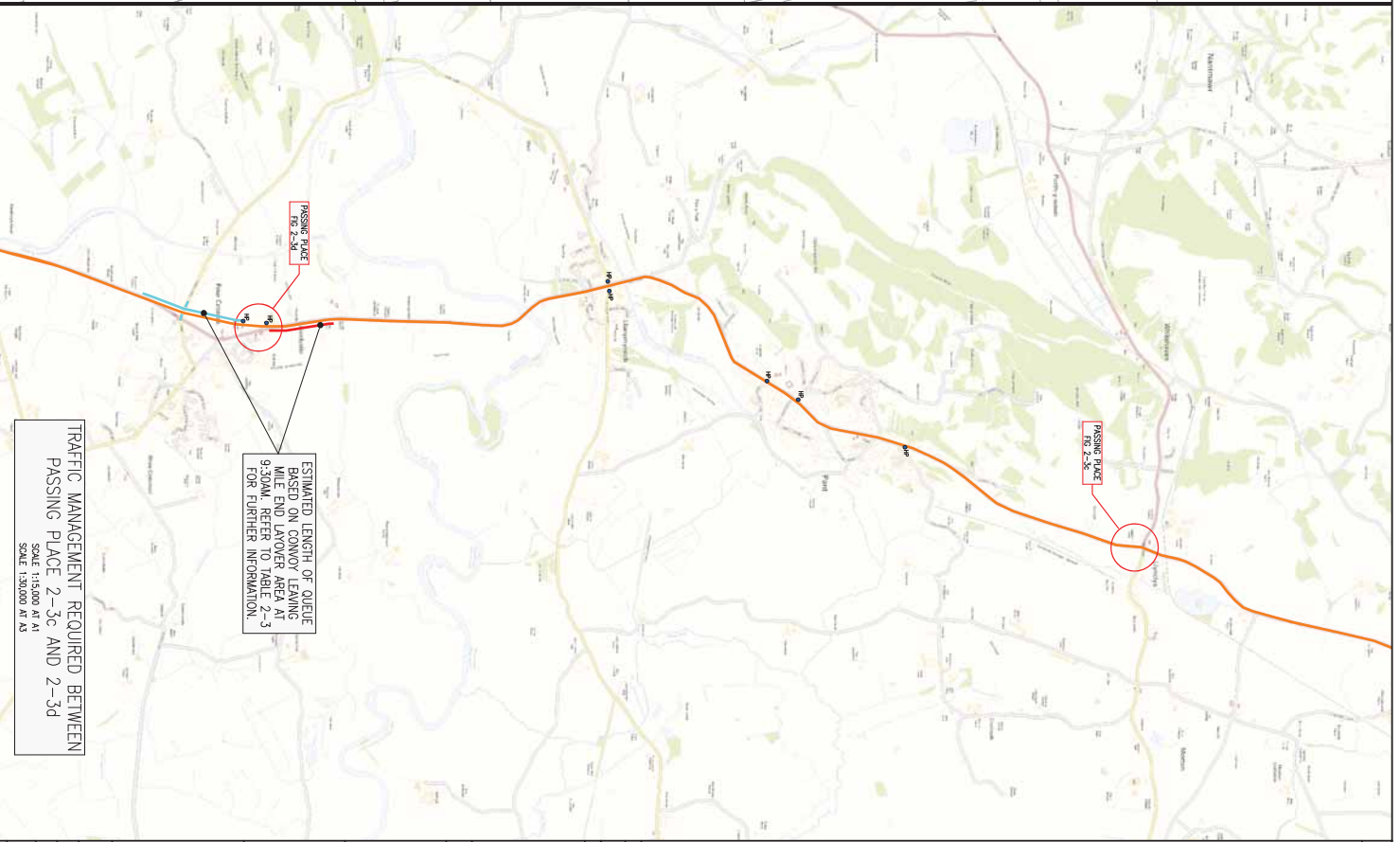
AS SHOWN



EXISTING CARRIAGEWAY APPROX 9.3m WIDE. WIDE LOAD CAN OVERHANG THE 1.0m WIDE OPEN CHANNEL LEAVING APPROX 5.6m AVAILABLE TO ALLOW ONE WAY TRAFFIC TO PASS THE CONVOY. SEE FIGURE 1-30 FOR TYPICAL DETAILS

PASSING PLACE IS ON CARRIAGEWAY SO NO PHYSICAL WORKS REQUIRED. POLICE ESCORT NEEDED AT ALL TIMES

PASSING PLACE 2-3d
ON CARRIAGEWAY PASSING PLACE
ONE WAY TRAFFIC PAST CONVOY
SCALE 1:1000 AT A1
SCALE 1:1000 AT A3



ESTIMATED LENGTH OF QUEUE BASED ON CONVOY LEAVING 9.3m WIDE PASSING PLACE AT 3.93km PER HOUR. REFER TO A3 FOR FURTHER INFORMATION.

TRAFFIC MANAGEMENT REQUIRED BETWEEN
PASSING PLACE 2-3c AND 2-3d
SCALE 1:15000 AT A1
SCALE 1:15000 AT A3

NOTES

- LEGEND**
- COMMON SECTION OF ROUTE
 - HP POLICE HOLDING POINT
 - RD ROAD SIGN
 - HP TELEGRAPH POLE
 - Hatched VEHICLE
 - SAFETY BARRIER
 - REMAINING STRUCTURE
 - ESTIMATED FOLLOWING TRAFFIC QUEUE
 - ESTIMATED OPPOSING TRAFFIC QUEUE
 - PHOTOGRAPH LOCATION AND DIRECTION
 - NEW CARRIAGEWAY SURFACE
- VEHICLES LEGEND**
- 4m BASE SECTION VEHICLE
 - CONVOY ESCORT VEHICLE
 - POLICE ESCORT VEHICLE

- NOTES**
1. REFER TO FIGURE 1-4 FOR FURTHER INFORMATION ON ASSUMED BEHAVIOUR VEHICLES
 2. BASED DELIVER VEHICLE ASSUMED TO LOAD AS IT WILL SET THE CONVOY SPEED
 3. ENVIRONMENTAL ASSESSMENT OF PROPOSED WORKS TO BE UNDERTAKEN BY OTHERS
 4. THE WORKS IDENTIFIED ARE PRELIMINARY SOLUTIONS ONLY. FURTHER ASSESSMENT OF THE WORKS MAY BE REQUIRED PRIOR TO TENDERING DESIGN INFORMATION.
 5. ON-SITE MEASUREMENTS TAKEN AT LOCATIONS OF PROPOSED PASSING PLACES.

NO	REVISIONS	DATE	BY	CHKD	APP'D	REVISED
P1	ISSUE FOR INFORMATION/AMENDMENT	16.08.11	SR	MAC	SR	ISSUED
P2	FOLLOWING STRATEGIC MANAGEMENT PLAN FOR MID WALES WIND FARMS	16.08.11	SR	SR	SR	ISSUED
P3	NOTES AND REVISIONS	16.08.11	SR	SR	SR	ISSUED
P4	PROPOSED TRAFFIC MANAGEMENT PLAN FOR MID WALES WIND FARMS	16.08.11	SR	SR	SR	ISSUED

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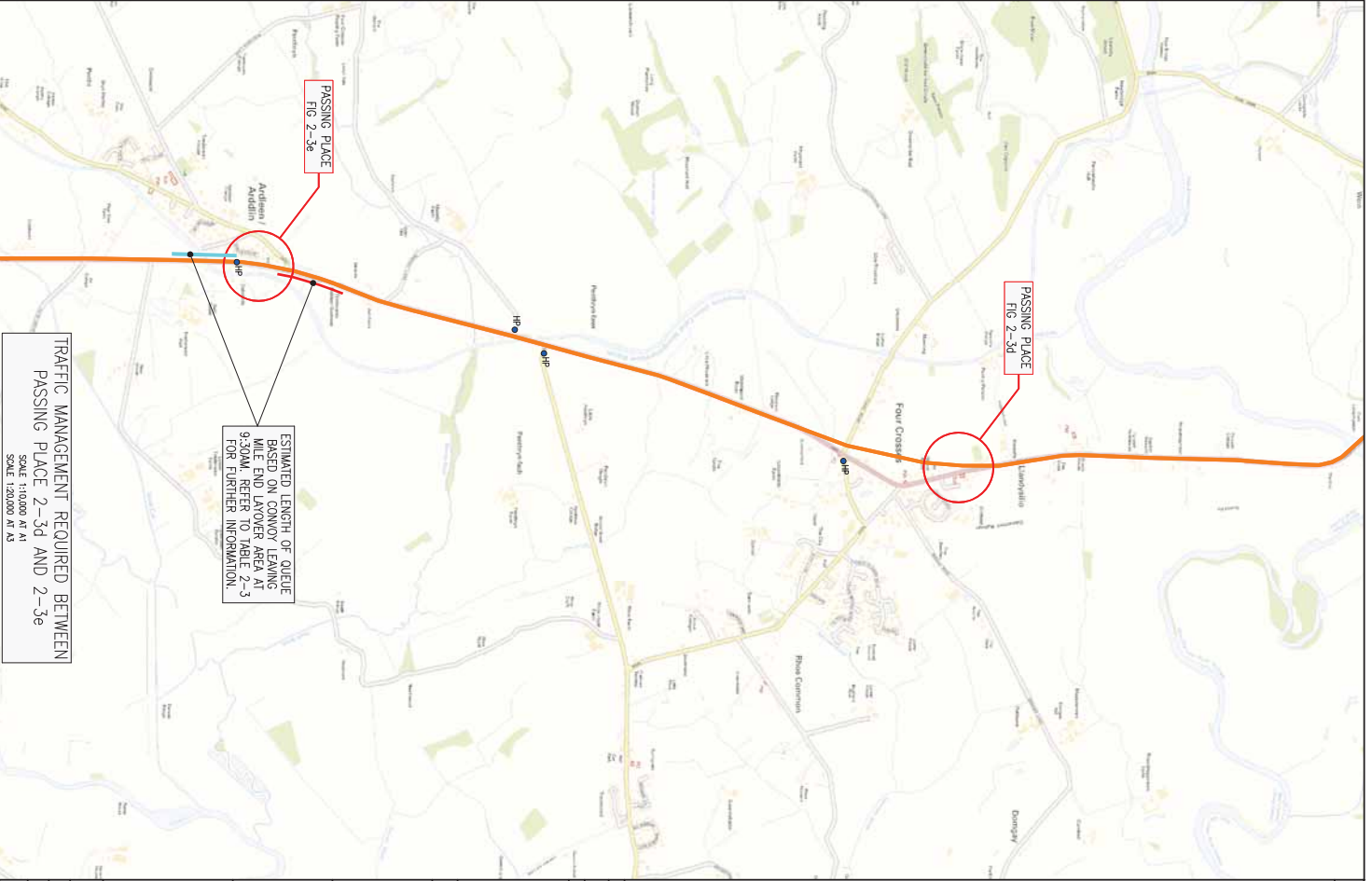
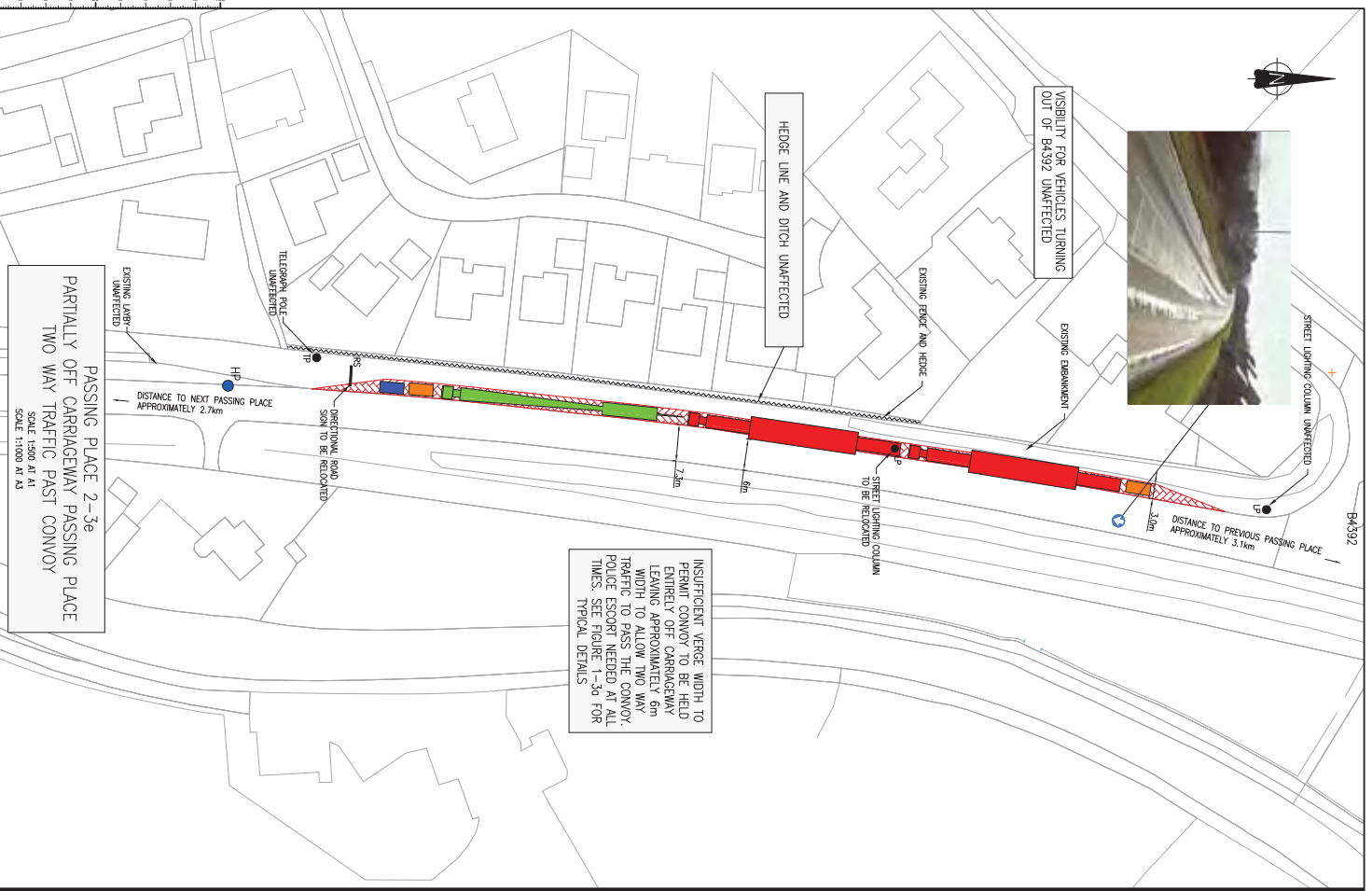
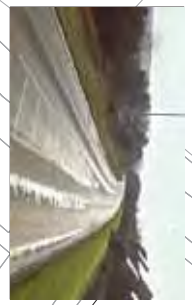
PROJECT
STRATEGIC TRAFFIC MANAGEMENT PLAN FOR MID WALES WIND FARMS

TITLE
FIGURE 2-3d
PASSING PLACE FOUR
CROSSES BYPASS

FOR INFORMATION

STATUS	DATE	BY	CHKD	APP'D
ISSUED	16.08.11	SR	SR	SR
FOR INFORMATION	16.08.11	SR	SR	SR

AS SHOWN
594 X 841 - A1



TRAFFIC MANAGEMENT REQUIRED BETWEEN PASSING PLACE 2-3d AND 2-3e
SCALE 1:10,000 AT A1
SCALE 1:20,000 AT A3

PASSING PLACE 2-3e
PARTIALLY OFF CARRIAGEWAY PASSING PLACE
TWO WAY TRAFFIC PAST CONVOY
SCALE 1:1000 AT A1
SCALE 1:1000 AT A3

NOTES

- LEGEND**
- COMMON SECTION OF ROUTE
 - HP POLICE HOLDING POINT
 - RS ROAD SIGN
 - TP TELEGRAPH POLE
 - HV HAZARDOUS VEHICLE
 - RE REMAINING STRUCTURE
 - SB SAFETY BARRIER
 - EF ESTIMATED FOLLOWING TRAFFIC QUEUE
 - ET ESTIMATED OPPOSING TRAFFIC QUEUE
 - PH PHOTOGRAPH LOCATION AND DIRECTION
 - NS NEW ORASMANSWY SURFACE
- VEHICLES LEGEND**
- TOWER BASE SECTION VEHICLE
 - 4m BASE VEHICLE
 - CONVOY ESCORT VEHICLE
 - POLICE ESCORT VEHICLE

- NOTES**
1. REFER TO FIGURE 1-4 FOR FURTHER INFORMATION ON ASSUMED DELIVERY VEHICLES.
 2. ROAD DELIVER VEHICLE ASSUMED TO LOAD AS IT WILL SET THE CARRYOVER STAGE.
 3. ENVIRONMENTAL ASSESSMENT OF PROPOSED WORKS TO BE UNDERTAKEN BY OTHERS.
 4. THE WORKS IDENTIFIED ARE PRELIMINARY SOLUTIONS ONLY. PROPOSALS FOR THE IMPROVEMENT OF THE ROAD MAY BE REQUIRED PRIOR TO FURTHER DESIGN DEVELOPMENT.
 5. ORIGIN MEASUREMENTS TAKEN AT LOCATIONS OF PROPOSED PASSING PLACES.

NO.	DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL
P1	RESURFACING INFORMATION/ADDITION	sq m	100	100.00	10,000.00
P2	FOLLOWING STRIP/STRIP/STRIP	sq m	100	100.00	10,000.00
P3	PASSING PLACE (UNDEVELOPED)	sq m	100	100.00	10,000.00
P4	RESURFACING INFORMATION/ADDITION	sq m	100	100.00	10,000.00

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CLIENT: RENEWABLELEUK CYMRU

PROJECT: STRATEGIC TRAFFIC MANAGEMENT PLAN FOR MID WALES WIND FARMS

TYPE: PASSING PLACE ARDLEEN

FIGURE 2-3e

FOR INFORMATION

DATE	BY	REVISION
16.08.11	DM	16.08.11
16.08.11	DM	16.08.11

AS SHOWN 594 X 841 - A1

108526-FIG 2-3e

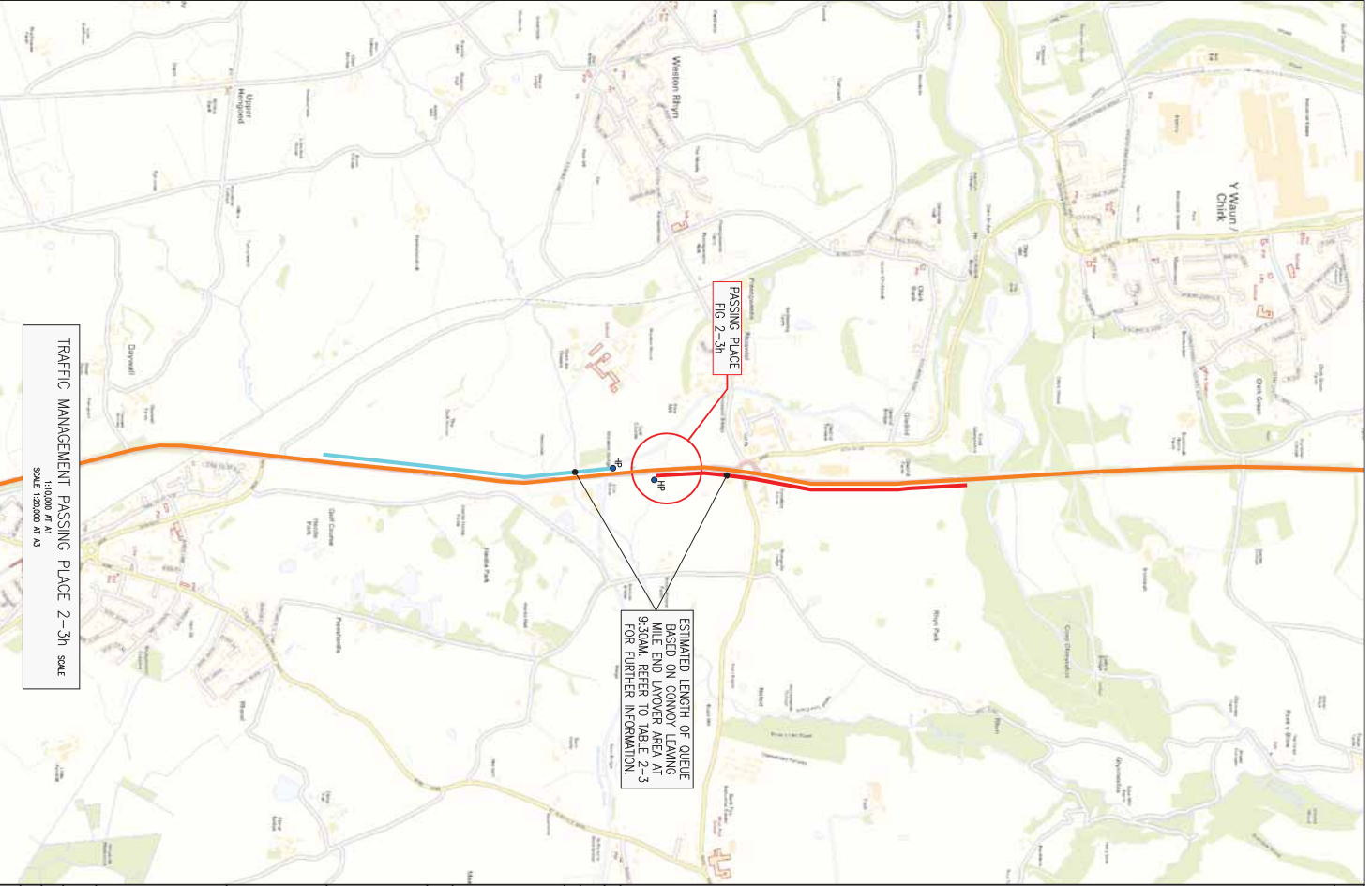


PASSING PLACE 2-3h
ON CARRIAGEWAY PASSING PLACE
TWO WAY TRAFFIC PAST CONVOY
SCALE 1:1000 AT A1
SCALE 1:1500 AT A3

CONVOY IS ON CARRIAGEWAY. WIDE LOAD CAN OVERHAUL EXISTING FOOTWAY BY FOLLOWING AND OPENING TRAFFIC TO PASS EACH OTHER AT SAME TIME. SEE FIGURE 1-3a FOR TYPICAL DETAILS.



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TRAFFIC MANAGEMENT PASSING PLACE 2-3h SCALE 1:10000 AT A1 SCALE 1:15000 AT A3

NOTES

- LEGEND**
- COMMON SECTION OF ROUTE
 - HP POLICE HOLDING POINT
 - RS ROAD SIGN
 - TELEGRAPH POLE
 - Hatched VEHICLE
 - SAFETY BARRIER
 - ESTIMATED FOLLOWING TRAFFIC QUEUE
 - ESTIMATED OPPOSING TRAFFIC QUEUE
 - PROPOSED ROAD LOCATION AND DIRECTION
 - NEW CARRIAGEWAY SURFACE
- VEHICLES LEGEND**
- TOWER BASE SECTION VEHICLE
 - 45m BASE VEHICLE
 - CONVOY ESCORT VEHICLE
 - POLICE ESCORT VEHICLE

- NOTES**
1. REFER TO FIGURE 1-4a FOR FURTHER INFORMATION ON ASSUMED DELIVERY VEHICLES
 2. BARGE DELIVER VEHICLE ASSUMED TO LOAD AS IT WILL SET THE CONVOY SPEED
 3. ENVIRONMENTAL ASSESSMENT OF PROPOSED WORKS TO BE UNDERTAKEN BY OTHERS
 4. THE WORKS IDENTIFIED ARE PRELIMINARY SOLUTIONS ONLY. PROPOSALS IDENTIFIED AS 'OTHERS' MAY BE REQUIRED FOR THE PROJECT TO PROCEED TO THE NEXT STAGE OF DEVELOPMENT.
 5. ON-SITE MEASUREMENTS TAKEN AT LOCATIONS OF PROPOSED PASSING PLACES.

REV	DESCRIPTION	DATE	BY	CHECKED	APPROVED
P1	ISSUE FOR INFORMATION	16.08.11	AS	AS	AS
P2	FOR INFORMATION	16.08.11	AS	AS	AS
P3	FOR INFORMATION	16.08.11	AS	AS	AS
P4	FOR INFORMATION	16.08.11	AS	AS	AS

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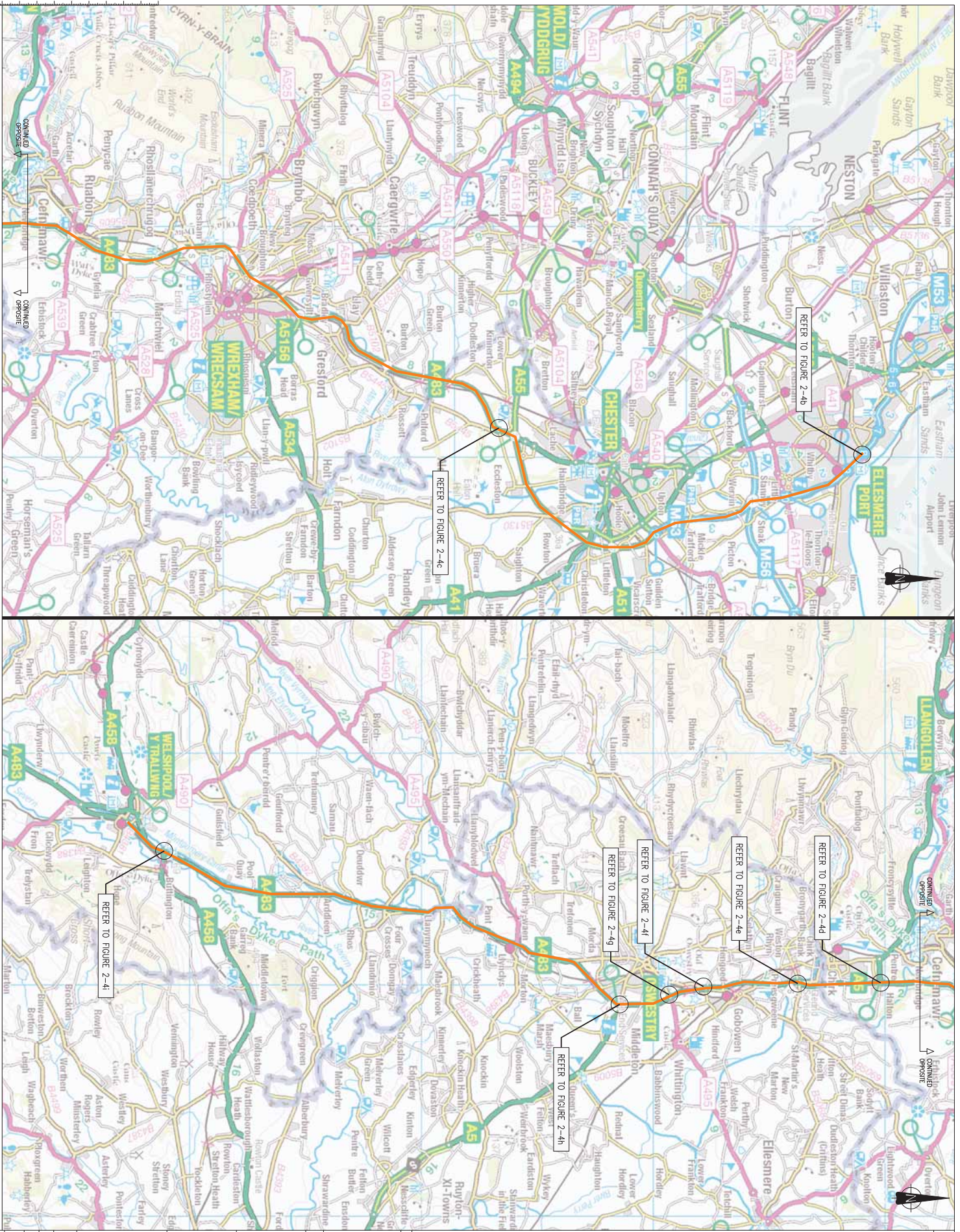
PROJECT
STRATEGIC TRAFFIC
MANAGEMENT PLAN FOR
MID WALES WIND FARMS

FIGURE 2-3h
PASSING PLACE
LION QUAY

FOR INFORMATION

DATE	BY	DATE	BY
16.08.11	AS	16.08.11	AS
16.08.11	AS	16.08.11	AS
16.08.11	AS	16.08.11	AS

AS SHOWN



NOTES

- COMMON SECTION OF ROUTE
- CONTINUED OPPOSITE
- CONTINUED OPPOSITE

NO.	SCALE/NOTES/MARKED	PT.	MC.	DATE	ISSUED
1	ASSENTMENTS	PT.	MC.	DATE	ISSUED

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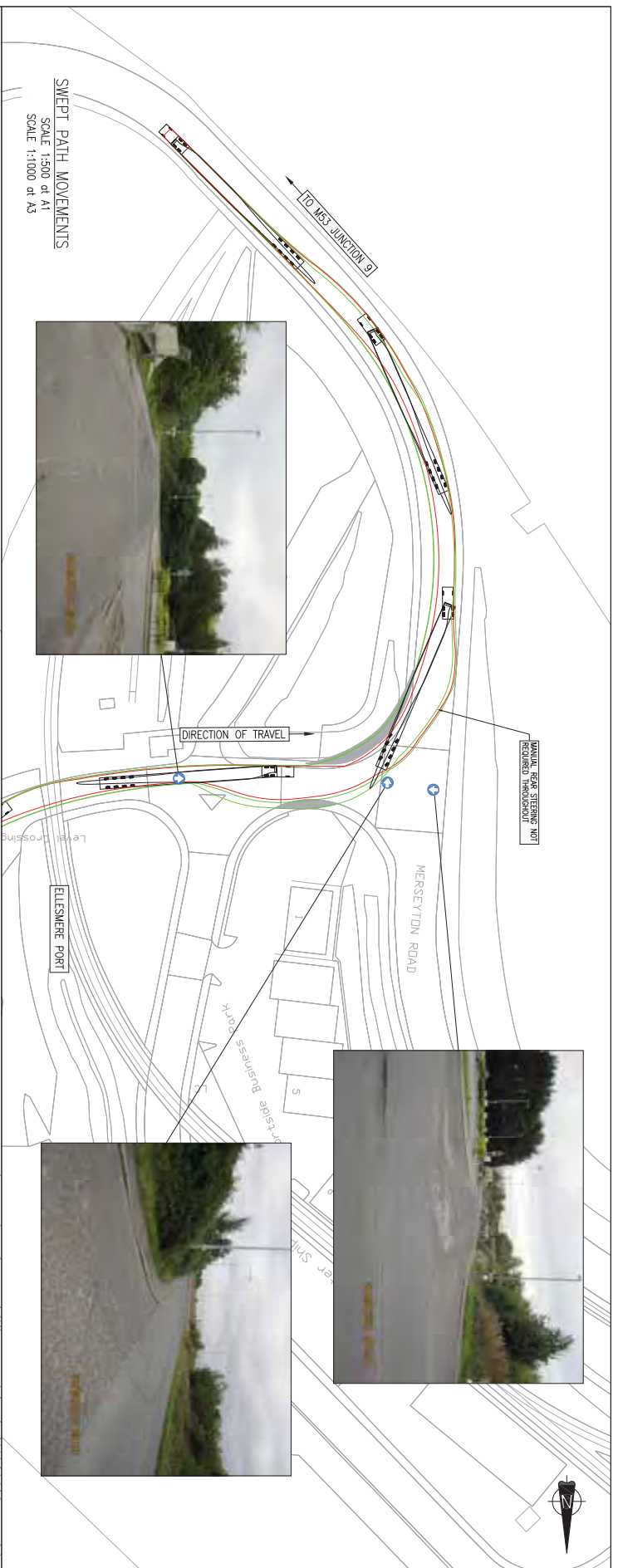
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STRATEGIC TRAFFIC MANAGEMENT PLAN FOR MID WALES WIND FARMS

FIGURE 2-4a
SWEPT PATH ANALYSIS OVERVIEW ALONG COMMON SECTION

FOR INFORMATION

DATE	BY	DATE	BY
18/08/11	FT	18/08/11	DM
17/05/09	JA1	08/08/08	DM
11/05/00	JA1	09/04/01	JA1



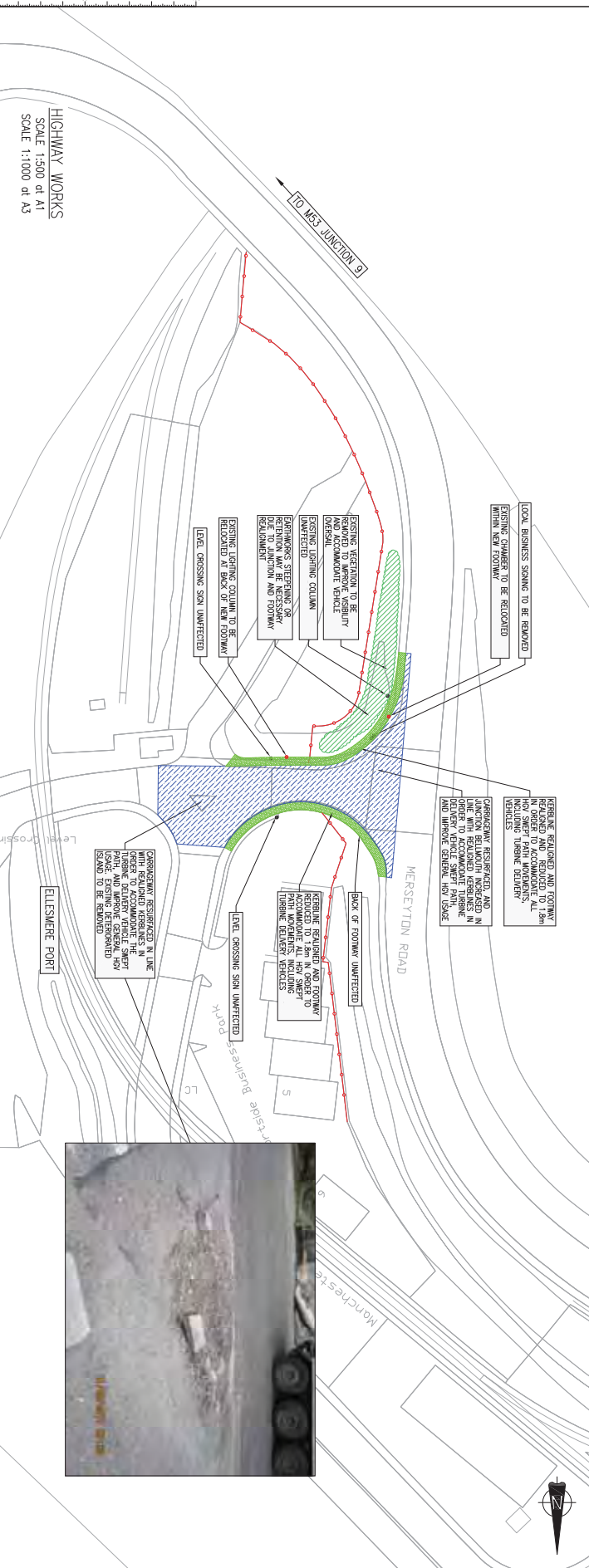
NOTES

KEY-

- VEHICLE OUTLINE
- CHASSIS SWEEP PATH - LOAD OVERSAIL
- ASSUMED HIGHWAY BOUNDARY
- EXISTING STREET FURNITURE
- RELOADED STREET FURNITURE
- PHOTOGRAPH LOCATION AND DIRECTION
- LOAD OVERSAIL ENVELOPE
- CARRIAGEWAY IMPROVEMENT WORKS
- VEHICLE OVER-RUN CONSTRUCTION
- FOOTWAY WORKS
- VEGETATION CLEARANCE

NOTES-

- AUTOTRACK SWEEP PATH ANALYSIS CARRIED OUT PRESENT
- VEHICLE USED FOR SWEEP PATH ANALYSIS BASED UPON DESIGNER DELIVERED VEHICLE INFORMATION.
- SWEEP PATH ANALYSIS CARRIED OUT AGAINST ORDNANCE SURVEY DATA.
- MANUAL REAR STEERING ONLY DEEMED NECESSARY IF NOTED WITHIN THE HIGHWAY WORKS PLAN.
- ALL HIGHWAY WORKS HAVE BEEN CREATED ASSUMING AN ADDITIONAL 500mm EXTRA OVER THE AREA OF VEHICLE SWEEP PATH.
- ENVIRONMENTAL ASSESSMENT OF PROPOSED WORKS TO BE UNDERTAKEN BY OTHERS.
- THE WORKS IDENTIFIED ARE PRELIMINARY SOLUTIONS ONLY BEING PROVIDED FOR THE PURPOSE OF FURTHER DESIGN DEVELOPMENT.



PROJECT

STRATEGIC TRAFFIC MANAGEMENT PLAN FOR MID WALES WIND FARMS ELLESMERE PORT

TITLE

FIGURE 2-4b SWEPT PATH ANALYSIS ELLESMERE PORT

STATUS

FOR INFORMATION

STANDARD	CHECKED	APPROVED
MC	FT	DH
DATE: 01/09/11	DATE: 01/09/11	DATE: 01/09/11
DRAWING SCALE: AS SHOWN	594 x 841 - A1	

108526-Fig 2-4b

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Head Office: 2nd Floor, 100, Victoria Road, Walsley, Salford, M6 6JN

CLIENT

RENEWABLEUK CYMRU

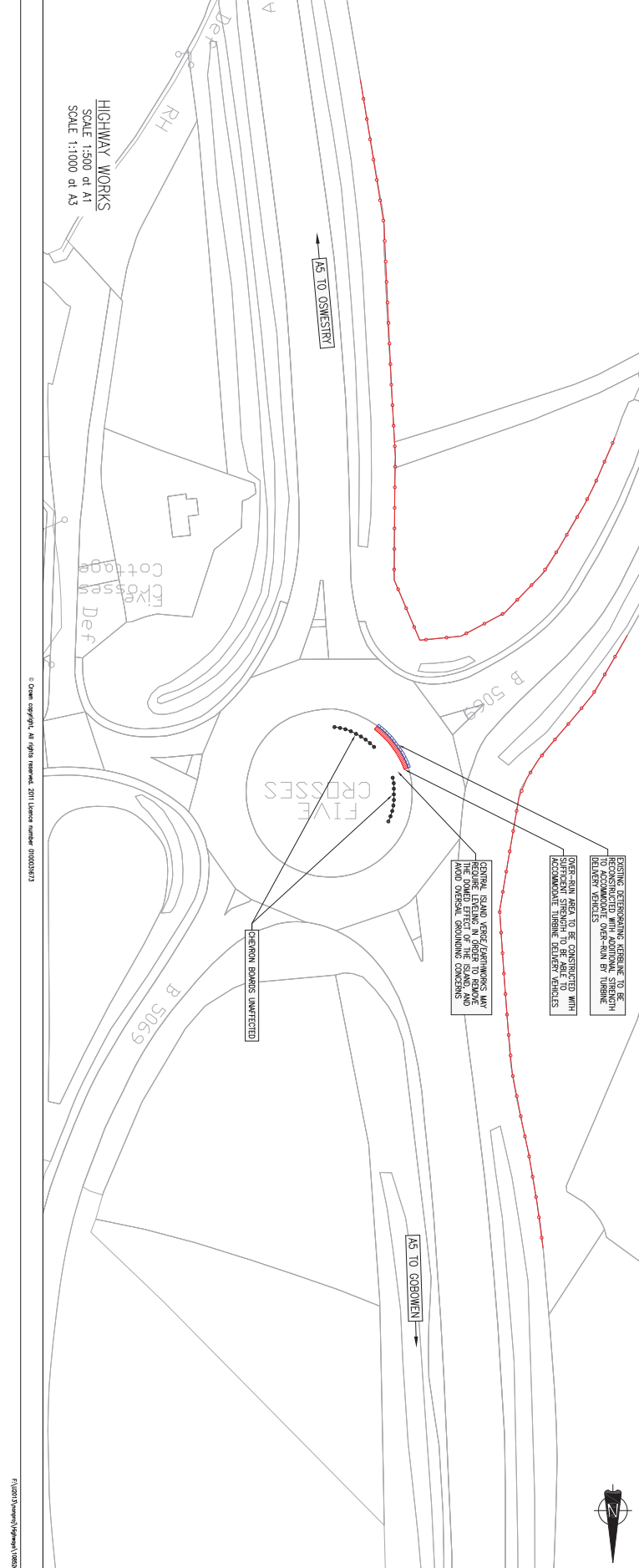
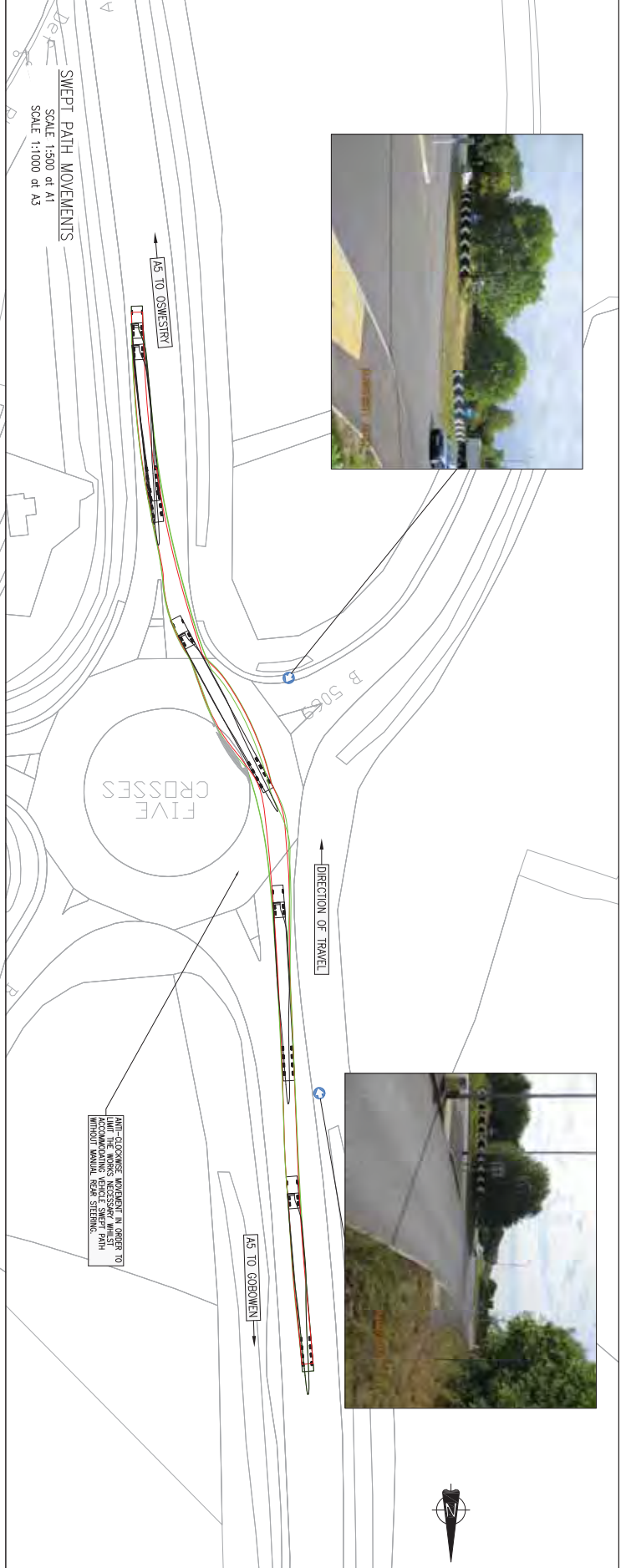


KEY

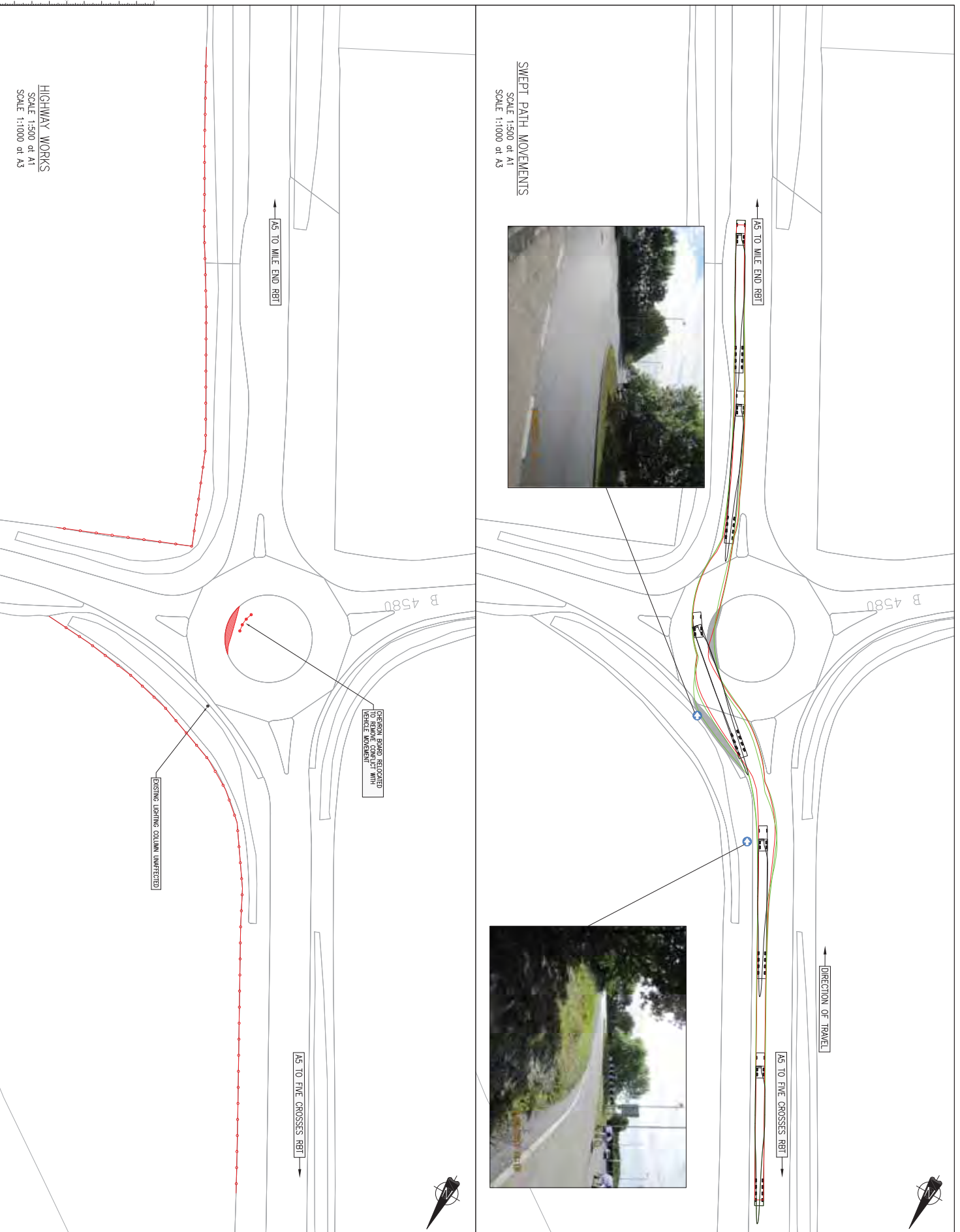
- ASSUMED HIGHWAY BOUNDARY
- VEHICLE OUTLINE
- CHASSIS SWEEP PATH - LOAD OVERSAIL
- EXISTING STREET FURNITURE
- RELOCATED STREET FURNITURE
- PHOTOGRAPHIC LOCATION AND DIRECTION
- LOAD OVERSAIL ENVELOPE
- CARPARKWAY IMPROVEMENT WORKS
- VEHICLE OVER-RUN CONSTRUCTION
- FOOTWAY WORKS
- VEGETATION CLEARANCE

NOTES

1. AUTOTRACK SWEEP PATH ANALYSIS CARRIED OUT PRESENT
2. VEHICLE USED FOR SWEEP PATH ANALYSIS BASED UPON ABNORMAL LOAD ESCORTS ARE REFER TO FIGURE 1-4a FOR FURTHER INFORMATION.
3. SWEEP PATH ANALYSIS CARRIED OUT AGAINST ORDNANCE SURVEY DATA.
4. MANUAL REAR STEERING ONLY DEEMED NECESSARY IF NOTED WITHIN THE HIGHWAY WORKS PLAN.
5. ALL HIGHWAY WORKS HAVE BEEN CREATED ASSUMING AN ADDITIONAL 500mm EXTRA OVER THE AREA OF VEHICLE SWEEP PATH.
6. ENVIRONMENTAL ASSESSMENT OF PROPOSED WORKS TO BE UNDERTAKEN BY OTHERS.
7. THE WORKS IDENTIFIED ARE PRELIMINARY SOLUTIONS ONLY. ENVIRONMENTAL SURVEY OF FURTHER DESIGN DEVELOPMENT.



<p>PROJECT</p> <p>STRATEGIC TRAFFIC MANAGEMENT PLAN FOR MID WALES WIND FARMS FIVE CROSSES ROUNDABOUT</p>	
<p>TITLE</p> <p>FIGURE 2-4f SWEEP PATH ANALYSIS FIVE CROSSES ROUNDABOUT</p>	
<p>STATUS</p> <p>FOR INFORMATION</p>	
<p>DESIGNED BY</p> <p>05/09/11</p>	<p>CHECKED BY</p> <p>05/09/11</p>
<p>DATE</p> <p>05/09/11</p>	<p>DATE</p> <p>05/09/11</p>
<p>SCALE</p> <p>AS SHOWN</p>	<p>SCALE</p> <p>594 x 841 - A1</p>
<p>PROJECT NO.</p> <p>108526-FIG 2-4f</p>	<p>REV.</p> <p>P2</p>

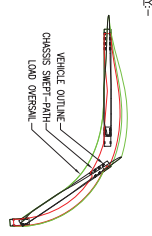


SWEEP PATH MOVEMENTS

SCALE 1:500 of A1
SCALE 1:1000 of A3

HIGHWAY WORKS
SCALE 1:500 of A1
SCALE 1:1000 of A3

NOTES



- NOTES-**
1. AUTOTRACK SWEEP PATH ANALYSIS CARRIED OUT PRESENT
 2. VEHICLE USED FOR SWEEP PATH ANALYSIS BASED UPON DESIGN MAKE DRIVER'S VEHICLE. REFER TO FIGURE 1-4a FOR FURTHER INFORMATION.
 3. SWEEP PATH ANALYSIS CARRIED OUT AGAINST ORDNANCE SURVEY DATA.
 4. MANUAL REAR STEERING ONLY DEEMED NECESSARY IF NOTED WITHIN THE HIGHWAY WORKS PLAN.
 5. ALL HIGHWAY WORKS HAVE BEEN CREATED ASSUMING AN ADDITIONAL 500mm EXTRA OVER THE AREA OF VEHICLE SWEEP PATH.
 6. ENVIRONMENTAL ASSESSMENT OF PROPOSED WORKS TO BE UNDERTAKEN BY OTHERS.
 7. THE WORKS IDENTIFIED ARE PRELIMINARY SOLUTIONS ONLY. AN ENVIRONMENTAL SURVEY OF THE SITE SHOULD BE UNDERTAKEN TO FURTHER DESIGN DEVELOPMENT.

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PROJECT
STRATEGIC TRAFFIC MANAGEMENT PLAN FOR MID WALES WIND FARMS OSWESTRY ROUNDABOUT

TITLE
FIGURE 2-4g
SWEEP PATH ANALYSIS OSWESTRY ROUNDABOUT

STATUS
FOR INFORMATION

NO	DATE	BY	FOR
06/09/11	06/09/11		
AS SHOWN			

108526-FIG 2-4g

FOR INFORMATION

NO	DATE	BY	FOR
06/09/11	06/09/11		
AS SHOWN			

108526-FIG 2-4g

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108526-FIG 2-4g

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108526-FIG 2-4g

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108526-FIG 2-4g

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108526-FIG 2-4g

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108526-FIG 2-4g

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108526-FIG 2-4g

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108526-FIG 2-4g

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108526-FIG 2-4g

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108526-FIG 2-4g

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108526-FIG 2-4g

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108526-FIG 2-4g

FOR INFORMATION

NO	DATE	BY	FOR
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AS SHOWN			

108526-FIG 2-4g

FOR INFORMATION

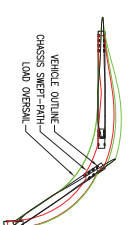
NO	DATE	BY	FOR
06/09/11	06/09/11		
AS SHOWN			

108526-FIG 2-4g

FOR INFORMATION

NO	DATE	BY	FOR
06/09/11			

NOTES



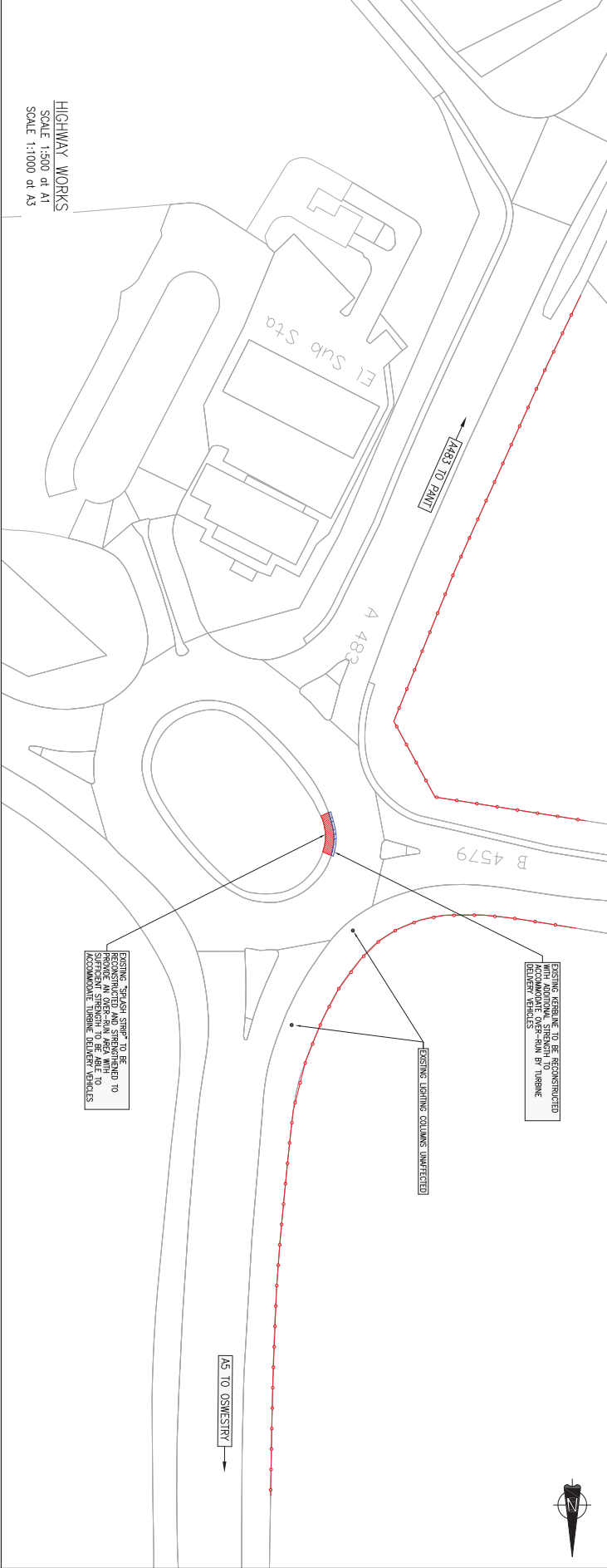
- NOTES-
1. AUTOTRACK SWEEP PATH ANALYSIS CARRIED OUT PRESENT
 2. VEHICLE USED FOR SWEEP PATH ANALYSIS BASED UPON DESIGN MAKE DELIVER VEHICLE. REFER TO FIGURE 1-4a FOR FURTHER INFORMATION.
 3. SWEEP PATH ANALYSIS CARRIED OUT AGAINST ORDNANCE SURVEY DATA.
 4. MANUAL REAR STEERING ONLY DEEMED NECESSARY IF NOTED WITHIN THE HIGHWAY WORKS PLAN.
 5. ALL HIGHWAY WORKS HAVE BEEN CREATED ASSUMING AN ADDITIONAL 500mm EXTRA OVER THE AREA OF VEHICLE SWEEP PATH.
 6. ENVIRONMENTAL ASSESSMENT OF PROPOSED WORKS TO BE UNDERTAKEN BY OTHERS.
 7. THE WORKS IDENTIFIED ARE PRELIMINARY SOLUTIONS ONLY OF PROPOSED WORKS TO BE UNDERTAKEN FOR FURTHER DESIGN DEVELOPMENT.



PHOTOGRAPHY TAKEN IN ORDER TO AID WORKS NECESSARY WITHIN SWEEP PATH WITHOUT MANUAL REAR STEERING.



SWEPT PATH MOVEMENTS
SCALE 1:500 of A1
SCALE 1:1000 of A3



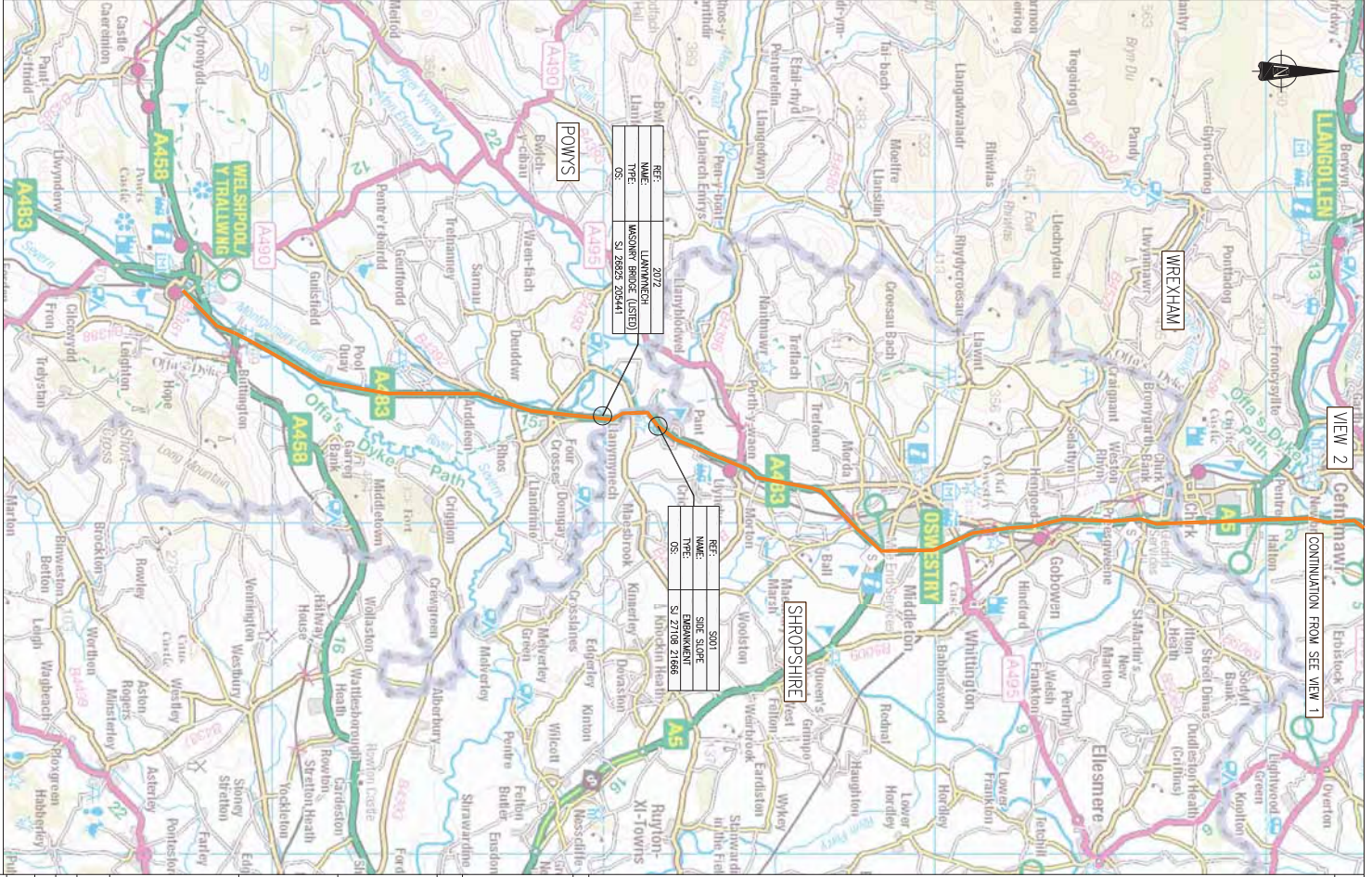
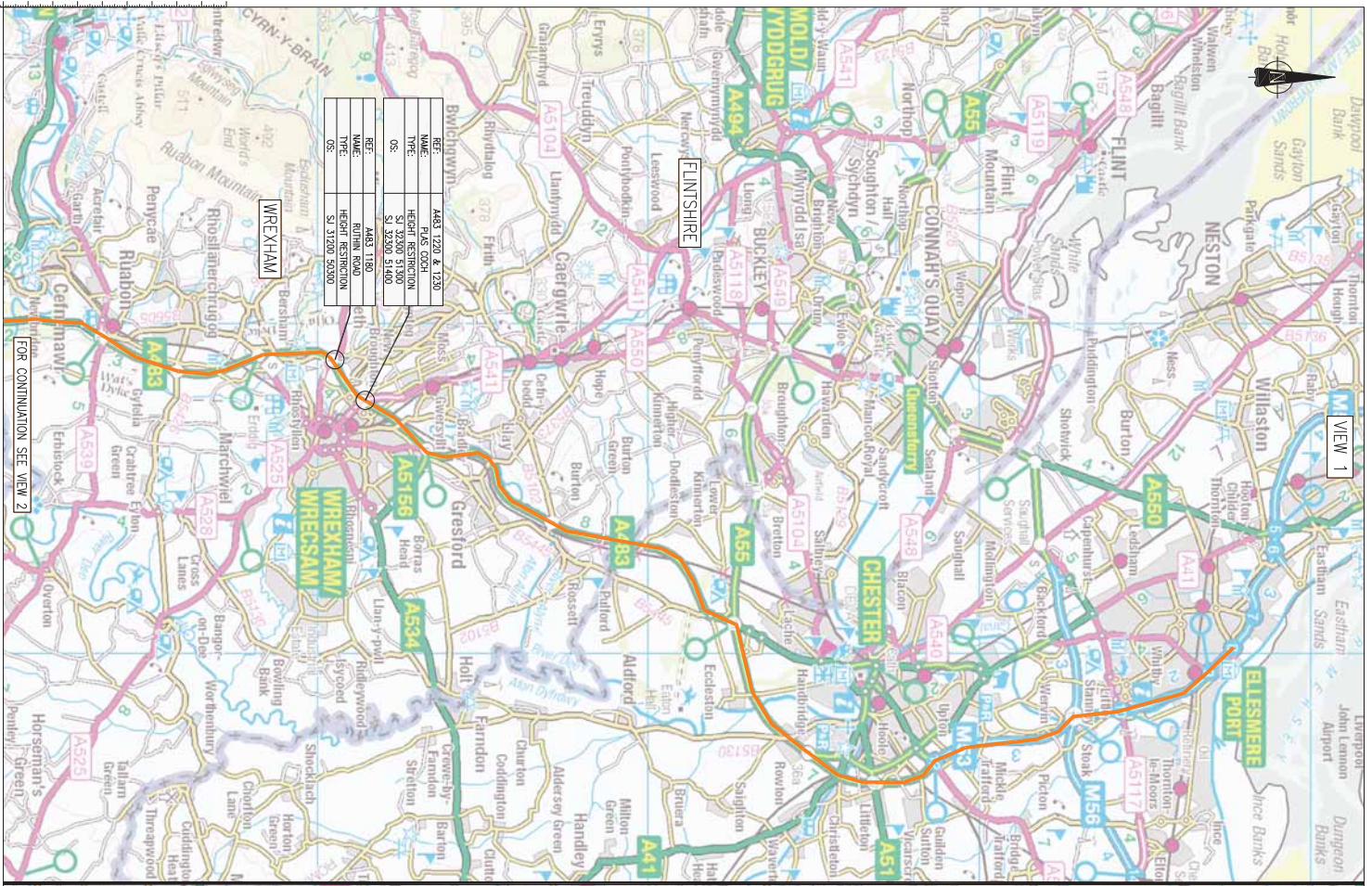
HIGHWAY WORKS
SCALE 1:500 of A1
SCALE 1:1000 of A3

EXISTING STREET LIGHTS TO BE RESTRUCTURED AND STRENGTHENED TO PROVIDE AN OVER-RUN AREA WITH TO ACCOMMODATE TURBINE DELIVER VEHICLES

EXISTING ROADLINE TO BE RECONSTRUCTED TO ACCOMMODATE OVER-RUN BY TURBINE DELIVER VEHICLES

EXISTING LIGHTING COLUMNS UNDELETED

PROJECT		STRATEGIC TRAFFIC MANAGEMENT PLAN FOR MID WALES WIND FARMS MILE END ROUNDABOUT	
TITLE		FIGURE 2-4h SWEPT PATH ANALYSIS MILE END ROUNDABOUT	
STATUS		FOR INFORMATION	
DESIGNED	MC	CHECKED	DM
DATE	06/09/11	DATE	06/09/11
DRAWING SCALE	AS SHOWN	ORIGNAL DRAWING SIZE	594 x 841 - A1
DRAWING NO.	108526-Fig 2-4h	REV.	P2
<p>Richard Hughes Ash Road South Wrexham Industrial Estate Wrexham LL13 3UG Tel: +44 (0)1978 868 6200 www.gronitij.co.uk</p>		<p>Renewableuk Cymru</p>	



NOTES

- LEGEND**
- COMMON SECTION OF ROUTE
 - HIGHWAY AUTHORITY BOUNDARY
- NOTES**
1. REF = HIGHWAY AUTHORITY STRUCTURE REFERENCE
 2. OS = GRID REFERENCE
 3. INFORMATION OBTAINED FROM RELIABLE HIGHWAY AUTHORITY AND THROUGH SITE VISITS.

RENEWABLELEUK CYMRU

STRATEGIC TRAFFIC MANAGEMENT PLAN FOR MID WALES WIND FARMS

**FIGURE 2-6
STRUCTURES ALONG COMMON SECTION**

FOR INFORMATION

SECTION	DATE	REV	APPROVED
16.08.11	16.08.11	01	16.08.11
17.05.00	01.01	02	17.05.00
11.05.00	01.03	03	11.05.00

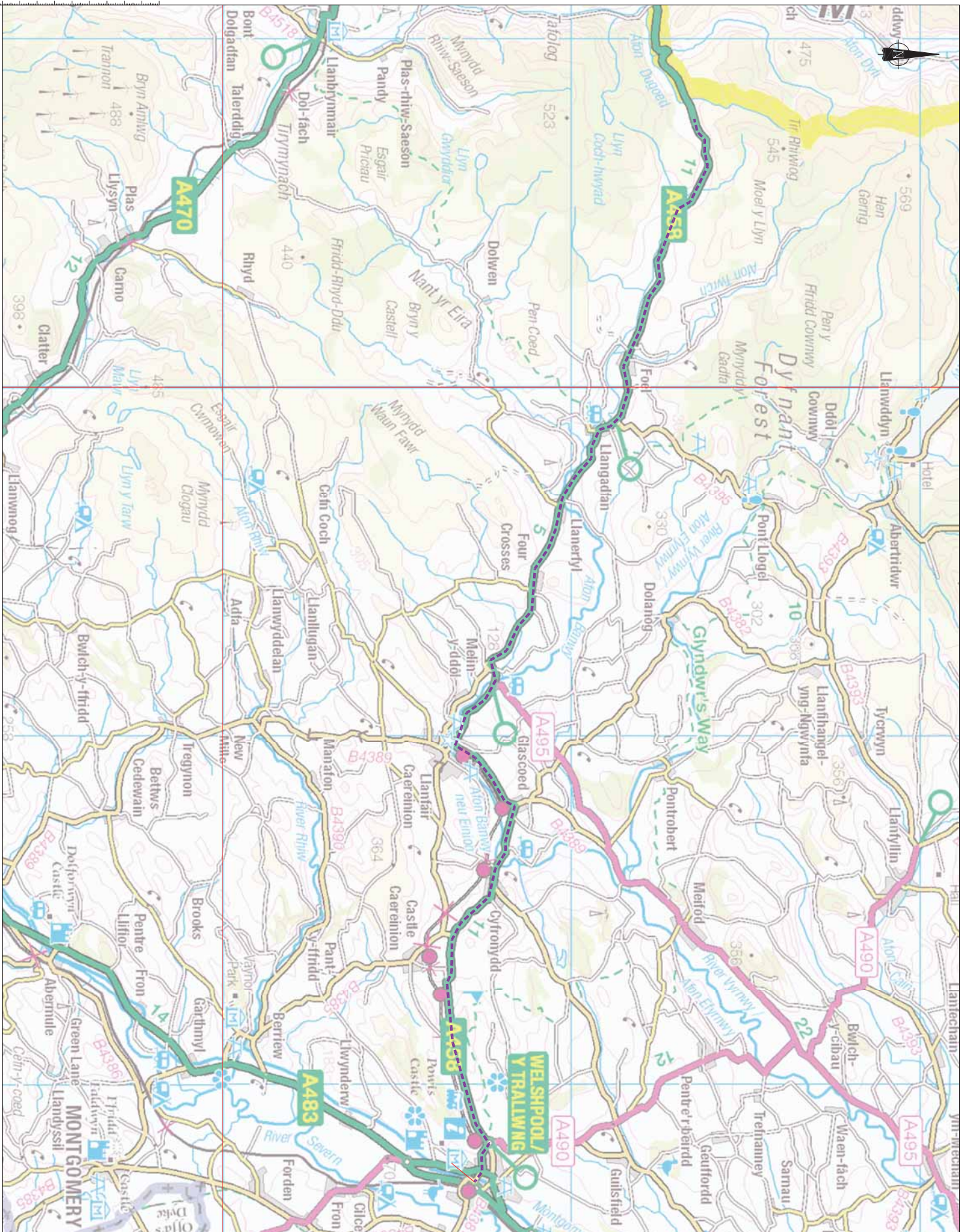
108526-FIG 2-6

Grontmij

Site Project Manager
Ash Road South
Wrexham Industrial Estate
Wrexham
LL13 5UG

Tel: +44 (0)197 868 6200
Fax: +44 (0)197 868 6229
www.grontmij.co.uk

Head Office: 2000 Lakeside Drive, Suite 1000, Waltham, MA 01954, USA



NOTES

LEGEND

- ROUTE FROM WELSHPOOL TO SSA B (NORTH)

NO	ROAD NUMBER	ST	WC	SP	ROADS
1	A495	ST	WC	SP	ROADS
2	A490	ST	WC	SP	ROADS
3	A483	ST	WC	SP	ROADS
4	A470	ST	WC	SP	ROADS
5	A458	ST	WC	SP	ROADS

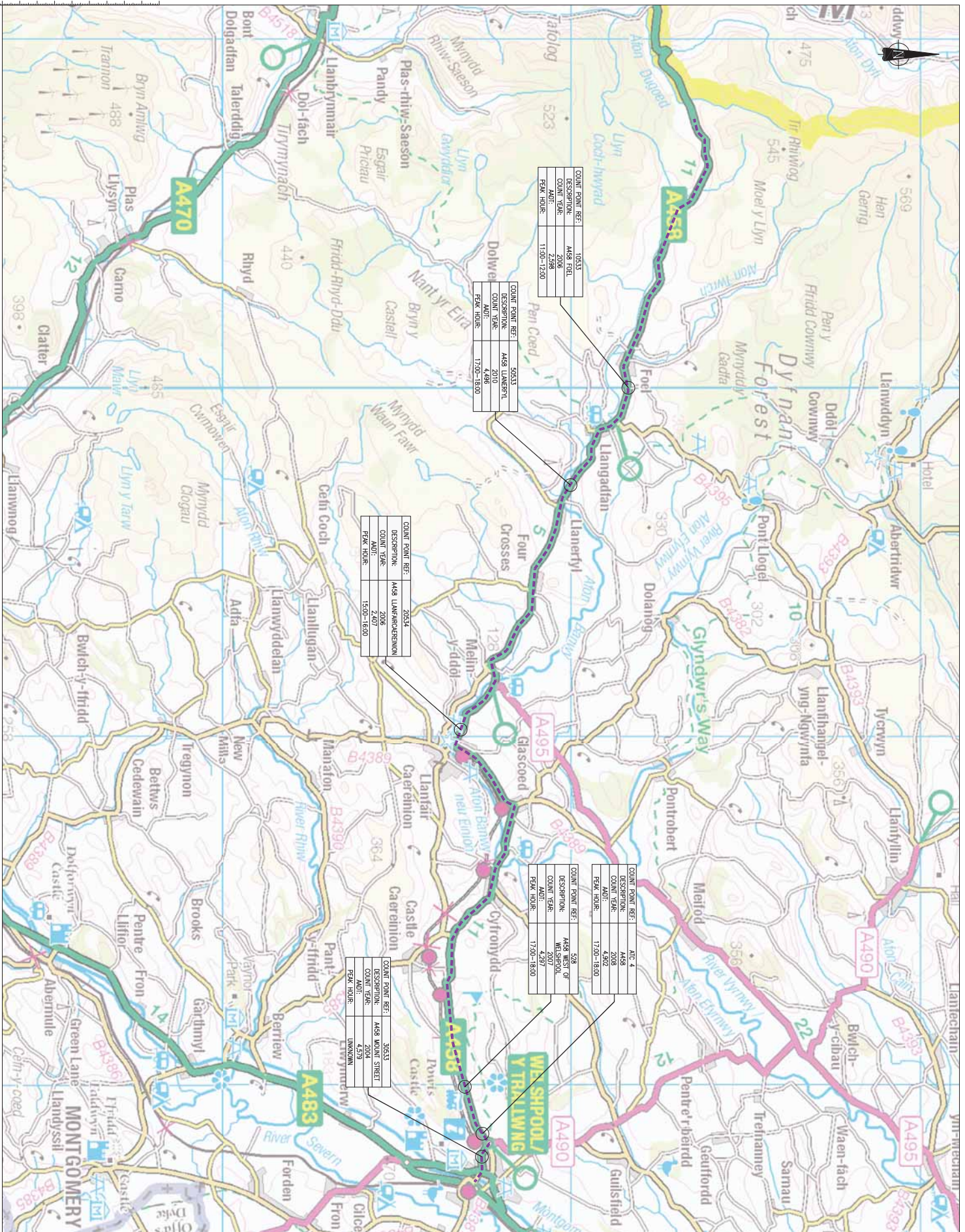
RENEWABLEUK CYMRU

STRATEGIC TRAFFIC MANAGEMENT PLAN FOR MID WALES WIND FARMS

FIGURE 3-1
ROUTE FROM WELSHPOOL TO SSA B (NORTH)

FOR INFORMATION

NO	DATE	BY	REVISED
1	16.08.11	SW	16.08.11
2	15.09.00 at A1	SW	16.08.11
3	11.00.00 at A3	SW	594, 841, A1



NOTES

- LEGEND**
- ROUTE FROM WELSPHPOOL TO SSA B (NORTH)
- NOTES**
- AADT = ANNUAL AVERAGE DAILY TRAFFIC, THE NUMBER OF VEHICLES PASSING A POINT ON THE ROAD NETWORK EACH DAY ON AN AVERAGE OF 365 DAYS FROM 12:00 TO 24:00 BY THE DEPARTMENT OF TRANSPORT.
 - PEAK HOUR TRAFFIC FROM 12 MANUAL CLASSIFIED COUNTS FROM 07:00-19:00.
 - POINTS ARE SITES PROVIDED HOURLY DATA FOR 2008

FOR INFORMATION

DATE	BY	APPROVED
16.08.11	STW	16.08.11
15.09.00	AA1	15.09.00
11.00.00	AA3	594 & 841 - A1

108526-FIG 3-2

P2

Grontmij

Blair Court, 100A, Leazes Road, Newcastle, North East, NE4 4BE

0161 275 2222

www.grontmij.co.uk

PROJECT

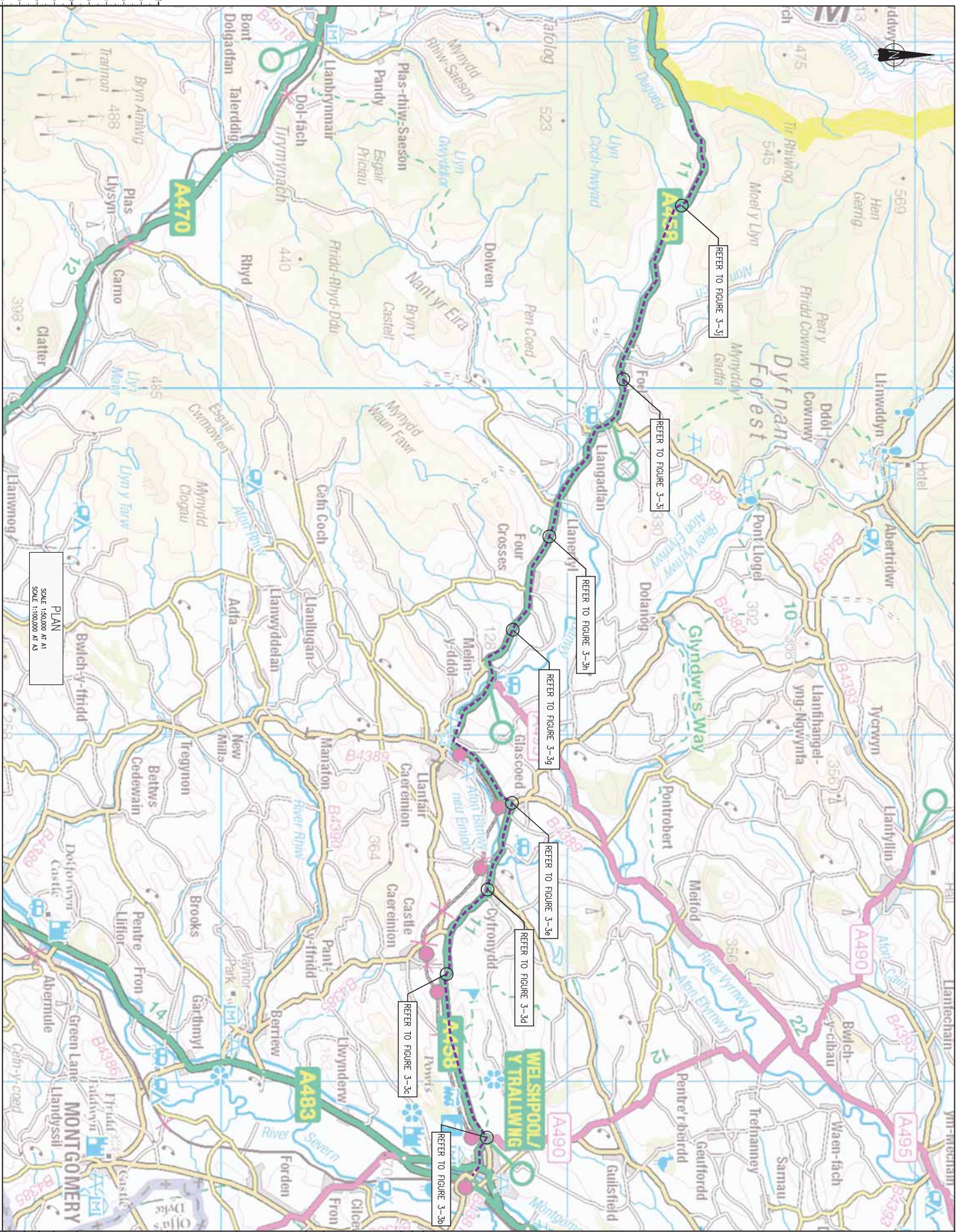
STRATEGIC TRAFFIC MANAGEMENT PLAN FOR MID WALES WIND FARMS

TITLE

FIGURE 3-2 TRAFFIC FLOWS ALONG ROUTE FROM WELSPHPOOL TO SSA B (NORTH)

STATUS

FOR INFORMATION



PLAN
SCALE 1:50,000 AT A1
SCALE 1:100,000 AT A3

OSM DATA © OSMA, CORPORA AND OSMA, 2012

NOTES

ROUTE FROM WELSHPOOL TO SSA B (NORTH)

NO.	DESCRIPTION	DATE	BY	FOR
1	ISSUED FOR EXAMINATION	16.08.11	AS	AS
2	REVISED FOR EXAMINATION	16.08.11	AS	AS
3	REVISED FOR EXAMINATION	16.08.11	AS	AS
4	REVISED FOR EXAMINATION	16.08.11	AS	AS
5	REVISED FOR EXAMINATION	16.08.11	AS	AS
6	REVISED FOR EXAMINATION	16.08.11	AS	AS
7	REVISED FOR EXAMINATION	16.08.11	AS	AS
8	REVISED FOR EXAMINATION	16.08.11	AS	AS
9	REVISED FOR EXAMINATION	16.08.11	AS	AS
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44	REVISED FOR EXAMINATION	16.08.11	AS	AS
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62	REVISED FOR EXAMINATION	16.08.11	AS	AS
63	REVISED FOR EXAMINATION	16.08.11	AS	AS
64	REVISED FOR EXAMINATION	16.08.11	AS	AS
65	REVISED FOR EXAMINATION	16.08.11	AS	AS
66	REVISED FOR EXAMINATION	16.08.11	AS	AS
67	REVISED FOR EXAMINATION	16.08.11	AS	AS
68	REVISED FOR EXAMINATION	16.08.11	AS	AS
69	REVISED FOR EXAMINATION	16.08.11	AS	AS
70	REVISED FOR EXAMINATION	16.08.11	AS	AS
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100	REVISED FOR EXAMINATION	16.08.11	AS	AS

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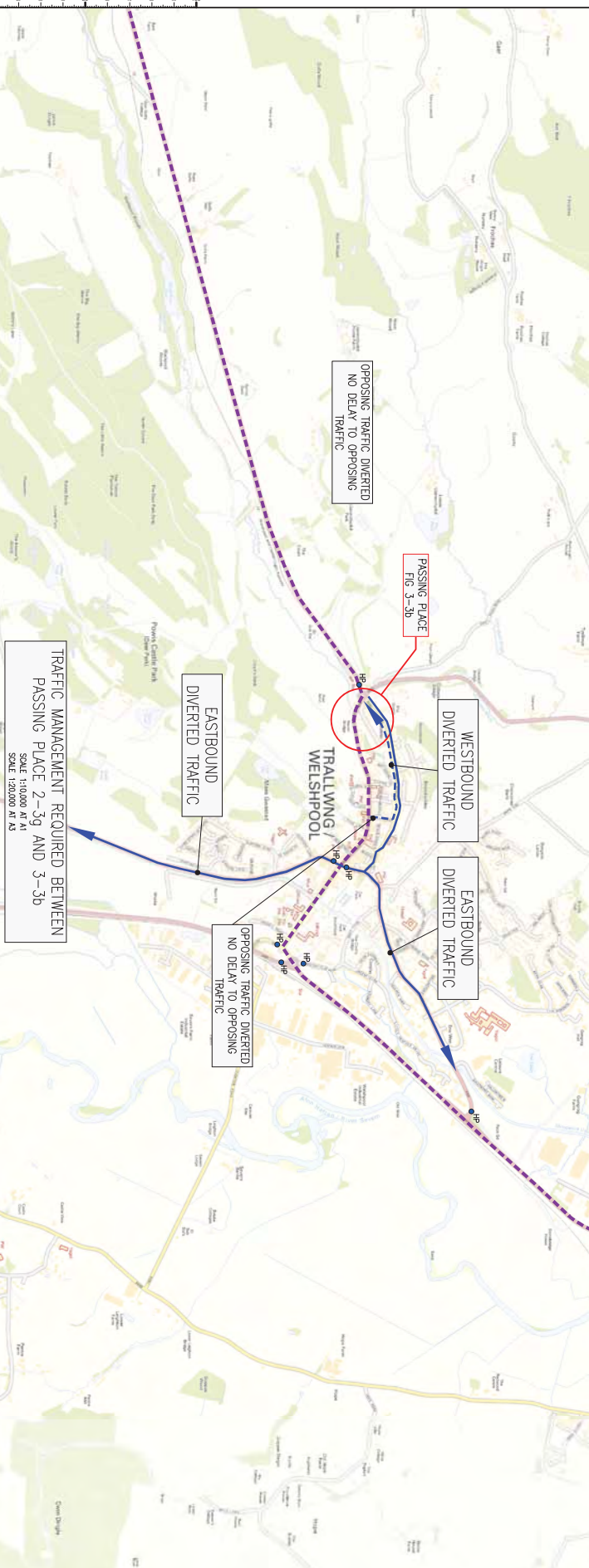
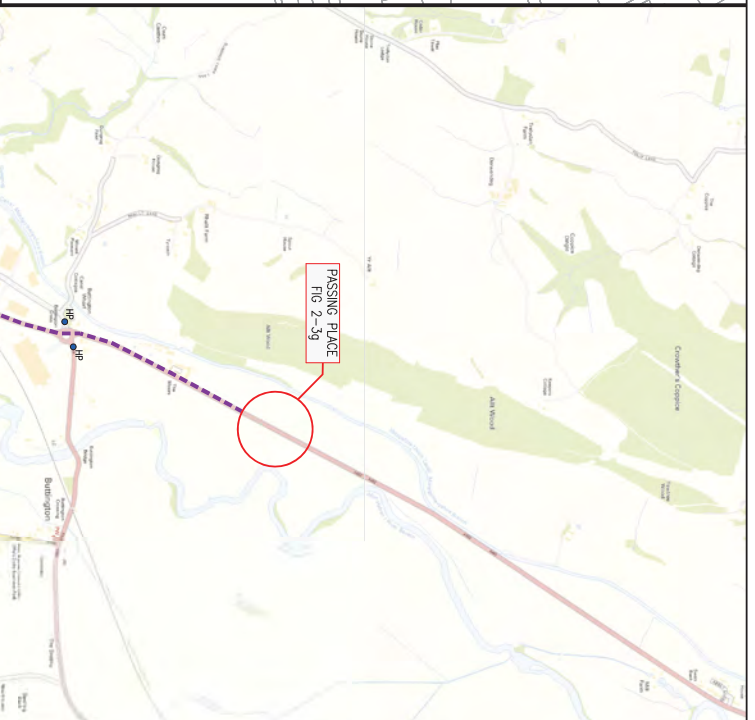
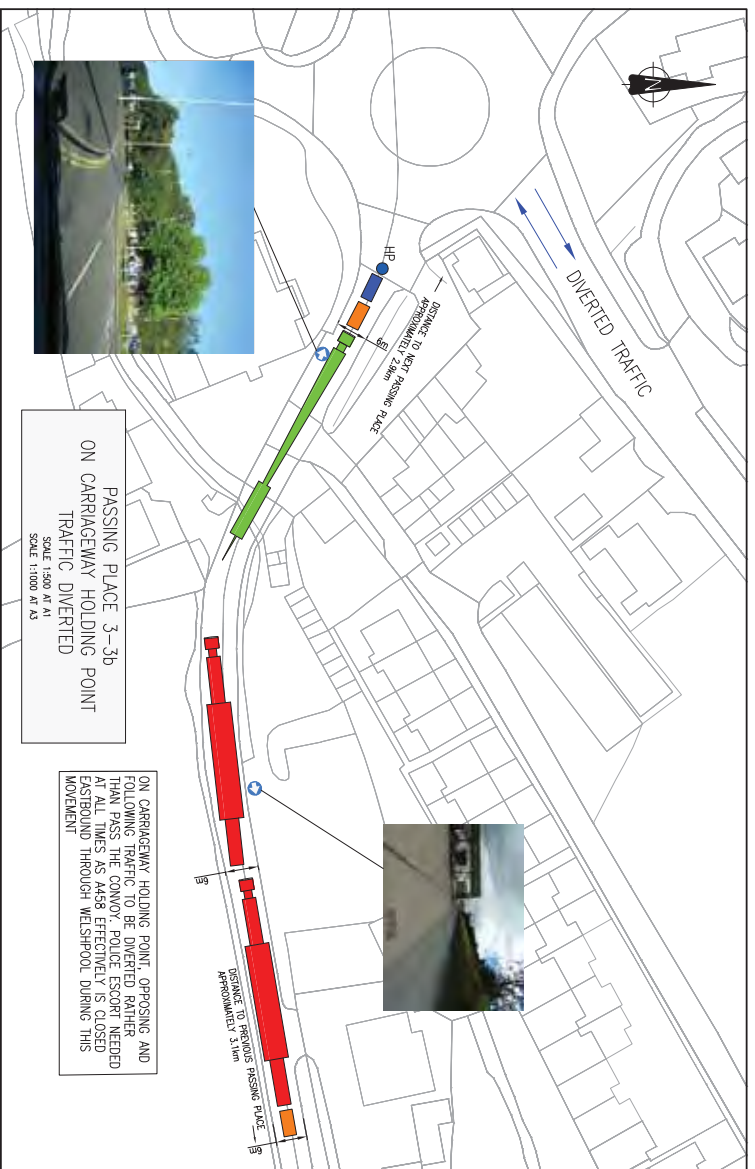
STRATEGIC TRAFFIC MANAGEMENT PLAN FOR MID WALES WIND FARMS

**FIGURE 3-3a
 PASSING PLACES ALONG ROUTE FROM WELSHPOOL TO SSA B (NORTH)**

FOR INFORMATION

DATE	BY	REVISION
16.08.11	AS	16.08.11
16.08.11	AS	16.08.11

AS SHOWN
 594 X 841 A1
 108526-FIG 3-3a
 P4



NOTES

- LEGEND**
- ROUTE FROM WELSHPOOL TO SSA B (NORTH)
 - HP POLICE HOLDING POINT
 - RS ROAD SIGN
 - TP TELEGRAPH POLE
 - HP HOLDING POINT
 - REMAINING STRUCTURE
 - SAFETY BARRIER
 - ESTIMATED FOLLOWING TRAFFIC QUEUE
 - ESTIMATED OPPOSING TRAFFIC QUEUE
 - PHOTOGRAPH LOCATION AND DIRECTION
 - NEW CARPARK/SURFACE
- VEHICLES LEGEND**
- TOWER BASE SECTION VEHICLE
 - 45m BASE VEHICLE
 - CONVOY ESCORT VEHICLE
 - POLICE ESCORT VEHICLE

- NOTES**
1. REFER TO FIGURE 1-4 FOR FURTHER INFORMATION ON ASSUMED DELIVERY VEHICLES.
 2. BRIDGE DELIVER VEHICLE ASSUMED TO LOAD AS IT WILL SET THE CONVOY OFF.
 3. ENVIRONMENTAL ASSESSMENT OF PROPOSED WORKS TO BE UNDERTAKEN BY OTHERS.
 4. THE WORKS IDENTIFIED ARE PRELIMINARY SOLUTIONS ONLY. THE WORKS IDENTIFIED ARE SUBJECT TO THE APPROVAL OF THE LOCAL AUTHORITY AND OTHERS.
 5. ON-SITE MEASUREMENTS TAKEN AT LOCATIONS OF PROPOSED PASSING PLACES.

NO	REVISIONS/DATE INFORMATION/REVISION	BY	CHKD	DATE	STATUS
P1	FOLLOWING STANDARDS/REVISION	SB	PT	13.07.2016	ISSUED
P2	NOTES AND DETAILED	SB	PT	13.07.2016	ISSUED
P3	ADJUSTMENTS/REVISIONS/REVISIONS FOR	SB	PT	13.07.2016	ISSUED
P4	STANDARDISATION/REVISION	SB	PT	13.07.2016	ISSUED

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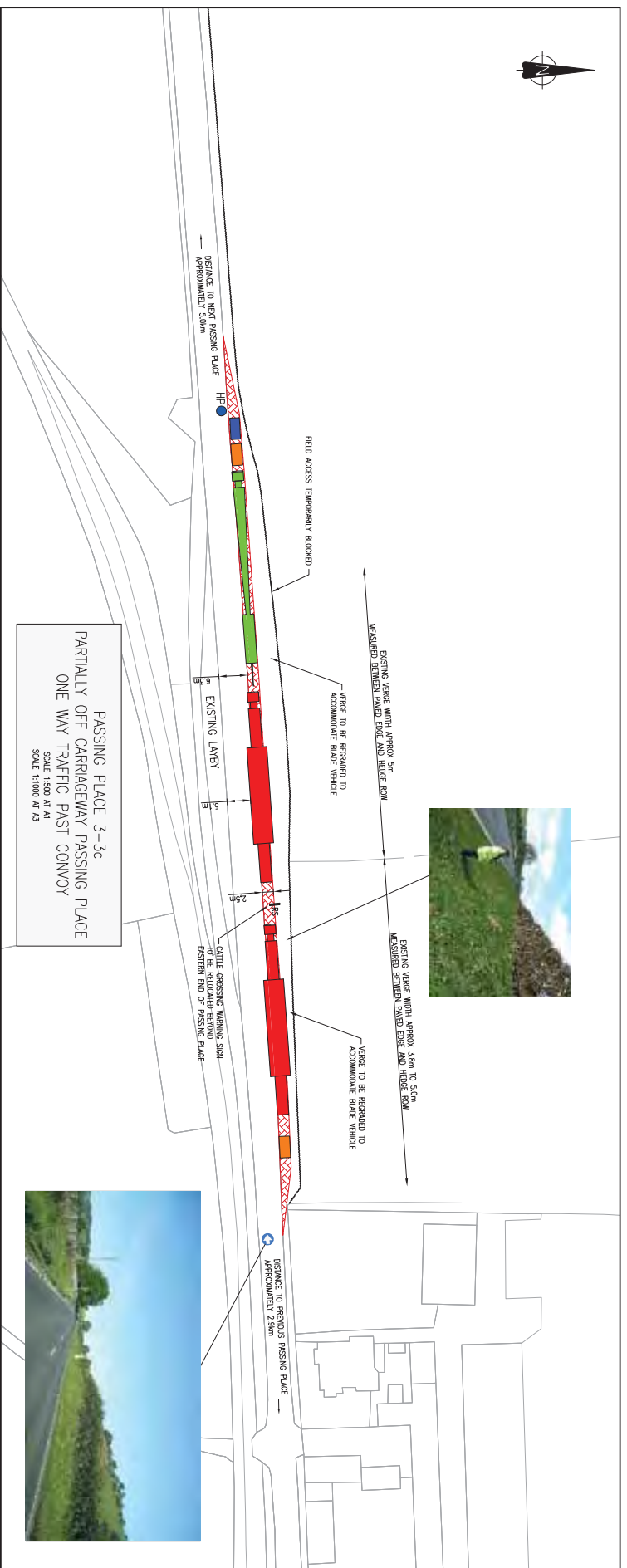
Project: STRATEGIC TRAFFIC MANAGEMENT PLAN FOR MID WALES WIND FARMS

Title: FIGURE 3-3b
 PASSING PLACE RAVEN STREET ROUNDABOUT

FOR INFORMATION

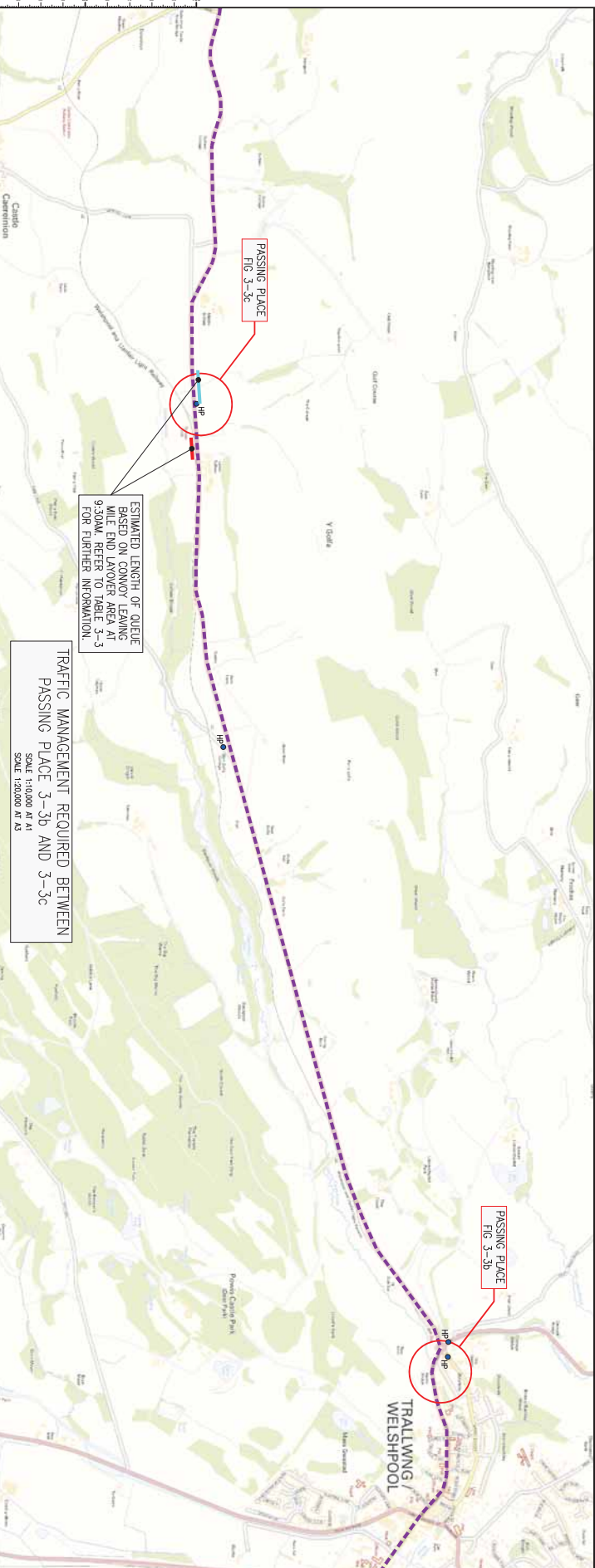
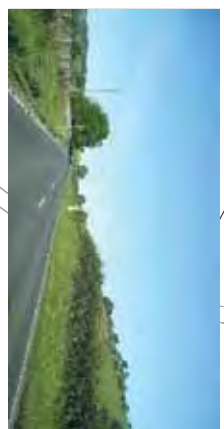
STATUS	DATE	BY	CHKD	DATE
AWR	16.08.11	DM	STW	16.08.11
CHKD	16.08.11	DM	STW	16.08.11
AS SHOWN	594 X 841 - A1			

108526-FIG 3-3b



PASSING PLACE 3-3c
PARTIALLY OFF CARRIAGEWAY PASSING PLACE
ONE WAY TRAFFIC PAST CONVAY

SCALE 1:500 AT A1
SCALE 1:1000 AT A3



TRAFFIC MANAGEMENT REQUIRED BETWEEN
PASSING PLACE 3-3b AND 3-3c

SCALE 1:10,000 AT A1
SCALE 1:20,000 AT A3

NOTES

- LEGEND**
- ROUTE FROM WELSHPOOL TO SSA B (NORTH)
 - HP POLICE HOLDING POINT
 - RS ROAD SIGN
 - TELEGRAPH POLE
 - HP TELEGRAPH POLE
 - HARDENED VERGE
 - SAFETY BARRIER
 - REMAINING STRUCTURE
 - ESTIMATED FOLLOWING TRAFFIC QUEUE
 - ESTIMATED OPPOSING TRAFFIC QUEUE
 - PHOTOGRAPH LOCATION AND DIRECTION
 - NEW ASPHALT SURFACE
- VEHICLES LEGEND**
- TOWER BASE SECTION VEHICLE
 - 45m BLADE VEHICLE
 - OVULAN ESCORT VEHICLE
 - POLICE ESCORT VEHICLE

- NOTES**
1. REFER TO FIGURE 1-4 FOR FURTHER INFORMATION ON ASSUMED DELIVERY VEHICLES
 2. BLADE DELIVERY VEHICLE ASSUMED TO LOAD AS IT WILL SET THE CANTON STRUCK
 3. ENVIRONMENTAL ASSESSMENT OF PROPOSED WORKS TO BE UNDERTAKEN BY OTHERS
 4. THE WORKS IDENTIFIED ARE PRELIMINARY SOLUTIONS ONLY. THE WORKS IDENTIFIED ARE PRELIMINARY SOLUTIONS ONLY. PROPOSALS FOR THE WORKS IDENTIFIED MAY BE REQUIRED PRIOR TO THE WORKS BEING UNDERTAKEN.
 5. ON-SITE MEASUREMENTS TAKEN AT LOCATIONS OF PROPOSED PASSING PLACES.

NO	REVISION/DATE	BY	CHKD	DATE	REASON
P4	FOLLOWING STRATEGIC TRAFFIC MANAGEMENT PLAN FOR MID WALES WIND FARMS	SR	SR	16.08.11	AS SHOWN
P3	NOTES AND DEDUCT	SR	SR	16.08.11	AS SHOWN
P2	ADJUSTMENT TO VEHICLE LENGTHS FOR PHOTOGRAPH LOCATIONS	SR	SR	16.08.11	AS SHOWN
P1	INITIAL DESIGN	SR	SR	16.08.11	AS SHOWN

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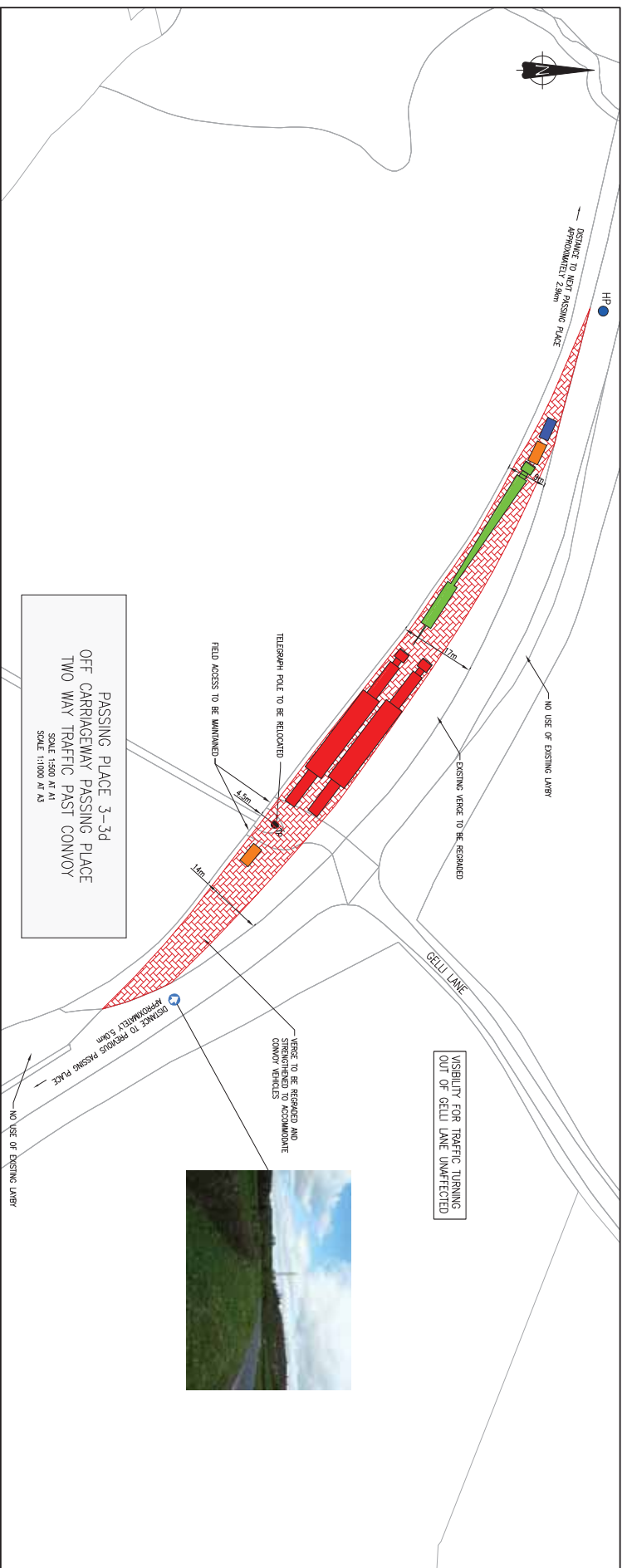
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PROJECT: **STRATEGIC TRAFFIC MANAGEMENT PLAN FOR MID WALES WIND FARMS**

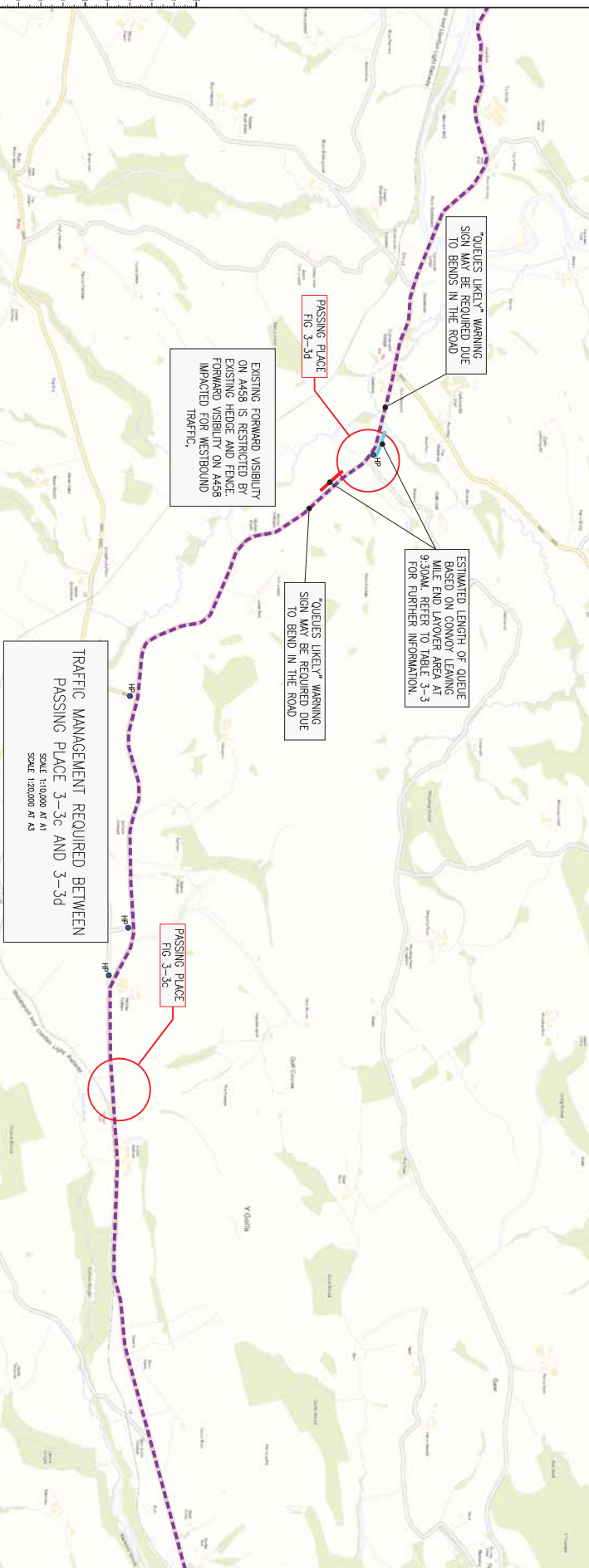
FIGURE 3-3c
PASSING PLACE MIDDLE
SYLFAEN

FOR INFORMATION

DATE	BY	DATE	BY
16.08.11	SR	16.08.11	SR
16.08.11	SR	16.08.11	SR



- ### NOTES
- 1. REFER TO FIGURE 1-4-4 FOR FURTHER INFORMATION ON ASSUMED DELIVERY VEHICLES.
 - 2. BLADE DELIVERY VEHICLE ASSUMED TO LOAD AS IT WILL SET THE CARRY STACK.
 - 3. ENVIRONMENTAL ASSESSMENT OF PROPOSED WORKS TO BE UNDERTAKEN BY OTHERS.
 - 4. THE WORKS IDENTIFIED ARE PRELIMINARY SOLUTIONS ONLY. THE WORKS IDENTIFIED ARE PRELIMINARY SOLUTIONS ONLY. PRIOR TO THE START OF THE WORKS, THE CLIENT WILL BE REQUIRED TO PROVIDE THE DESIGN OF THE DELIVERY AREA.
 - 5. ON-SITE MEASUREMENTS TAKEN AT LOCATIONS OF PROPOSED PASSING PLACES.
- ### VEHICLES LEGEND
- TOWER BASE SECTION VEHICLE
 - 45m BLADE VEHICLE
 - ON-LANE ESCORT VEHICLE
 - POLICE ESCORT VEHICLE
- ### LEGEND
- ROUTE FROM WELSHPOOL TO SSA B (NORTH)
 - HP POLICE HOLDING POINT
 - RS ROAD SIGN
 - HP TELEGRAPH POLE
 - Hatched VERGE
 - SAFETY BARRIER
 - RETAINING STRUCTURE
 - ESTIMATED FOLLOWING TRAFFIC QUEUE
 - ESTIMATED OPPOSING TRAFFIC QUEUE
 - PHOTOGRAPH LOCATION AND DIRECTION
 - NEW ASPHALT SURFACE



Renewableuk Cymru

STRATEGIC TRAFFIC MANAGEMENT PLAN FOR MID WALES WIND FARMS

FIGURE 3-3d
PASSING PLACE GELLI LANE

FOR INFORMATION

DATE	BY	REVISION
16.08.11	DM	16.08.11
16.08.11	DM	16.08.11
16.08.11	DM	16.08.11

AS SHOWN

108528-Fig 3-3d

P4

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Project: **STRATEGIC TRAFFIC MANAGEMENT PLAN FOR MID WALES WIND FARMS**

Title: **FIGURE 3-3d**

Status: **FOR INFORMATION**

Checked: **DM**

Drawn: **DM**

Date: **16.08.11**

Scale: **AS SHOWN**

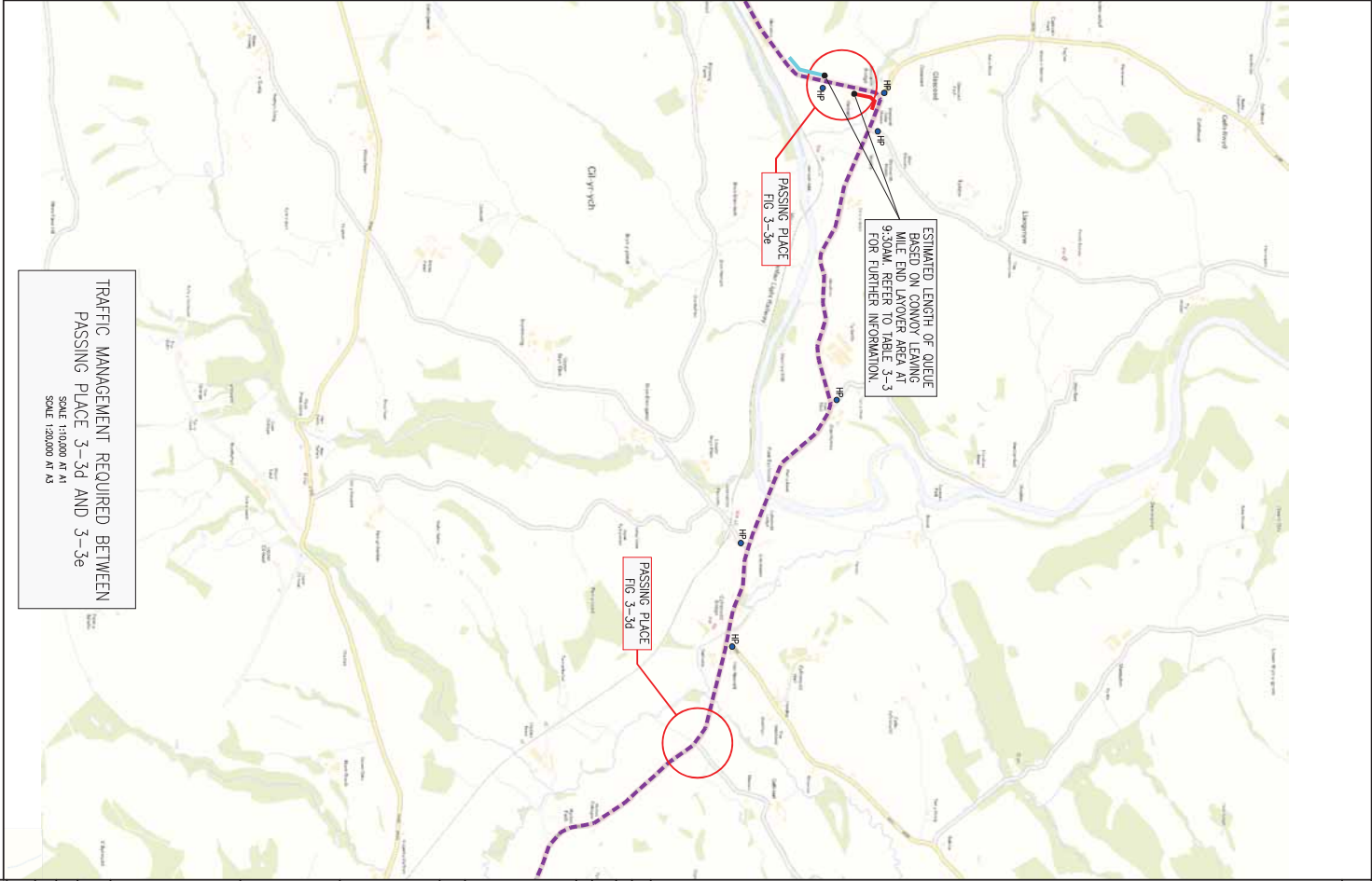
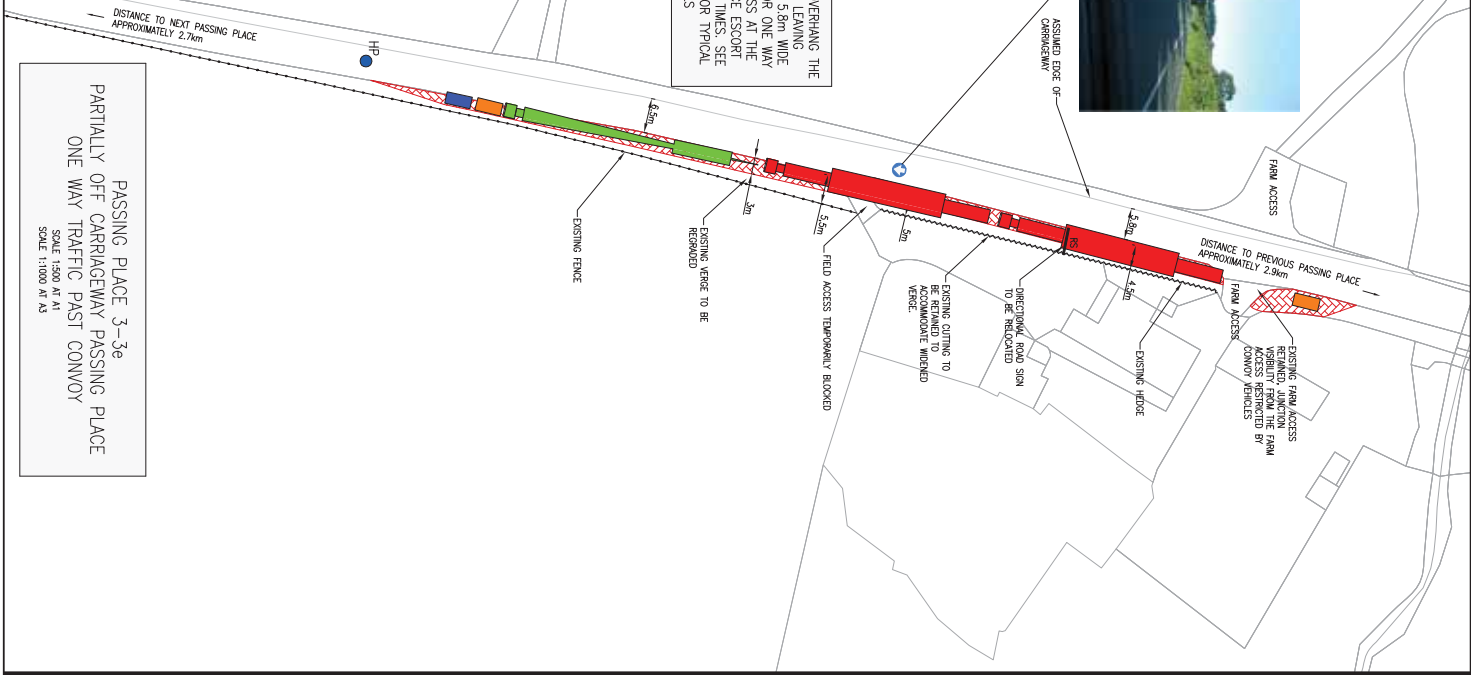
Drawing No: **108528-Fig 3-3d**

Sheet No: **P4**



WIDE LOAD MAY OVERHANG THE CARRIAGEWAY LEAVING APPROXIMATELY 5.8m WIDE CARRIAGEWAY FOR ONE WAY TRAFFIC TO PASS AT THE CONVOY. POLICE ESCORT DETAILS FIGURE 1-35 FOR TYPICAL DETAILS

PASSING PLACE 3-3e
PARTIALLY OFF CARRIAGEWAY PASSING PLACE
ONE WAY TRAFFIC PAST CONVOY
SCALE 1:500 M/A1
SCALE 1:1000 M/A3



TRAFFIC MANAGEMENT REQUIRED BETWEEN
PASSING PLACE 3-3d AND 3-3e
SCALE 1:10000 M/A1
SCALE 1:20000 M/A3

NOTES

- LEGEND**
- ROUTE FROM WATERSHED TO SSA B (NORTH)
 - HP HOLDING POINT
 - RS ROAD SIGN
 - TELEGRAPH POLE
 - HATCHED VERGE
 - REMAINING STRUCTURE
 - SAFETY BARRIER
 - ESTIMATED FOLLOWING TRAFFIC QUEUE
 - ESTIMATED OPPOSING TRAFFIC QUEUE
 - PHOTOGRAPH LOCATION AND DIRECTION
 - NEW CARRIAGEWAY SURFACE
- VEHICLES LEGEND**
- TOWER BASE SECTION VEHICLE
 - 45m BASE VEHICLE
 - CONVOY ESCORT VEHICLE
 - POLICE ESCORT VEHICLE

- NOTES**
1. REFER TO FIGURE 1-44 FOR FURTHER INFORMATION ON ASSUMED DELIVERY VEHICLES
 2. ROAD DELIVERY VEHICLE ASSUMED TO LOAD AS IT WILL SET THE CONVOY SPEED
 3. ENVIRONMENTAL ASSESSMENT OF PROPOSED WORKS TO BE UNDERTAKEN BY OTHERS
 4. THE WORKS IDENTIFIED ARE PRELIMINARY SOLUTIONS ONLY. THE WORKS IDENTIFIED ARE SUBJECT TO THE RESULTS OF THE PROPOSED TRAFFIC DESIGN REVIEW.
 5. ON-SITE MEASUREMENTS TAKEN AT LOCATIONS OF PROPOSED PASSING PLACES

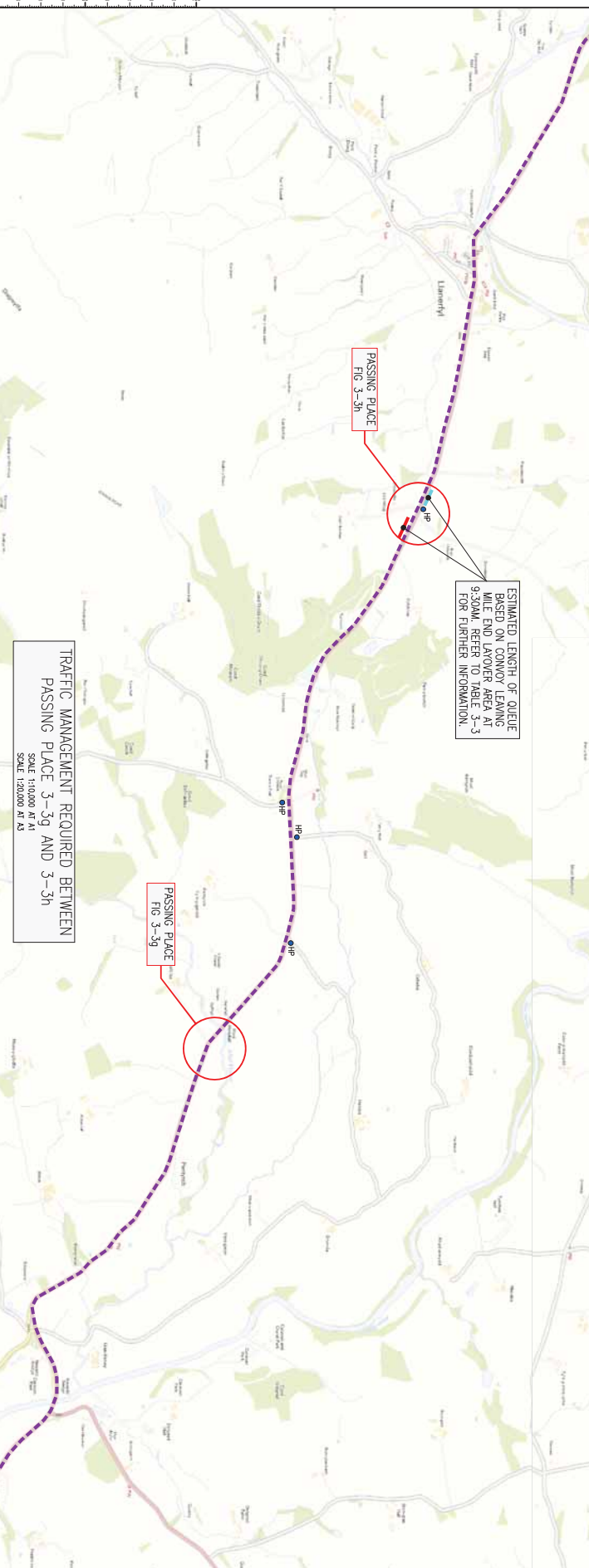
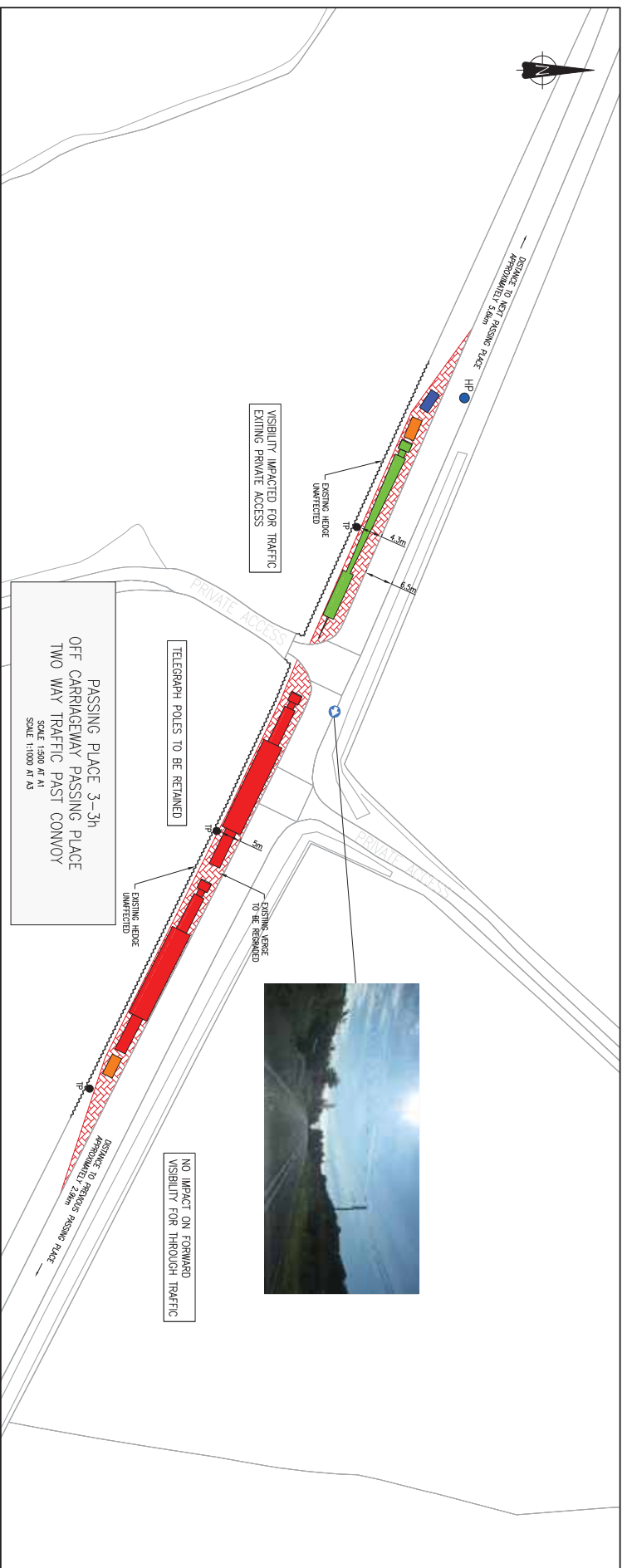
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P2	PROPOSED TRAFFIC MANAGEMENT WORKS	SM	100	1000	100000
P3	PROPOSED TRAFFIC MANAGEMENT WORKS	SM	100	1000	100000
P4	PROPOSED TRAFFIC MANAGEMENT WORKS	SM	100	1000	100000

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STRATEGIC TRAFFIC
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MID WALES WIND FARMS

TYPE
FIGURE 3-3e
PASSING PLACE GLASCOED

STATUS
FOR INFORMATION
DATE 16.08.11
SCALE 1:500 M/A1
SCALE 1:1000 M/A3
SCALE 1:20000 M/A3



TRAFFIC MANAGEMENT REQUIRED BETWEEN
PASSING PLACE 3-3g AND 3-3h
SCALE 1:10,000 AT A3
SCALE 1:20,000 AT A3

NOTES

- ROUTE FROM WELSHPOOL TO SSA B (NORTH)
- POLICE HOLDING POINT
- ROAD SIGN
- TELEGRAPH POLE
- HEDGE/ODD VEHICLE
- RETAINING STRUCTURE
- SAFETY BARRIER
- ESTIMATED FOLLOWING TRAFFIC QUEUE
- ESTIMATED OPPOSING TRAFFIC QUEUE
- TELEGRAPH LOCATION AND DIRECTION
- NEW CARBONSTEEL SURFACE

VEHICLES LEGEND

- TOWER BASE SECTION VEHICLE
- 45m BASE VEHICLE
- OVULUM ESCORT VEHICLE
- POLICE ESCORT VEHICLE

NOTES

1. REFER TO FIGURE 1-44 FOR FURTHER INFORMATION ON ASSUMED DELIVERY VEHICLES
2. BARGE DELIVERY VEHICLE ASSUMED TO LOAD AS IT WILL SET THE CRANES STEEL
3. ENVIRONMENTAL ASSESSMENT OF PROPOSED WORKS TO BE UNDERTAKEN BY OTHERS
4. THE WORKS IDENTIFIED ARE PRELIMINARY SOLUTIONS ONLY. THE WORKS IDENTIFIED ARE SUBJECT TO THE RESULTS OF THE ENVIRONMENTAL ASSESSMENT OF THE PROPOSAL.
5. ON-SITE MEASUREMENTS TAKEN AT LOCATIONS OF PROPOSED PASSING POINTS.

NO	DESCRIPTION	SR	FT	CB	OR
P1	FOLLOWING TRAFFIC MANAGEMENT	SR	FT	CB	OR
P2	OPPOSING TRAFFIC MANAGEMENT	SR	FT	CB	OR
P3	TELEGRAPH POLES TO BE RETAINED	SR	FT	CB	OR
P4	EXISTING HEDGE UNAFFECTED	SR	FT	CB	OR

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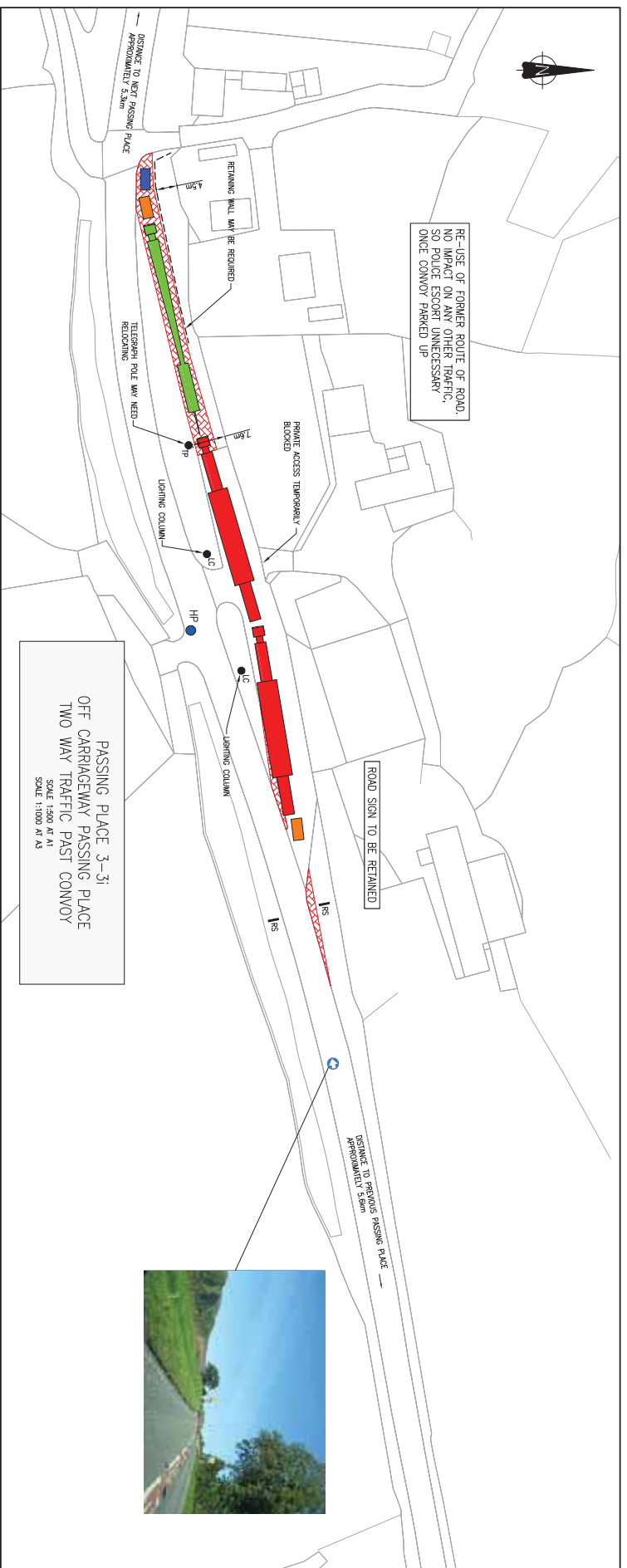
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PROJECT
STRATEGIC TRAFFIC MANAGEMENT PLAN FOR MID WALES WIND FARMS

TITLE
**FIGURE 3-3h
 PASSING PLACE
 GYLLYCHAW**

FOR INFORMATION

DATE	BY	REVISION
16.08.11	STW	16.08.11
16.08.11	STW	16.08.11
16.08.11	STW	16.08.11



NOTES

LEGEND

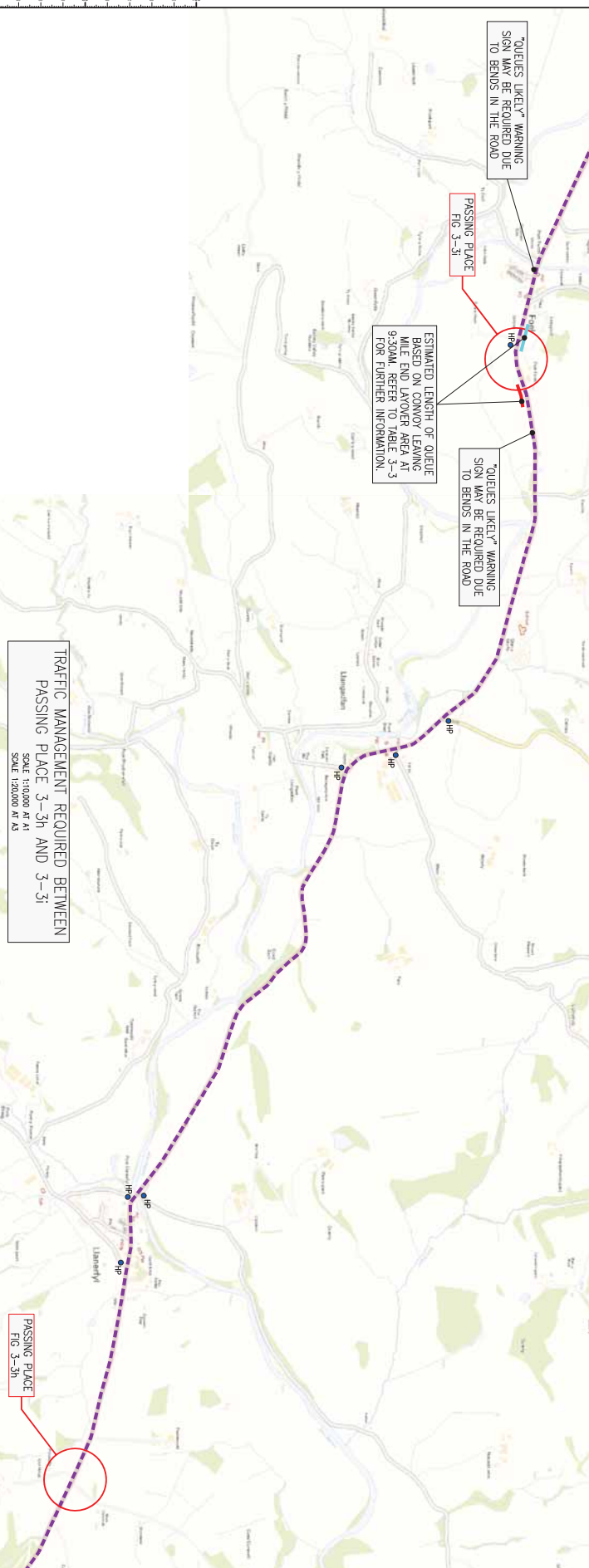
- ROUTE FROM WEISPOOL, TO SSA B (NORTH)
- HP POLICE HOLDING POINT
- ROAD SIGN
- TELEGRAPH POLE
- HORIZONTAL VERGE
- RETAINING STRUCTURE
- SAFETY BARRIER
- ESTIMATED FOLLOWING TRAFFIC QUEUE
- ESTIMATED OPPOSING TRAFFIC QUEUE
- PHOTOGRAPH LOCATION AND DIRECTION
- NEW CARPARK/SURFACE

VEHICLES LEGEND

- TOWER BASE SECTION VEHICLE
- 4m BLADE VEHICLE
- COLUMN ESCORT VEHICLE
- POLICE ESCORT VEHICLE

NOTES

- REFER TO FIGURE 1-4 FOR FURTHER INFORMATION ON ASSUMED DELIVERY VEHICLES
- BLADE DELIVERY VEHICLE ASSUMED TO LOAD AS IT WILL SET THE CONVOY SPEED
- ENVIRONMENTAL ASSESSMENT OF PROPOSED WORKS TO BE UNDERTAKEN BY OTHERS
- THE WORKS IDENTIFIED ARE PRELIMINARY SOLUTIONS ONLY, AND THE NATURE AND SCOPE OF WORKS MAY BE REQUIRED TO CHANGE TO REFLECT DESIGN DEVELOPMENT.
- ON-SITE MEASUREMENTS TAKEN AT LOCATIONS OF PROPOSED PASSING PLACES



FOR INFORMATION

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16.08.11	DM	16.08.11

AS SHOWN 594 X 841 - A1

108526-Fig 3-3i

PROJECT: STRATEGIC TRAFFIC MANAGEMENT PLAN FOR MID WALES WIND FARMS

FIGURE 3-3i
PASSING PLACE
FOEL

CLIENT: RENEWABLELEUK CYMRU

PROJECT: STRATEGIC TRAFFIC MANAGEMENT PLAN FOR MID WALES WIND FARMS

PREPARED BY: Gromtnlj

DATE: 16.08.11

SCALE: 1:25000 AT A1

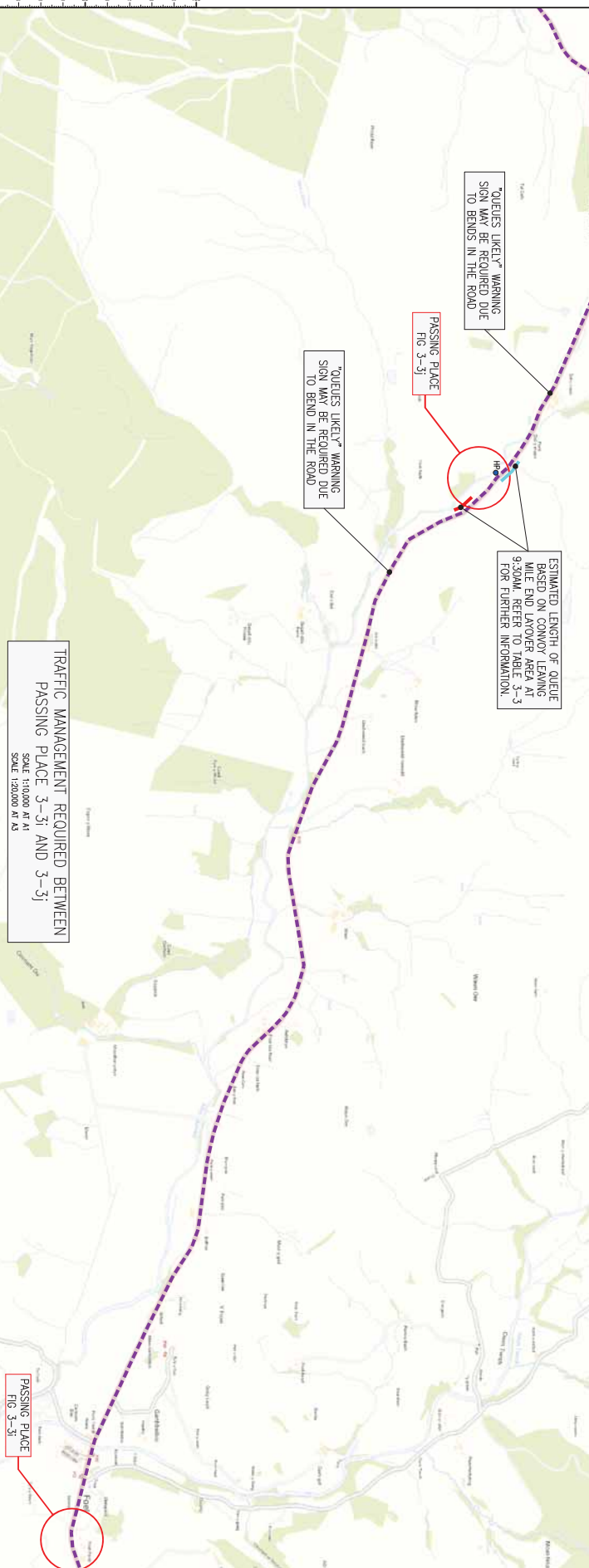
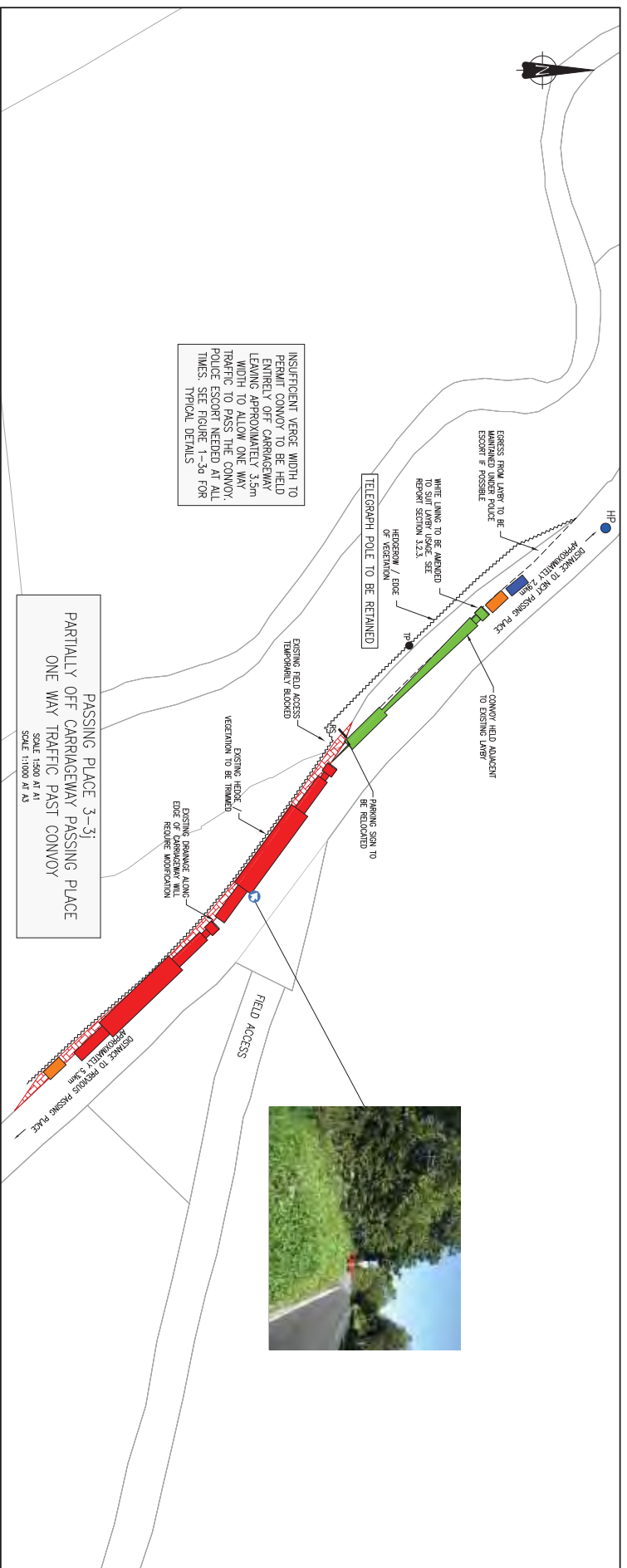
SCALE: 1:25000 AT A2

TRAFFIC MANAGEMENT REQUIRED BETWEEN PASSING PLACE 3-3h AND 3-3i

SCALE 1:10000 AT A1

SCALE 1:25000 AT A2

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NOTES

- HP ROUTE FROM WELSPPOOL TO SSA B (NORTH)
- HP POLICE HOLDING POINT
- HP ROAD SIGN
- HP TELEGRAPH POLE
- HP HANGOVER VERGE
- HP REMAINING STRUCTURE
- HP SAFETY BARRIER
- HP ESTIMATED FOLLOWING TRAFFIC QUEUE
- HP ESTIMATED OPPOSING TRAFFIC QUEUE
- HP PHOTOGRAPH LOCATION AND DIRECTION
- HP NEW CARRIAGEWAY SURFACE

VEHICLES LEGEND

- 4m BLADE SECTION VEHICLE
- OVULUM ESCORT VEHICLE
- POLICE ESCORT VEHICLE

NOTES

1. REFER TO FIGURE 1-4a FOR FURTHER INFORMATION ON ASSUMED DELIVERY VEHICLES
2. BLADE DELIVERY VEHICLE ASSUMED TO LOAD AS IT WILL SET THE CONVOY SPEED
3. ENVIRONMENTAL ASSESSMENT OF PROPOSED WORKS TO BE UNDERTAKEN BY OTHERS
4. THE WORKS IDENTIFIED ARE PRELIMINARY SOLUTIONS ONLY. THE WORKS IDENTIFIED ARE SUBJECT OF FURTHER ASSESSMENT AND MEASUREMENTS TAKEN AT LOCATIONS OF PROPOSED PASSING PLACES

RESURFACING INFORMATION	SR	FT	CA	WORKED
P1 FOLLOWING ROADWORKS/CONSTRUCTION	S18	AFT	12.30	27/11/24
P2 NOTIFICATION/VEHICLE CONSTRUCTION	PM	AM	8.00	03/08/24
P3 SIGNAGE/RESURFACING	SR	CA	AM	03/08/24

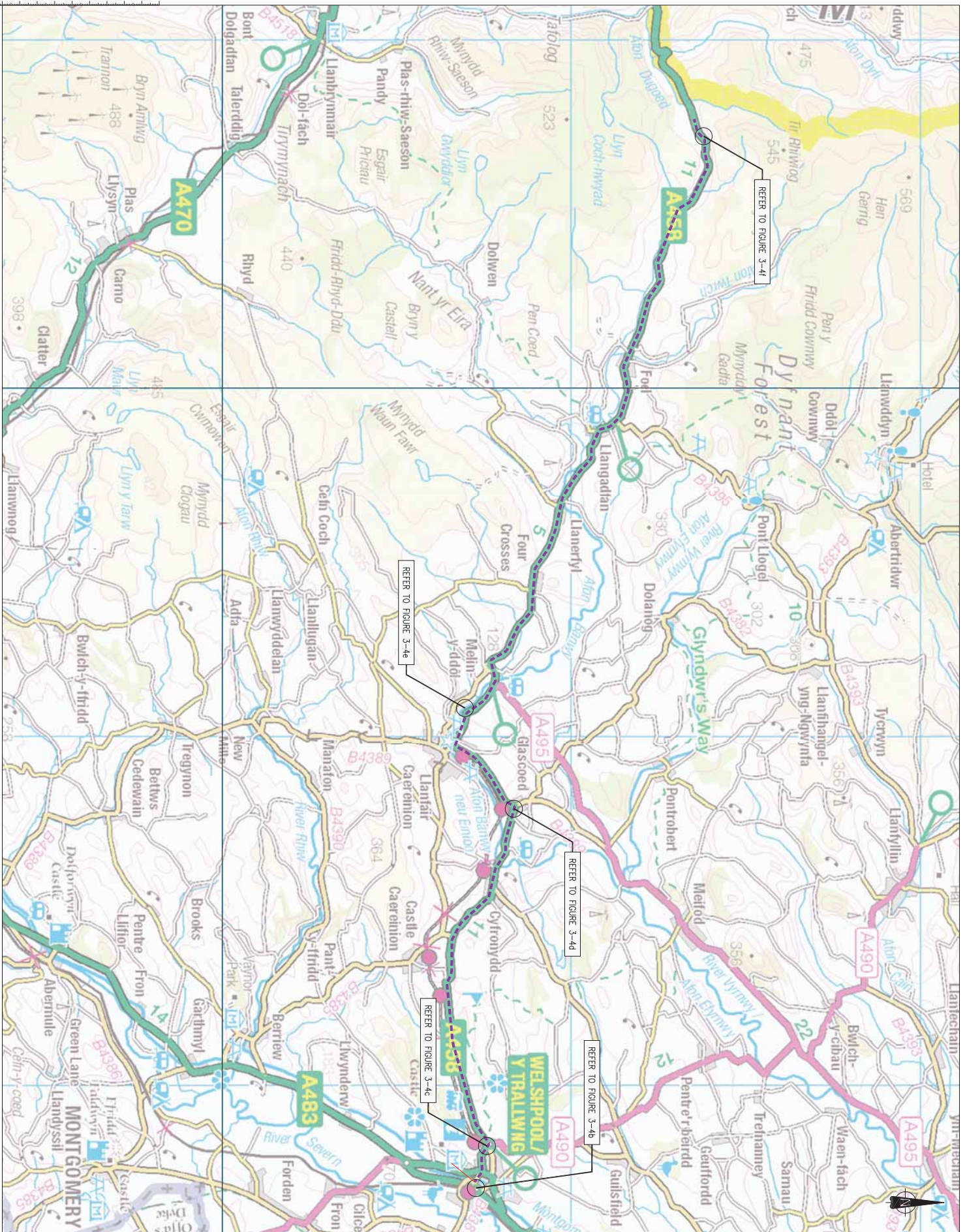
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 STRATEGIC TRAFFIC MANAGEMENT PLAN FOR MID WALES WIND FARMS

FIGURE 3-3j
 PASSING PLACE
 DOL-Y-MAEN

FOR INFORMATION

DATE	BY	VERSION
16.08.11	DL	16.08.11
16.08.11	STW	16.08.11
AS SHOWN		594 X 841 - A1



NOTES

LEGEND

ROUTE FROM WELSHPOOL TO SSA B (NORTH)

NO	LOCALITY/ROADS	BT	WC	SP	ROADS
1	WELSHPOOL	BT	WC	SP	ROADS
2	LANFYLLIN	BT	WC	SP	ROADS
3	MONTGOMERY	BT	WC	SP	ROADS
4	SSA B (NORTH)	BT	WC	SP	ROADS

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**STRATEGIC TRAFFIC
 MANAGEMENT PLAN FOR
 MID WALES WIND FARMS**

**FIGURE 3-4a
 SWEEP PATH ANALYSIS
 OVERVIEW ALONG ROUTE
 FROM WELSHPOOL TO SSA B
 (NORTH)**

FOR INFORMATION

DATE	BY	DATE	BY
18/08/11	18/08/11	18/08/11	18/08/11
15/00/00 at A1	594 & 841 A1	11/00/00 at A3	

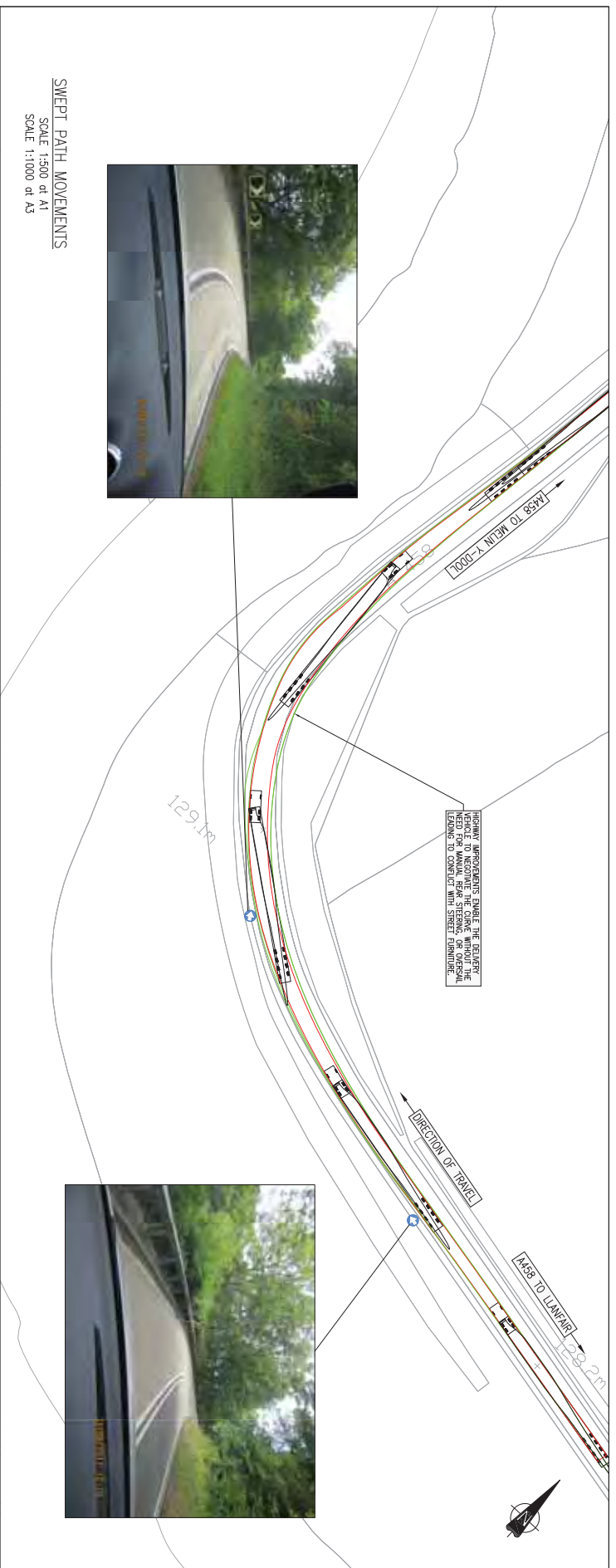


VEHICLE APPROACHING SINGLE CURVE. DRIVER REQUIRED TO NEGOTIATE THE CURVE WITHOUT THE AID OF MANUAL REAR STEERING, OR OTHERS. REASON TO CONFLICT WITH STREET LIGHTING.

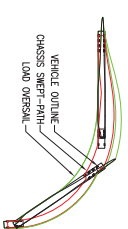


VEHICLE APPROACHING SINGLE CURVE. DRIVER REQUIRED TO NEGOTIATE THE CURVE WITHOUT THE AID OF MANUAL REAR STEERING, OR OTHERS. REASON TO CONFLICT WITH STREET LIGHTING.

SWEPT PATH MOVEMENTS
SCALE 1:500 of A1
SCALE 1:1000 of A3



NOTES

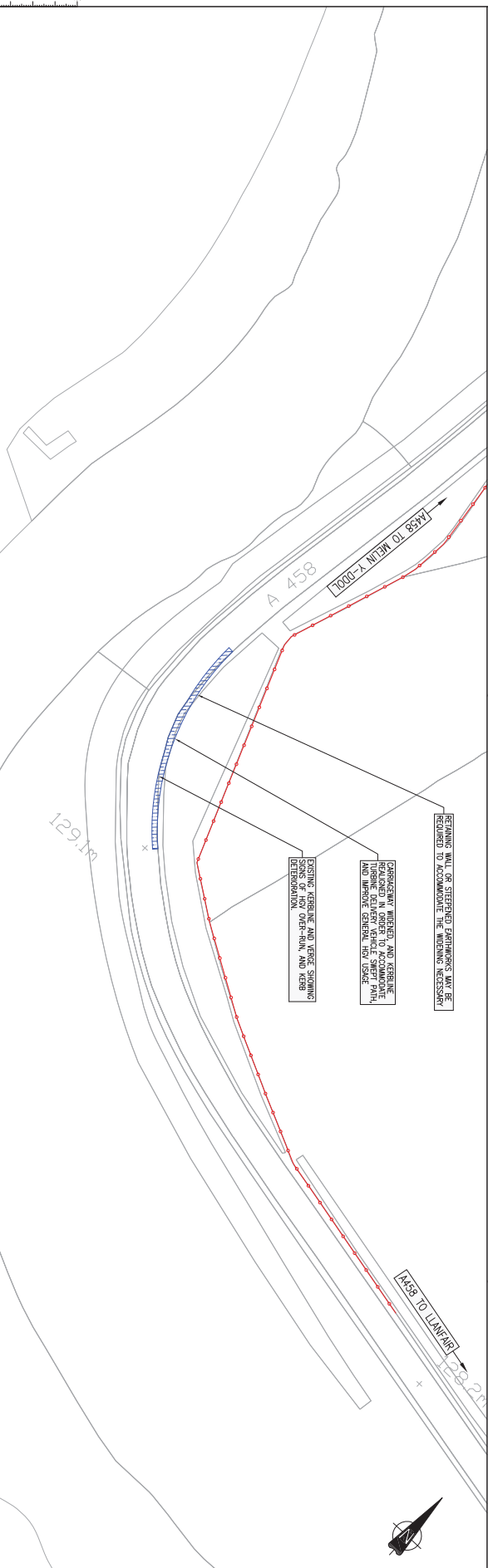


- NOTES-**
1. AUTOTRACK SWEPT PATH ANALYSIS CARRIED OUT PRESENT.
 2. VEHICLE USED FOR SWEPT PATH ANALYSIS BASED UPON DESIGN MAKE DELIVER VEHICLE INFORMATION.
 3. SWEPT PATH ANALYSIS CARRIED OUT AGAINST ORDNANCE SURVEY DATA.
 4. MANUAL REAR STEERING ONLY DEEMED NECESSARY IF NOTED WITHIN THE HIGHWAY WORKS PLAN.
 5. ALL HIGHWAY WORKS HAVE BEEN CREATED ASSUMING AN ADDITIONAL 500mm EXTRA OVER THE AREA OF VEHICLE SWEPT PATH.
 6. ENVIRONMENTAL ASSESSMENT OF PROPOSED WORKS TO BE UNDERTAKEN BY OTHERS.
 7. SOLUTIONS ONLY OF PRELIMINARY NATURE TO BE DEVELOPED AND SUBMITTED FOR FURTHER DESIGN DEVELOPMENT.

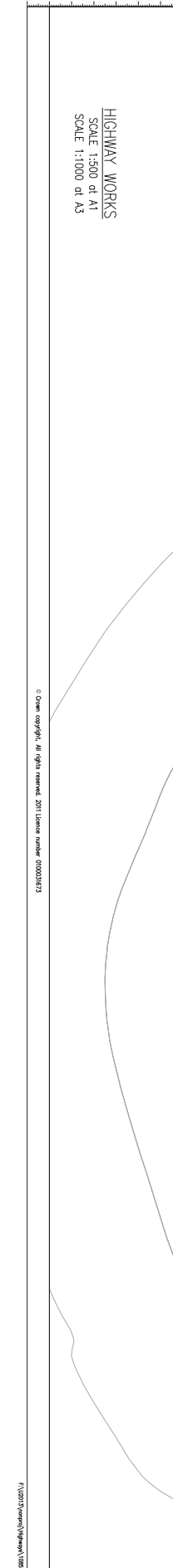
REVISIONS WILL BE ENTERED IF WORKS WILL BE REQUIRED TO ACCOMMODATE ANY CHANGES NECESSARY.

CARBANKWAY IMPROVED, AND KERBLINE FORMED IN ORDER TO ACCOMMODATE THE SWEPT PATH OF THE VEHICLE AND IMPROVE GENERAL HIGH USE.

EXISTING KERBLINE AND VERGE SHOWING ISSUES OF LOW OVER-RUN, AND KERB BEING SHOWN.

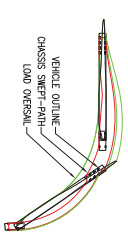


HIGHWAY WORKS
SCALE 1:500 of A1
SCALE 1:1000 of A3



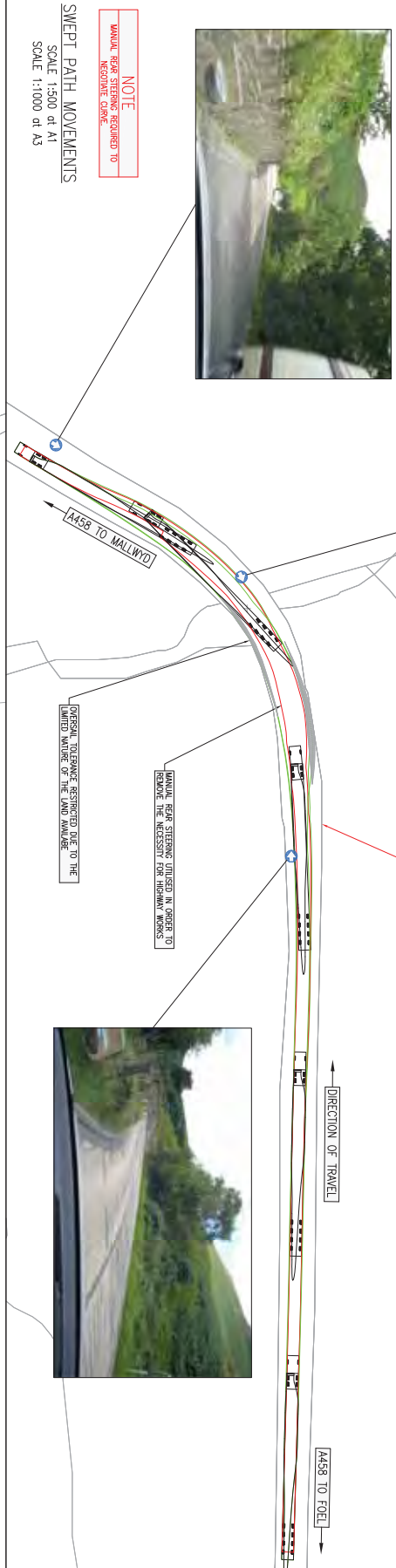
<p>FOR INFORMATION</p> <p>DATE: 15/09/11 BY: AS SHOWN</p>		<p>DATE: 15/09/11 BY: 594 X 841 - A1</p>	
<p>STATUS</p> <p>DESIGNED: [] CHECKED: [] APPROVED: []</p>			
<p>PROJECT</p> <p>STRATEGIC TRAFFIC MANAGEMENT PLAN FOR MID WALES WIND FARMS</p>			
<p>TITLE</p> <p>FIGURE 3-4e SWEPT PATH ANALYSIS A458 NEAR MELIN-Y-DDOL</p>			
<p>CLIENT</p> <p>RENEWABLEUK CYMRU</p>			
<p>CONTACT</p> <p>David Corbett, Civil Engineer, Design, Access, Layout, Resurfacing, Drainage, Street Lighting</p>			
<p>GRONTMILJ</p> <p>Blue Tower House Ash Road South Wrexham Industrial Estate Wrexham LL13 3UG</p> <p>Tel: +44 (0)1978 866 6200 Fax: +44 (0)1978 866 6229 www.grontmilj.co.uk</p>			
<p>SCALE</p> <p>108526-FIG 3-4e</p>			

NOTES



- ASSUMED HIGHWAY BOUNDARY
- EXISTING STREET FURNITURE
- RELOCATED STREET FURNITURE
- PHOTOGRAPHIC LOCATION AND DIRECTION
- LOAD OVERSET ENVELOPE
- CARPARKWAY IMPROVEMENT WORKS
- VEHICLE OVER-RAIN CONSTRUCTION
- FOOTWAY WORKS
- VEGETATION CLEARANCE

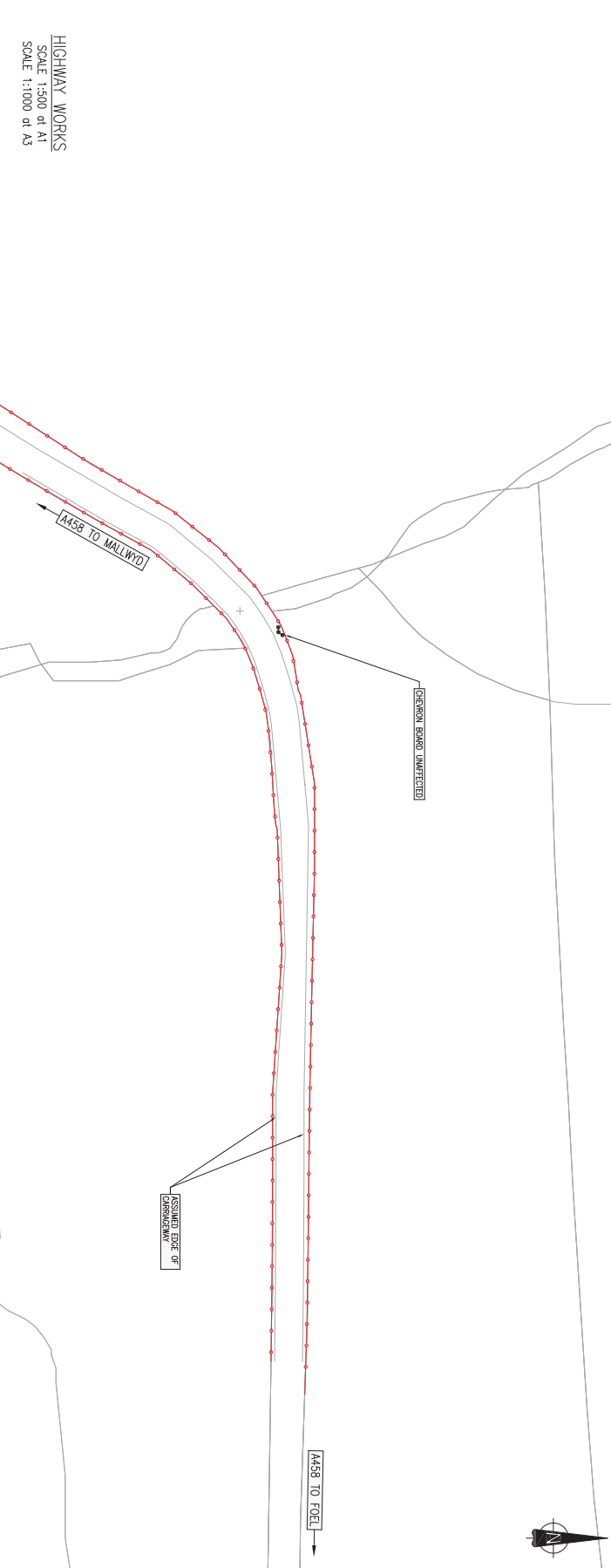
- NOTES-
- AUTOTRACK SWEEP PATH ANALYSIS CARRIED OUT PRESENT AGAINST ABNORMAL LOAD ESCORTS ARE PRESENT
 - VEHICLE USED FOR SWEEP PATH ANALYSIS BASED UPON 4500kg TRUCK DELIVERING VEHICLE. REFER TO FIGURE 1-4a FOR FURTHER INFORMATION.
 - SWEEP PATH ANALYSIS CARRIED OUT AGAINST ORDNANCE SURVEY DATA.
 - MANUAL REAR STEERING ONLY DEEMED NECESSARY IF NOTED WITHIN THE HIGHWAY WORKS PLAN.
 - ALL HIGHWAY WORKS HAVE BEEN CREATED ASSUMING AN ADDITIONAL 500mm EXTRA OVER THE AREA OF VEHICLE SWEEP PATH.
 - ENVIRONMENTAL ASSESSMENT OF PROPOSED WORKS TO BE UNDERTAKEN BY OTHERS.
 - THE WORKS IDENTIFIED ARE PRELIMINARY SOLUTIONS ONLY. ENVIRONMENTAL SURVEY OF FURTHER DESIGN DEVELOPMENT.



NOTE
CARPARKWAY CURBS NOT SHOWN IN ORDNANCE SURVEY MAPS. ASSESSMENT IS BASED UPON A VISUAL SURVEY, WHERE THE ROAD WIDTH APPEARS TO BE 6.5m WIDE.

NOTE
MANUAL REAR STEERING LIMITED IN POWER TO REMOVE THE NECESSITY FOR HIGHWAY WORKS.

SWEEP PATH MOVEMENTS
SCALE 1:500 of A1
SCALE 1:1000 of A3



HIGHWAY WORKS
SCALE 1:500 of A1
SCALE 1:1000 of A3

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RENEWABLEUK CYMRU

PROJECT
STRATEGIC TRAFFIC
MANAGEMENT PLAN FOR
MID WALES WIND FARMS

FIGURE 3-4f
SWEEP PATH ANALYSIS
A458 WEST OF FOEL

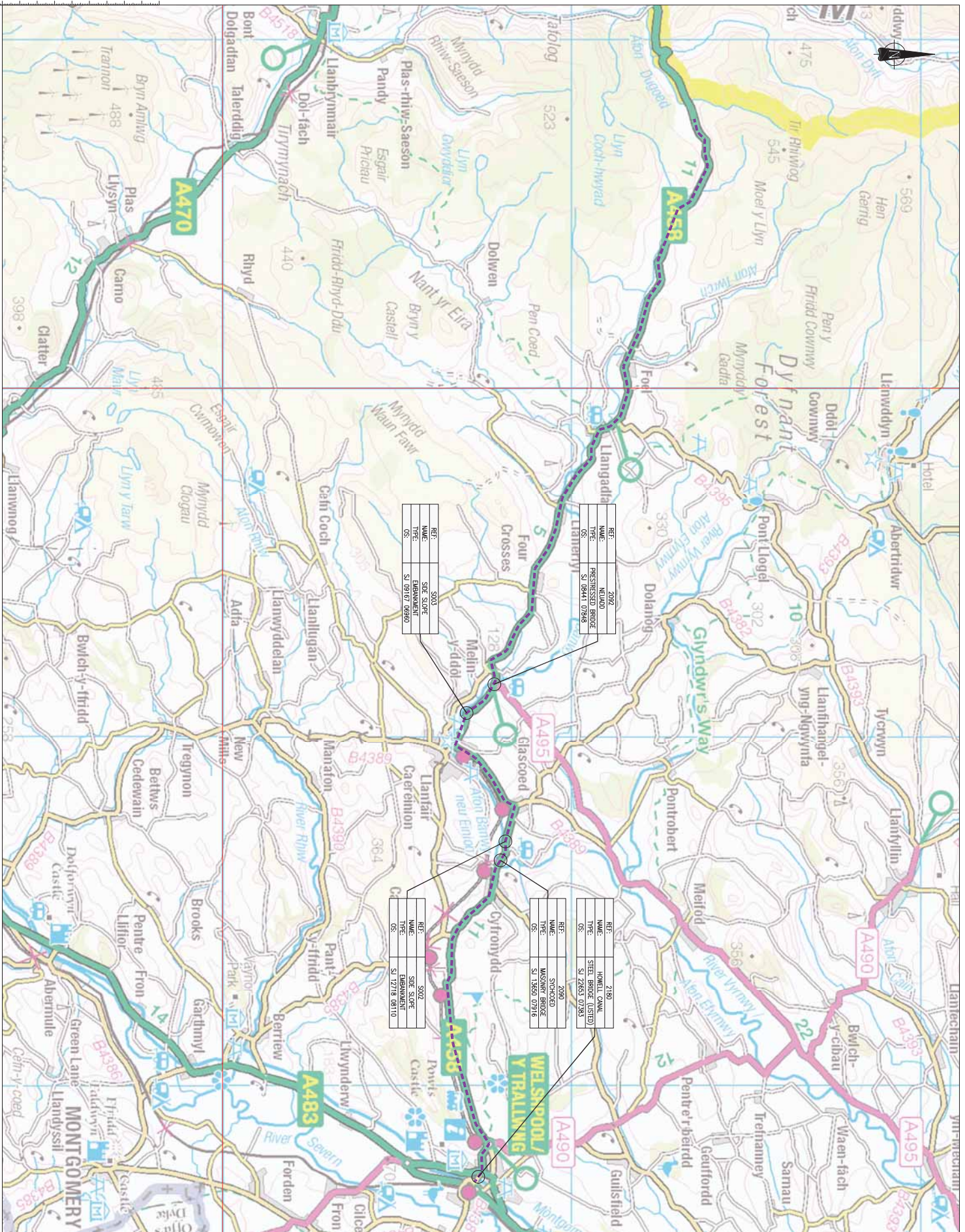
FOR INFORMATION

STATUS	DATE	BY	FOR
DESIGNED	15/09/11	DLH	15/09/11
CHECKED	15/09/11	DLH	15/09/11
AS SHOWN	5/04 x 04/1 - A1		

108526-FIG 3-4f P2

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 Client:



NOTES

- LEGEND**
- ROUTE FROM WELSPHPOOL TO SSA B (NORTH)
 - HIGHWAY AUTHORITY BOUNDARY
- NOTES**
1. REF = HIGHWAY AUTHORITY STRUCTURE REFERENCE
 2. OS = GRID REFERENCE
 3. INFORMATION OBTAINED FROM RELIABLE HIGHWAY AUTHORITY AND THROUGH SITE VISITS.

REF:	2092
NAME:	NELUAD BRIDGE
TYPE:	PRESHESSED BRIDGE
OS:	SJ 09441 07948

REF:	2180
NAME:	HOWELL CANAL
TYPE:	STEEL BRIDGE (LISTED)
OS:	SJ 22653 07263

REF:	2090
NAME:	SYGOCROD
TYPE:	WASSTON BRIDGE
OS:	SJ 12650 07916

REF:	5003
NAME:	SOE SLOPE
TYPE:	ENGAGEMENT
OS:	SJ 09167 06920

REF:	5002
NAME:	SOE SLOPE
TYPE:	ENGAGEMENT
OS:	SJ 27218 08110

RENEWABLEUK CYMRU

STRATEGIC TRAFFIC MANAGEMENT PLAN FOR MID WALES WIND FARMS

FIGURE 3-6 STRUCTURES ALONG ROUTE FROM WELSPHPOOL TO SSA B (NORTH)

FOR INFORMATION

DATE	BY	REVISION
16.08.11	SW	16.08.11
15.09.00	AA1	594 & 841 - A1
11.09.00	AA3	11.09.00