

- NOTES**
- GENERAL**
- THE SITE IS TO BE AN ELV INSTALLATION, OPERATING UNDER A VA CONTROL STRATEGY WITH SPEED DISCRIMINATION
 - ALL TRAFFIC SIGNAL EQUIPMENT SHALL COMPLY WITH THE APPENDIX 12/5.
 - THIS DRAWING SHALL BE VIEWED IN CONJUNCTION WITH OTHER CONTRACT DOCUMENTS
 - FOR STREET LIGHTING DESIGN DETAILS PLEASE SEE STREET LIGHTING DESIGN DRAWINGS
 - ALL STREET FURNITURE, INCLUDING THE CONTROLLER, IS TO BE GREY IN COLOUR
 - THE EXACT LOCATION OF ALL TRAFFIC SIGNAL EQUIPMENT IS TO BE AGREED ON SITE BY THE TRAFFIC SIGNAL ENGINEER, PRIOR TO INSTALLATION
 - ANY EQUIVALENT EQUIPMENT IS TO BE AGREED, IN WRITING, BY THE TRAFFIC SIGNAL ENGINEER PRIOR TO ITS INSTALLATION
 - UPON COMPLETION OF ALL CABLING WORKS DRAW CORDS SHALL BE LEFT IN ALL DUCTS
- TRAFFIC SIGNALS AND POLES**
- FOOTWAY AROUND CROSSING LOCATION CONTAINS BT SERVICES AND WIDTH IS LIMITED TO 1.8M WIDE WHICH MAY CAUSE DIFFICULTIES WHEN LOCATING POLE RETENTION SOCKETS. ANY PROPOSED RELOCATION OF TRAFFIC SIGNAL EQUIPMENT IS TO BE AGREED WITH THE TRAFFIC SIGNAL ENGINEER PRIOR TO INSTALLATION
 - TRAFFIC SIGNAL POLES SHALL BE SET NO LESS THAN 675MM FROM CHANNEL TO CENTRE OF POLE OFFSET 500MM FROM EDGE OF TACTILE PAVING SLABS
 - SIGNAL MOUNTING HOLES WILL BE SET AT A 45 DEGREE ANGLE FROM CHANNEL TO MAXIMISE CLEARANCE OF SIGNAL HEADS TO CARRIAGEWAY
 - TRAFFIC SIGNAL POLES SHALL BE INSTALLED WITHIN POLE RETENTION SOCKETS. POLE RETENTION SOCKETS SHALL BE METAL ANTI-ROTATIONAL TYPE, AND SHALL BE INSTALLED AS PER MANUFACTURER'S INSTRUCTIONS
 - DUE TO UNDERGROUND SERVICES POLE 2 SHALL BE INSTALLED IN A BRIDGE DECK SOCKET. THE TRAFFIC SIGNAL POLE SHALL BE REDUCED IN LENGTH TO MATCH POLE 1. THE CONTRACTOR WILL ENSURE THAT EXPOSED METAL SURFACES ARE RE-GALVANISED TO PROTECT THE POLE AGAINST CORROSION
 - ALL VEHICLE SIGNAL HEADS ARE TO BE INSTALLED WITH A CLEARANCE OF 2.3M FROM THE FOOTWAY SURFACE
 - TRAFFIC SIGNAL HEADS SHALL SATISFY THE REQUIREMENTS OF 'THE TRAFFIC SIGNS REGULATIONS AND GENERAL DIRECTIONS' 2016
 - TRAFFIC SIGNAL HEADS ARE TO BE ELV CLS LED TYPE
- PEDESTRIAN SIGNALS**
- POLES MAY NOT BE DRILLED FOR PUSH BUTTON UNITS / DISPLAYS UNTIL THE TRAFFIC SIGNAL ENGINEER IS SATISFIED THAT TRAFFIC SIGNAL HEADS ARE SUITABLY ALIGNED
 - ALL PEDESTRIAN PUSH BUTTON UNITS TO BE MOUNTED WITH THE PUSH BUTTON 1050MM (+/- 50MM) ABOVE THE FOOTWAY SURFACE
 - ALL PEDESTRIAN WAIT INDICATOR UNITS ARE TO BE MOUNTED AT AN ANGLE OF 45° FROM THE KERB FACE
 - TACTILE AND AUDIBLE UNITS ARE TO BE PROVIDED IN ALL INDICATOR/PUSH BUTTON UNITS
- DETECTION**
- MIXTURE OF ABOVE GROUND AND INDUCTIVE LOOP DETECTION SPECIFIED FOR CROSSING WITH LOOPS FOR SPEED DISCRIMINATION AND TO DETECT QUEUES FORMING ON SITE ACCESS ROAD
 - ARD1 & ARD2 TO BE AGD318 DUAL INPUT DETECTORS
 - ARD1 TO BE INSTALLED AS BACK UP FOR LOOP DETECTION ON NORTH WESTBOUND APPROACH AND DETECTOR INPUTS TO INITIALLY BE DISABLED IN THE CONTROLLER
- CONTROLLER AND FEEDER PILLAR**
- NEW CONTROLLER IS TO BE INSTALLED ON NAL CONTROLLER CABINET BASE, OR EQUIVALENT
 - POWER SUPPLY IS TO BE WPD MAIN, NOT PRIVATE NETWORK, AND IS TO BE ORDERED BY THE MAIN CONTRACTOR
- COMMUNICATIONS**
- THE CONTROLLER IS TO INCLUDE UTC CONTROL, LINKED TO THE COUNTY COUNCIL'S PEER UTC SYSTEM HOUSED IN STAFFORD. THIS WILL INCLUDE ALL SET UP COSTS E.G. IP ADDRESS CONFIGURATION & FIREWALL INTEGRATION THROUGH DYNMIO
 - THE CONTRACTOR SHALL THEREFORE SUPPLY A 4G ROUTER: A SINGLE ADVANTECH SMARTSTART LTE ROUTER, MODEL NUMBER: BB-SL3040110-SWH PAIRED WITH A POYNING PUCK-2 CABINET MOUNTED ANTENNA (OR AN ALTERNATIVE PRODUCT WHICH CAN MEET THE SPECIFICATION AND CAPABILITIES OF THE EQUIPMENT LISTED) WITHIN THE CONTROLLER CABINET TO ENABLE COMMUNICATIONS WITH THE UTC SYSTEM. A 4G SIM CARD SHALL BE PROVIDED BY SCC
 - THE UTU SHALL SUPPORT UTM2018UG405 PROTOCOL FOR INTEGRATION ONTO UTC CONTROL AND MAY BE INTEGRAL TO THE CONTROLLER
 - THE UTC COMMUNICATIONS SHALL BE FULLY OPERATIONAL AT THE TIME OF SITE COMMISSIONING TO ALLOW THE LINK TO UTC TO BE FULLY TESTED

VEHICLE PHASE

Fixed Vehicle Period	STREAM 0
VA minimum	7
VA maximum	30
VA vehicle extension	AS I/O

VEHICLE TO PEDESTRIAN INTER-GREEN

All Red gap change	3
All Red forced change	3

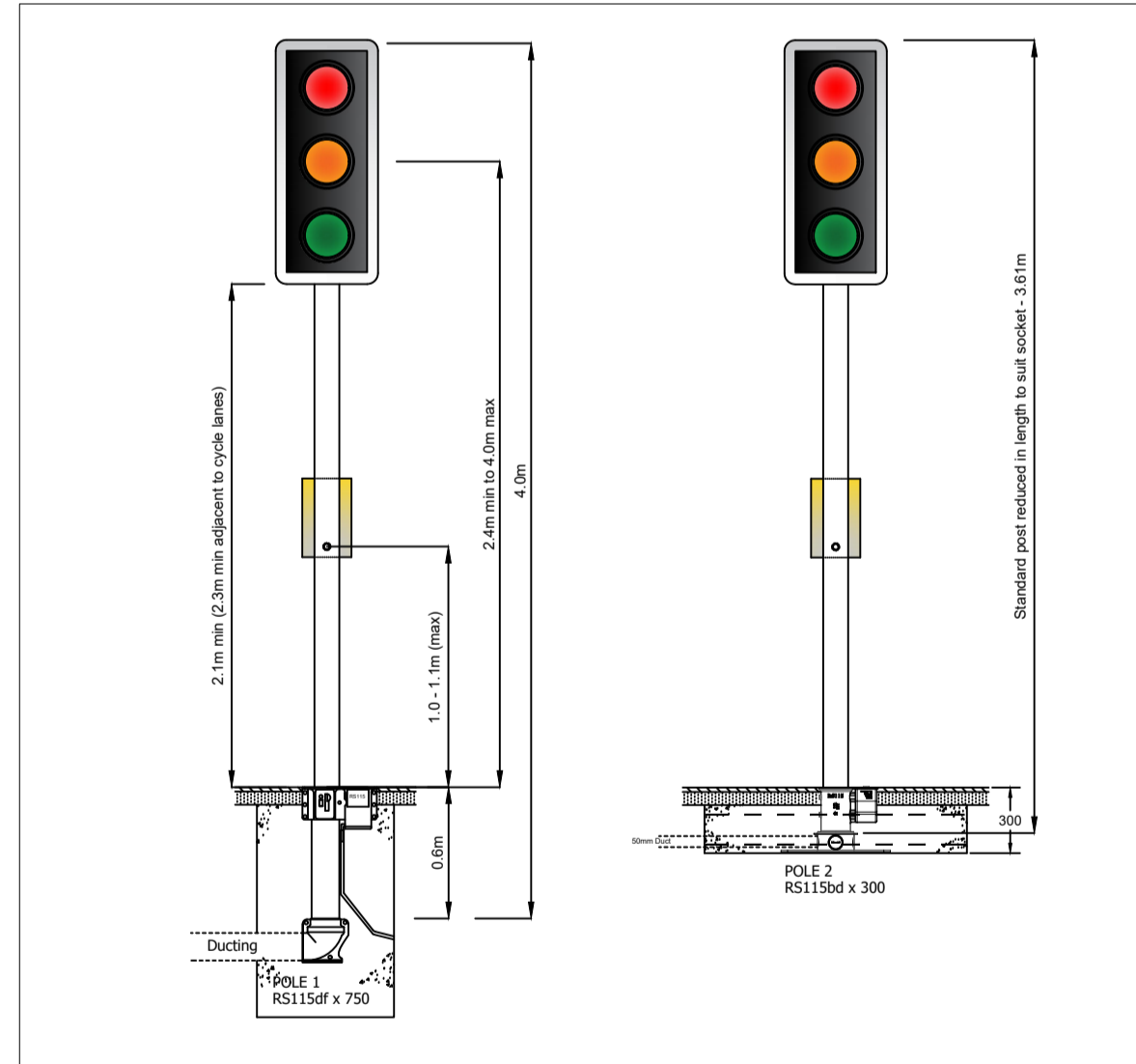
PEDESTRIAN PHASE (C)

Pedestrian minimum green	5
Kerbside detector extension	1
Vehicle termination delay time	1
Pedestrian demand hold time	1
Minimum clearance - Vehicle Red / Pedestrian Blackout [Period v]	3
Maximum extendible - Vehicle Red / Pedestrian Blackout [Period v]	-
Minimum clearance - Vehicle Red / Red Man [Period 5/V]	-
Maximum extendible - Vehicle Red / Red Man [Period 6/V]	7
Forced change - Vehicle Red / Red Man [Period 7/VII]	0
Gap-change - Vehicle Red / Red Man [Period 8 / VIII]	0
On-crossing extension	2

OTHER FACILITIES

Pedestrian Audible Signals	Y
Pedestrian Tactile Signals	Y

NOTE: TIMINGS CALCULATED IN ACCORDANCE WITH CHAPTER 6 OF THE TRAFFIC SIGNS MANUAL



DETECTOR FUNCTIONS

Detector Name	Pole Number / Distance F.S.L	Type	Phase Demanded	Phase Extended	Extension Time (s)	Latched / Non latched demand
ARD1	P1	Radar	A	A	0.6	Latched
AZ	12m	Loop	A	A	1.5	Latched
AY	25m	Loop	A	A	1.5	Latched
AX	39m	Loop	A	A	1.5	Latched
ASD	79m	Loop	-	A	3.0	Latched
BRD2	P2	Radar	B	B	0.6	Latched
CONC1	P1	On Crossing	-	C IGN	1.0	-
CONC2	P2	On Crossing	-	C IGN	1.0	-
CPBU1	P1	PBU	C	-	-	Latched
CPBU2	P2	PBU	C	-	-	Latched
Q1	-	Loop	C	-	-	Latched

TRAFFIC SIGNAL POLE & HEAD SCHEDULE

Pole No.	Pole Height	Pole Type	Pole Dia (mm)	Low Access Door	Passively Safe	Road Traffic Equipment			Puffin Crossing Equipment			Above Ground Equipment					
						Traffic Phase	Type	Primary / Secondary	Nearside	Far Side	Push Button Unit	Tactile Unit	MVD / Radar	AGSL	ONC	KSD	Other
1	4m	Straight	114	Y	N	A	RAG	P	Y	-	Y	Y	Y	-	Y	-	-
						B	RAG	P	-	-	-	-	-	-	-	-	
						A	RAG	P	-	-	-	-	-	-	-	-	
2*	4m	Straight	114	Y	N	B	RAG	P	Y	-	Y	Y	Y	-	Y	-	-
						A	RAG	P	-	-	-	-	-	-	-	-	
						B	RAG	P	-	-	-	-	-	-	-	-	
TOTALS	2m = 0 4m = 2 6m = 0					RAG = 4 RAGA = 0	P = 4 S = 0	2	0	2	2	2	0	2	0	0	

* Denotes pole is fitted with photoelectric cell

POLE SETTING OUT DETAILS

POLE NUMBER	OFFSET FROM STOP LINE (mm)	OFFSET FROM CHANNEL (mm)	OFFSET FROM TACTILE PAVING (mm)
1	1500	675	500
2*	1500	675	500

ALL DIMENSIONS TO CENTRE OF POLE
*POLE 2 TO BE INSTALLED IN SHALLOW FOUNDATION NAL SOCKET

- KEY**
- 4M 114MM DIA. TRAFFIC SIGNAL POLE
 - 3 ASPECT RAG SIGNAL HEAD WITH PRIMARY VISORS
 - ON CROSSING DETECTOR
 - AGD318 DUAL INPUT ABOVE GROUND VEHICLE DETECTOR
 - NEARSIDE PUFFIN INDICATOR AND SEPARATE PUSH BUTTON UNIT
 - TRAFFIC SIGNAL CONTROLLER
 - TRAFFIC SIGNAL FEEDER PILLAR
 - 450 X 450MM ACCESS CHAMBER
 - IN CARRIAGEWAY LOOP CHAMBER
 - PHOTO ELECTRIC CELL
 - 1 X 50MM MDPE UNDER KERB DUCT
 - 1 X 100MM MDPE DUCT RUN
 - 2 X 100MM MDPE DUCT RUN
 - 3 X 100MM MDPE DUCT RUN
 - TRAFFIC SIGNAL RETENTION SOCKET
 - DETECTOR LOOP
 - TACTILE PAVING BLOCKS (200 X 133MM PAVERS FOR CONTROLLED CROSSING)
 - POLE NUMBER
 - PROPOSED LIGHTING COLUMN / UNIT (SEE STREET LIGHTING DRAWINGS FOR FURTHER DETAILS)

FOR APPROVAL

- SCHEDULE OF CHANGES FROM REVISION D01:**
- CONTROLLER LOCATION REVISED
 - POLE OFFSETS REVISED
 - POLE 2 FOUNDATION CHANGED TO BRIDGE DECK SOCKET DUE TO SERVICES
 - POLE ROTATION / RAG'S TO BE SIDE MOUNTED
 - DUCTING QUANTITY (ROAD CROSSING) AMENDED
 - ROAD MARKINGS AMENDED
 - NORTHERN FOOTWAY TO BE WIDENED NEAR TO CROSSING

SCHEDULE OF CHANGES FROM REVISION D02:

- TACTILE PAVING TYPE CHANGED AS PER SCC COMMENTS
- POLE TYPE CHANGED IN KEY

Rev	Issue	Date	By	App
D03	TACTILE PAVING TYPE CHANGED - SCC COMMENTS	31.10.22	MJS	EA
D02	DRAWING REVISIONS - SEE SCHEDULE OF CHANGES	18.10.22	MJS	EA
D01	TT DETAILED DESIGN - 1ST ISSUE	26.09.22	EA	MJS

Doc No: 100017603

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Client

STRAWSONS HOLDINGS LTD

Project Name

**CRESSWELL GROVE
S278 TRAFFIC SIGNAL DESIGN**

Sheet Title

**TRAFFIC SIGNAL DESIGN LAYOUT
SHEET 1 OF 2**

TTE Project Number	Drawn By	Date	Checked By	Date	Approved By	Date	Scale	Alt	Suitability
B031993	MJS	Oct '22	EA	Oct '22	AG	Oct '22	As Shown		S0
Client Project Number	Originator	Volume/System Level/Location	Type/Code	Role	Number	Revision			
B031993	TTE	HSL - ZZ	DR - TS		1250	D03			

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