



WHERE HORIZONTAL ALIGNMENTS FOR RAIL AND ROAD SIGNALS DUCTS CROSS, THE ROAD SIGNALS DUCTING IS TO RUN 300mm UNDER RAIL SIGNALLING DUCTING. REFER TO KIWI RAIL SIGNALLING DESIGN LAYOUT

EXISTING RAIL CONTROL BOX (TO BE REPLACED WITH NEW LOC AND BATTERY CABINETS), REFER TO KIWI RAIL RAIL SIGNALLING DESIGN LAYOUT.

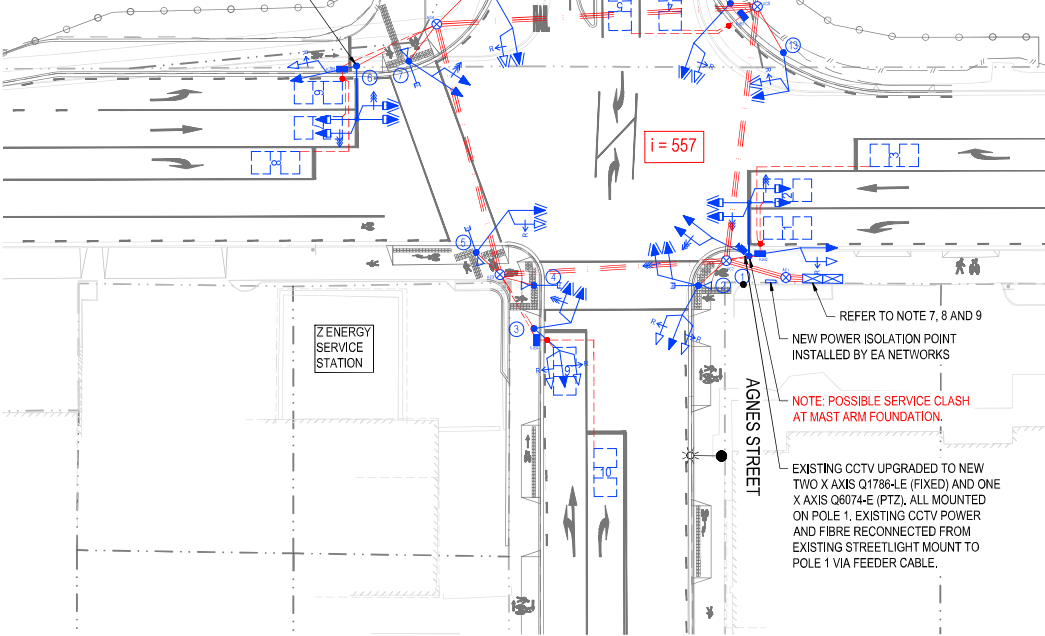
DUCTING TO NEW RAIL SIGNAL PIT NEAREST RAIL LOC BOX

MAIN SOUTH RAIL LINE

CIVIL CONTRACTOR TO SUPPLY & INSTALL JUSP AND STEP-UP TRANSFORMER, AND SUPPLY LIGHTING MOUNT ARM, EA NETWORKS TO INSTALL LIGHTING MOUNT ARM AND SUPPLY & INSTALL LUMINAIRE.

NOTE: POSSIBLE SERVICE CLASH AT MAST ARM FOUNDATION.

ARCHIBALD STREET (SH1)



LAYOUT PLAN  
SCALE 1:250



Rev	Description	Checked	Approved	Date
1	ISSUED FOR CONSTRUCTION	SM*	DMP*	21.06.23
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Client: WAKA KOTAHI NZ TRANSPORT AGENCY  
 Project: TINWALD CORRIDOR IMPROVEMENTS  
 Status: CONSTRUCTION

Drawing Title: TRAFFIC SIGNAL LAYOUT AND PHASING PLAN

Drawing No: 12560966-C501  
 Rev: 1

POLE SCHEDULE:

POLE #	TRAFFIC SIGNAL POLE TYPE	EQUIPMENT	FOUNDATION TYPE
1	JUMA TYPE S8 (5m OUTREACH)	CCTV FLANGE MOUNT EXTENSION	FLANGE
6	JUMA TYPE S8 (5m OUTREACH)	FLANGE MOUNT, WITHOUT EXTENSION	FLANGE
8	JUSP	STREET LIGHTING EXTENSION, ELV	RETENTION SOCKET TPL R5168
2, 3, 5, 7, 9, 10, 11, 12, 13	TYPE 1	-	RETENTION SOCKET TPL R515
4	TYPE 11 CYCLE POLE	NO HOOP	RETENTION SOCKET TPL R8115

CABLE SCHEDULE:

- P1
- P2
- P3 - P4 - P5
- P6
- P7 - P8
- P9 - P10 - P11
- P13 - P12
- RAIL CONTROL

NOTES:

- TRAFFIC SIGNAL EQUIPMENT AND INSTALLATION SHALL COMPLY WITH P43 NATIONAL SPECIFICATION AND WTOG (CTOC) REGIONAL SPECIAL CONDITIONS.
- POLE POSITIONS ARE INDICATIVE ONLY. FINAL POSITIONS TO BE DETERMINED ON SITE BY THE ENGINEER AND CONTRACTOR.
- CONTRACTOR TO LIAISE WITH SERVICE AUTHORITIES FOR LOCATION OF SERVICES BEFORE ANY EXCAVATION.
- DUCTS BETWEEN CHAMBERS SHALL BE 3x 100mm DIA, ORANGE PVC ELECTRICAL BURIAL GRADE, SIGNAL CABLES TO RUN IN 200mm PVC DUCT (NOT SUB-DUCTED) BETWEEN AC6 AND AC7, LOWERED TO BE AT LEAST 1.5m UNDER TRACKS.
- PROVIDE A 12 CORE CABLE FROM THE SIGNAL CONTROLLER CABINET TO THE RAIL CONTROLLER CABINET.
- ALL MAST ARMS AND OVERHEAD SIGNAL EQUIPMENT ON SH1 TO BE INSTALLED 6.5m IN HEIGHT, ABOVE OVER DIMENSION VEHICLE CLEARANCE ENVELOPE.
- TWO NEW STANDARD SIGNAL CONTROL BOXES, POSITIONED ON BOUNDARY, REMOVE EXISTING COMMS CABINET. MIGRATE COMMS EQUIPMENT TO NEW SIGNAL CONTROL BOX. MIGRATE PERMANENT METERED POWER SUPPLY TO NEW POWER ISOLATION POINT. NEW ISOLATION POINT TO BE 2m FROM NEW CABINETS, AS PER EA NETWORKS PLANS. BOX 1 TO CONTAIN: CONTROLLER, ELECTRICAL TERMINATIONS, METER, BOX 2 TO CONTAIN: COMMS EQUIPMENT (TOP HALF), UPS AND BATTERIES (LOWER HALF ON SUITABLE TRAY).

LEGEND

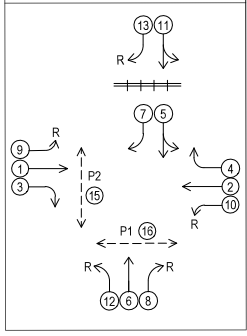
- CONTROLLER
- SIGNAL DUCT ACCESS CHAMBER
- KERBSIDE JUNCTION BOX (KJB)
- POLE AND POLE NUMBER
- POLE WITH OVERHEAD MAST ARM
- 200mm ASPECTS - OPEN VISOR
- 300mm ASPECTS - OPEN VISOR
- ASPECTS WITH CLOSED VISOR
- 3 ASPECT THREE ARROW DISPLAY
- 3 ASPECT DISPLAY WITH SUPPLEMENTARY ARROW DISPLAY \*\*
- CARRIAGEWAY LOOP BOX
- \*\* R,Y,G INDICATES COLOUR OF ARROW
- 3 ASPECT DISPLAY WITH SUPPLEMENTARY THREE ARROW DISPLAY
- COMBINED PEDESTRIAN ASPECT AND CYCLE ASPECT (SINGLE MASK)
- PEDESTRIAN AND CYCLE CALL BOX
- DETECTOR LOOP - STOPLINE LOOP & LOOP NUMBER
- DETECTOR LOOP - TRAIN
- NEW CCTV CAMERA INSTALLATION
- RAIL CROSSING FLASHING LIGHTS & BELLS SIGN
- TACTILE GROUND SURFACE INDICATOR (TGS)
- 50mmØ ORANGE PVC ELECTRICAL DUCTING
- 100mmØ ORANGE PVC ELECTRICAL DUCTING

- THIS WILL BE AN EXTRA LOW VOLTAGE (ELV) SITE. POWER TO BE INSTALLED IN ACCORDANCE WITH THE WAKA KOTAHI SPECIFICATION FOR STREETLIGHT CONNECTION AT ELV TRAFFIC SIGNAL SITES.
- AN UNINTERRUPTIBLE POWER SUPPLY (UPS) IS REQUIRED AT THIS LOCATION, UPS TO BE SUPPLIED IN ACCORDANCE WITH THE P43 WAKA KOTAHI SPECIFICATION.
- ALL CROSSINGS TO INCLUDE PEDESTRIAN DETECTION CAMERAS TO DROP UNNEEDED CALLS.

PHASING NOTES:

- OPERATION IS NON-FILTER RIGHT TURNS ON SH1, DUE TO GEOMETRY.
- ON RECEIPT OF TRAIN DETECTION INPUT 13, INTERSECTION TO OPERATE PHASE F (AS CLEARANCE FOR LAGMHOR ROAD) THEN PHASE A1 (RAIL PHASE), INTERSECTION HELD IN PHASE A1 UNTIL RELEASE, ON RELEASE FROM PHASE A1 (RAIL PHASE), INTERSECTION TO OPERATE G PHASE (ALL RED) AND THEN MOVE TO PHASE D (TO REDUCE RISK OF LAGMHOR ROAD DRIVERS PROCEEDING THROUGH INTERSECTION WHEN BARRIER ARM RAISED).
- RAIL DETECTION AND RELEASE TIMES TO BE CONFIRMED WITH KIWI RAIL AND TRAFFIC SIGNAL SOFTWARE DEVELOPER.
- LOOPS 4 AND 5 PROVIDE A NON-LOCKING CALL FOR PHASE D TO AVOID TRAPPED VEHICLES.
- SG11 TO OPERATE 5 SECOND EARLY CUT-OFF (ECO) IN PHASE D.
- SG11 GREEN IS INTERLOCKED WITH THE RAIL INTERFACE TO GUARANTEE THE VEHICLE GREEN IS NOT DISPLAYED WHEN THE BARRIER ARMS START TO DESCEND.
- SG8 TO BE HELD RED IN DELAYED LATE START TO ALLOW STANDARD VEHICLES ON LAGMHOR TO REACH THE INTERSECTION.

SIGNAL GROUPS



PHASING AND APPROACH NUMBER

A	D	E	F (PRE-RAIL)	A1 (RAIL)
B (Z-)		E1	SG8, 11 & 13 HELD ON RED	G
				ALL RED PHASE
C (Z+)		E2		

① = APPROACH NUMBER  
 \* = RED ARROW PEDESTRIAN PROTECTION

PHASE SEQUENCE 1: ABCDEFG  
 2: ABCDEFG