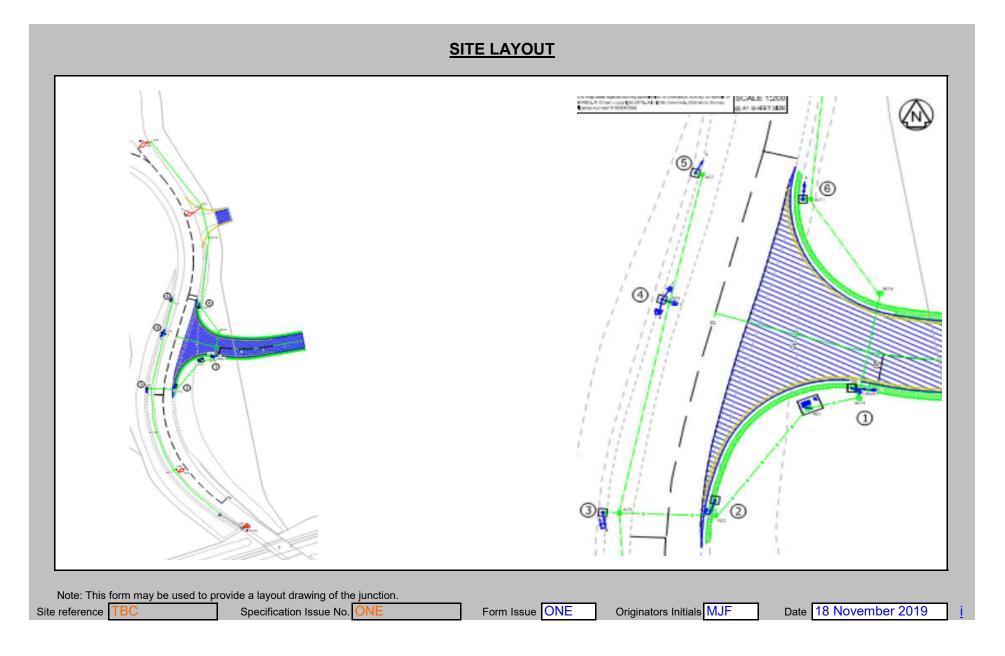


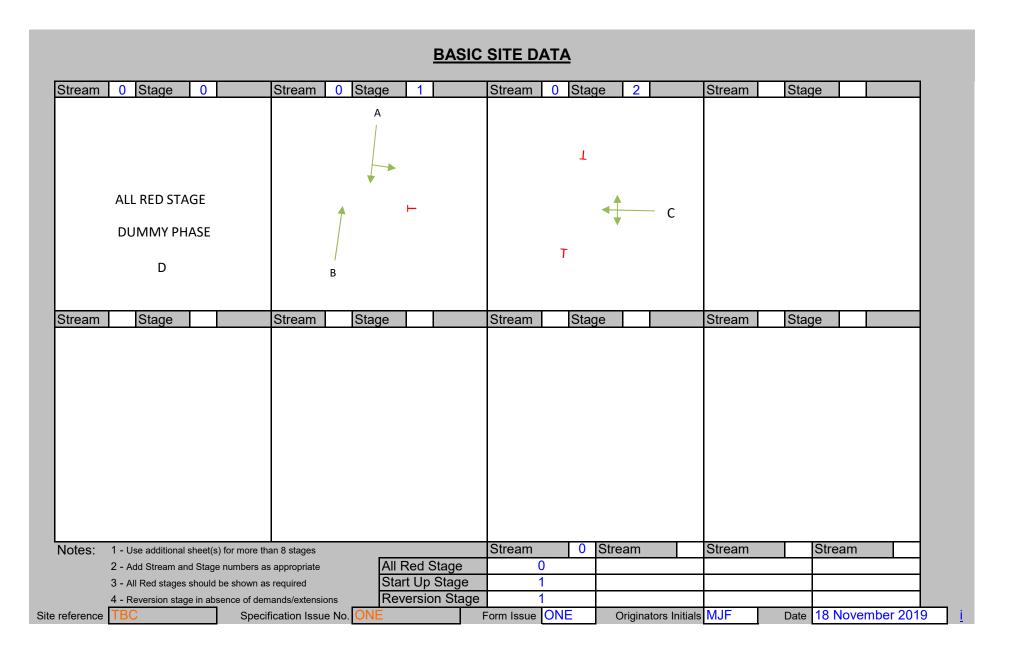
Customer:	East West Rail Alliance
Area Specifications & Customer Drawings:	133735_2A-EWR-OXD-CC_A1-DR-CH-002101
ntersection / General Description:	A1 Compound Access
Controller (tick one):	New ☑ □ Serial number:
Specification Section:	
Quotation number (Customer):	
Quotation number (Company):	
Company Order Number:	
ntersection Number:	Issue: 1
Equipment Installation by:	CONTRACTOR
Slot Cutting by:	CONTRACTOR
Civils Works by:	CONTRACTOR
Comms Circuit Type and Number:	
Customers Engineer:	Telephone number: E-mail:
Mike Flynn	0121 4835237 <u>mike.flynn@atkinsglobal.com</u>
Electrical Supply:	Equipment type (tick one): Lamp Dimming (tick one):
230 V 50 Hz	ELV
	t (including Red / Amber): Power Feed Requirement. 30 Amp Fuse Rating minimum:
Watts	Amps

	<u>IN</u>	<u>IDEX</u>				
Form Title	Form No.	Form Issue Number	Originator Initials	Date Originated dd/mm/yy	Auditor Initials	Date Audite dd/mm/yy
TR2500 General Specification	I	ONE	MJF	18/11/19	MH	21/11/1
Index (This page)	II	ONE	MJF	18/11/19	MH	21/11/1
Index Cont.	lla	ONE	MJF	18/11/19	MH	21/11/1
Index Cont.	IIb					
Configuration Notes	III	ONE	MJF	18/11/19	MH	21/11/1
Site Layout	IV	ONE	MJF	18/11/19	MH	21/11/1
Basic Site Data	V	ONE	MJF	18/11/19	MH	21/11/1
Basic Site Data Cont.	Va					
Basic Site Data Cont.	Vb					
Intersection Phase Data	VI	ONE	MJF	18/11/19	MH	21/11/1
Permitted Phase Combination	VII	ONE	MJF	18/11/19	MH	21/11/
Phase Inter-green timings	VIII	ONE	MJF	18/11/19	MH	21/11/1
Phase Inter-green limit values	IX	ONE	MJF	18/11/19	MH	21/11/1
Lamp Monitoring & Extend Inter-green facility	Х	ONE	MJF	18/11/19	MH	21/11/1
Additional phase delays	XI					
Use of stages	XII	ONE	MJF	18/11/19	MH	21/11/
Prohibited/Alternative Stage	XIII	ONE	MJF	19/09/19	MH	21/11/
Prohibited/AlternativeStage Cont.	XIIIa					
Prohibited/AlternativeStage Cont.	XIIIb					
Prohibited/AlternativeStage Cont.	XIIIc					
Prohibited/AlternativeStage Cont.	XIIId					
Prohibited/AlternativeStage Cont.	XIIIe					
Prohibited/AlternativeStage Cont.	XIIIf					
Prohibited/AlternativeStage Cont.	XIIIg					
Prohibited/AlternativeStage Cont.	XIIIh					
Master Time Clock	XIV	ONE	MJF	19/09/19	MH	21/11/1
Master Time Clock Cont.	XIVa					
Master Time Clock Cont.	XIVb					

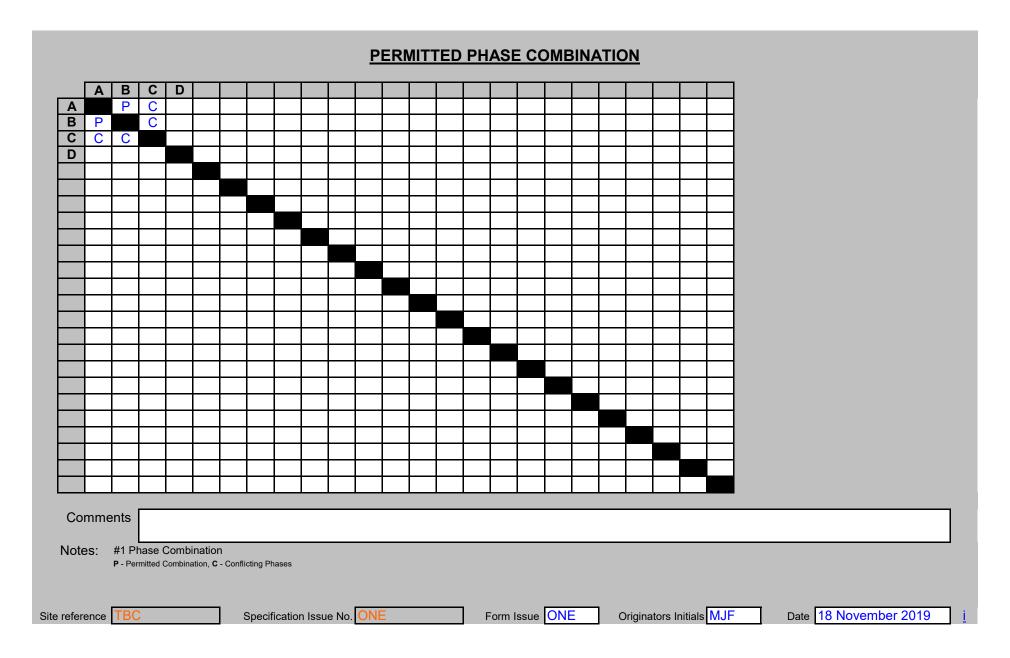
	<u>IN</u>	<u>IDEX</u>				
Form Title	Form No.	Form Issue Number	Originator Initials	Date Originated dd/mm/yy	Auditor Initials	Date Audit dd/mm/y
Master Time Clock Cont.	XIVc					
Master Time Clock Cont.	XIVd					
Master Time Clock Cont.	XIVe					
Master Time Clock Cont.	XIVf					
Method of Control Priority	XV	ONE	MJF	18/11/19	MH	21/11/
Fixed Time Mode	XVI	ONE	MJF	18/11/19	MH	21/11/
VA Phase Data	XVII	ONE	MJF	18/11/19	MH	21/11/
Detectors and Push-buttons	XVIII	ONE	MJF	18/11/19	MH	21/11/
Detectors and Push-buttons Cont.	XVIIIa					
Detectors and Push-buttons Cont.	XVIIIb					
Extend All-Red (by detector)	XIX					
Speed Discrimination / Assesment	XX					
Cableless Linking Facility	XXI					
Cableless Linking Facility Cont.	XXIa					
Cableless Linking Facility Cont.	XXIb					
Cableless Linking Facility Cont.	XXIc					
Hurry Call(s)	XXII					
Urban Traffic Control	XXIII	ONE	MJF	18/11/19	MH	21/11/
UTC Reply Bit Functionality	XXIV	ONE	MJF	18/11/19	MH	21/11/
Manual Selection	XXV	ONE	MJF	18/11/19	MH	21/11/
Priority / Emergency Mode Basic	XXVI					
Priority / Emergency Mode Time	XXVIa					
Priority / Emergency Mode Time	XXVIb					
Priority / Emergency Mode Time	XXVIc					
Priority / Emergency Mode Time	XXVId					
Pedestrian Link & Facilities	XXVII					
Mid-block Pedestrian Crossing	XXVIII					
Special Conditions	XXIX					

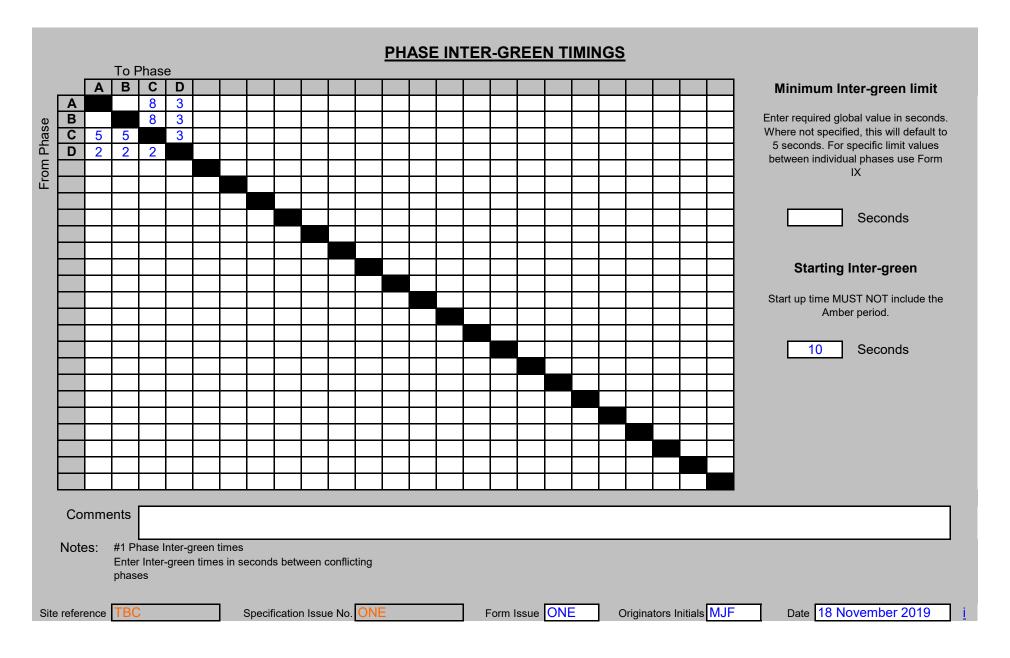
CONFIGURATION NOTES
THIS IS AN ELV INSTALLATION
PRIMARY METHOD OF CONTROL IS MOVA WITH VA FALLBACK
STAGE DEMANDS: STAGE 1 CALLED BY PHASE A OR PHASE B STAGE 2 IS DEMAND DEPENDANT, CALLED BY PHASE C
MOVA LOOP BIN3 IS TO OPERATE AS A UD LOOP
Note: This form may be used to provide any general information useful to others, such as any new facilities in this issue of the specification. TBC Specification Issue No. ONE Form Issue ONE Originators Initials MJF Date 18 November 2019

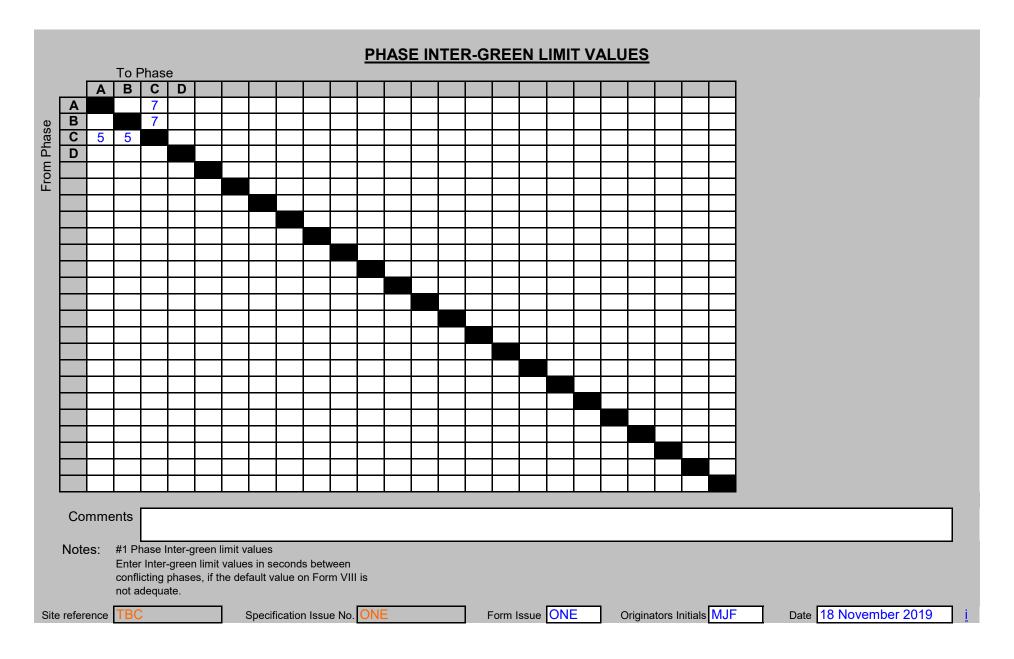


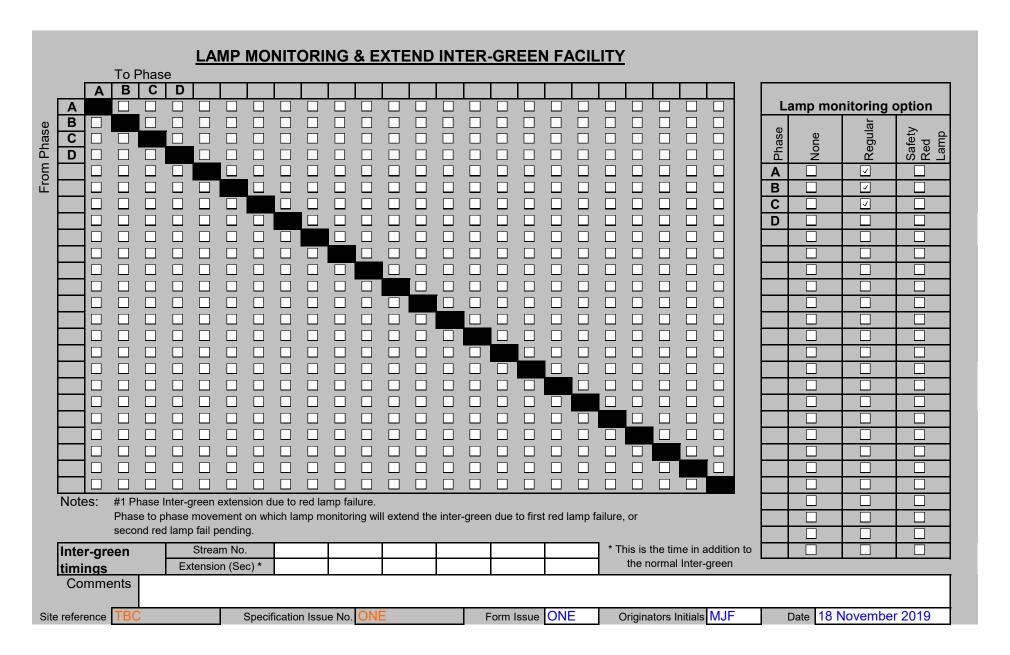


INTERSECTION PHASE DATA Use of phases Condition of Minimum Green Limit Pedestrian Blackout Minimum Green Type of Termination #3 Condition of phase Location - Road Name etc Appearance #2 Assoc'ted #1 Type Phase Bicester Road (North) Т 0 0 7 Notes: Bicester Road (South) 7 Т 0 0 A1 Compound Exit 7 Т 0 0 #1 Type of phase 3 **Dummy All Red** D 0 T - Traffic, F - Filter Arrow, I - Indicative Arrow, D -Dummy (allocate after real phases), S - Switched sign, PD - Pedestrian, PU - PUFFIN, TN - TOUCAN (near sided), TF - TOUCAN (far-sided). #2 Conditions of phase appearance 0 - Always, 1 - Only if demand exists at start of stage, 2 - If demanded at any time up until the end of the stage, 3 - If demanded at any time during the stage up until window time expires. #3 Conditions of phase termination 0 - At end of stage, 1 - When associated phase gains ROW, 2 - When associated phase loses ROW, 3 - At end of minimum green, 4 - At end of maximum green, 5 - Subject to special conditioning. Additional information Phase maxima are specified on Form XVII Additional pedestrian information is specified on Form XXVII Comments Form Issue ONE Originators Initials MJF Date 18 November 2019 Specification Issue No. ONE Site reference TBC









Stage	Stream No.	Window Time	Α	В	С	D	Т		Т	т			l		т	l	Ι		Т	Т	Т	П	1	т	Г	
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Comme		luo #1	Α	В	С	<u> </u>	<u> </u>			<u> </u>					1		<u> </u>			<u> </u>	<u> </u>	<u> </u>		1		
Commit																										
Notes:	#1 Maximum Re	version Demand																								
		for the same real pha	se un	ess																						
	otherwise indicat																									

Mode Tick if no				To Sta	age (In	sert nu	mbers)						To Sta	age (Ir	sert nu	ımbers)	
restriction																			
Urban Traffic Control - UTC	ers)										ers)								
Cableless Linking - CLF	aguir										am.								
Vehicle Actuated - VA ☑	From Stage (Insert numbers)										(insert numbers)								
Hurry Call - HC	Inse										Inse								
Manual - Man 🔻	ge () 0 0								
Part-Time - PT	Sta									d	otage —								
Priority - PR	E O										——————————————————————————————————————								
MOVA ☑			0. =										01.5						
	Mode	(s):	 CLF	_	НС	MAN	PT	PR		M	ode(s):	l	CLF		НС	MAN	PT	PR	_
										L									
To Stage (Insert numbers)		ı		To Sta	ago (In	oort nu	mhoro	.\						To Str	ago (Ir	sert nu	mboro	`	
10 Stage (ilisert numbers)			l	10 312	ige (iii	sen nu	IIIDEIS	·)	1				l	10 31	ige (ii	isen nu	IIIDEIS)	
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Stage	From Stage (Insert numbers)										Stage (Insert numbers)								
б Е	S E										n ——								
From	Fro										——————————————————————————————————————								
Mode(s): CLF HC PT PR	Mode	(s):	 CLF		НС		PT	PR		M	ode(s):		CLF		НС		PT	PR	
Comments:																			
Notes: #1 Prohibited / Alternative Stage Movements																			
Select appropriate mode and enter: A - Allowed, P - Prohibited, N - Alternative move via stage "N"	(e a 3)																		

MASTER TIME CLOCK Function Plan / Type of day Number Day Type Hours Minutes Seconds Introduce Function Required Number Parameter MAXSET 1 07 00 00 9 2b 0 1 Monday MAXSET 2 1 9 09 00 00 2b 2 2 Tuesday 2 9 15 00 00 MAXSET 3 2b 3 3 Wednesday 3 9 19 00 00 MAXSET 4 2b 4 4 Thursday MAXSET 1 2b 6 07 00 00 4 5 Friday 5 6 15 00 00 MAXSET 4 2b 4 6 Saturday 09 00 00 MAXSET 1 6 2b Sunday MAXSET 4 15 00 00 2b 4 8 All Week 9 All Week, except Sat & Sun 10 All Week, except Sun For complex day selections use day numbers, e.g. Mon & Wed = 1, 3 **Function Numbers** Isolate controller Introduce plan 2 Introduce event defined below: a Switch On Input/Output Active / Inactive / Normal b Introduce Standard / Alternative Max Setting C Switch a sign On / Off Switch a Phase / Stage In / Out of cycle Switch To / From Part Time mode Note: This form may be used to provide information for upto twenty eight entries, use additional Forms for extra requirements. Date 19 September 2019 Site reference Specification Issue No. Form Issue ONE Originators Initials MJF

METHOD OF CONTROL PRIORITY Method of Control Priority Part Time - PT Assign priority number to each Method of Control. 1 = Top Priority, 2 = Second Priority etc. X = Not used. Emergency - EM Hurry Call - HC Selected Manual Control - MAN Unless indicated - Priority will be assigned from top 1 downwards. Urban Traffic Control - UTC 3 **MOVA** 4 Selected FXT, VA or CLF Cableless Linking - CLF Priority - PR * Select either VA or FXT for normal operation, not Either - Vehicle Actuated - VA * both. 5 OR - Fixed Time - FXT * Under manual Control, Demand Dependent Filter Green Arrow to appear (tick one): Facility Switch Availability Always □ Never If demanded Facility switch position Facility not operative Manual - Man Fixed Time - FXT Vehicle Actuated - VA This may be achieved by appropriate arrangement of Method of Control Priority. Comments Originators Initials MJF Form Issue ONE Date 18 November 2019 Site reference TBC Specification Issue No. ONE

	FIXED TIME MODE		
	Fixed Time Mode Option A: Fixed Cycle Running to Current Maxi		
Comments			
Notes: #1 Fixed Cycled Time Mode Stage Se			
This must include the Start Up stage in Site reference TBC Specification	on Issue No. ONE Form Issue ONE	Originators Initials MJF	Date 18 November 2019 <u>i</u>

VA PHASE DATA Phase Maxima Max D Max E Max B Max C Max F Max G Max A Max H 30 30 30 30 30 30 30 30 В 20 15 20 15 D Comments Timing sets are place holders and will need to be adusted as required following commissioning Form Issue ONE Originators Initials MJF Date 18 November 2019 Site reference TBC Specification Issue No. ONE

Number	Location / Title	External	Lytellia	Phase	Phase Extended	Extension Time (Sec)	Non- latching	Uni- directional	Call Delay (Sec)	Cancel Delay (Sec)	DFM Fail Mode / Group (e.g. A1) #1	Speed Detector	Special Instructions
0	AIN1										A1		Mdet1
1	AX2			Α	Α	4.5					A1		Mdet2
2	BIN3							V			A1		Mdet3
3	BX4			В	В	4.5					A1		Mdet4
4	CMVD1	~		С	С	0.6					A2		Mdet5
5	CSL1	~		С	C	1.0					A2		Mdet6
							닏	닏				ᆜ	
			1				H	H				<u> </u>	
		-]				H	H				<u> </u>	
							H	H				H	
			1				98	200				500	
Detector	Typo:		1	M Fail Gro	oup	٨٥	tivo (Minu	tocl		Ino	ctivo	(Hours)
	Supply Voltage:	_	ווט	vi i ali Git	- Jup	Standard			Alternative		Standard	Stive	Alternative
	DFM Period:	_		1		30	<u> </u>		Titerriative	,	18		Alternative
	DFM Max Limit:			2		30		1			72		
Contoral	DI WI WAX EIIIII.			3									
Notes:	#1 DFM Fail / Mode Group			4									
. 10100.	Select appropriate mode on DFM failure:			5									
	A - Fail Active, I - Fail Inactive, Y - Use Input on failure. and select appropriate timing group, e.g. A1, I3 etc.			6									

Bit Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	O.T.U. Manufacturer and Type
Control Bit	F1	F2	D2	TS							SO			МО		ТО	
Demand Dependent		✓															
Reply Bit	G1	G2	SD2	CC	DF	CF	LF1	LF2	LF3	LO	RR	ML	MF	MR		CRB	
Secret Sign																	Operation Standard (tick one):
Secret Sign with Security																	MCE0105/0106 ☑ □
Bit Number	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
Control Bit		<u> </u>	<u></u>	<u></u>		<u> </u>	<u> </u>	<u> </u>		<u> </u>	<u> </u>	<u> </u>				<u> </u>	UTC initiated by (tick one):
Demand Dependent	Ш		Ш	Щ	Ш						Ш		Ш	Ш	Ш	Щ	
Reply Bit	_															H	Force Bits Present
Secret Sign Secret Sign with Security		-										-				H	
D X D D D D D D D D D D D D		ases c									a363 (extend				Relationship of demand bits and phases	Number of bits (tick one): 16
number Demand D	epend	dent F	orces,		t Den	nands	to be	consi	dered		Þ		DR no	ımber			Insert phases or stages for reply
F 2				С							bits and		DR DR				
F											ce b		DR				
F											Relationship of force demands		DR				
F											o dir dem		DR				
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□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	to indicate required repl	to indicate required reply bit function		to indicate required reply bit functionality. 2 - Use additional	to indicate required reply bit functionality. 2 - Use additional columns a	to indicate required reply bit functionality. 2 - Use additional columns and rows to	Condicate required reply bit functionality. 2 - Use additional columns and rows to detail non-state in the columns and rows to detail non-state in th	to indicate required reply bit functionality. 2 - Use additional columns and rows to detail non-standard co		

MANUAL SELECTION Manual Selection Button No. Stage(s) Called Name ALL RED All Red Stage(s) Bicester Road both ways 1 A1 Compound Exit **Visual Indicators** Output No. Function Comments Form Issue ONE Originators Initials MJF Site reference TBC Specification Issue No. ONE Date 18 November 2019