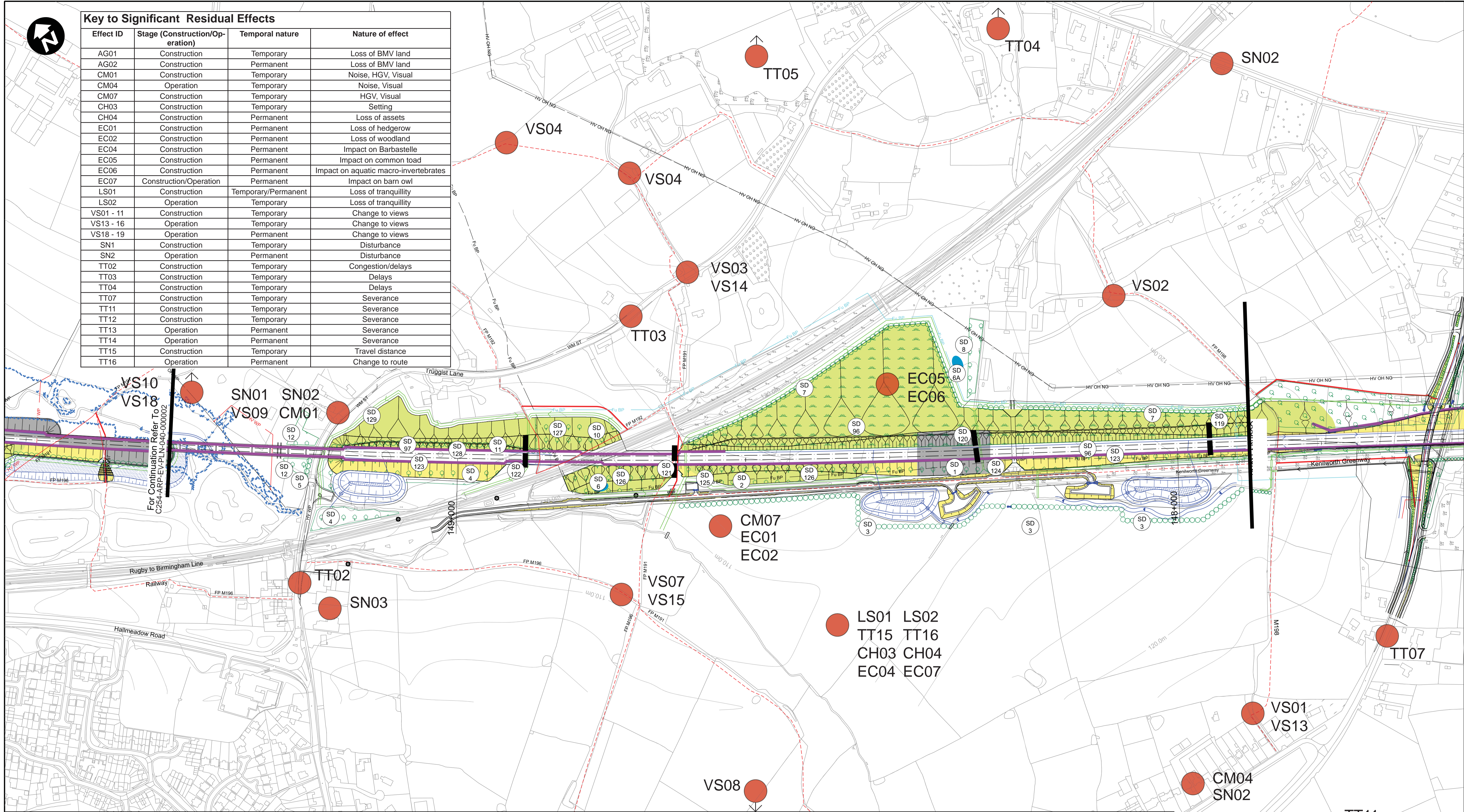


Key to Significant Residual Effects

Effect ID	Stage (Construction/Operation)	Temporal nature	Nature of effect
AG01	Construction	Temporary	Loss of BMV land
AG02	Construction	Permanent	Loss of BMV land
CM01	Construction	Temporary	Noise, HGV, Visual
CM04	Operation	Temporary	Noise, Visual
CM07	Construction	Temporary	HGV, Visual
CH03	Construction	Temporary	Setting
CH04	Construction	Permanent	Loss of assets
EC01	Construction	Permanent	Loss of hedgerow
EC02	Construction	Permanent	Loss of woodland
EC04	Construction	Permanent	Impact on Barbastelle
EC05	Construction	Permanent	Impact on common toad
EC06	Construction	Permanent	Impact on aquatic macro-invertebrates
EC07	Construction/Operation	Permanent	Impact on barn owl
LS01	Construction	Temporary/Permanent	Loss of tranquillity
LS02	Operation	Temporary	Loss of tranquillity
VS01 - 11	Construction	Temporary	Change to views
VS13 - 16	Operation	Temporary	Change to views
VS18 - 19	Operation	Permanent	Change to views
SN1	Construction	Temporary	Disturbance
SN2	Operation	Permanent	Disturbance
TT02	Construction	Temporary	Congestion/delays
TT03	Construction	Temporary	Delays
TT04	Construction	Temporary	Delays
TT07	Construction	Temporary	Severance
TT11	Construction	Temporary	Severance
TT12	Construction	Temporary	Severance
TT13	Operation	Permanent	Severance
TT14	Operation	Permanent	Severance
TT15	Construction	Temporary	Travel distance
TT16	Operation	Permanent	Change to route



SD1 Native broadleaved woodland and scrub planting to mitigate loss of existing habitat	SD4 Native broadleaved woodland planting to aid landscape integration and mitigate loss of existing habitat	SD6A Pond habitat creation to mitigate loss of existing habitat	SD10 Native broadleaved woodland planting to aid landscape integration and mitigate loss of existing habitat	SD97 Regraded embankment to aid landscape integration and reduce visual impact of scheme	SD123 Acoustic fence to reduce the operational noise effects experienced by residents of Old Waste lane and Balsall Common	SD126 Regraded embankment to aid landscape integration and reduce visual impact of scheme	SD129 Planting of native hedgerow to mitigate loss of existing hedgerow
SD2 Native scrub planting to mitigate loss of existing habitat	SD5 Planting of native hedgerow to mitigate loss of existing hedgerow and aid landscape integration	SD7 Planting of native hedgerow to mitigate loss of existing hedgerow	SD12 Native broadleaved woodland and scrub planting to aid landscape integration and mitigate loss of existing habitat	SD119 Wildlife tunnel to mitigate effects of wildlife corridor intersection and habitat fragmentation	SD124 Ballast habitat creation to mitigate loss of invert habitat	SD127 Regraded embankment to aid landscape integration and reduce visual impact of scheme	
SD3 Planting of native hedgerow to mitigate loss of existing hedgerow and bat commuting corridor	SD6 Native broadleaved woodland and scrub planting to mitigate loss of existing habitat	SD8 Native broadleaved planting to provide visual screening and landscape integration	SD96 Native broadleaved woodland and scrub planting to mitigate loss of existing habitat	SD121 Wildlife tunnel to mitigate effects of wildlife corridor intersection and habitat fragmentation	SD125 Ballast habitat creation to mitigate loss of invert habitat	SD128 Acoustic fence to reduce the operational noise effects experienced by residents of Truggist Lane and Bauk Lane	

Rev	Description	Drawn	Checked	Con App	HS2 App
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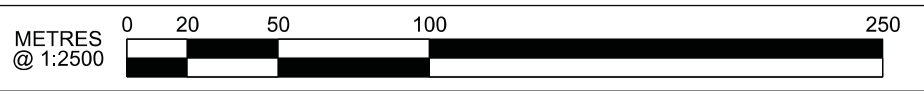
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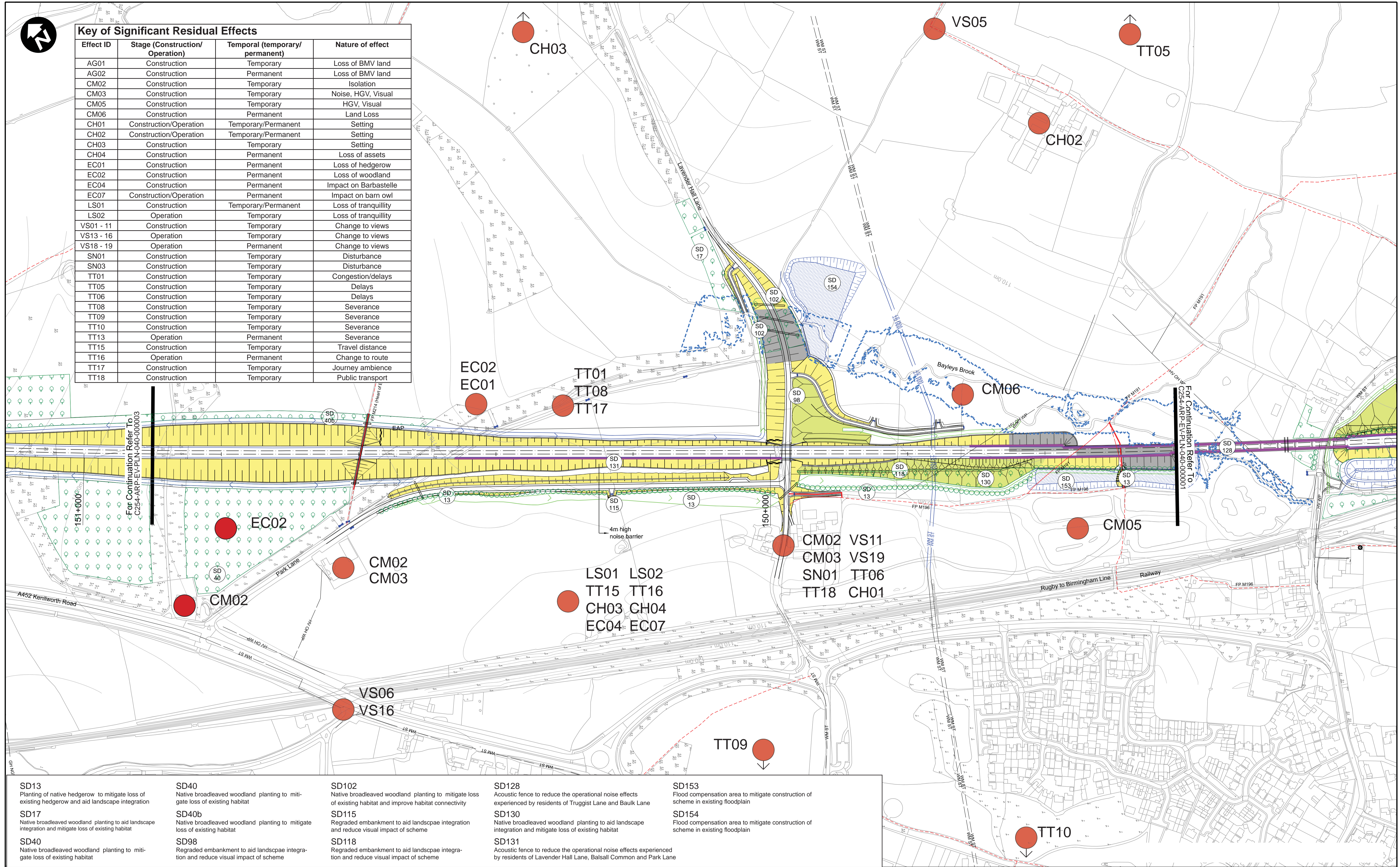
Zone	West Midlands Metropolitan			Project/Contract	Birmingham Metropolitan Area Design EIAC		
Design Stage	HYBRID BILL			Discipline/Function	Environmental		
Drawing Title	Significant Residual Effects and Environmental Mitigation Sheet 1 of 4			Drawn	Checked	Approved	
	IL	RS	NM	Date	Scale	Size	
	14/11/2014	14/11/2014	14/11/2014	14/11/2014	1:2500	A1	
Drawing No.	C254-ARP-EV-PLN-040-000001			Rev.	P01		





Key of Significant Residual Effects

Effect ID	Stage (Construction/Operation)	Temporal (temporary/permanent)	Nature of effect
AG01	Construction	Temporary	Loss of BMV land
AG02	Construction	Permanent	Loss of BMV land
CM02	Construction	Temporary	Isolation
CM03	Construction	Temporary	Noise, HGV, Visual
CM05	Construction	Temporary	HGV, Visual
CM06	Construction	Permanent	Land Loss
CH01	Construction/Operation	Temporary/Permanent	Setting
CH02	Construction/Operation	Temporary/Permanent	Setting
CH03	Construction	Temporary	Setting
CH04	Construction	Permanent	Loss of assets
EC01	Construction	Permanent	Loss of hedgerow
EC02	Construction	Permanent	Loss of woodland
EC04	Construction	Permanent	Impact on Barbastelle
EC07	Construction/Operation	Permanent	Impact on barn owl
LS01	Construction	Temporary/Permanent	Loss of tranquillity
LS02	Operation	Temporary	Loss of tranquillity
VS01 - 11	Construction	Temporary	Change to views
VS13 - 16	Operation	Temporary	Change to views
VS18 - 19	Operation	Permanent	Change to views
SN01	Construction	Temporary	Disturbance
SN03	Construction	Temporary	Disturbance
TT01	Construction	Temporary	Congestion/delays
TT05	Construction	Temporary	Delays
TT06	Construction	Temporary	Delays
TT08	Construction	Temporary	Severance
TT09	Construction	Temporary	Severance
TT10	Construction	Temporary	Severance
TT13	Operation	Permanent	Severance
TT15	Construction	Temporary	Travel distance
TT16	Operation	Permanent	Change to route
TT17	Construction	Temporary	Journey ambience
TT18	Construction	Temporary	Public transport



SD13 Planting of native hedgerow to mitigate loss of existing hedgerow and aid landscape integration	SD40 Native broadleaved woodland planting to mitigate loss of existing habitat	SD102 Native broadleaved woodland planting to mitigate loss of existing habitat and improve habitat connectivity	SD128 Acoustic fence to reduce the operational noise effects experienced by residents of Truggist Lane and Bauk Lane	SD153 Flood compensation area to mitigate construction of scheme in existing floodplain
SD17 Native broadleaved woodland planting to aid landscape integration and mitigate loss of existing habitat	SD40b Native broadleaved woodland planting to mitigate loss of existing habitat	SD115 Regraded embankment to aid landscape integration and reduce visual impact of scheme	SD130 Native broadleaved woodland planting to aid landscape integration and mitigate loss of existing habitat	SD154 Flood compensation area to mitigate construction of scheme in existing floodplain
SD40 Native broadleaved woodland planting to mitigate loss of existing habitat	SD98 Regraded embankment to aid landscape integration and reduce visual impact of scheme	SD118 Regraded embankment to aid landscape integration and reduce visual impact of scheme	SD131 Acoustic fence to reduce the operational noise effects experienced by residents of Lavender Hall Lane, Balsall Common and Park Lane	

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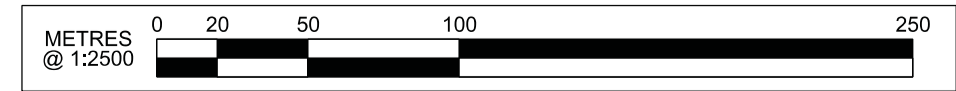
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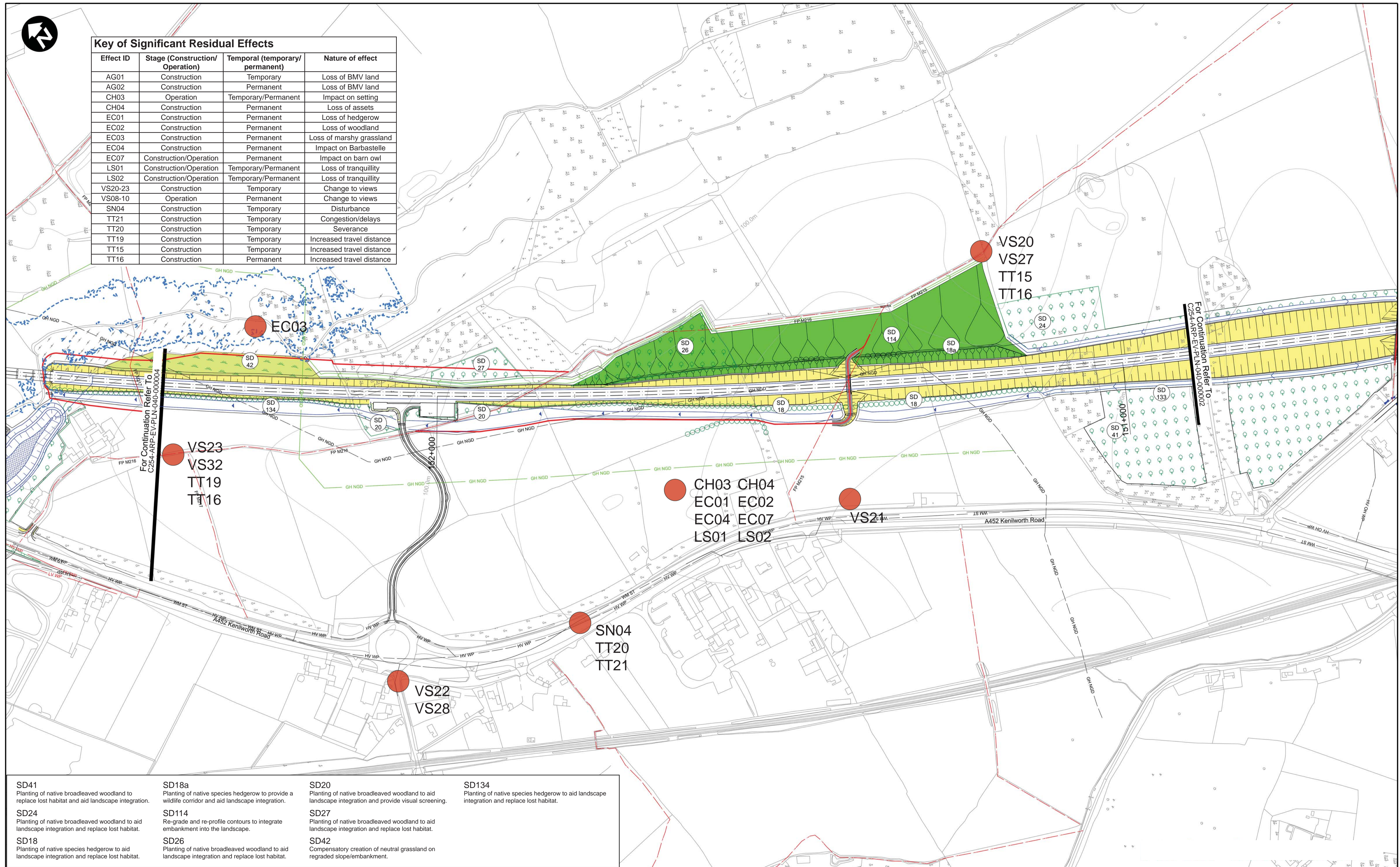
HS2 Security Classification
INTERNAL

Zone	West Midlands Metropolitan		Project/Contract	Birmingham Metropolitan Area Design EIAC	
Design Stage	HYBRID BILL		Discipline/Function	Environmental	
Drawing Title	Significant Residual Effects and Environmental Mitigation Sheet 2 of 4		Drawn	Checked	Approved
	IL	RS	IL	RS	NM
Date	14/11/2014	Scale	1:2500	Size	A1
Drawing No.	C254-ARP-EV-PLN-040-000002			Rev.	P01



Key of Significant Residual Effects

Effect ID	Stage (Construction/Operation)	Temporal (temporary/permanent)	Nature of effect
AG01	Construction	Temporary	Loss of BMV land
AG02	Construction	Permanent	Loss of BMV land
CH03	Operation	Temporary/Permanent	Impact on setting
CH04	Construction	Permanent	Loss of assets
EC01	Construction	Permanent	Loss of hedgerow
EC02	Construction	Permanent	Loss of woodland
EC03	Construction	Permanent	Loss of marshy grassland
EC04	Construction	Permanent	Impact on Barbastelle
EC07	Construction/Operation	Permanent	Impact on barn owl
LS01	Construction/Operation	Temporary/Permanent	Loss of tranquillity
LS02	Construction/Operation	Temporary/Permanent	Loss of tranquillity
VS20-23	Construction	Temporary	Change to views
VS08-10	Operation	Permanent	Change to views
SN04	Construction	Temporary	Disturbance
TT21	Construction	Temporary	Congestion/delays
TT20	Construction	Temporary	Severance
TT19	Construction	Temporary	Increased travel distance
TT15	Construction	Temporary	Increased travel distance
TT16	Construction	Permanent	Increased travel distance



For Continuation Refer To C254-ARP-EV-PLN-040-000004

For Continuation Refer To C254-ARP-EV-PLN-040-000002

SD41 Planting of native broadleaved woodland to replace lost habitat and aid landscape integration.	SD18a Planting of native species hedgerow to provide a wildlife corridor and aid landscape integration.	SD20 Planting of native broadleaved woodland to aid landscape integration and provide visual screening.	SD134 Planting of native species hedgerow to aid landscape integration and replace lost habitat.
SD24 Planting of native broadleaved woodland to aid landscape integration and replace lost habitat.	SD114 Re-grade and re-profile contours to integrate embankment into the landscape.	SD27 Planting of native broadleaved woodland to aid landscape integration and replace lost habitat.	
SD18 Planting of native species hedgerow to aid landscape integration and replace lost habitat.	SD26 Planting of native broadleaved woodland to aid landscape integration and replace lost habitat.	SD42 Compensatory creation of neutral grassland on regraded slope/embankment.	

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		14/11/2014	14/11/2014	14/11/2014	

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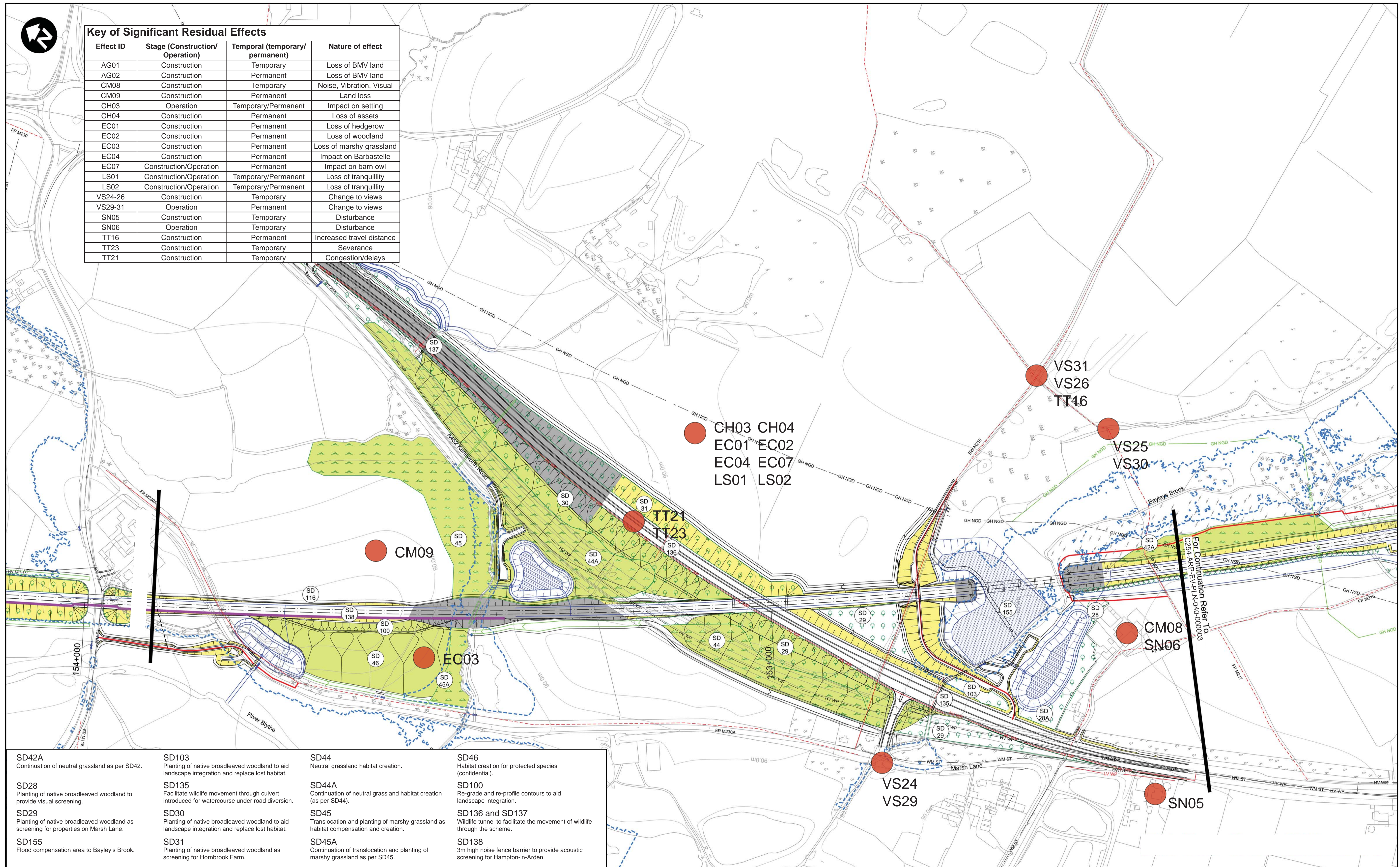
HS2 Security Classification
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Zone	West Midlands Metropolitan		Project/Contract		Birmingham Metropolitan Area Design EIAC	
Design Stage	HYBRID BILL		Discipline/Function			
			Environmental			
Drawing Title			Drawn	Checked	Approved	
Significant Residual Effects and Environmental Mitigation Sheet 3 of 4			IL	RS	NM	
			Date	Scale	Size	
			14/11/2014	1:2500	A1	
			Drawing No.		Rev.	
			C254-ARP-EV-PLN-040-000003			



Key of Significant Residual Effects

Effect ID	Stage (Construction/Operation)	Temporal (temporary/permanent)	Nature of effect
AG01	Construction	Temporary	Loss of BMV land
AG02	Construction	Permanent	Loss of BMV land
CM08	Construction	Temporary	Noise, Vibration, Visual
CM09	Construction	Permanent	Land loss
CH03	Operation	Temporary/Permanent	Impact on setting
CH04	Construction	Permanent	Loss of assets
EC01	Construction	Permanent	Loss of hedgerow
EC02	Construction	Permanent	Loss of woodland
EC03	Construction	Permanent	Loss of marshy grassland
EC04	Construction	Permanent	Impact on Barbastelle
EC07	Construction/Operation	Permanent	Impact on barn owl
LS01	Construction/Operation	Temporary/Permanent	Loss of tranquillity
LS02	Construction/Operation	Temporary/Permanent	Loss of tranquillity
VS24-26	Construction	Temporary	Change to views
VS29-31	Operation	Permanent	Change to views
SN05	Construction	Temporary	Disturbance
SN06	Operation	Temporary	Disturbance
TT16	Construction	Permanent	Increased travel distance
TT23	Construction	Temporary	Severance
TT21	Construction	Temporary	Congestion/delays



SD42A Continuation of neutral grassland as per SD42.	SD103 Planting of native broadleaved woodland to aid landscape integration and replace lost habitat.	SD44 Neutral grassland habitat creation.	SD46 Habitat creation for protected species (confidential).
SD28 Planting of native broadleaved woodland to provide visual screening.	SD135 Facilitate wildlife movement through culvert introduced for watercourse under road diversion.	SD44A Continuation of neutral grassland habitat creation (as per SD44).	SD100 Re-grade and re-profile contours to aid landscape integration.
SD29 Planting of native broadleaved woodland as screening for properties on Marsh Lane.	SD30 Planting of native broadleaved woodland to aid landscape integration and replace lost habitat.	SD45 Translocation and planting of marshy grassland as habitat compensation and creation.	SD136 and SD137 Wildlife tunnel to facilitate the movement of wildlife through the scheme.
SD155 Flood compensation area to Bayley's Brook.	SD31 Planting of native broadleaved woodland as screening for Hombrook Farm.	SD45A Continuation of translocation and planting of marshy grassland as per SD45.	SD138 3m high noise fence barrier to provide acoustic screening for Hampton-in-Arden.

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Design Stage	HYBRID BILL	Discipline/Function	Environmental
Drawing Title	Significant Residual Effects and Environmental Mitigation Sheet 4 of 4	Drawn	IL
		Checked	RS
		Approved	NM
		Date	14/11/2014
		Scale	1:2500
		Size	A1
		Drawing No.	C254-ARP-EV-PLN-040-000004
		Rev.	P01