

DRIVERS ROUTE KNOWLEDGE DIAGRAMS

MAIN WEST (BLUE MOUNTAINS) LINE

EMU PLAINS
LAPSTONE
GLENBROOK
BLAXLAND
WARRIMOO
VALLEY HEIGHTS
SPRINGWOOD
FAULCONBRIDGE
LINDEN
WOODFORD
HAZELBROOK
LAWSON
BULLABURRA
WENTWORTH FALLS
LEURA
KATOOMBA
MEDLOW BATH
BLACKHEATH
MT VICTORIA
BELL
NEWNES JUNCTION
EDGECOMBE
ZIG ZAG
LITHGOW

Effective Date: May 2024

Version: 4.87

Explanatory Notes:

Navigate to your area of interest via the station index or by using links created in Adobe bookmarks.

This document is approved for **route knowledge only**.

Do not use these diagrams for any safety related purpose without validating the information against a controlled source or in the field.

Information in these diagrams is uncontrolled.

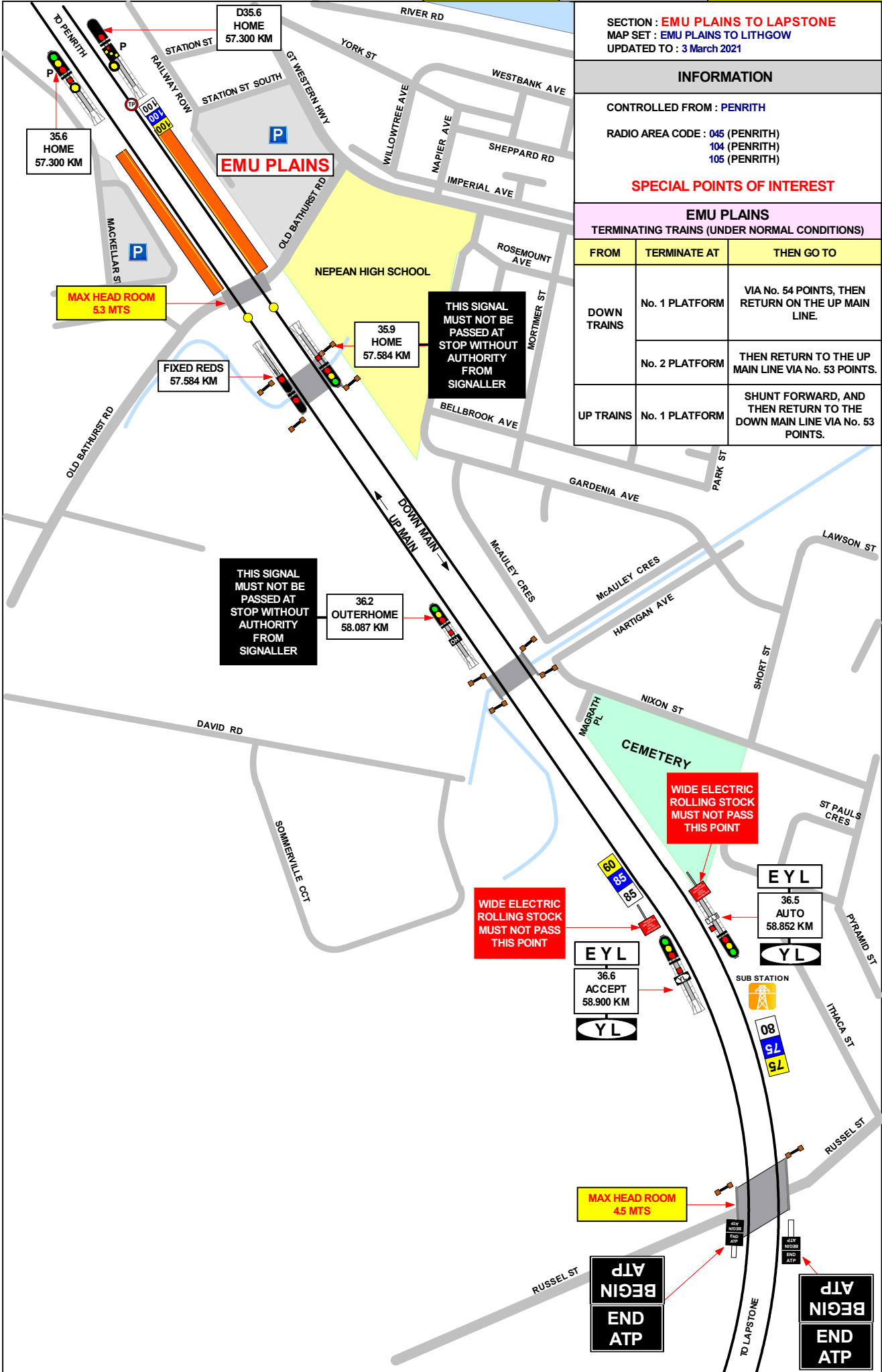
Please report any updates to
gis.support@transport.nsw.gov.au



Copyright: Sydney Trains

Ownership: Geospatial Services

Location: CM Record No.D2015/572



SECTION : **EMU PLAINS TO LAPSTONE**
 MAP SET : **EMU PLAINS TO LITHGOW**
 UPDATED TO : 3 March 2021

INFORMATION

CONTROLLED FROM : **PENRITH**

RADIO AREA CODE : **045 (PENRITH)**
104 (PENRITH)
105 (PENRITH)

SPECIAL POINTS OF INTEREST

EMU PLAINS
 TERMINATING TRAINS (UNDER NORMAL CONDITIONS)

FROM	TERMINATE AT	THEN GO TO
DOWN TRAINS	No. 1 PLATFORM	VIA No. 54 POINTS, THEN RETURN ON THE UP MAIN LINE.
	No. 2 PLATFORM	THEN RETURN TO THE UP MAIN LINE VIA No. 53 POINTS.
UP TRAINS	No. 1 PLATFORM	SHUNT FORWARD, AND THEN RETURN TO THE DOWN MAIN LINE VIA No. 53 POINTS.

GRADIENT
LEVEL
1 IN 280
LEVEL
1 IN 186
LEVEL

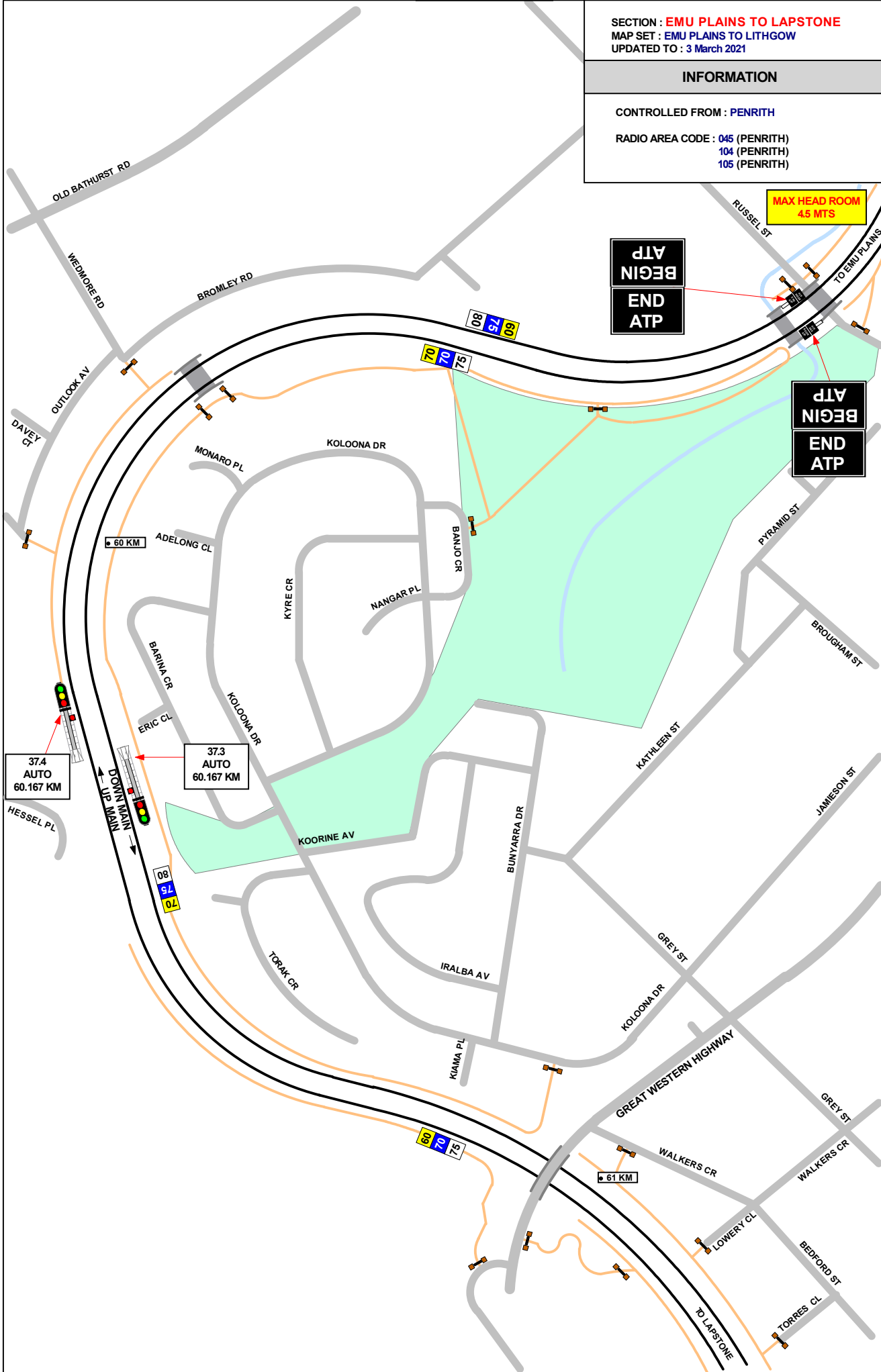
SECTION : EMU PLAINS TO LAPSTONE
MAP SET : EMU PLAINS TO LITHGOW
UPDATED TO : 3 March 2021

GRADIENT

INFORMATION

CONTROLLED FROM : PENRITH

RADIO AREA CODE : 045 (PENRITH)
104 (PENRITH)
105 (PENRITH)



MAX HEAD ROOM
4.5 MTS

BEGIN
ATP

END
ATP

BEGIN
ATP

END
ATP

37.4
AUTO
60.167 KM

37.3
AUTO
60.167 KM

1 IN 60

SECTION : EMU PLAINS TO LITHGOW
MAP SET : EMU PLAINS TO LAPSTONE
UPDATED TO : 28 MAY 2015

GRADIENT

INFORMATION

CONTROLLED FROM : PENRITH
RADIO AREA CODE : 045 (PENRITH)
104 (PENRITH)
105 (PENRITH)



1 IN 60

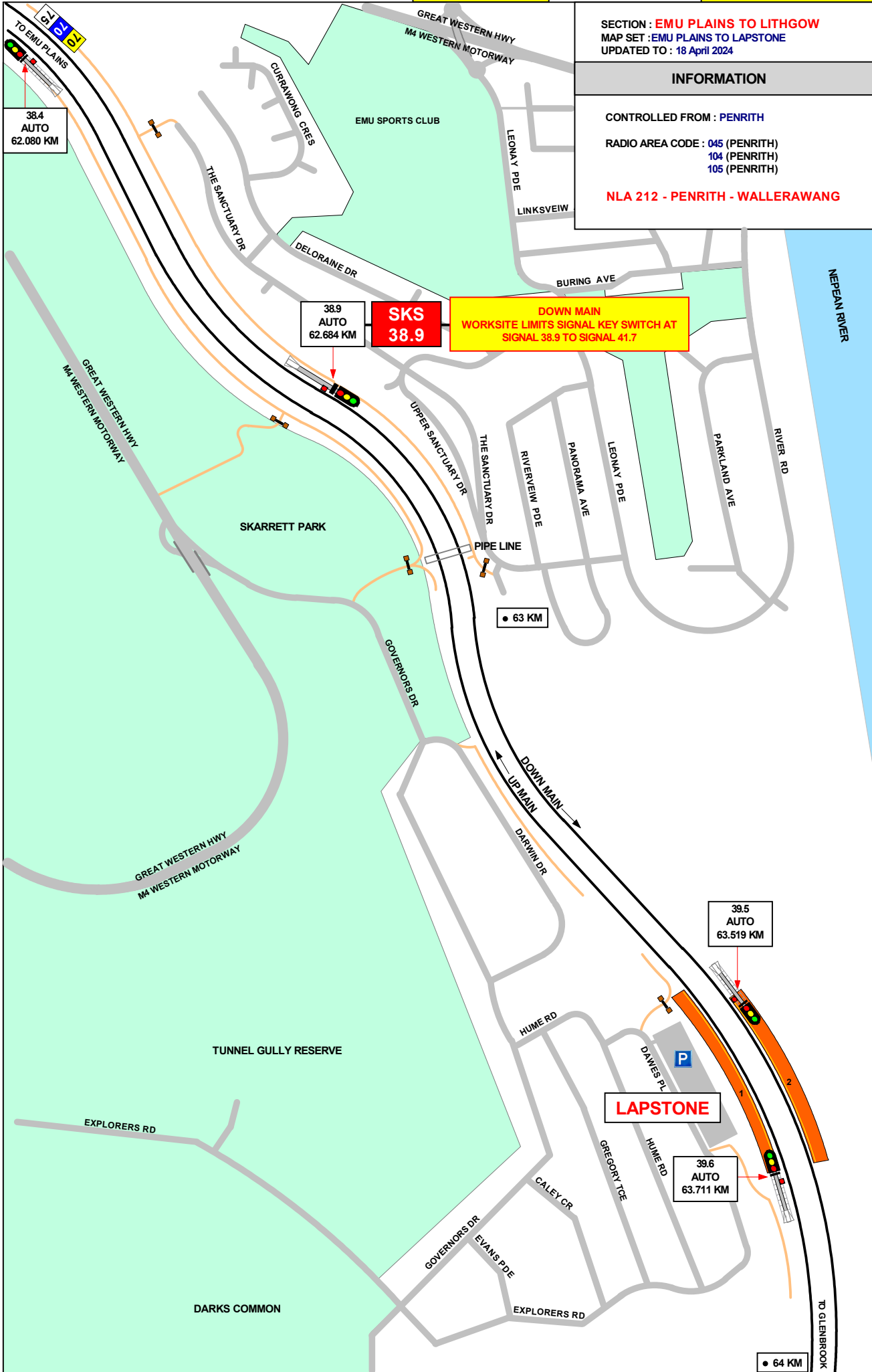
SECTION : EMU PLAINS TO LITHGOW
MAP SET : EMU PLAINS TO LAPSTONE
UPDATED TO : 18 April 2024

INFORMATION

CONTROLLED FROM : PENRITH

RADIO AREA CODE : 045 (PENRITH)
104 (PENRITH)
105 (PENRITH)

NLA 212 - PENRITH - WALLERAWANG

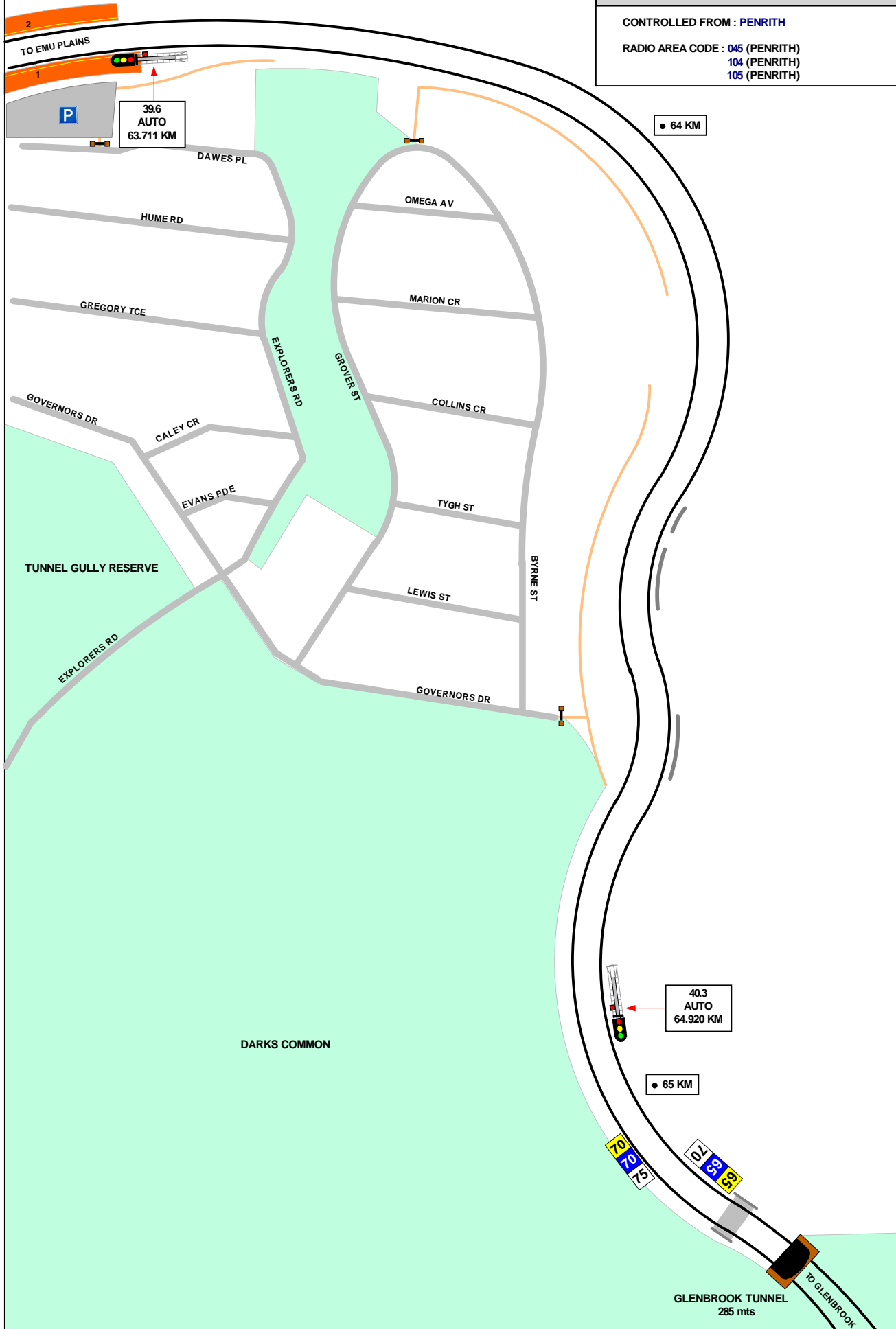


LAPSTONE

SECTION : EMU PLAINS TO LITHGOW
MAP SET : LAPSTONE TO GLENBROOK TUNNEL
UPDATED TO : 22 JULY 2014

INFORMATION

CONTROLLED FROM : PENRITH
RADIO AREA CODE : 045 (PENRITH)
104 (PENRITH)
105 (PENRITH)



1 IN 60

SECTION : EMU PLAINS TO LITHGOW
MAP SET : LAPSTONE TO GLENBROOK
UPDATED TO : 18 April 2024

GRADIENT

INFORMATION

CONTROLLED FROM : PENRITH

RADIO AREA CODE : 045 (PENRITH)
104 (PENRITH)
105 (PENRITH)

NLA 212 - PENRITH - WALLERAWANG

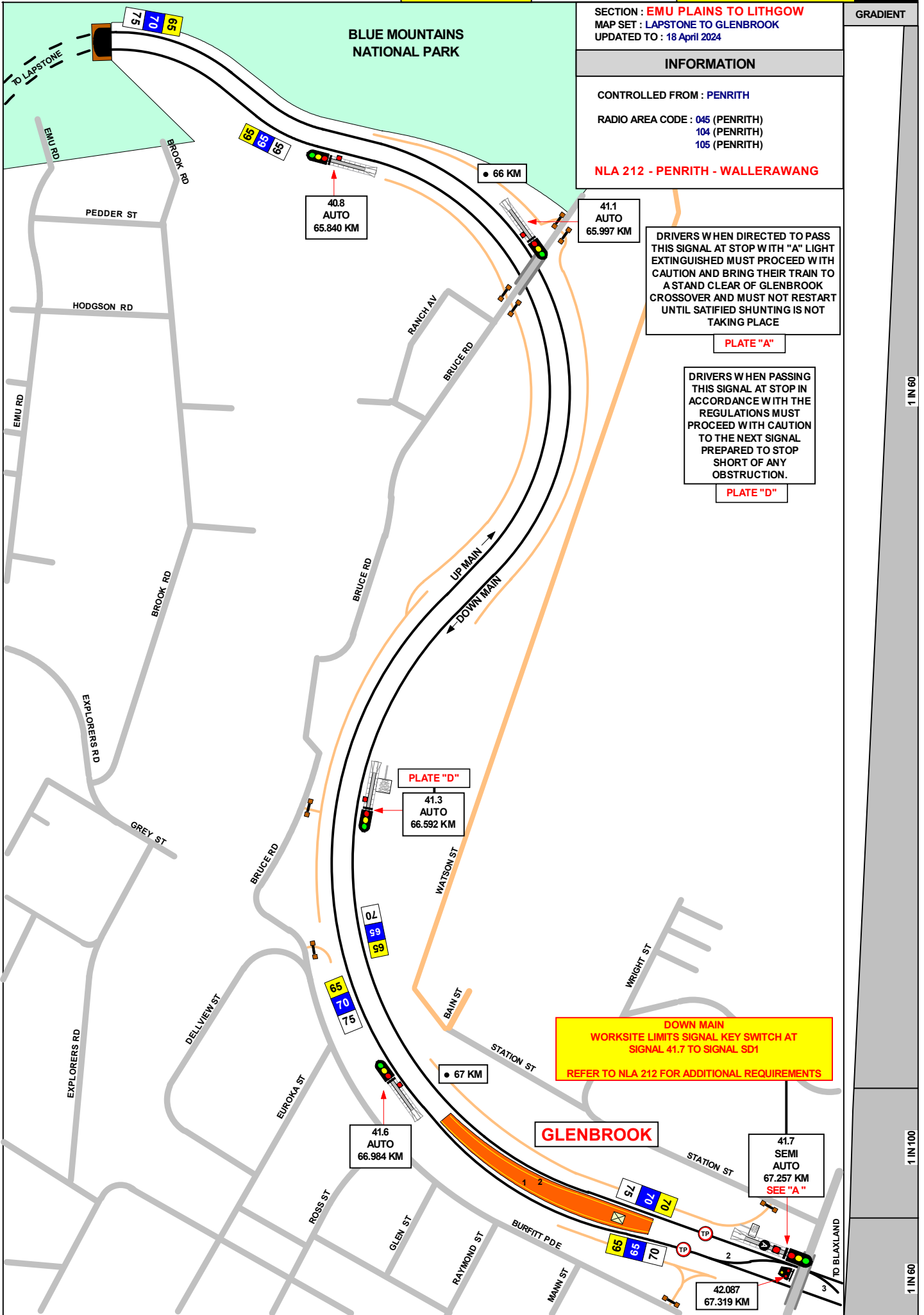
DRIVERS WHEN DIRECTED TO PASS THIS SIGNAL AT STOP WITH "A" LIGHT EXTINGUISHED MUST PROCEED WITH CAUTION AND BRING THEIR TRAIN TO A STAND CLEAR OF GLENBROOK CROSSOVER AND MUST NOT RESTART UNTIL SATISFIED SHUNTING IS NOT TAKING PLACE

PLATE "A"

DRIVERS WHEN PASSING THIS SIGNAL AT STOP IN ACCORDANCE WITH THE REGULATIONS MUST PROCEED WITH CAUTION TO THE NEXT SIGNAL PREPARED TO STOP SHORT OF ANY OBSTRUCTION.

PLATE "D"

DOWN MAIN
WORKSITE LIMITS SIGNAL KEY SWITCH AT
SIGNAL 41.7 TO SIGNAL SD1
REFER TO NLA 212 FOR ADDITIONAL REQUIREMENTS



1 IN 60

1 IN 100

1 IN 60

SECTION : EMU PLAINS TO LITHGOW
MAP SET : GLENBROOK TO BLAXLAND
UPDATED TO : 18 April 2024

INFORMATION

CONTROLLED FROM : PENRITH

RADIO AREA CODE : 045 (PENRITH)

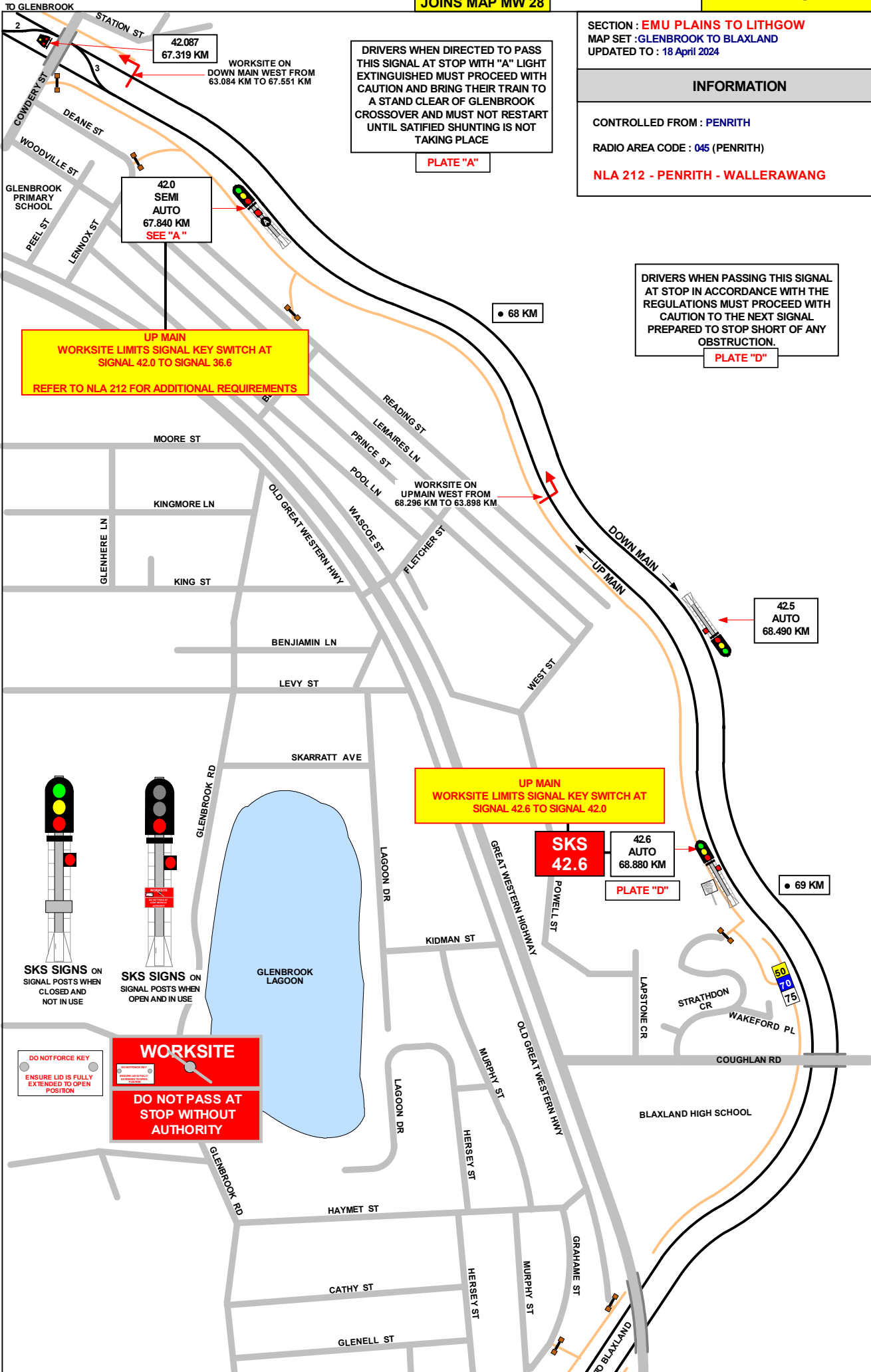
NLA 212 - PENRITH - WALLERAWANG

DRIVERS WHEN DIRECTED TO PASS THIS SIGNAL AT STOP WITH "A" LIGHT EXTINGUISHED MUST PROCEED WITH CAUTION AND BRING THEIR TRAIN TO A STAND CLEAR OF GLENBROOK CROSSOVER AND MUST NOT RESTART UNTIL SATISFIED SHUNTING IS NOT TAKING PLACE

PLATE "A"

DRIVERS WHEN PASSING THIS SIGNAL AT STOP IN ACCORDANCE WITH THE REGULATIONS MUST PROCEED WITH CAUTION TO THE NEXT SIGNAL PREPARED TO STOP SHORT OF ANY OBSTRUCTION.

PLATE "D"



UP MAIN
WORKSITE LIMITS SIGNAL KEY SWITCH AT
SIGNAL 42.0 TO SIGNAL 36.6
REFER TO NLA 212 FOR ADDITIONAL REQUIREMENTS

UP MAIN
WORKSITE LIMITS SIGNAL KEY SWITCH AT
SIGNAL 42.6 TO SIGNAL 42.0

WORKSITE
DO NOT PASS AT
STOP WITHOUT
AUTHORITY

DO NOT FORCE KEY
ENSURE LID IS FULLY
EXTENDED TO OPEN
POSITION

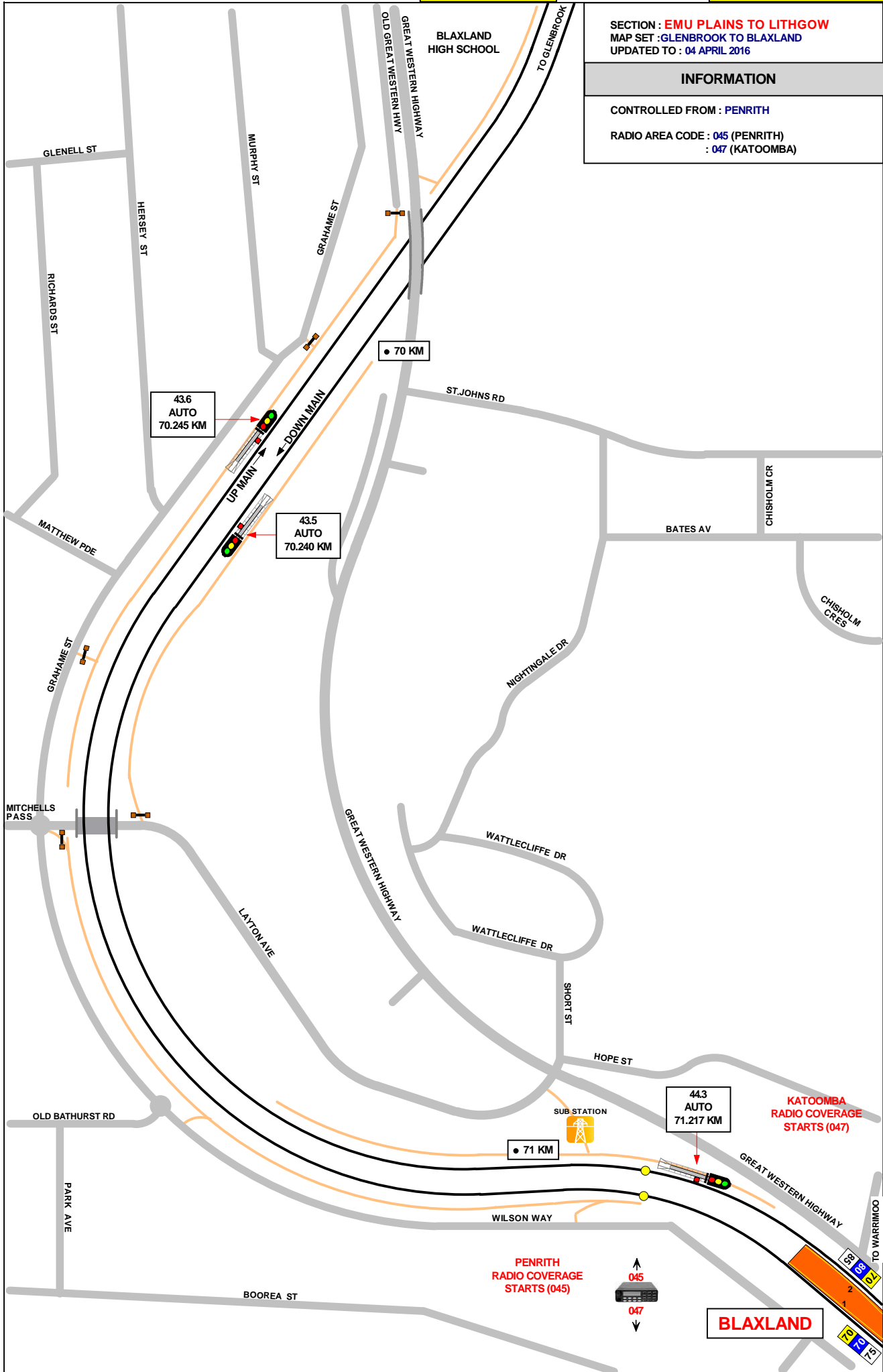
1 IN 60

SECTION : EMU PLAINS TO LITHGOW
MAP SET : GLENBROOK TO BLAXLAND
UPDATED TO : 04 APRIL 2016

INFORMATION

CONTROLLED FROM : PENRITH

RADIO AREA CODE : 045 (PENRITH)
: 047 (KATOOMBA)



1 IN 60

BLAXLAND

TO GLENBROOK

BLAXLAND

SECTION : EMU PLAINS TO LITHGOW
MAP SET : BLAXLAND TO WARRIMOO
UPDATED TO : 04 APRIL 2016

GRADIENT

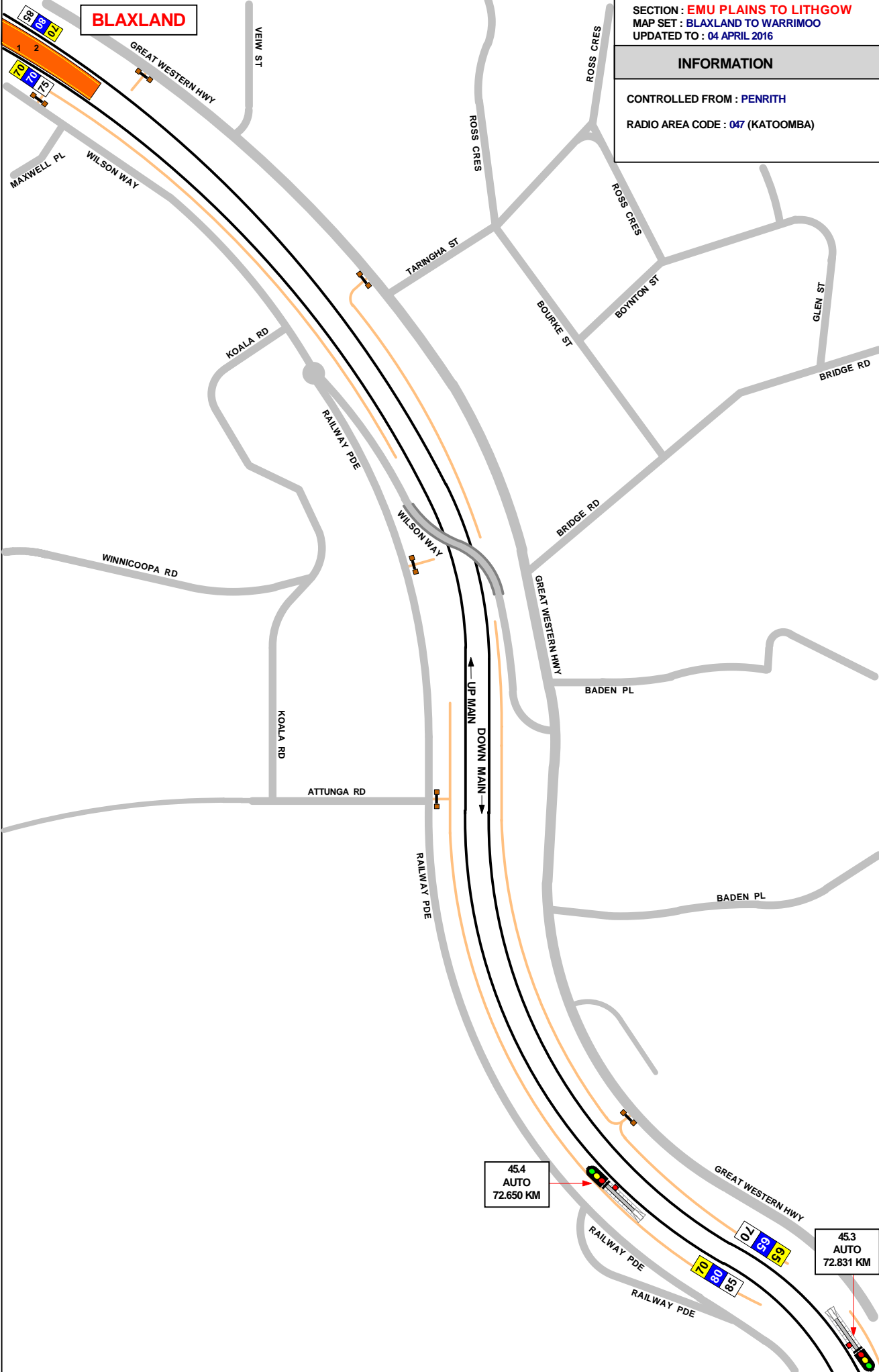
INFORMATION

CONTROLLED FROM : PENRITH
RADIO AREA CODE : 047 (KATOOMBA)

1 IN 60

1 IN 100

1 IN 66



TO WARRIMOO

SECTION : EMU PLAINS TO LITHGOW
MAP SET : WARRIMOO TO VALLEY HEIGHTS
UPDATED TO : 04 APRIL 2016

INFORMATION

CONTROLLED FROM : PENRITH / BLACKTOWN

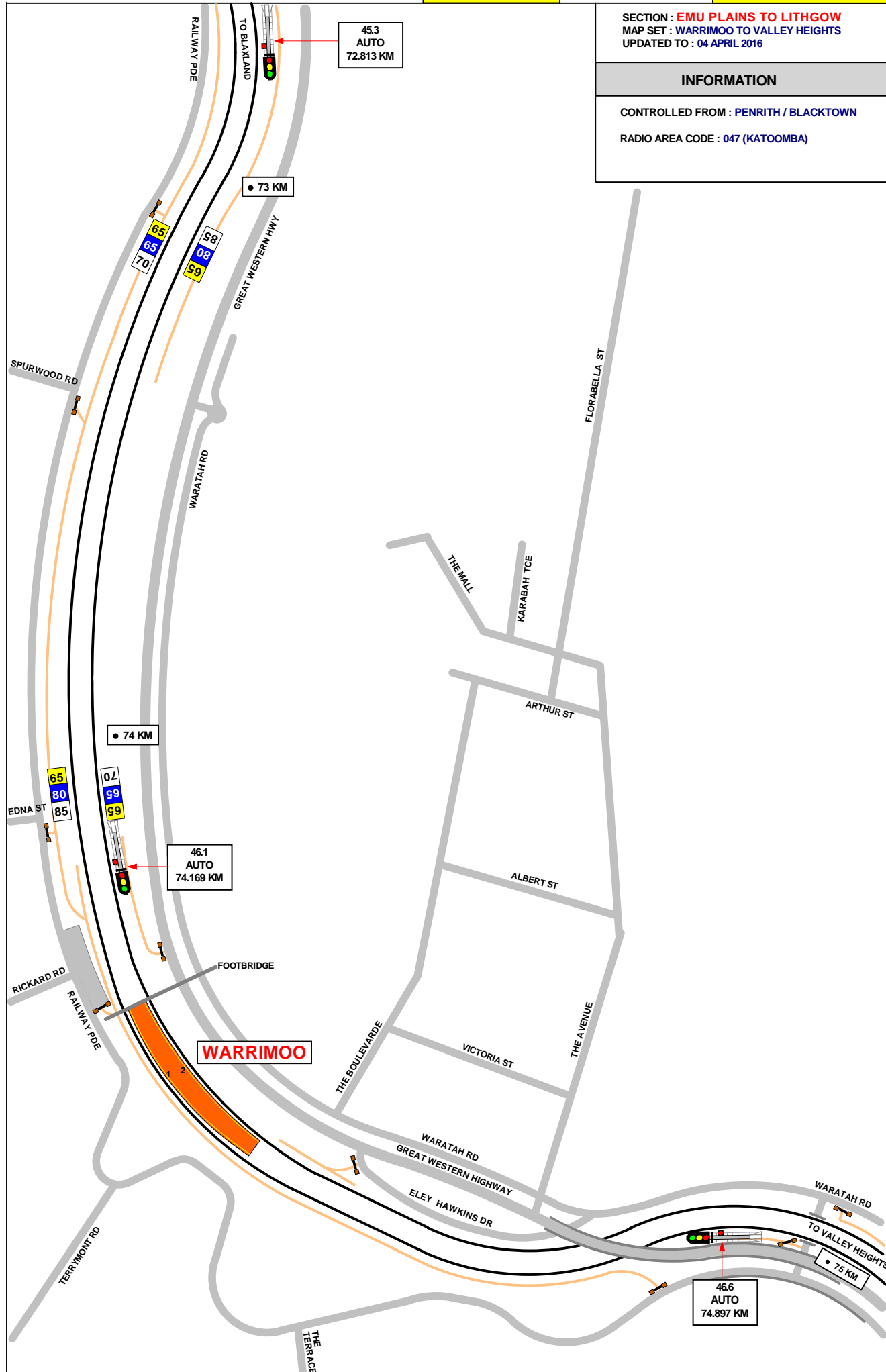
RADIO AREA CODE : 047 (KATOOMBA)

GRADIENT

1 IN 68

1 IN 60

1 IN 97

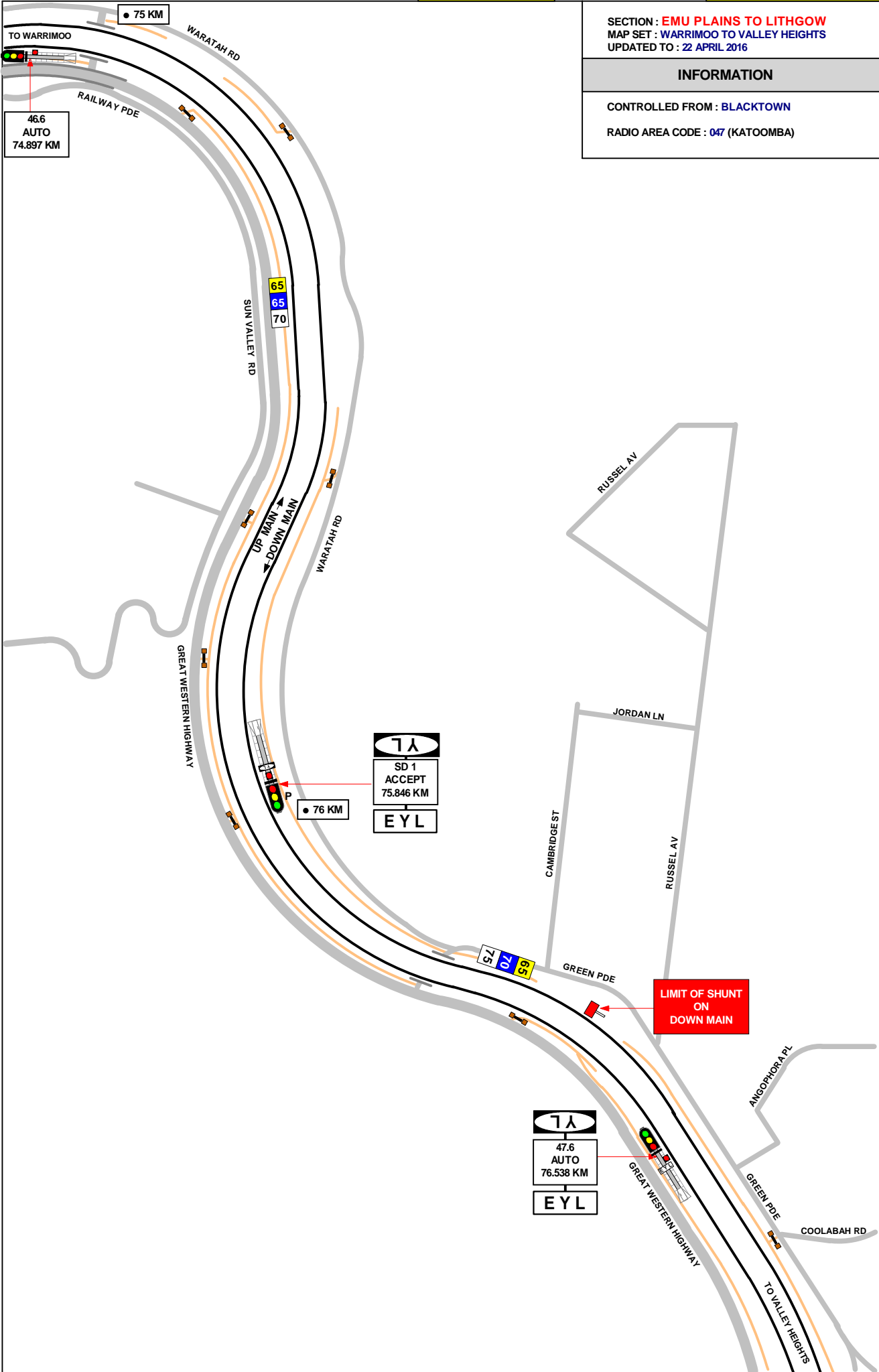


SECTION : **EMU PLAINS TO LITHGOW**
MAP SET : WARRIMOO TO VALLEY HEIGHTS
UPDATED TO : 22 APRIL 2016

INFORMATION

CONTROLLED FROM : **BLACKTOWN**

RADIO AREA CODE : **047 (KATOOMBA)**



1 IN 60

SECTION : EMU PLAINS TO LITHGOW
 MAP SET : VALLEY HEIGHTS
 UPDATED TO : 22 APRIL 2016

GRADIENT

INFORMATION

CONTROLLED FROM : BLACKTOWN
 RADIO AREA CODE : 047 (KATOOMBA)

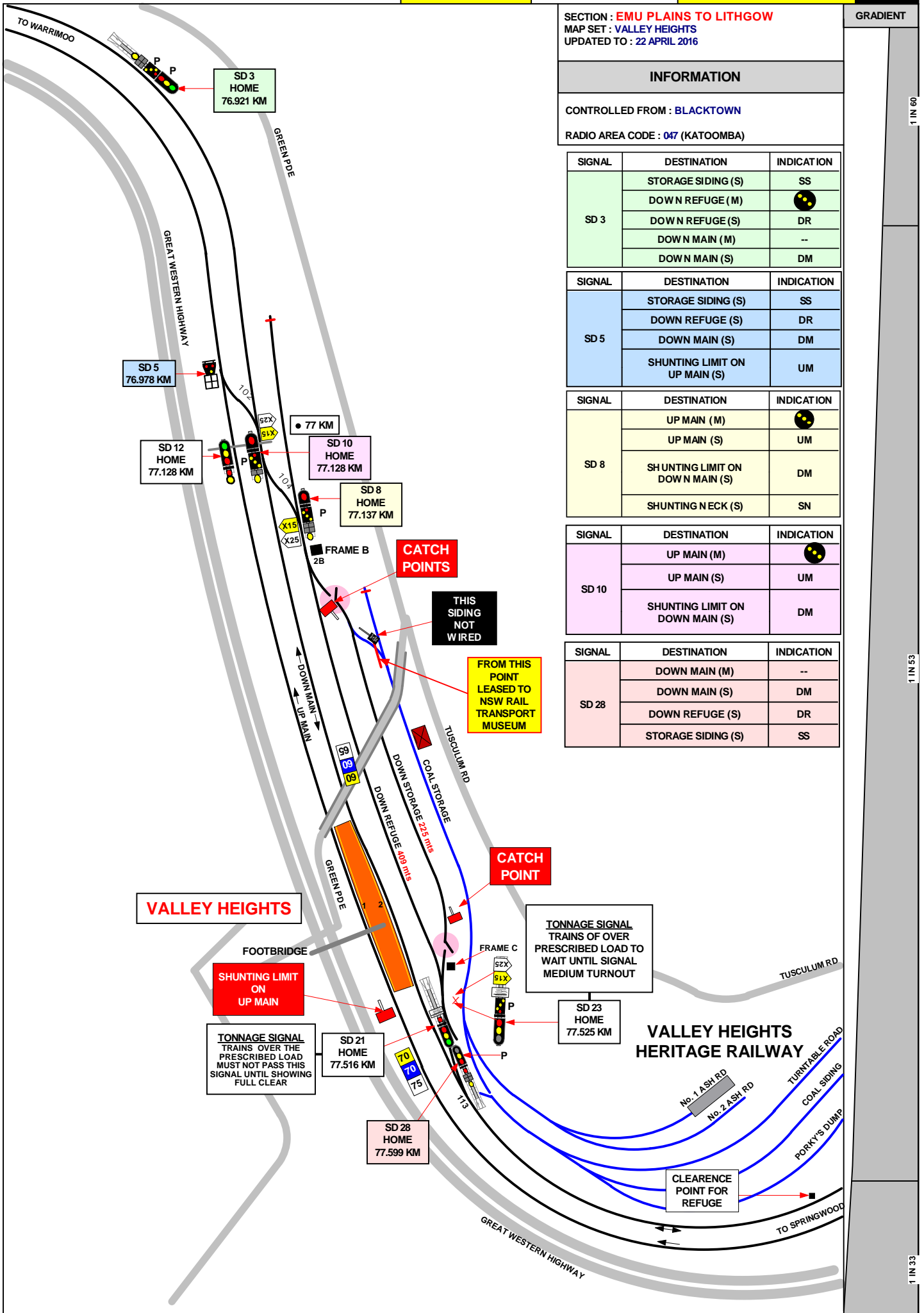
SIGNAL	DESTINATION	INDICATION
SD 3	STORAGE SIDING (S)	SS
	DOWN REFUGE (M)	
	DOWN REFUGE (S)	DR
	DOWN MAIN (M)	--
	DOWN MAIN (S)	DM

SIGNAL	DESTINATION	INDICATION
SD 5	STORAGE SIDING (S)	SS
	DOWN REFUGE (S)	DR
	DOWN MAIN (S)	DM
	SHUNTING LIMIT ON UP MAIN (S)	UM

SIGNAL	DESTINATION	INDICATION
SD 8	UP MAIN (M)	
	UP MAIN (S)	UM
	SHUNTING LIMIT ON DOWN MAIN (S)	DM
	SHUNTING NECK (S)	SN

SIGNAL	DESTINATION	INDICATION
SD 10	UP MAIN (M)	
	UP MAIN (S)	UM
	SHUNTING LIMIT ON DOWN MAIN (S)	DM

SIGNAL	DESTINATION	INDICATION
SD 28	DOWN MAIN (M)	--
	DOWN MAIN (S)	DM
	DOWN REFUGE (S)	DR
	STORAGE SIDING (S)	SS



1 IN 60

1 IN 53

1 IN 33

**SPECIAL POINTS OF INTEREST
VALLEY HEIGHTS AND SPRINGWOOD**

NLA 212



WARNING: THIS LOCATION HAS NARROW CLEARANCES



CAN BE SWITCHED OUT



75.846 KM DOWN SIGNAL SD 1



76.309 KM UP SHUNT LIMIT SIGN ON DOWN MAIN WEST LINE



76.538 KM UP SIGNAL 47.6

DOWN MAIN WEST LINE TO UP MAIN WEST (102 POINTS)

DOWN MAIN WEST LINE TO DOWN REFUGE SIDING (104 POINTS)

77.087 KM DOWN REFUGE SIDING TO STORAGE SIDING: FRAME B RELEASED BY KEY FROM RELEASING SWITCH B OUT WITH LEVER NORMAL



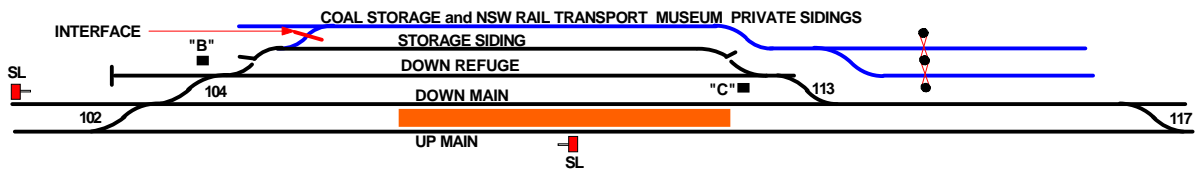
77.323 KM VALLEY HEIGHTS : PLATFORM 1 AND 2



77.494 KM DOWN SHUNT LIMIT SIGN ON UP MAIN WEST LINE

77.524 KM DOWN REFUGE SIDING TO STORAGE SIDING : KEY FROM RELEASING SWITCH "C" RELEASED FROM SIGNAL BOX ("C" FRAME)

VALLEY HEIGHTS



DOWN REFUGE SIDING TO DOWN MAIN WEST LINE (113 POINTS)

DOWN MAIN WEST LINE TO UP MAIN WEST LINE (117 POINTS)



79.604 KM SPRINGWOOD . PLATFORM 1 AND 2



79.779 KM TAKE OFF POINT



79.799 KM SIGNALBOX



80.205 KM SPRINGWOOD: AUTOMATIC . KEYS AT SPRINGWOOD SIGNAL BOX



80.484 KM 2 X DOWN NARROW ELECTRIC STOCK ONLY SIGNS ON UP AND DOWN MAIN WEST LINES



80.674 KM DOWN SHUNT LIMIT ON DOWN MAIN WEST LINE



80.892 KM FAULCONBRIDGE : AUTOMATIC . KEYS AT SPRINGWOOD SIGNALBOX



81.720 KM DOWN SIGNAL 50.9



82.093 KM UP SIGNAL SD 46

SECTION : EMU PLAINS TO LITHGOW
 MAP SET : VALLEY HEIGHTS TO SPRINGWOOD
 UPDATED TO : 20 May 2024

INFORMATION

CONTROLLED FROM : BLACKTOWN
 RADIO AREA CODE : 047 (KATOOMBA)

SIGNAL	DESTINATION	INDICATION
SD 35	DOWN MAIN (M)	--
	DOWN MAIN (S)	DM
	UP MAIN (M)	☀
	UP MAIN (S)	UM
SIGNAL	DESTINATION	INDICATION
SD 38	UP MAIN(M)	--
	DOWN MAIN (M)	☀

GRADIENT

1 IN 33

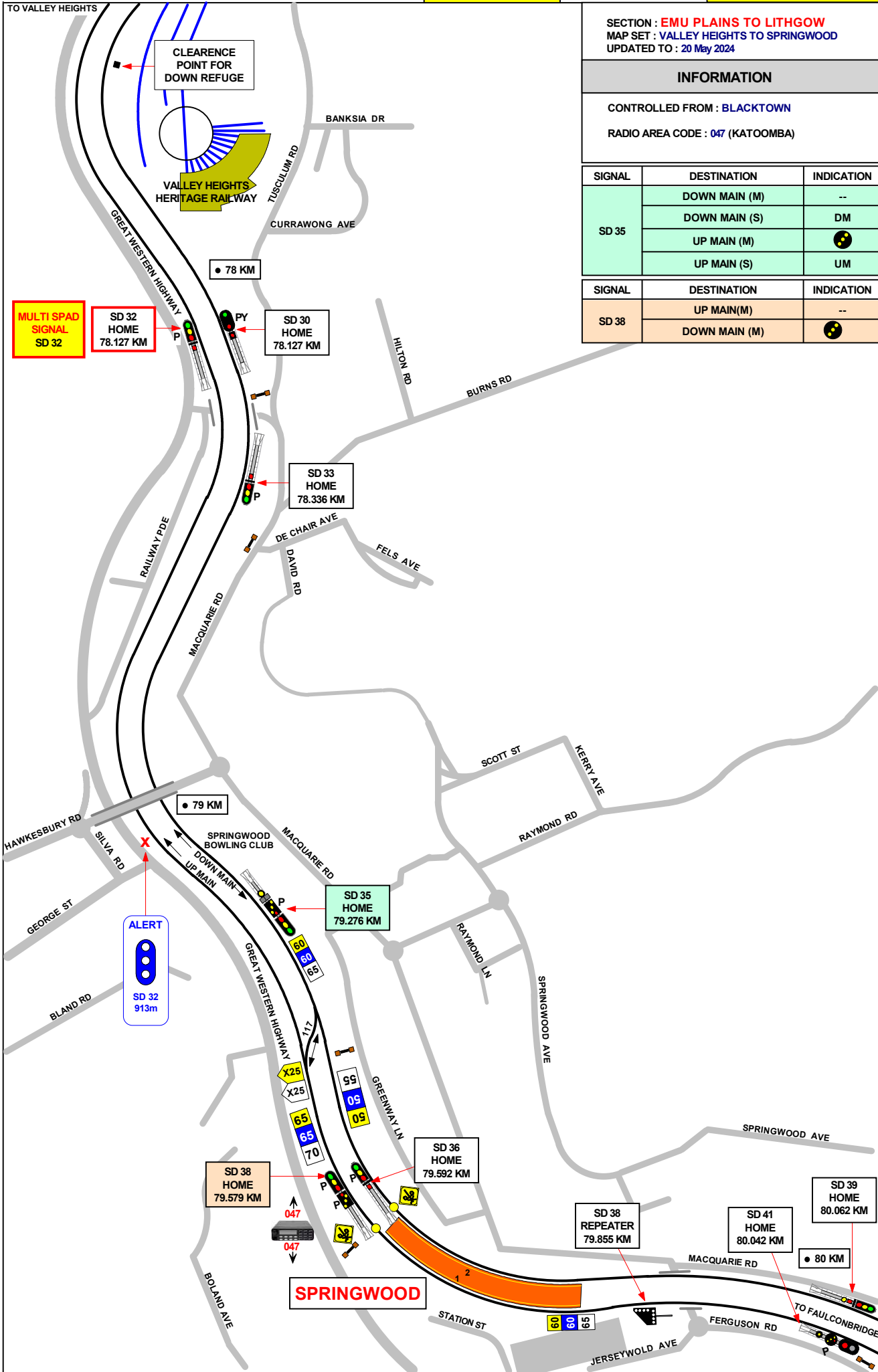
LEVEL

1 IN 33

LEVEL

1 IN 33

LEVEL



GRADIENT

LEVEL

1 IN 40

1 IN 33

1 IN 66

1 IN 33

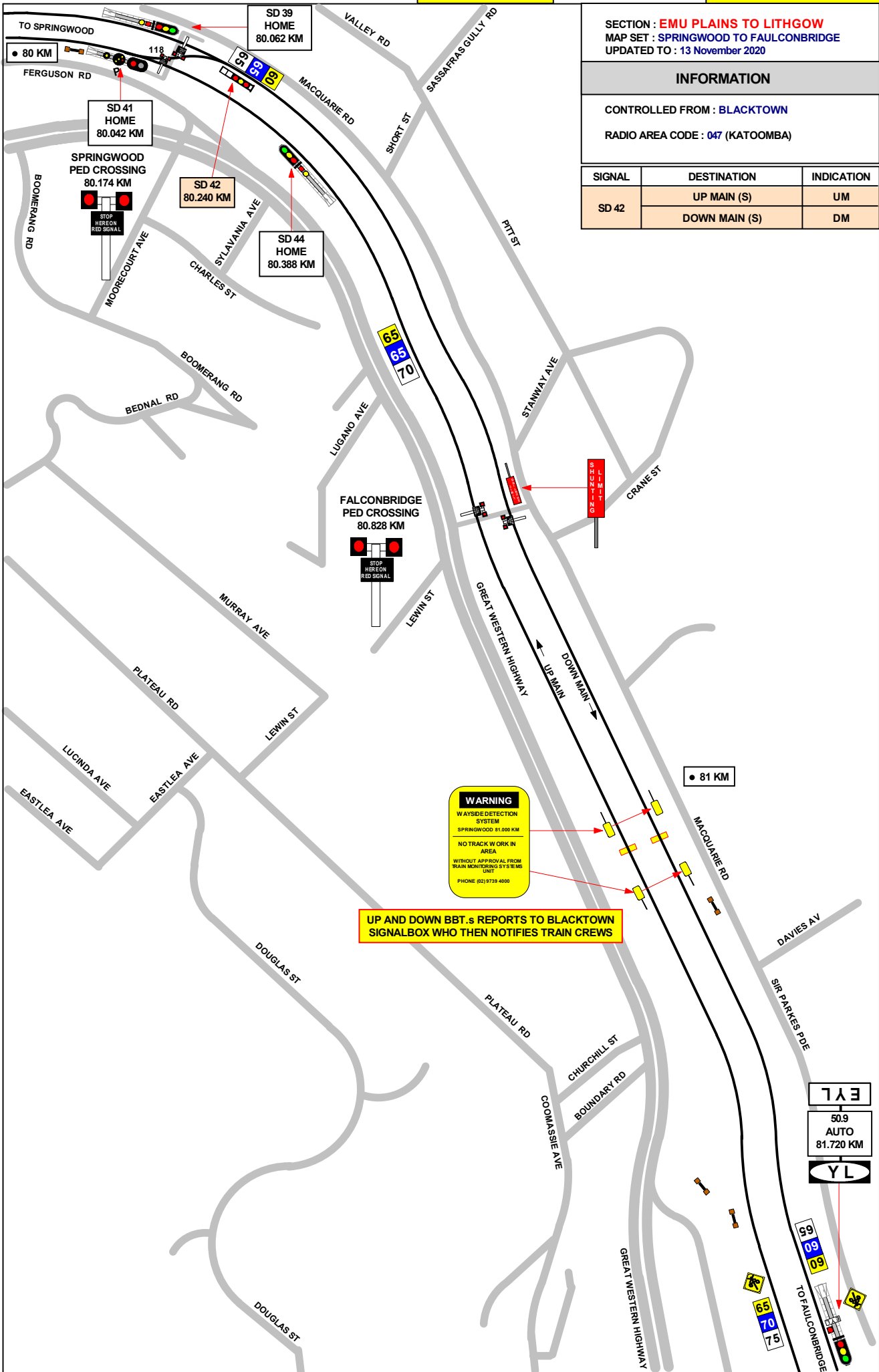
1 IN 31

SECTION : **EMU PLAINS TO LITHGOW**
 MAP SET : **SPRINGWOOD TO FAULCONBRIDGE**
 UPDATED TO : 13 November 2020

INFORMATION

CONTROLLED FROM : **BLACKTOWN**
 RADIO AREA CODE : **047 (KATOOMBA)**

SIGNAL	DESTINATION	INDICATION
SD 42	UP MAIN (S)	UM
	DOWN MAIN (S)	DM



SECTION : EMU PLAINS TO LITHGOW
MAP SET : SPRINGWOOD TO FAULCONBRIDGE
UPDATED TO : 25 March 2024

INFORMATION

CONTROLLED FROM : BLACKTOWN
RADIO AREA CODE : 047 (KATOOMBA)

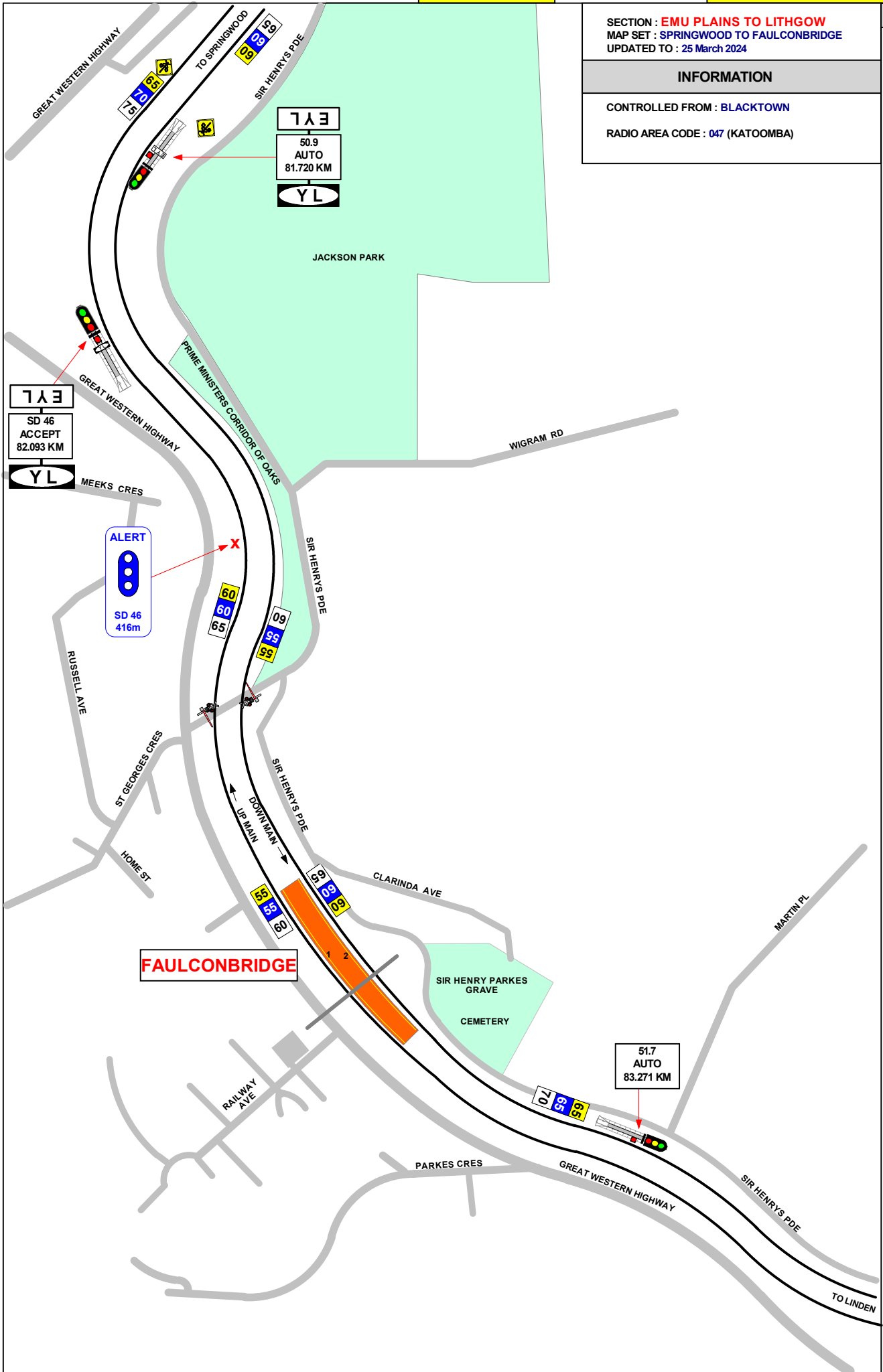
GRADIENT

1 IN 31

1 IN 33

LEVEL

1 IN 31



SECTION : **EMU PLAINS TO LITHGOW**
 MAP SET : **FAULCONBRIDGE TO LINDEN**
 UPDATED TO : **04 APRIL 2016**

INFORMATION

CONTROLLED FROM : **BLACKTOWN**

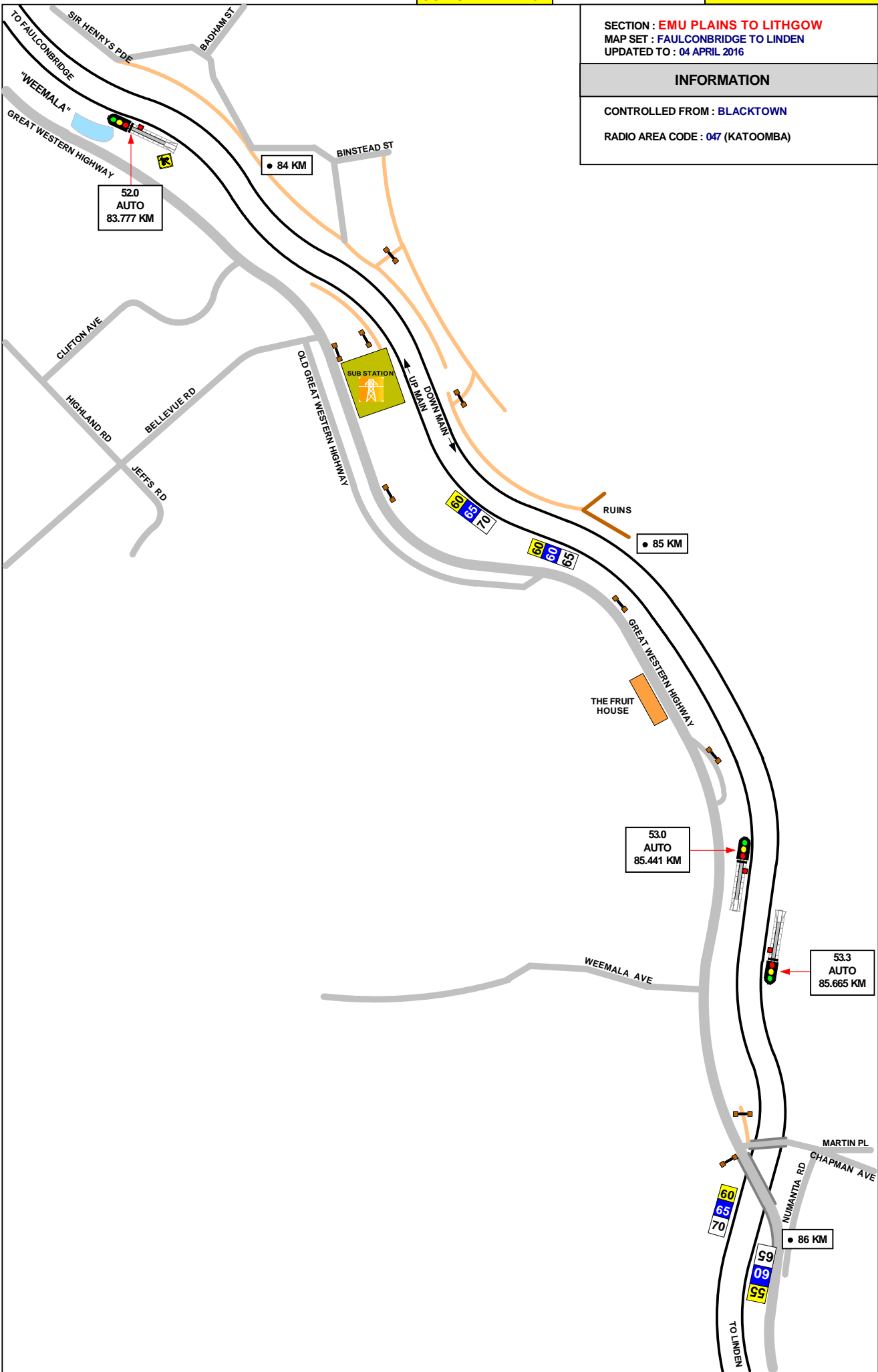
RADIO AREA CODE : **047 (KATOOMBA)**

GRADIENT

1 IN 31

1 IN 33

1 IN 31



SECTION : EMU PLAINS TO LITHGOW
MAP SET : LINDEN TO WOODFORD
UPDATED TO : 04 APRIL 2016

INFORMATION

CONTROLLED FROM : BLACKTOWN

RADIO AREA CODE : 047 (KATOOMBA)

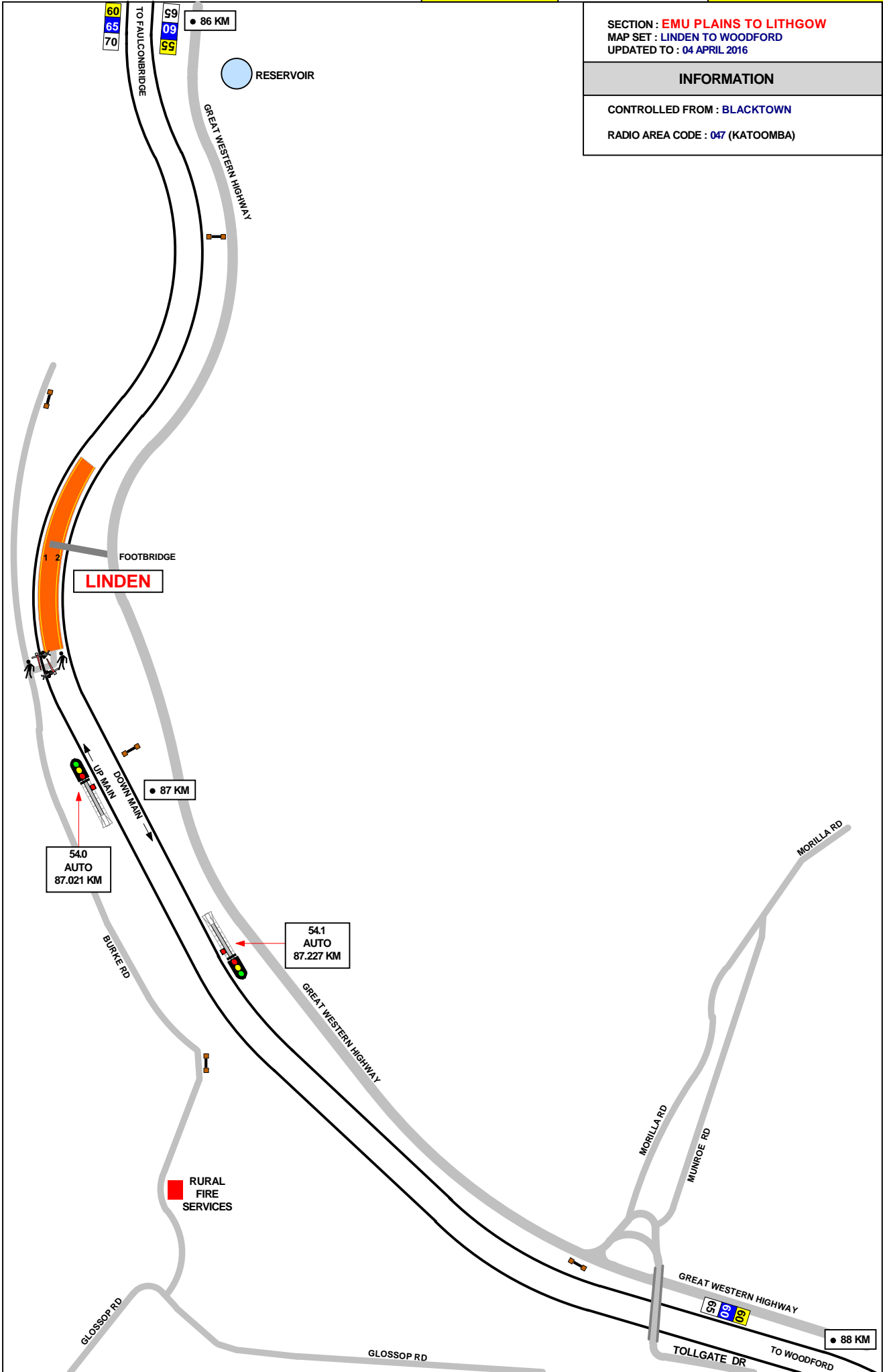
GRADIENT

1 IN 31

1 IN 33

1 IN 264

1 IN 33



SECTION : EMU PLAINS TO LITHGOW
MAP SET : LINDEN TO WOODFORD
UPDATED TO : 04 APRIL 2016

INFORMATION

CONTROLLED FROM : BLACKTOWN
RADIO AREA CODE : 047 (KATOOMBA)

GRADIENT

1 IN 33

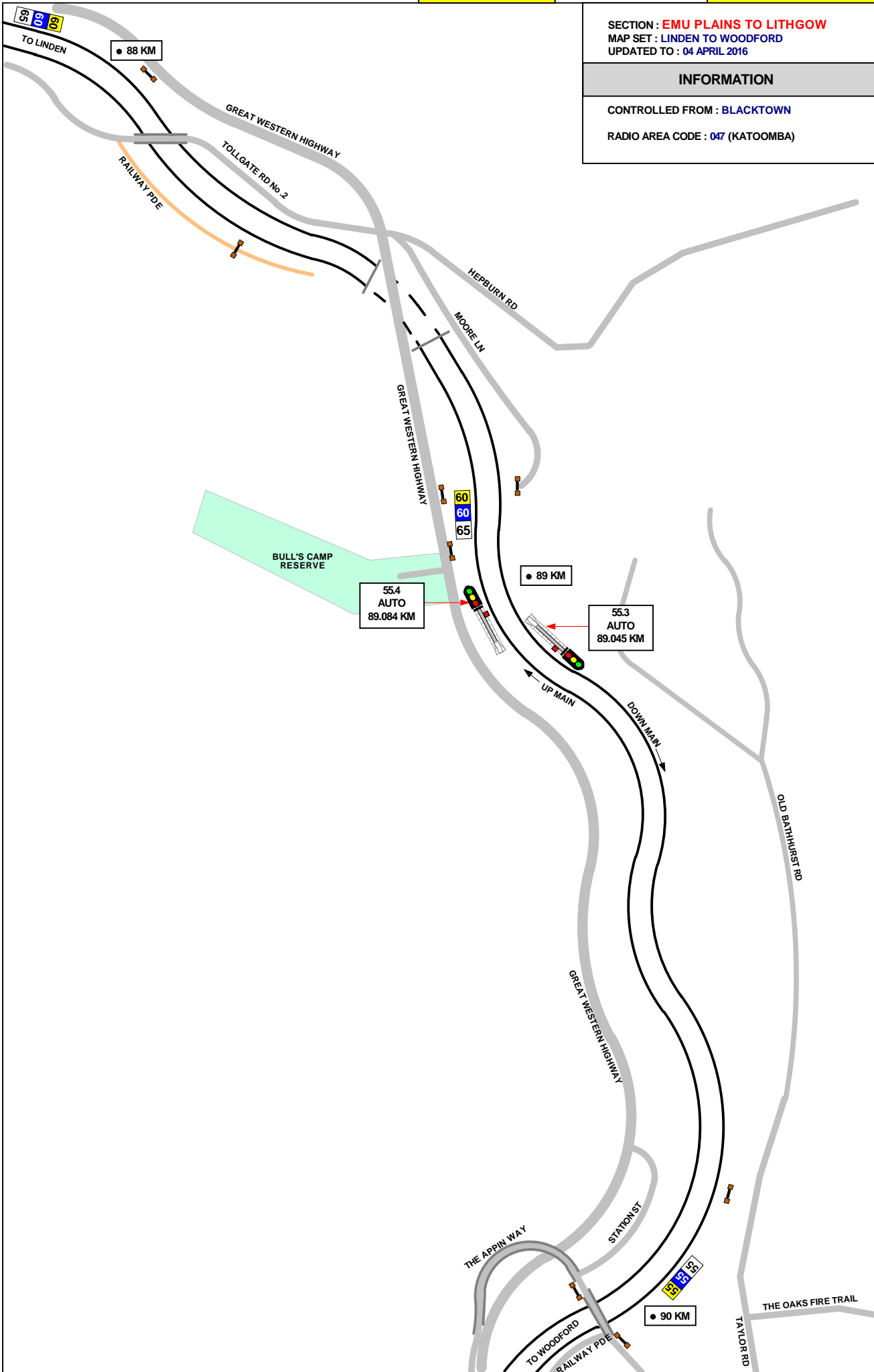
1 IN 40

1 IN 66

1 IN 51

1 IN 50

1 IN 54



GRADIENT

1 IN 54

1 IN 33

1 IN 48

LEVEL

WOODFORD

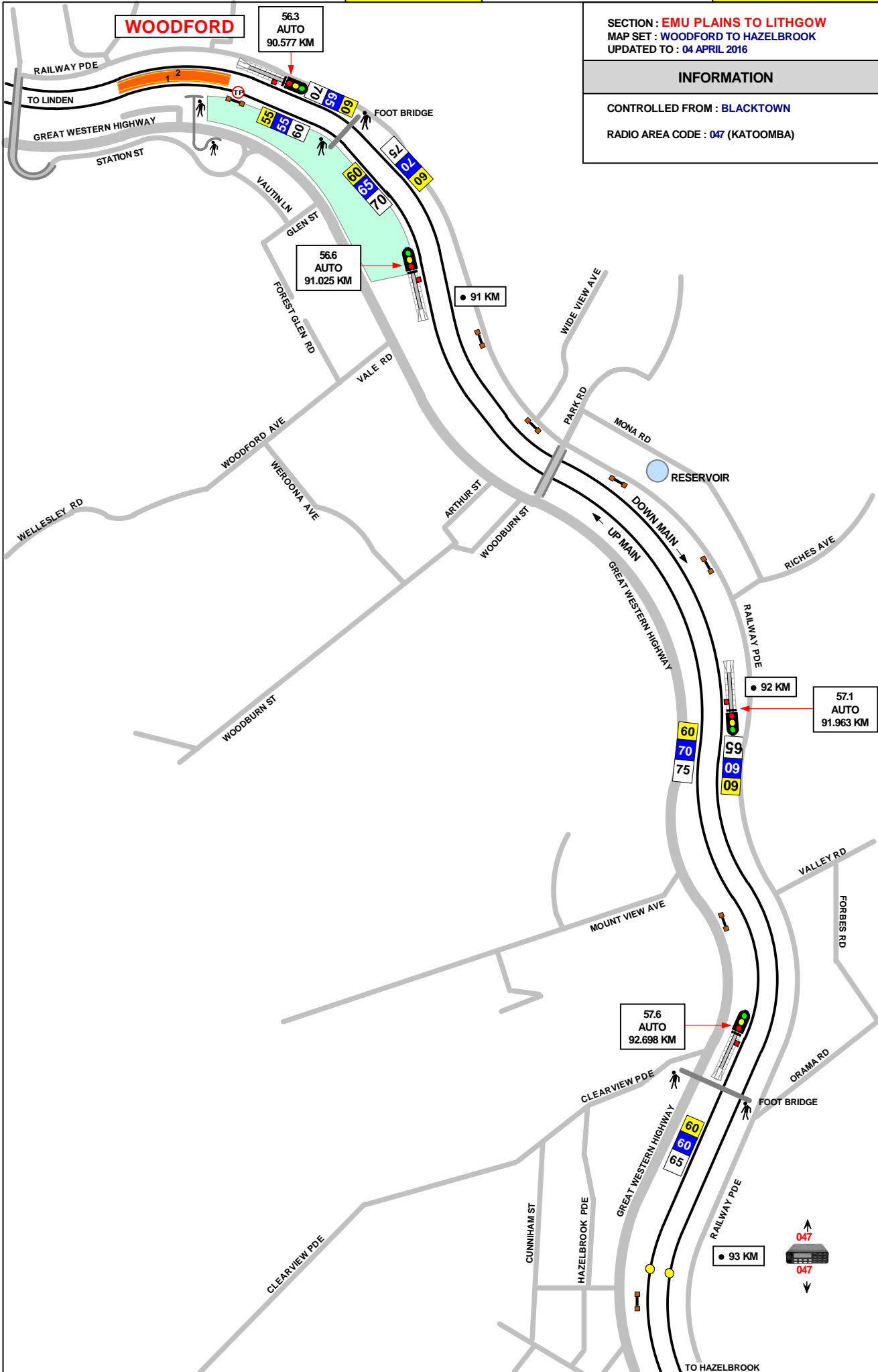
56.3
AUTO
90.577 KM

SECTION : EMU PLAINS TO LITHGOW
MAP SET : WOODFORD TO HAZELBROOK
UPDATED TO : 04 APRIL 2016

INFORMATION

CONTROLLED FROM : BLACKTOWN

RADIO AREA CODE : 047 (KATOOMBA)



GRADIENT

LEVEL

1 IN 66

1 IN 33

1 IN 32

LEVEL

SECTION : EMU PLAINS TO LITHGOW
MAP SET : HAZELBROOK TO LAWSON
UPDATED TO : 14 November 2018

INFORMATION

CONTROLLED FROM :BLACKTOWN
RADIO AREA CODE : 047 (KATOOMBA)

58.1
AUTO
93.331 KM
TONNAGE

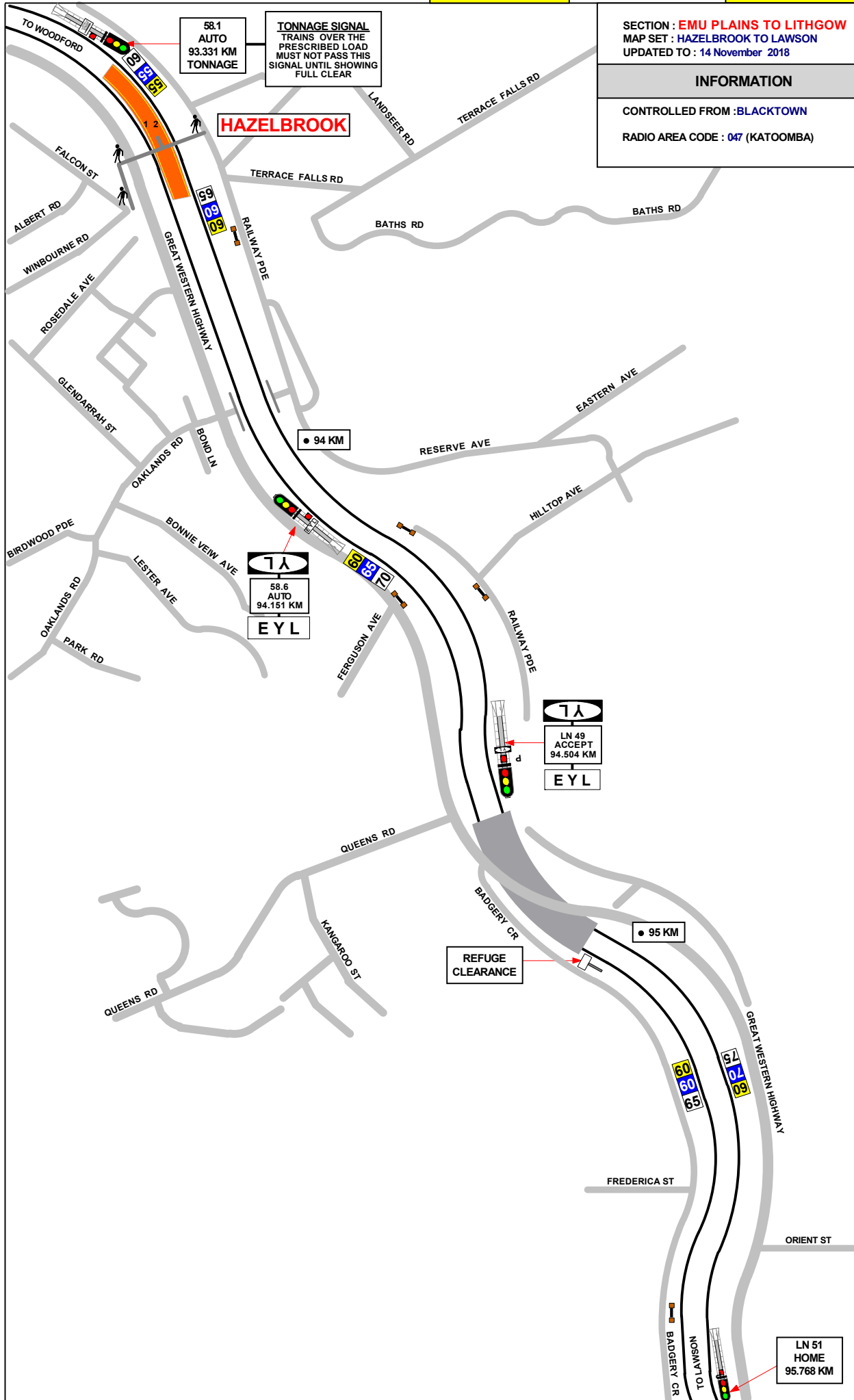
TONNAGE SIGNAL
TRAINS OVER THE
PRESCRIBED LOAD
MUST NOT PASS THIS
SIGNAL UNTIL SHOWING
FULL CLEAR

HAZELBROOK

58.6
AUTO
94.151 KM
EYL

LN 49
ACCEPT
94.504 KM
EYL

LN 51
HOME
95.768 KM



TO HAZELBROOK

GRADIENT

SECTION : EMU PLAINS TO LITHGOW
 MAP SET : LAWSON TO BULLABURRA
 UPDATED TO : 1 April 2020

INFORMATION

CONTROLLED FROM : BLACKTOWN
 RADIO AREA CODE : 047 (KATOOMBA)

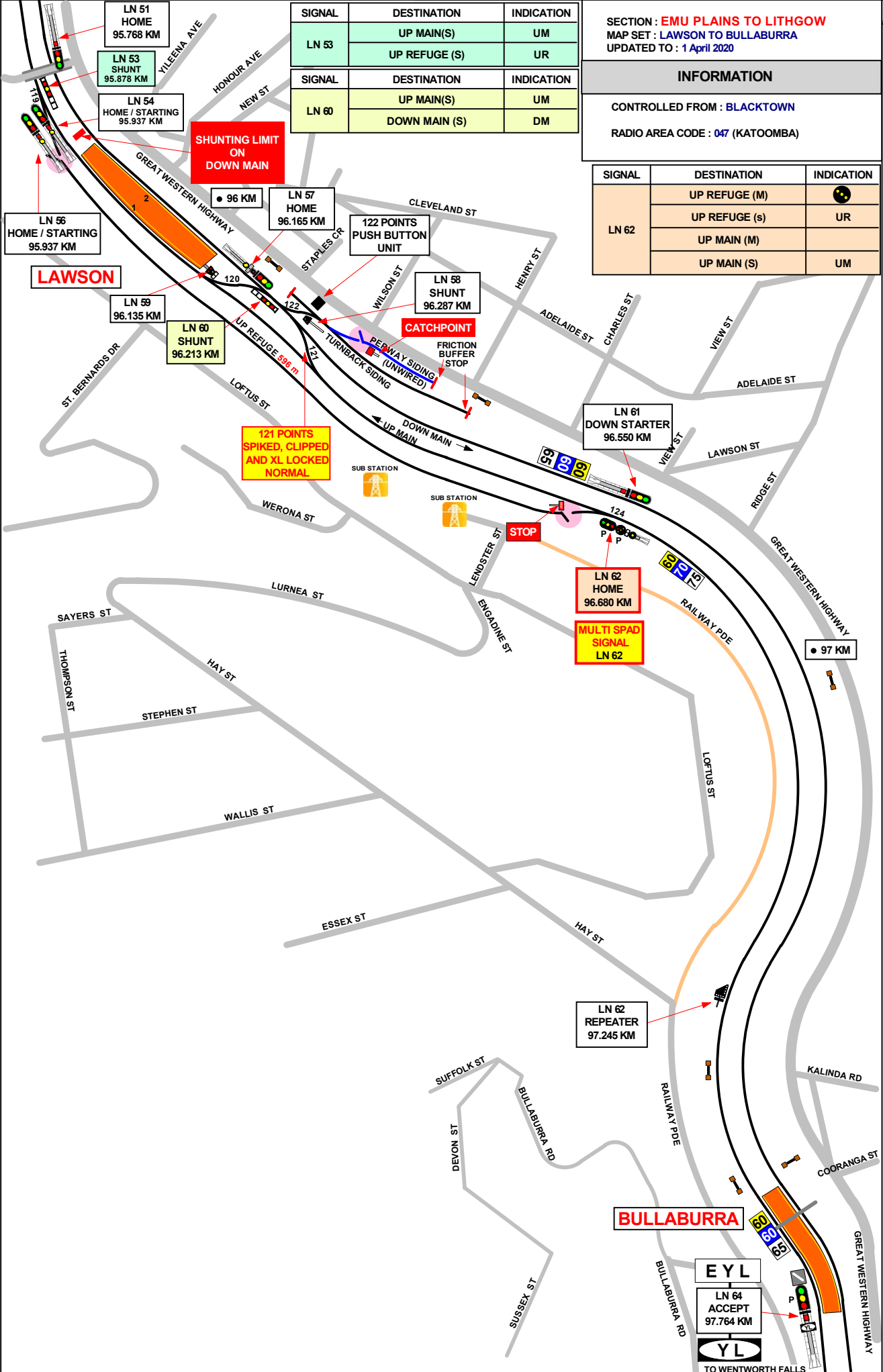
SIGNAL	DESTINATION	INDICATION
LN 53	UP MAIN(S)	UM
	UP REFUGE (S)	UR
SIGNAL	DESTINATION	INDICATION
LN 60	UP MAIN(S)	UM
	DOWN MAIN (S)	DM

SIGNAL	DESTINATION	INDICATION
LN 62	UP REFUGE (M)	☀
	UP REFUGE (S)	UR
	UP MAIN (M)	
	UP MAIN (S)	UM

LEVEL

1 IN 33

1 IN 66



EYL
 LN 64
 ACCEPT
 97.764 KM
YL
 TO WENTWORTH FALLS

BULLABURRA

LAWSON

SHUNTING LIMIT ON DOWN MAIN

CATCHPOINT

121 POINTS SPIKED, CLIPPED AND XL LOCKED NORMAL

MULTI SPAD SIGNAL LN 62

STOP

LN 62 REPEATER
 97.245 KM

LN 51 HOME
 95.768 KM

LN 53 SHUNT
 95.878 KM

LN 54 HOME / STARTING
 95.937 KM

LN 56 HOME / STARTING
 95.937 KM

LN 59
 96.135 KM

LN 60 SHUNT
 96.213 KM

LN 57 HOME
 96.165 KM

LN 58 SHUNT
 96.287 KM

LN 61 DOWN STARTER
 96.550 KM

LN 62 HOME
 96.680 KM

97 KM

SUFFOLK ST

DEVON ST

BULLABURRA RD

SUSSEX ST

ESSEX ST

HAY ST

WALLIS ST

STEPHEN ST

HAY ST

NEW ST

HONOUR AVE

YILEENA AVE

STAPLES CR

WILSON ST

CLEVELAND ST

HENRY ST

ADELAIDE ST

CHARLES ST

VIEW ST

ADELAIDE ST

LAWSON ST

RIDGE ST

VIEW ST

LOFTUS ST

RAILWAY PDE

LOFTUS ST

WALLIS ST

ESSEX ST

HAY ST

RAILWAY PDE

RAILWAY PDE

RAILWAY PDE

RAILWAY PDE

RAILWAY PDE

RAILWAY PDE

RAILWAY PDE

RAILWAY PDE

RAILWAY PDE

RAILWAY PDE

POINT OF INTEREST

LAWSON

NLA 212

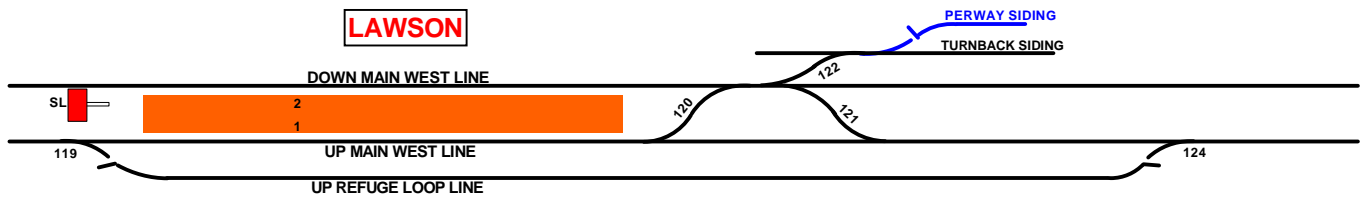
! CONTROLLED FROM BLACKTOWN

EYL 94.151 KM UP SIGNAL 58.6

YL 94.504 KM DOWN SIGNAL LN 49

SL 95.923 KM UP SHUNT LIMIT SIGN ON DOWN MAIN WEST LINE

UP REFUGE LOOP TO UP MAIN WEST LINE (119 POINTS)



95.936 KM LAWSON .PLATFORM 1 AND 2

DOWN MAIN WEST LINE TO UP MAIN WEST LINE (120 POINTS)

DOWN MAIN WEST LINE TO UP MAIN WEST LINE (121 POINTS)

DOWN MAIN WEST LINE TO TURNBACK SIDING (122 POINTS)

121 POINTS
SPIKED, CLIPPED
AND XL
LOCKED NORMAL

122 POINTS
SET BY SIGNALLER
OPERATED LOCALLY
BY PUSH BUTTON UNIT

FACING POINTS IN REVERSE POSITION MUST BE CLIPPED AND LOCKED

UP MAIN WEST LINE TO UP REFUGE LOOP LINE (124 POINTS)

97.570 KM BULLABURRA. PLATFORM 1 AND 2

YL 97.764 KM UP SIGNAL LN 64

EYL 98.079 KM DOWN SIGNAL 60.9

SECTION : EMU PLAINS TO LITHGOW
MAP SET : BULLABURRA TO WENTWORTH FALLS
UPDATED TO : 21 JULY 2016

INFORMATION

CONTROLLED FROM : BLACKTOWN
RADIO AREA CODE : 047 (KATOOMBA)

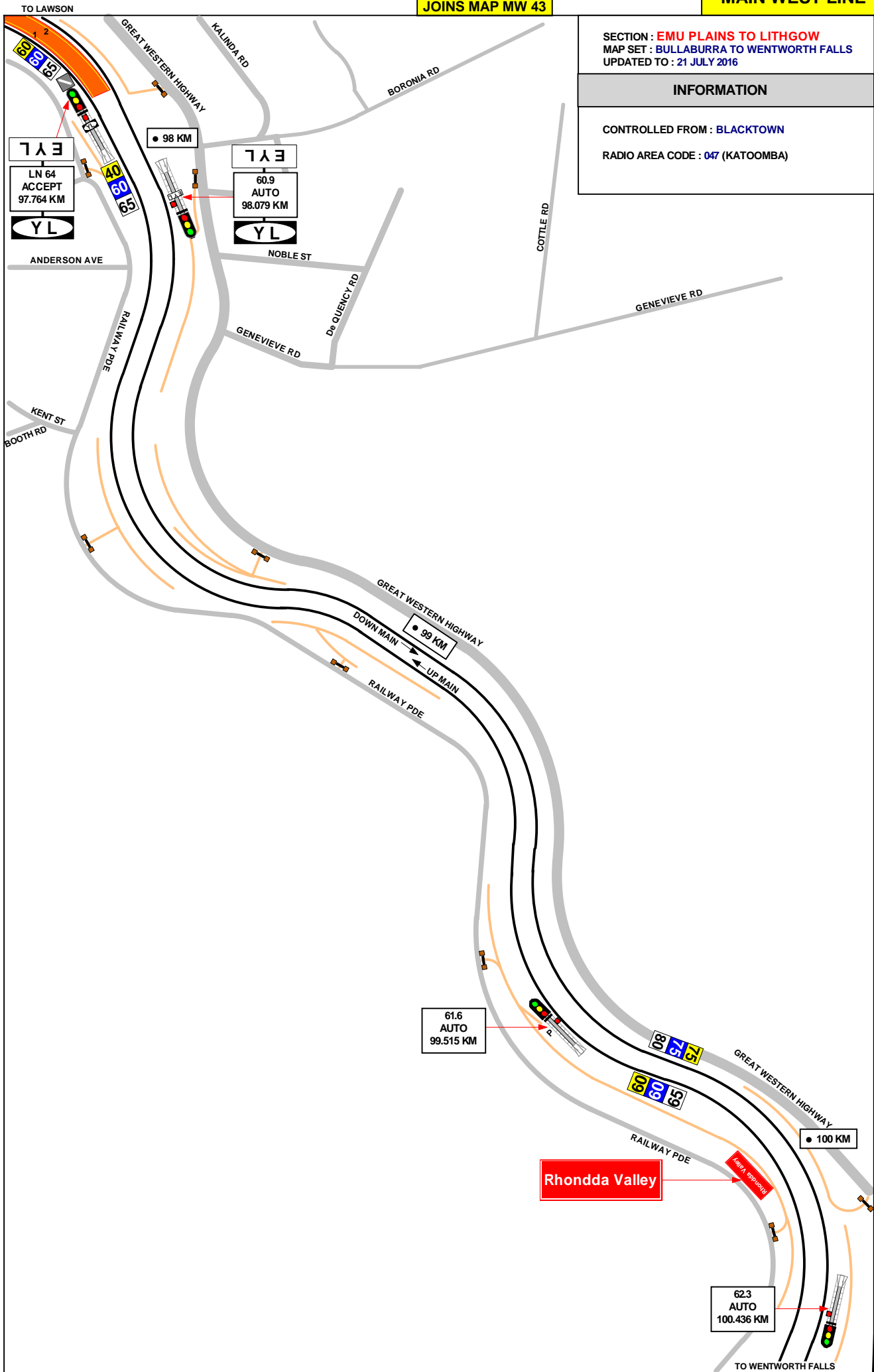
GRADIENT

1 IN 66

1 IN 57

1 IN 40

1 IN 33

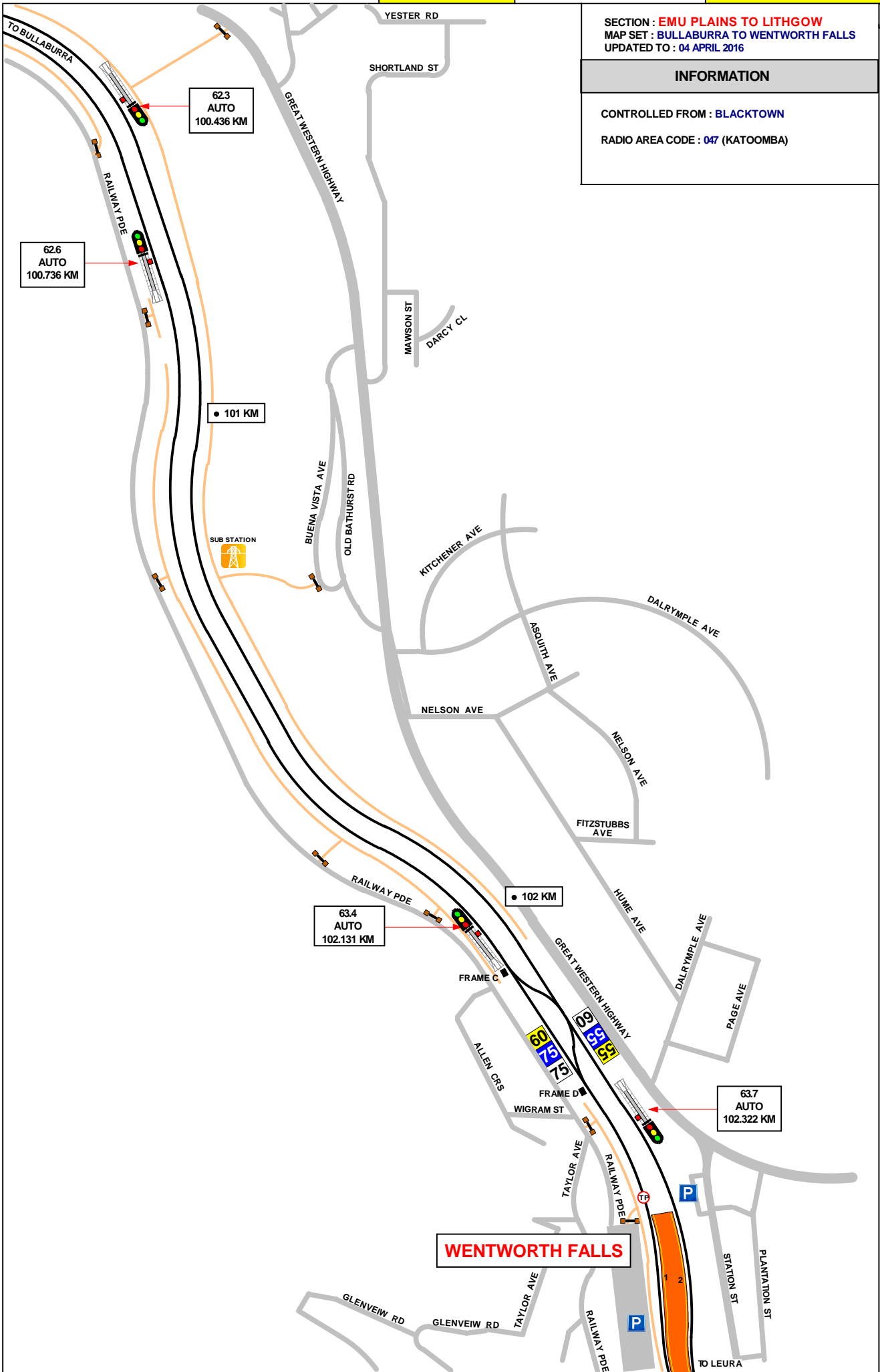


SECTION : EMU PLAINS TO LITHGOW
MAP SET : BULLABURRA TO WENTWORTH FALLS
UPDATED TO : 04 APRIL 2016

GRADIENT

INFORMATION

CONTROLLED FROM : BLACKTOWN
RADIO AREA CODE : 047 (KATOOMBA)



1 IN 33

1 IN 73

LEVEL

1 IN 330

LEVEL

POINT OF INTEREST

WENTWORTH FALLS

NLA 212



102.104 KM TRAFFIC HUT : ANNETT LOCK

"A"



102.129 KM EMERGENCY CROSSOVER DOWN MAIN WEST LINE TO UP MAIN WEST LINE:
KEY FROM ANNETT LOCK, RELEASED FROM SPECIAL HASP WITH XL KEY

"C"



SIGNALS SET AT STOP BY TAKEN THE RELEASE : DOWN AUTOMATIC 62.3 ;
UP AUTOMATIC 63.8



102.264 KM EMERGENCY CROSSOVER DOWN MAIN WEST LINE TO UP MAIN WEST LINE :
KEY FROM ANNETT LOCK . RELEASED FROM SPECIAL HASP WITH XL KEY

"D"



SIGNAL SET AT BY TAKEN THE RELEASE : DOWN AUTOMATIC 62.3 AND UP AUTOMATIC
63.8 . IF FRAME "D" LEVER 2 IS REVERSED , ALSO DOWN AUTOMATIC 63.7 AND UP
AUTOMATIC 63.4 .



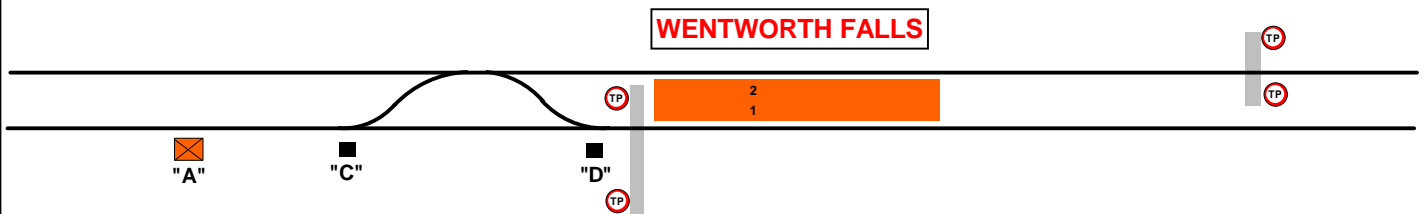
102.448 KM NETWORK ACCESS



102.515 KM WENTWORTH FALLS . PLATFORM 1 AND 2



104.097 KM NETWORK ACCESS



SECTION : EMU PLAINS TO LITHGOW
MAP SET : WENTWORTH FALLS TO LEURA
UPDATED TO : 21 July 2016

INFORMATION

CONTROLLED FROM : KATOOMBA

RADIO AREA CODE : 047 (KATOOMBA)

GRADIENT

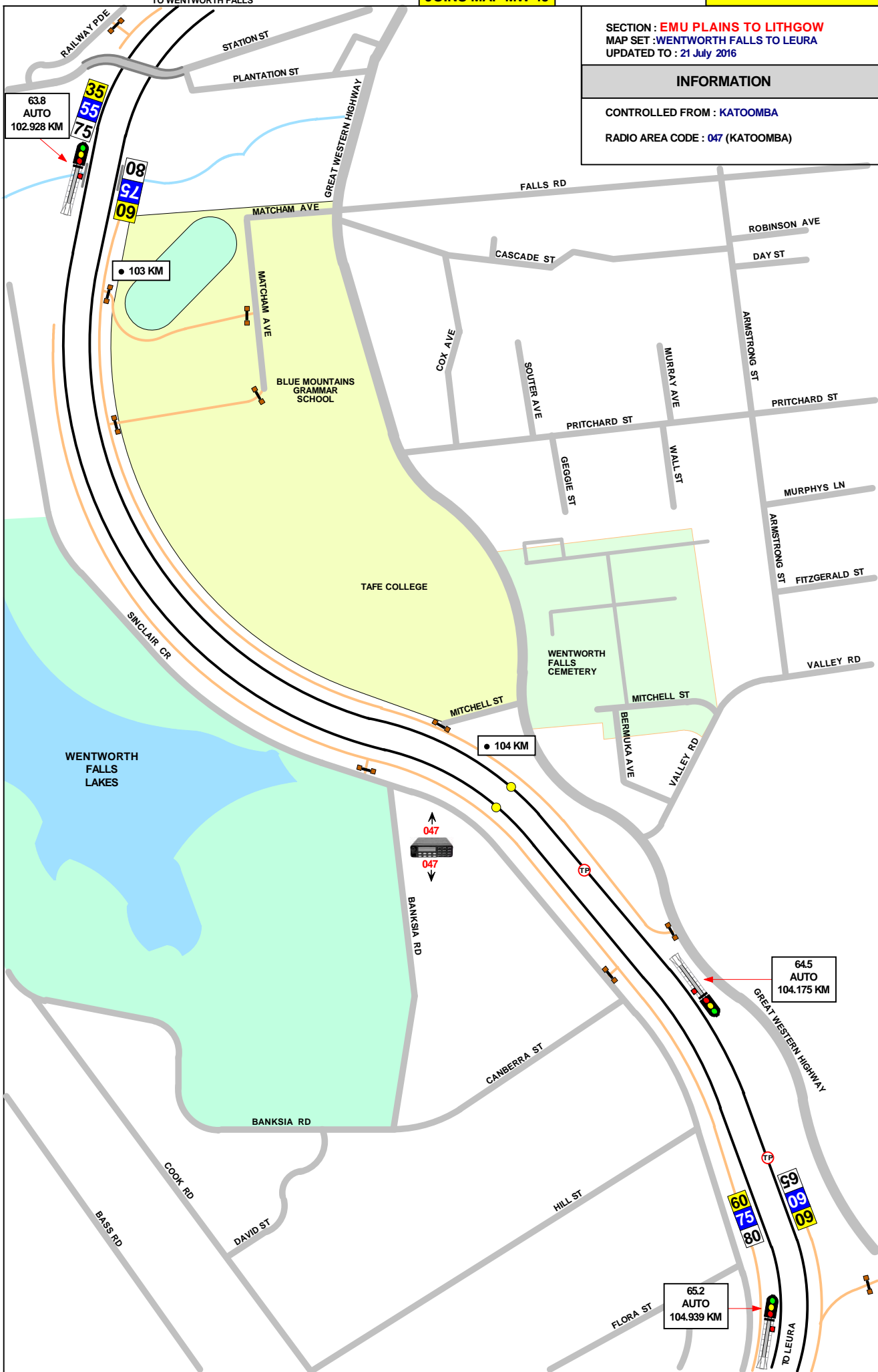
LEVEL

1 IN 66

1 IN 33

1 IN 66

1 IN 33



SECTION : EMU PLAINS TO LITHGOW
MAP SET : WENTWORTH FALLS TO LEURA
UPDATED TO : 22 July 2014

INFORMATION

CONTROLLED FROM : KATOOMBA

RADIO AREA CODE : 047 (KATOOMBA)

GRADIENT

1 IN 33

LEVEL

1 IN 33



TO WENTWORTH FALLS

JOINS MAP MW 47

GRADIENT

SECTION : EMU PLAINS TO LITHGOW
MAP SET : LEURA TO KATOOMBA
UPDATED TO : 24 March 2022

INFORMATION

CONTROLLED FROM : BLACKTOWN
RADIO AREA CODE : 047 (KATOOMBA)

SIGNAL	DESTINATION	INDICATION
KT 3	DOWN MAIN (M)	---
	DOWN MAIN (S)	DM
	UP MAIN (M)	
	UP MAIN (S)	UM
	UP REFUGE (S)	UR

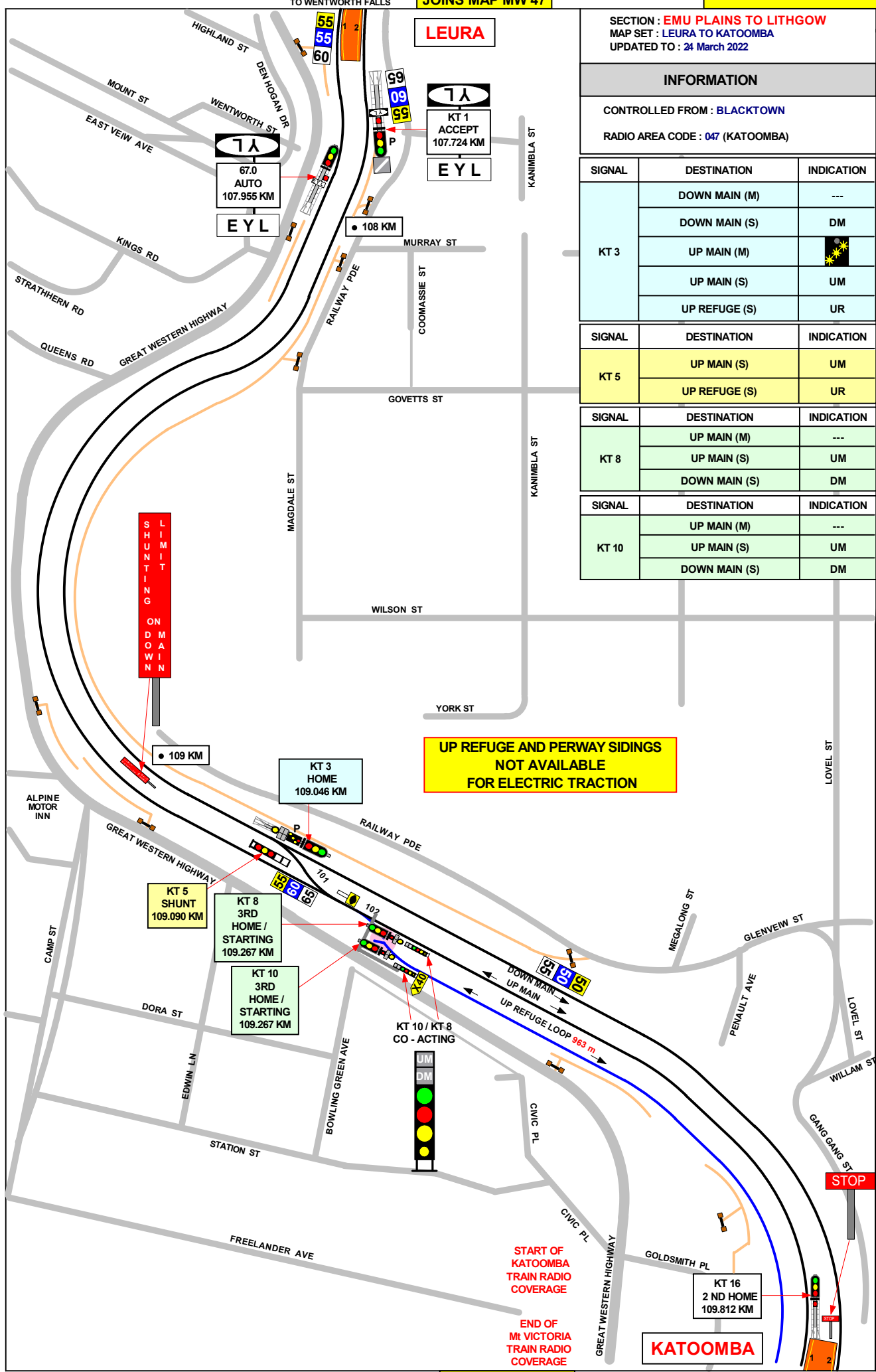
SIGNAL	DESTINATION	INDICATION
KT 5	UP MAIN (S)	UM
	UP REFUGE (S)	UR

SIGNAL	DESTINATION	INDICATION
KT 8	UP MAIN (M)	---
	UP MAIN (S)	UM
	DOWN MAIN (S)	DM

SIGNAL	DESTINATION	INDICATION
KT 10	UP MAIN (M)	---
	UP MAIN (S)	UM
	DOWN MAIN (S)	DM

1 IN 33

LEVEL



UP REFUGE AND PERWAY SIDINGS NOT AVAILABLE FOR ELECTRIC TRACTION

LIMIT SHUNTING ON DOWN

START OF KATOOMBA TRAIN RADIO COVERAGE
END OF Mt VICTORIA TRAIN RADIO COVERAGE

JOINS MAP MW 49

TO KATOOMBA

KATOOMBA

LEURA

KT 1 ACCEPT 107.724 KM
EYL

67.0 AUTO 107.955 KM
EYL

KT 3 HOME 109.046 KM

KT 5 SHUNT 109.090 KM

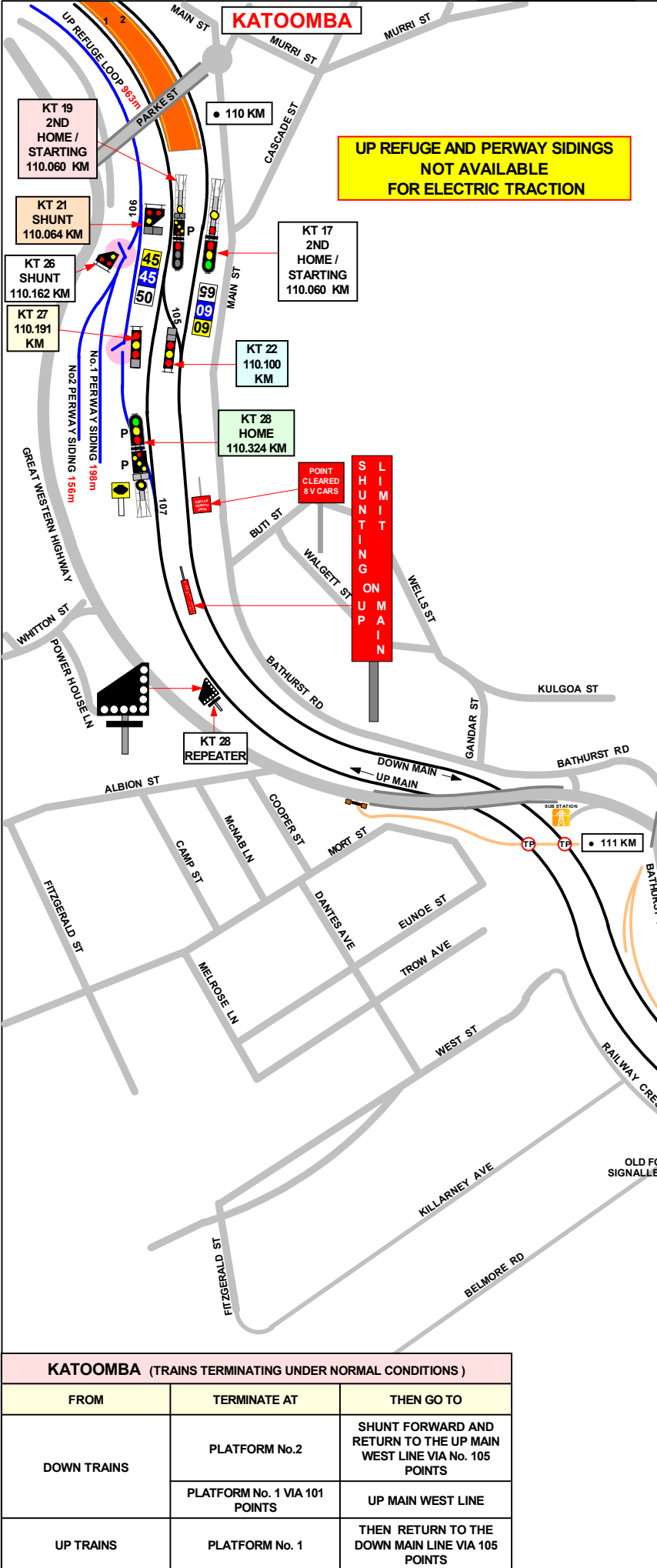
KT 8 3RD HOME / STARTING 109.267 KM

KT 10 3RD HOME / STARTING 109.267 KM

KT 10 / KT 8 CO - ACTING

KT 16 2 ND HOME 109.812 KM

STOP



SECTION : EMU PLAINS TO LITHGOW
 MAP SET : KATOOMBA TO MEDLOW BATH
 UPDATED TO : 24 March 2022

INFORMATION

CONTROLLED FROM : BLACKTOWN

RADIO AREA CODE : 047 (KATOOMBA)

NLA 214 KATOOMBA

REFER TO NLA 214 FOR MORE INSTRUCTIONS

SIGNAL	DESTINATION	INDICATION
KT 21	UP REFUGE (S)	UR
	PERWAY SIDING (S)	PS
SIGNAL	DESTINATION	INDICATION
KT 19	DOWN MAIN (M)	
	DOWN MAIN (S)	DM
	UP MAIN (S)	UM
SIGNAL	DESTINATION	INDICATION
KT 26	UP REFUGE(S)	---
SIGNAL	DESTINATION	INDICATION
KT 22	UP MAIN (S)	UM
	DOWN MAIN (S)	DM
SIGNAL	DESTINATION	INDICATION
KT 28	UP REFUGE (M)	
	UP REFUGE (S)	UR
	UP MAIN (M)	---
	UP MAIN (S)	UM
SIGNAL	DESTINATION	INDICATION
KT 27	UP MAIN (S)	UM

GRADIENT

LEVEL

1 IN 100

LEVEL

1 IN 132

LEVEL

KATOOMBA (TRAINS TERMINATING UNDER NORMAL CONDITIONS)

FROM	TERMINATE AT	THEN GO TO
DOWN TRAINS	PLATFORM No.2	SHUNT FORWARD AND RETURN TO THE UP MAIN WEST LINE VIA No. 105 POINTS
	PLATFORM No. 1 VIA 101 POINTS	UP MAIN WEST LINE
UP TRAINS	PLATFORM No. 1	THEN RETURN TO THE DOWN MAIN LINE VIA 105 POINTS

SECTION : EMU PLAINS TO LITHGOW
MAP SET : KATOOMBA TO MEDLOW BATH
UPDATED TO : 4 June 2022

GRADIENT

INFORMATION

CONTROLLED FROM : BLACKTOWN
RADIO AREA CODE : 047 (KATOOMBA)
048 (Mt VICTORIA)

NLA 212 MEDLOW BATH

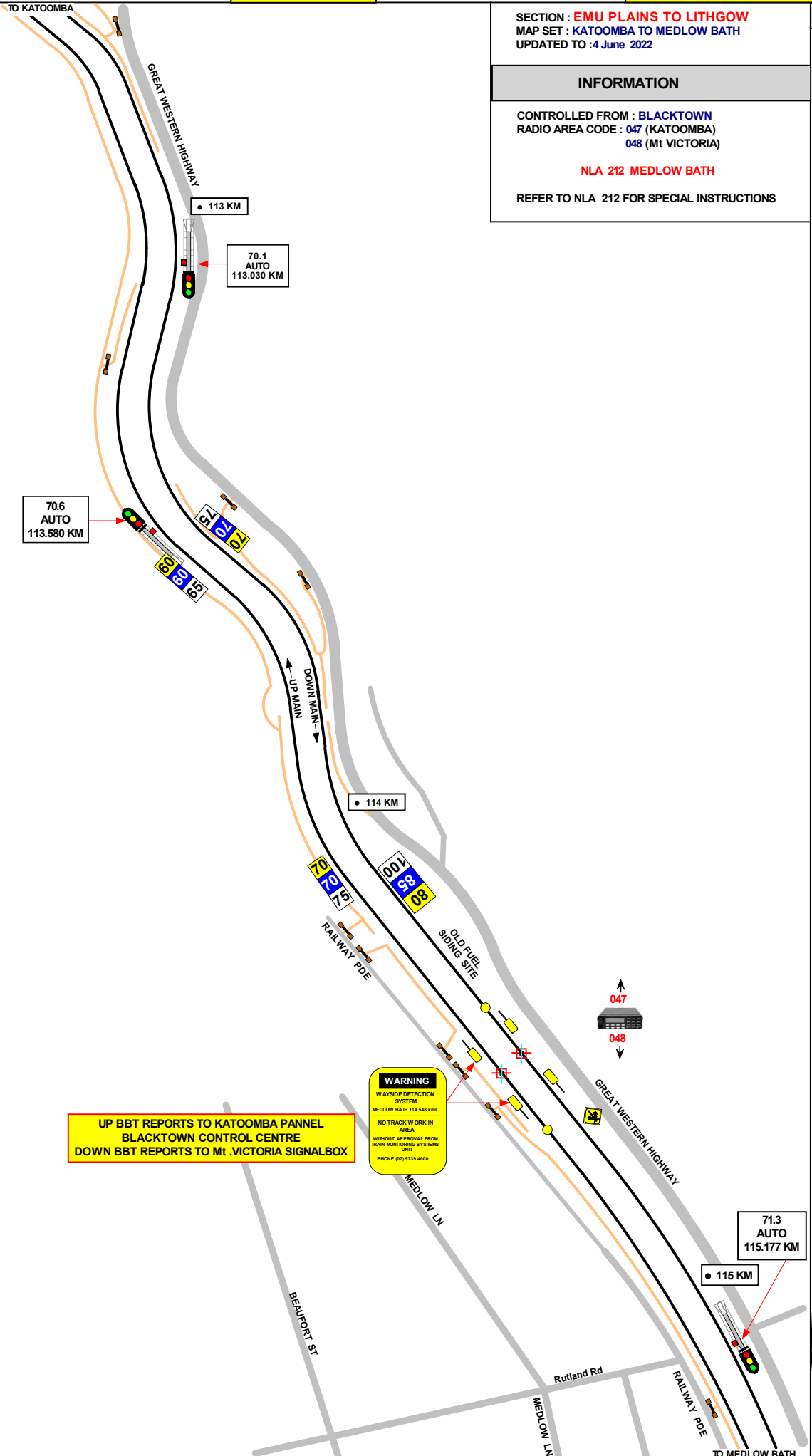
REFER TO NLA 212 FOR SPECIAL INSTRUCTIONS

1 IN 132

LEVEL

1 IN 66

1 IN 264



SECTION : EMU PLAINS TO LITHGOW
MAP SET : MEDLOW BATH TO BLACKHEATH
UPDATED TO : 4 June 2022

GRADIENT

INFORMATION

CONTROLLED FROM : BLACKTOWN

RADIO AREA CODE : 048 (Mt VICTORIA)

NLA 212 MEDLOW BATH

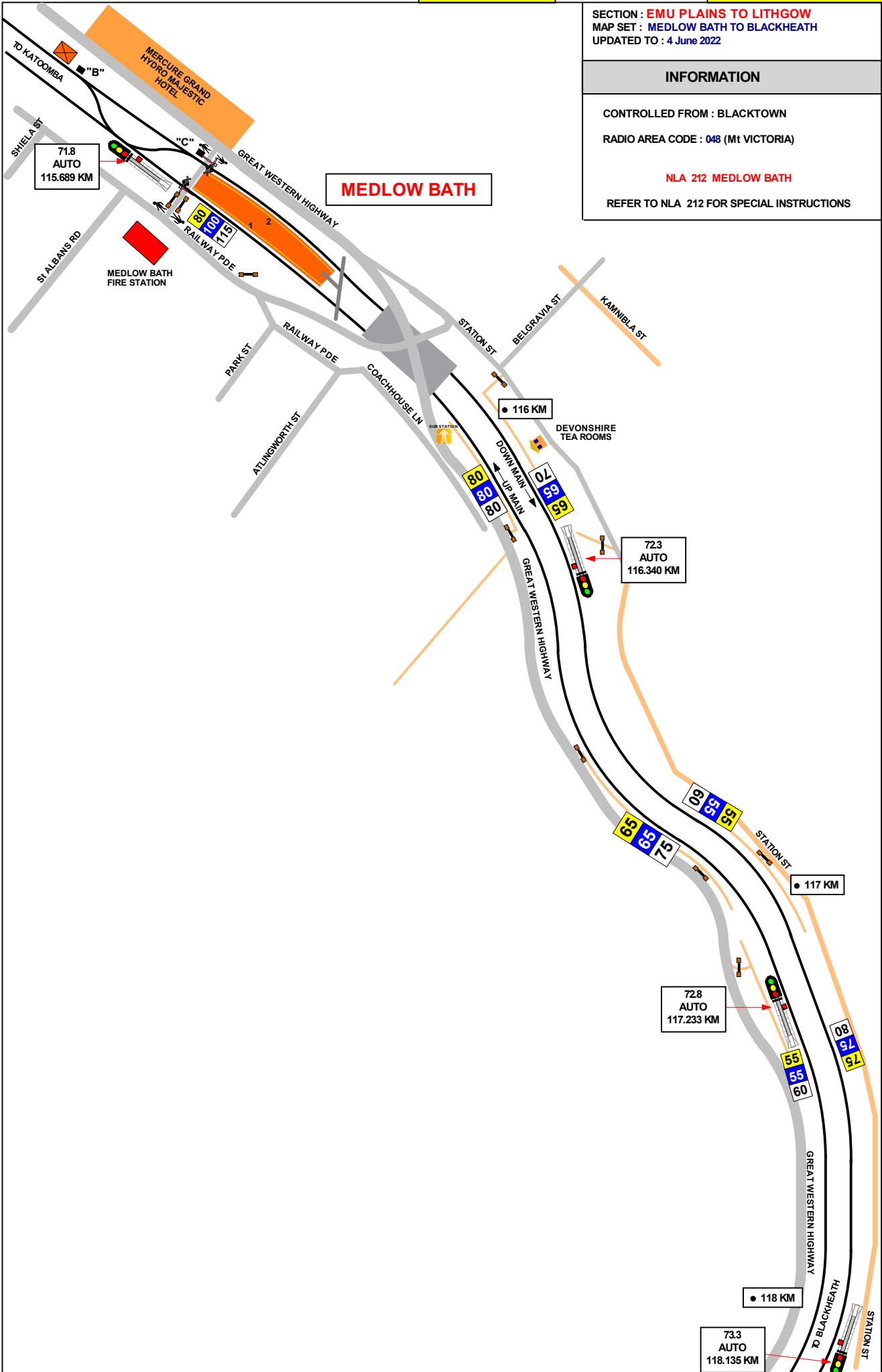
REFER TO NLA 212 FOR SPECIAL INSTRUCTIONS

1 IN 264

1 IN 66

1 IN 88

LEVEL



MEDLOW BATH

SECTION : EMU PLAINS TO LITHGOW
MAP SET : MEDLOW BATH TO BLACKHEATH
UPDATED TO : 22 April 2016

GRADIENT

INFORMATION

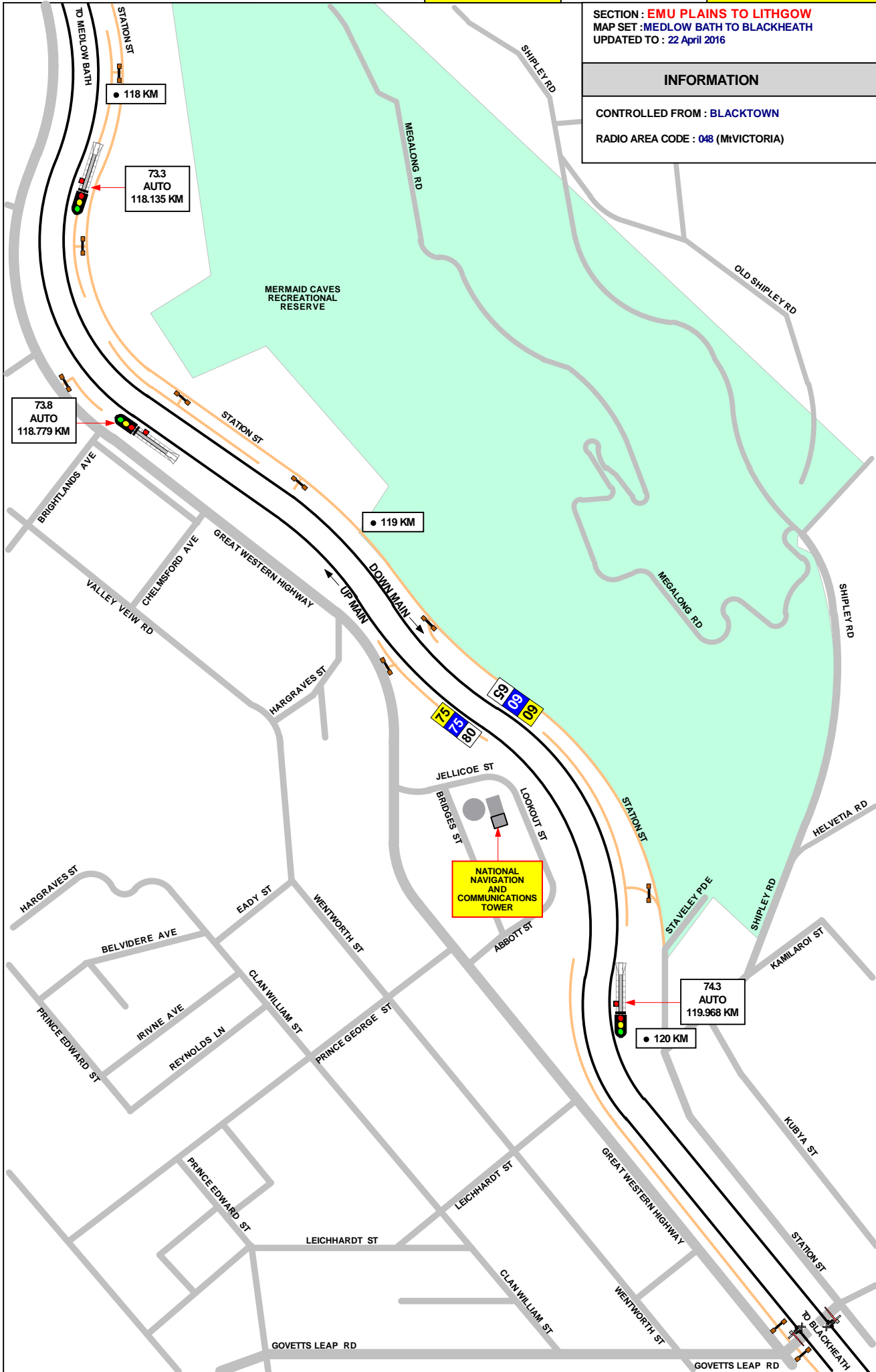
CONTROLLED FROM : BLACKTOWN

RADIO AREA CODE : 048 (MVICTORIA)

LEVEL

1 IN 60

LEVEL



SECTION : EMU PLAINS TO LITHGOW
MAP SET : MEDLOW BATH TO BLACKHEATH
UPDATED TO : 18 November 2022

INFORMATION

CONTROLLED FROM : BLACKTOWN

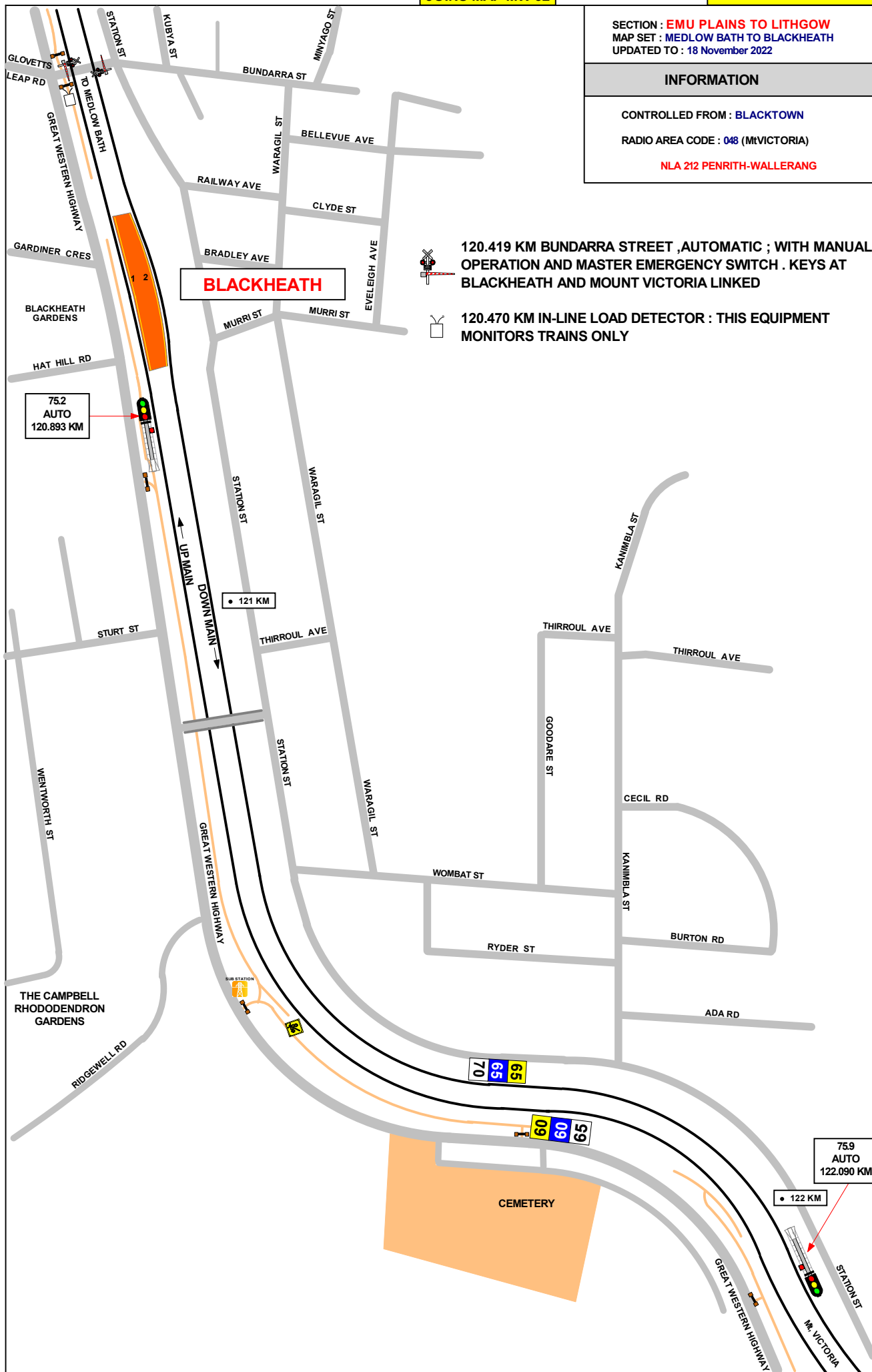
RADIO AREA CODE : 048 (MtVICTORIA)

NLA 212 PENRITH-WALLERANG

GRADIENT

LEVEL

1 IN 200



BLACKHEATH



120.419 KM BUNDARRA STREET ,AUTOMATIC ; WITH MANUAL OPERATION AND MASTER EMERGENCY SWITCH . KEYS AT BLACKHEATH AND MOUNT VICTORIA LINKED



120.470 KM IN-LINE LOAD DETECTOR : THIS EQUIPMENT MONITORS TRAINS ONLY

75.2
AUTO
120.893 KM

75.9
AUTO
122.090 KM

SECTION : EMU PLAINS TO LITHGOW
MAP SET : BLACKHEATH TO MT VICTORIA
UPDATED TO : 9 June 2022

INFORMATION

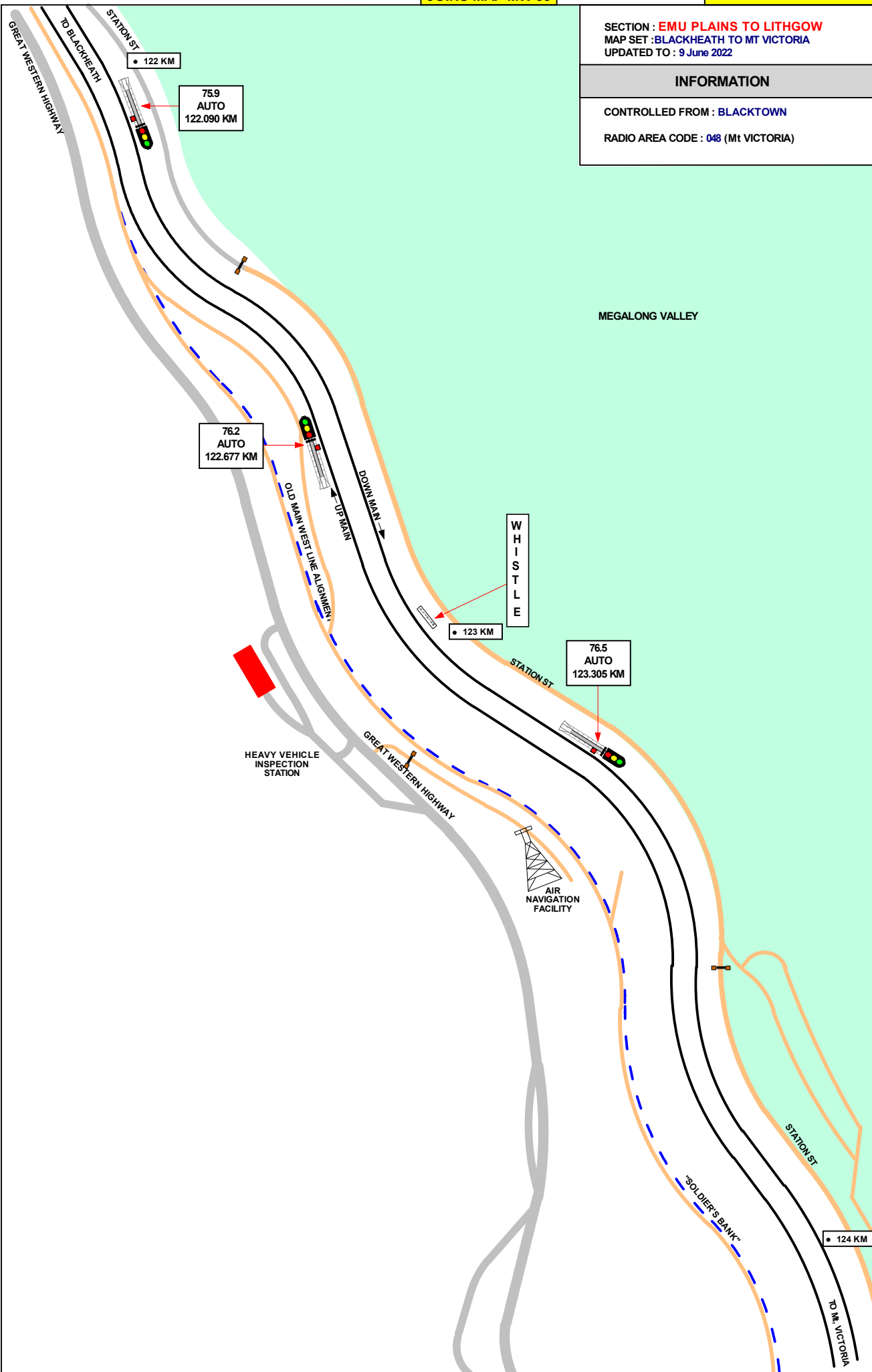
CONTROLLED FROM : BLACKTOWN

RADIO AREA CODE : 048 (Mt VICTORIA)

GRADIENT

1 IN 200

1 IN 80



SECTION : EMU PLAINS TO LITHGOW
 MAP SET : BLACKHEATH TO MT VICTORIA
 UPDATED TO : 9 June 2022

GRADIENT

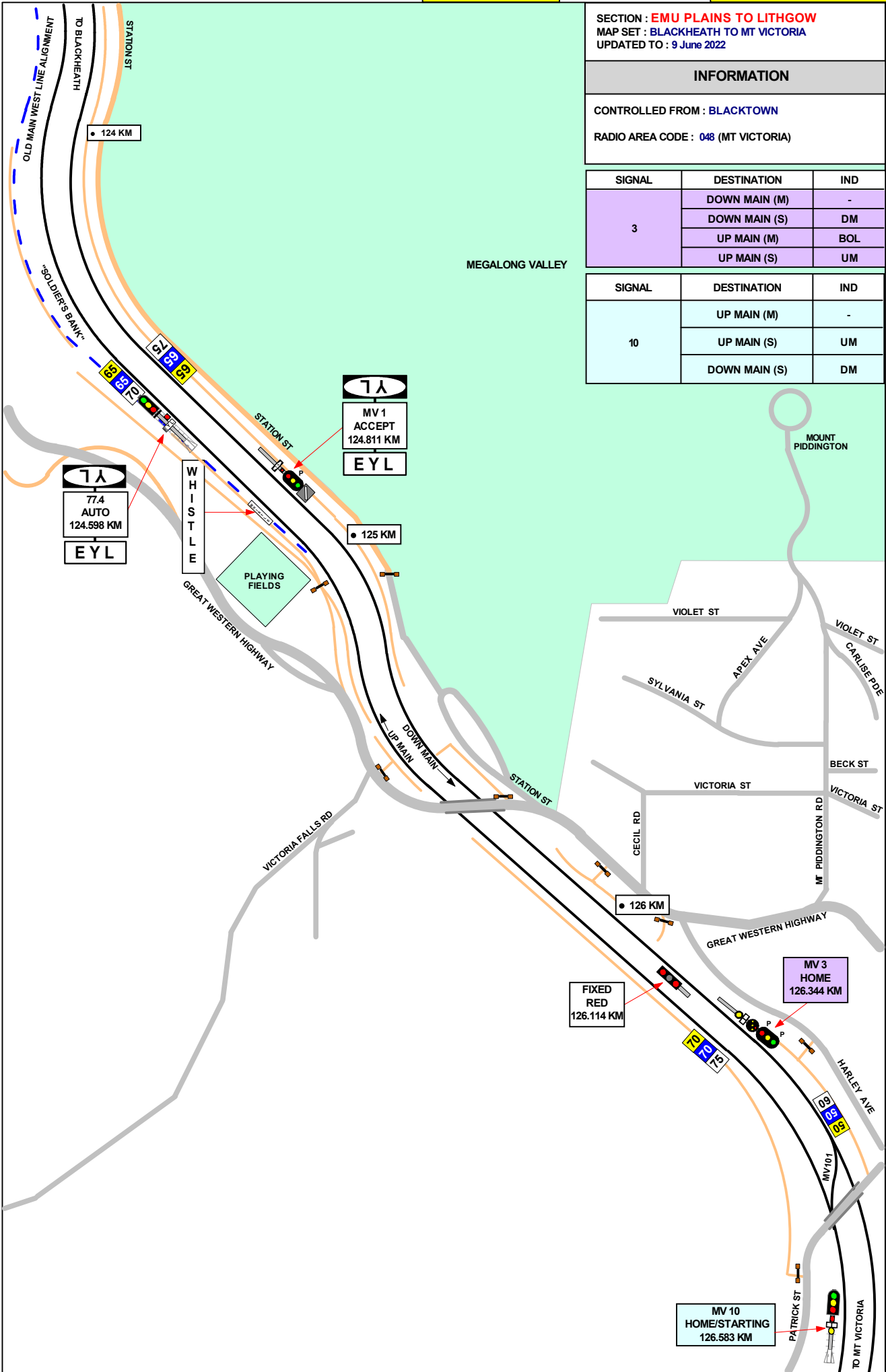
INFORMATION

CONTROLLED FROM : BLACKTOWN

RADIO AREA CODE : 048 (MT VICTORIA)

SIGNAL	DESTINATION	IND
3	DOWN MAIN (M)	-
	DOWN MAIN (S)	DM
	UP MAIN (M)	BOL
	UP MAIN (S)	UM

SIGNAL	DESTINATION	IND
10	UP MAIN (M)	-
	UP MAIN (S)	UM
	DOWN MAIN (S)	DM



1 IN 80

LEVEL

1 IN 66

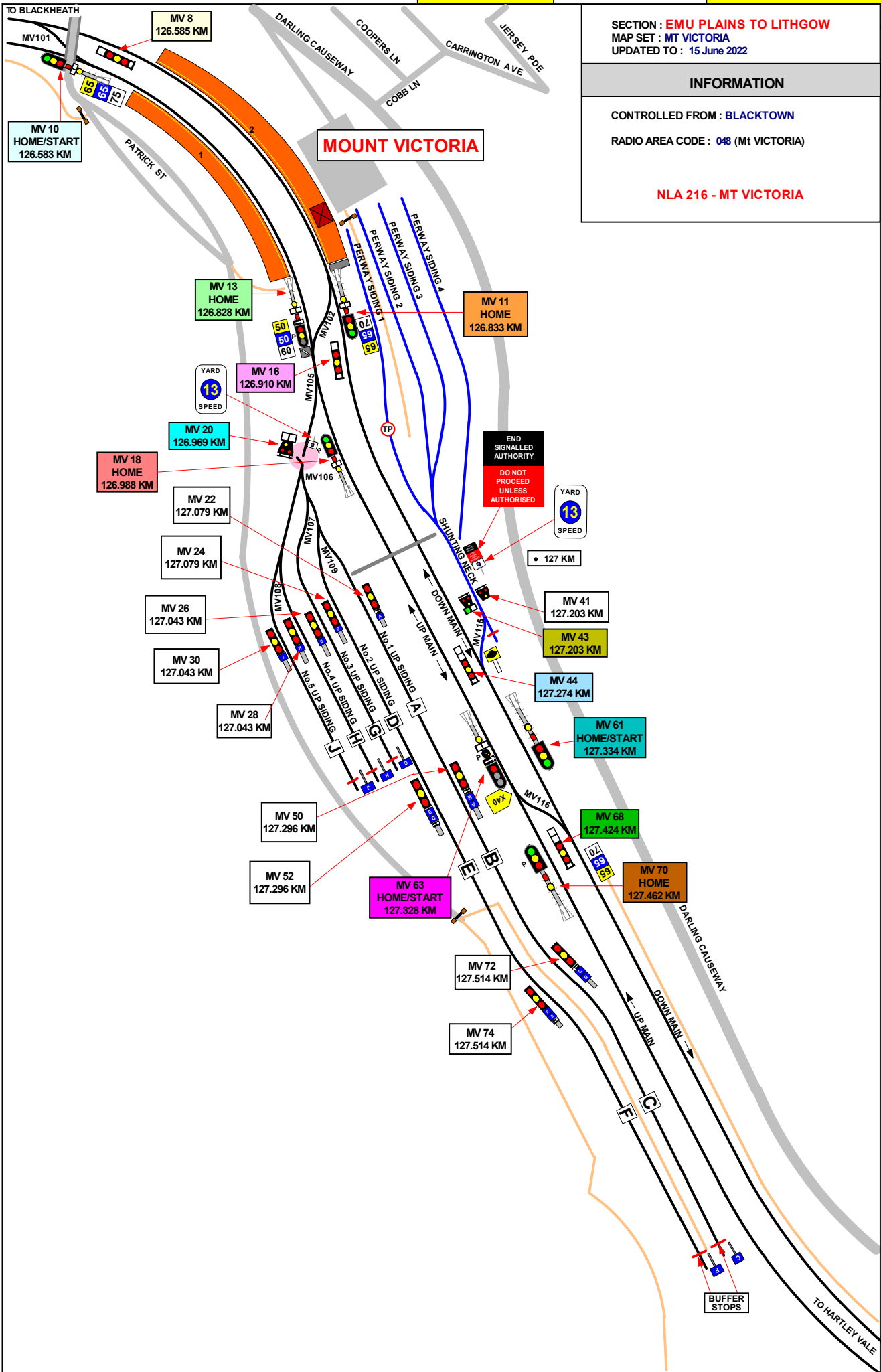
LEVEL

SECTION : EMU PLAINS TO LITHGOW
MAP SET : MT VICTORIA
UPDATED TO : 15 June 2022

INFORMATION

CONTROLLED FROM : BLACKTOWN
RADIO AREA CODE : 048 (Mt VICTORIA)

NLA 216 - MT VICTORIA



LEVEL

SECTION : EMU PLAINS TO LITHGOW
 MAP SET : MT VICTORIA
 UPDATED TO : 9 June 2022

INFORMATION

CONTROLLED FROM: BLACKTOWN
 RADIO AREA CODE : 048 (Mt VICTORIA)

NLA 216 - MT VICTORIA

SIGNAL	DESTINATION	IND
10	UP MAIN (M)	-
	UP MAIN (S)	UM
	DOWN MAIN (S)	DM

SIGNAL	DESTINATION	IND
8	DOWN MAIN (S)	DM

SIGNAL	DESTINATION	IND
13	UP MAIN (M)	-
	UP MAIN (S)	UM
	No.1 UP SIDING (S)	U1
	No.2 UP SIDING (S)	U2
	No.3 UP SIDING (S)	U3
	No.4 UP SIDING (S)	U4
	No.5 UP SIDING (S)	U5

SIGNAL	DESTINATION	IND
11	DOWN MAIN (M)	-
	DOWN MAIN (S)	DM
	UP MAIN (S)	UM
	No.1 UP SIDING (S)	U1
	No.2 UP SIDING (S)	U2
	No.3 UP SIDING (S)	U3
	No.4 UP SIDING (S)	U4
	No.5 UP SIDING (S)	U5

SIGNAL	DESTINATION	IND
16	DOWN MAIN (S)	DM

SIGNAL	DESTINATION	IND
18	UP MAIN (M)	-
	UP MAIN (S)	UM
	DOWN MAIN (S)	DM

SIGNAL	DESTINATION	IND
20	UP MAIN (S)	UM
	DOWN MAIN (S)	DM

SIGNAL	DESTINATION	IND
43	DOWN MAIN (S)	-

SIGNAL	DESTINATION	IND
44	DOWN MAIN (S)	DM
	PERWAY SIDING (S)	PS

SIGNAL	DESTINATION	IND
61	DOWN MAIN (M)	-
	DOWN MAIN (S)	-

SIGNAL	DESTINATION	IND
63	DOWN MAIN (M)	BOL
	DOWN MAIN (S)	DM

SIGNAL	DESTINATION	IND
68	UP MAIN (S)	UM
	DOWN MAIN (S)	DM

SIGNAL	DESTINATION	IND
70	UP MAIN (S)	-
	UP MAIN (S)	-

SECTION : EMU PLAINS TO LITHGOW
MAP SET : MOUNT VICTORIA TO HARTLEY VALE
UPDATED TO : 9 June 2022

INFORMATION

CONTROLLED FROM : BLACKTOWN
RADIO AREA CODE : 048 (MOUNT VICTORIA)

GRADIENT

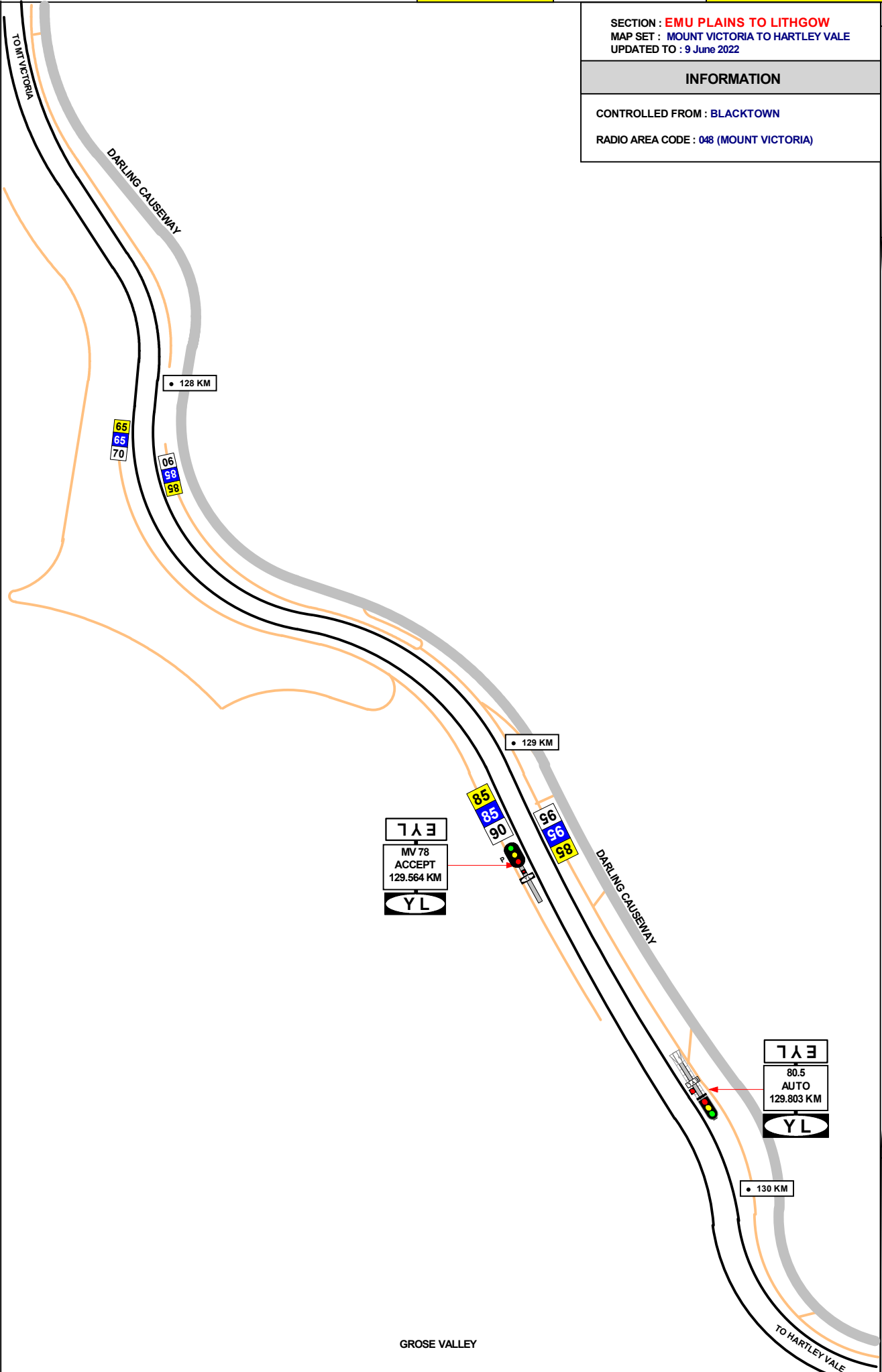
LEVEL

1 IN 99

LEVEL

1 IN 100

LEVEL



GROSE VALLEY

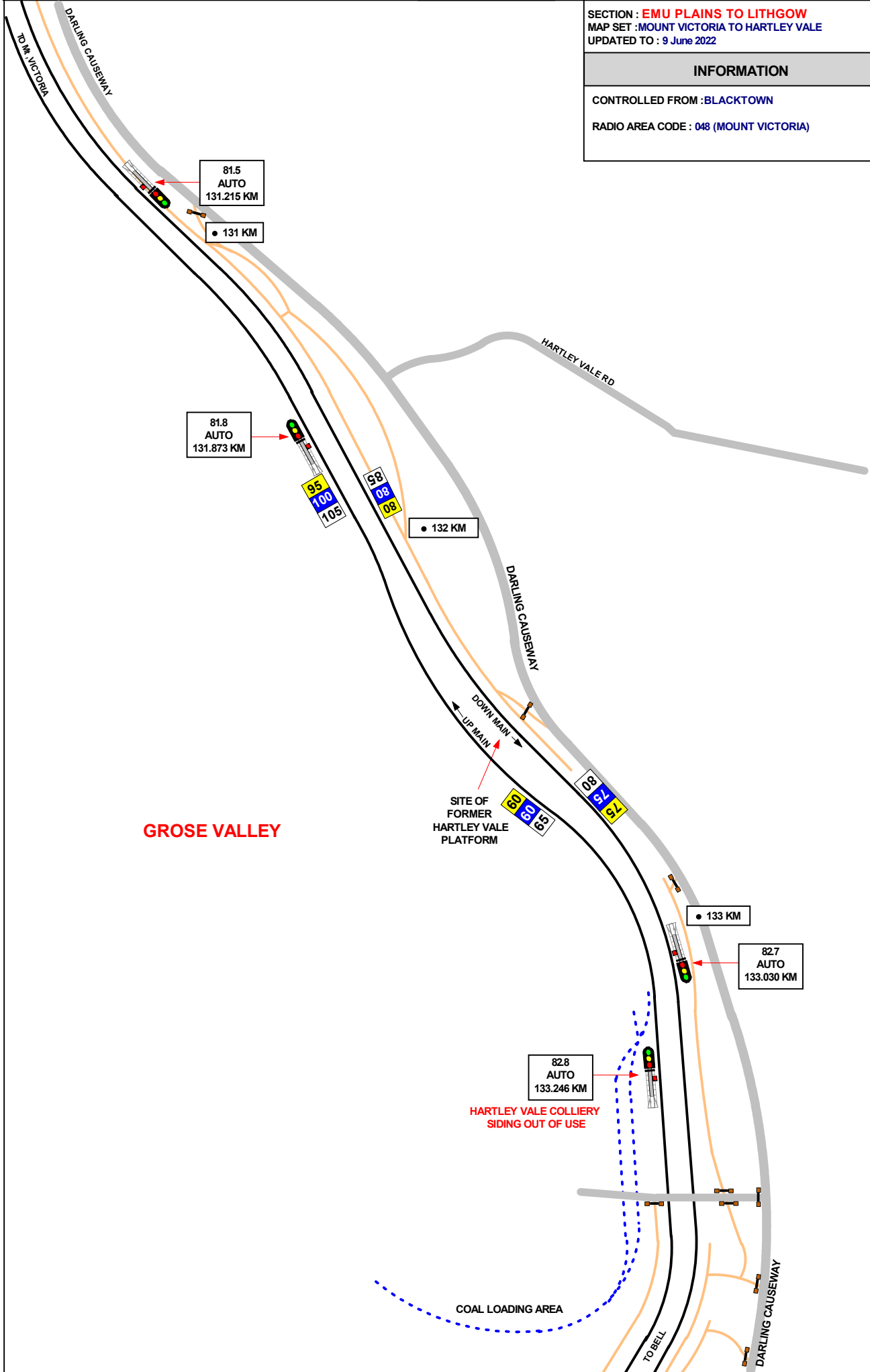
SECTION : EMU PLAINS TO LITHGOW
MAP SET : MOUNT VICTORIA TO HARTLEY VALE
UPDATED TO : 9 June 2022

GRADIENT
1 IN 100
1 IN 90
1 IN 109
LEVEL
1 IN 70

INFORMATION

CONTROLLED FROM : BLACKTOWN

RADIO AREA CODE : 048 (MOUNT VICTORIA)

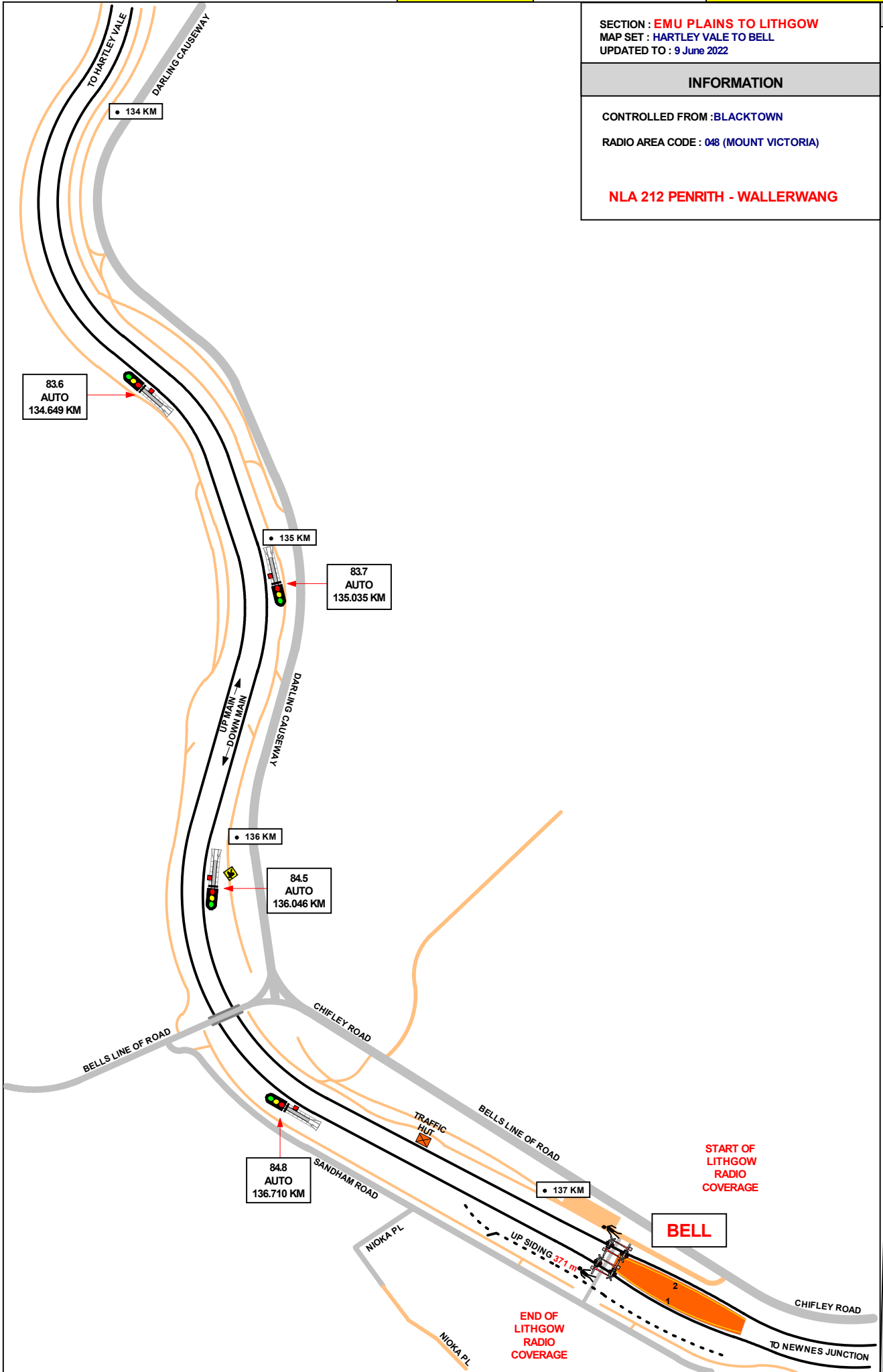


SECTION : EMU PLAINS TO LITHGOW
MAP SET : HARTLEY VALE TO BELL
UPDATED TO : 9 June 2022

INFORMATION

CONTROLLED FROM : BLACKTOWN
RADIO AREA CODE : 048 (MOUNT VICTORIA)

NLA 212 PENRITH - WALLERWANG



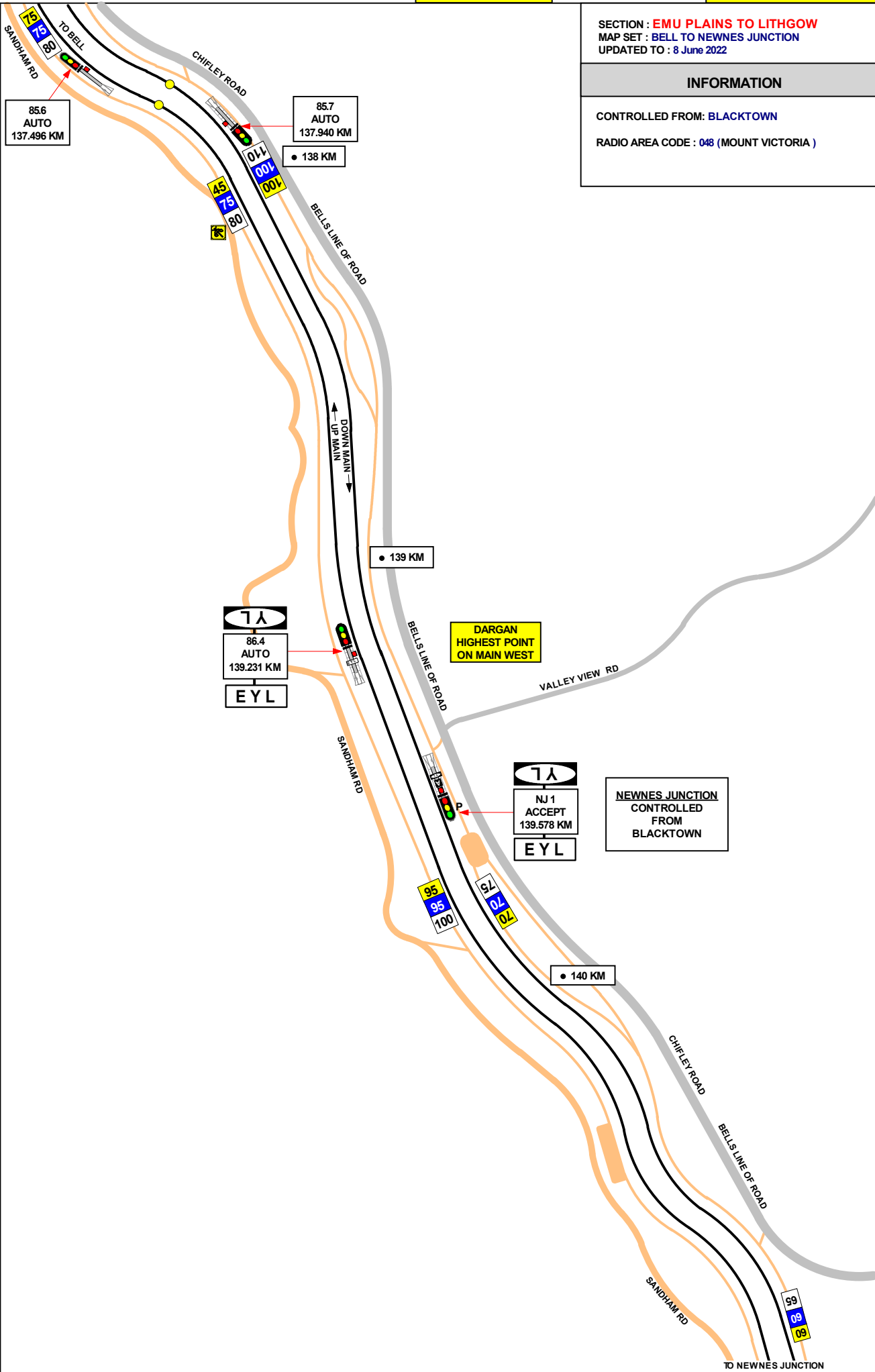
1 IN 70

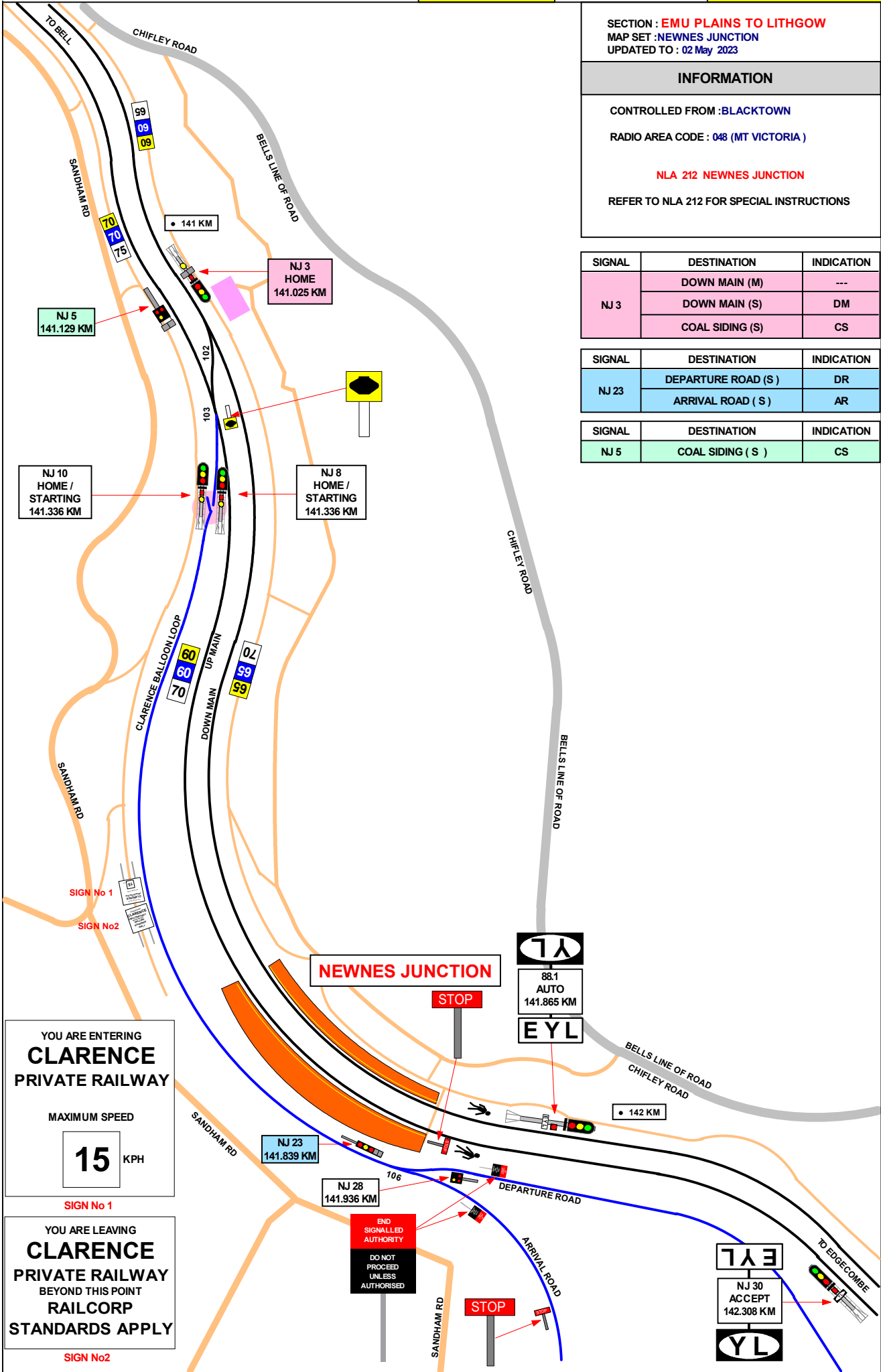
1 IN 80

SECTION : EMU PLAINS TO LITHGOW
MAP SET : BELL TO NEWNES JUNCTION
UPDATED TO : 8 June 2022

INFORMATION

CONTROLLED FROM: BLACKTOWN
RADIO AREA CODE : 048 (MOUNT VICTORIA)





SECTION : **EMU PLAINS TO LITHGOW**
 MAP SET : **NEWNES JUNCTION**
 UPDATED TO : **02 May 2023**

INFORMATION

CONTROLLED FROM : **BLACKTOWN**
 RADIO AREA CODE : **048 (MT VICTORIA)**

NLA 212 NEWNES JUNCTION

REFER TO NLA 212 FOR SPECIAL INSTRUCTIONS

SIGNAL	DESTINATION	INDICATION
NJ 3	DOWN MAIN (M)	---
	DOWN MAIN (S)	DM
	COAL SIDING (S)	CS

SIGNAL	DESTINATION	INDICATION
NJ 23	DEPARTURE ROAD (S)	DR
	ARRIVAL ROAD (S)	AR

SIGNAL	DESTINATION	INDICATION
NJ 5	COAL SIDING (S)	CS

GRADIENT

1 IN 90

LEVEL

1 IN 90

YOU ARE ENTERING
CLARENCE
 PRIVATE RAILWAY

MAXIMUM SPEED

15 KPH

SIGN No 1

YOU ARE LEAVING
CLARENCE
 PRIVATE RAILWAY
 BEYOND THIS POINT
 RAILCORP
 STANDARDS APPLY

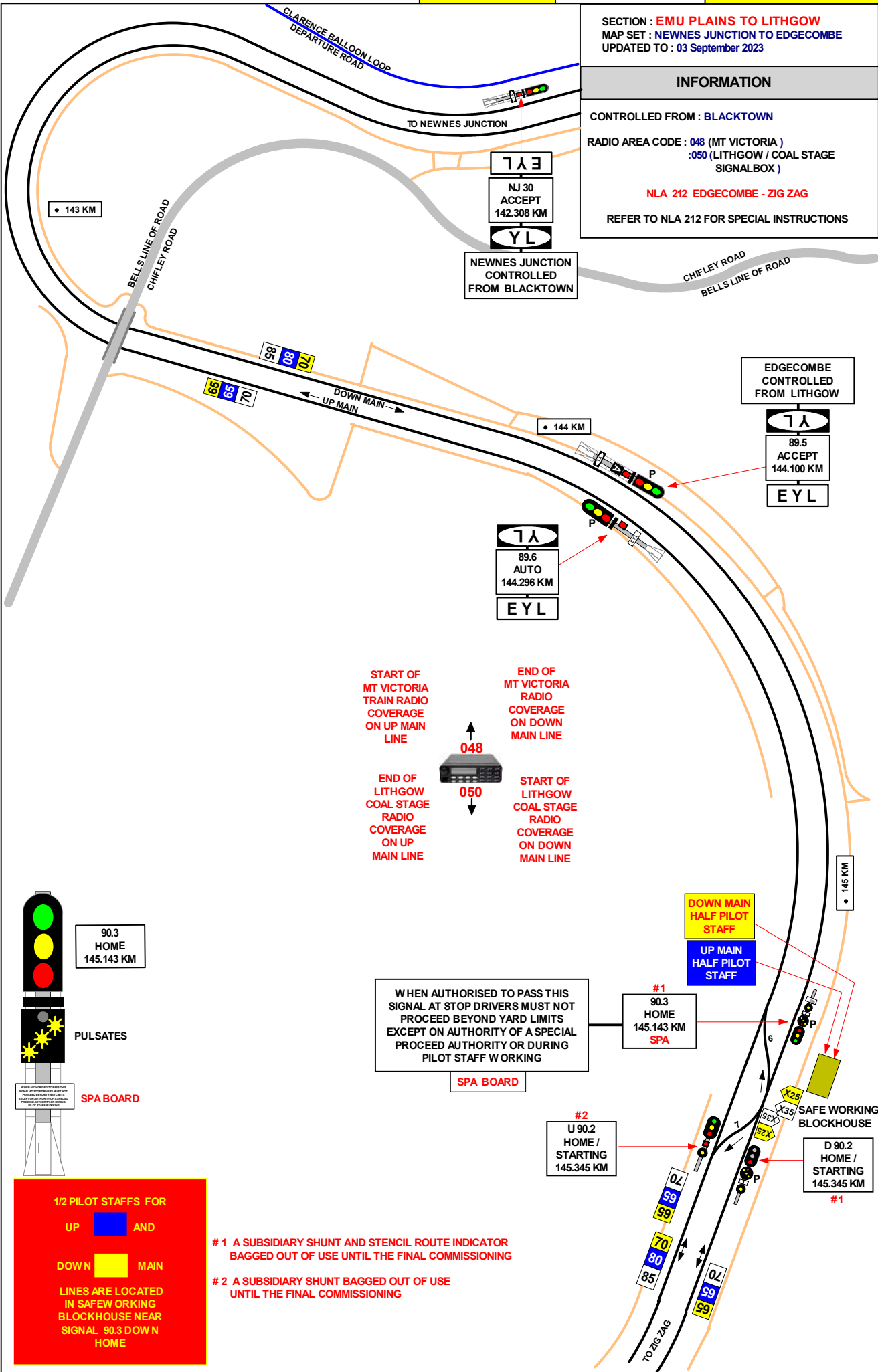
SIGN No 2

SECTION : EMU PLAINS TO LITHGOW
MAP SET : NEWNES JUNCTION TO EDGECOMBE
UPDATED TO : 03 September 2023

INFORMATION

CONTROLLED FROM : BLACKTOWN
RADIO AREA CODE : 048 (MT VICTORIA)
:050 (LITHGOW / COAL STAGE SIGNALBOX)
NLA 212 EDGECOMBE - ZIG ZAG
REFER TO NLA 212 FOR SPECIAL INSTRUCTIONS

GRADIENT
1 IN 90
LEVEL
1 IN 152
1 IN 351
1 IN 1166



START OF MT VICTORIA TRAIN RADIO COVERAGE ON UP MAIN LINE

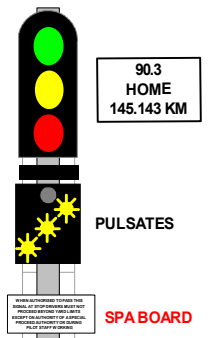
END OF MT VICTORIA RADIO COVERAGE ON DOWN MAIN LINE

END OF LITHGOW COAL STAGE RADIO COVERAGE ON UP MAIN LINE

START OF LITHGOW COAL STAGE RADIO COVERAGE ON DOWN MAIN LINE

048

050



1/2 PILOT STAFFS FOR

UP AND

DOWN MAIN

LINES ARE LOCATED IN SAFEWORKING BLOCKHOUSE NEAR SIGNAL 90.3 DOWN HOME

1 A SUBSIDIARY SHUNT AND STENCIL ROUTE INDICATOR BAGGED OUT OF USE UNTIL THE FINAL COMMISSIONING

2 A SUBSIDIARY SHUNT BAGGED OUT OF USE UNTIL THE FINAL COMMISSIONING

SECTION : EMU PLAINS TO LITHGOW
MAP SET : EDGECOMBE TO TUNNEL 4
UPDATED TO : 8 May 2020

INFORMATION

CONTROLLED FROM : LITHGOW

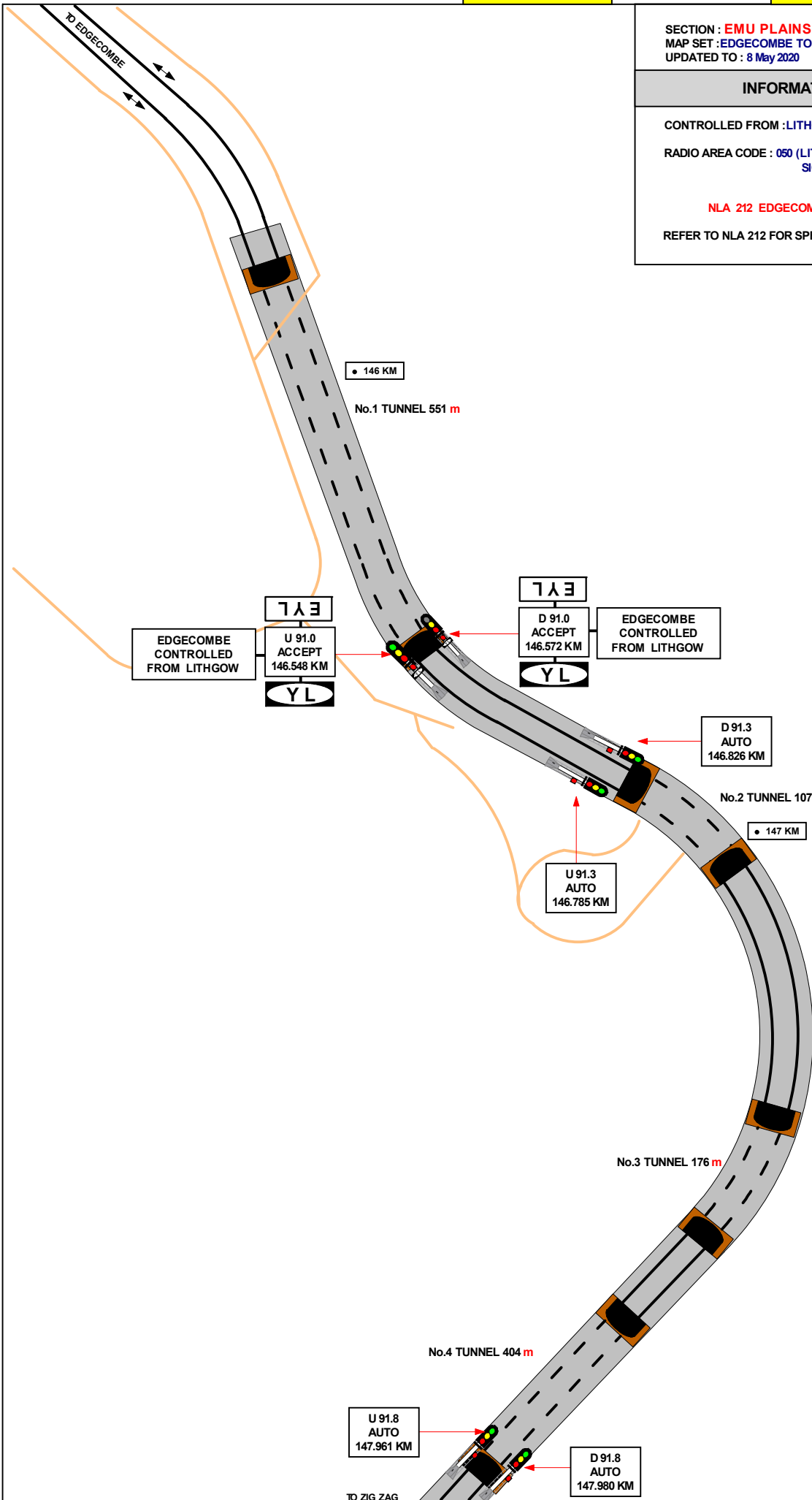
RADIO AREA CODE : 050 (LITHGOW / COAL STAGE
SIGNAL BOX)

NLA 212 EDGECOMBE - ZIG ZAG

REFER TO NLA 212 FOR SPECIAL INSTRUCTIONS

1 IN 1166

1 IN 90



SECTION : EMU PLAINS TO LITHGOW
MAP SET : TUNNEL 4 TO ZIG ZAG
UPDATED TO : 26 November 2021

INFORMATION

CONTROLLED FROM : LITHGOW

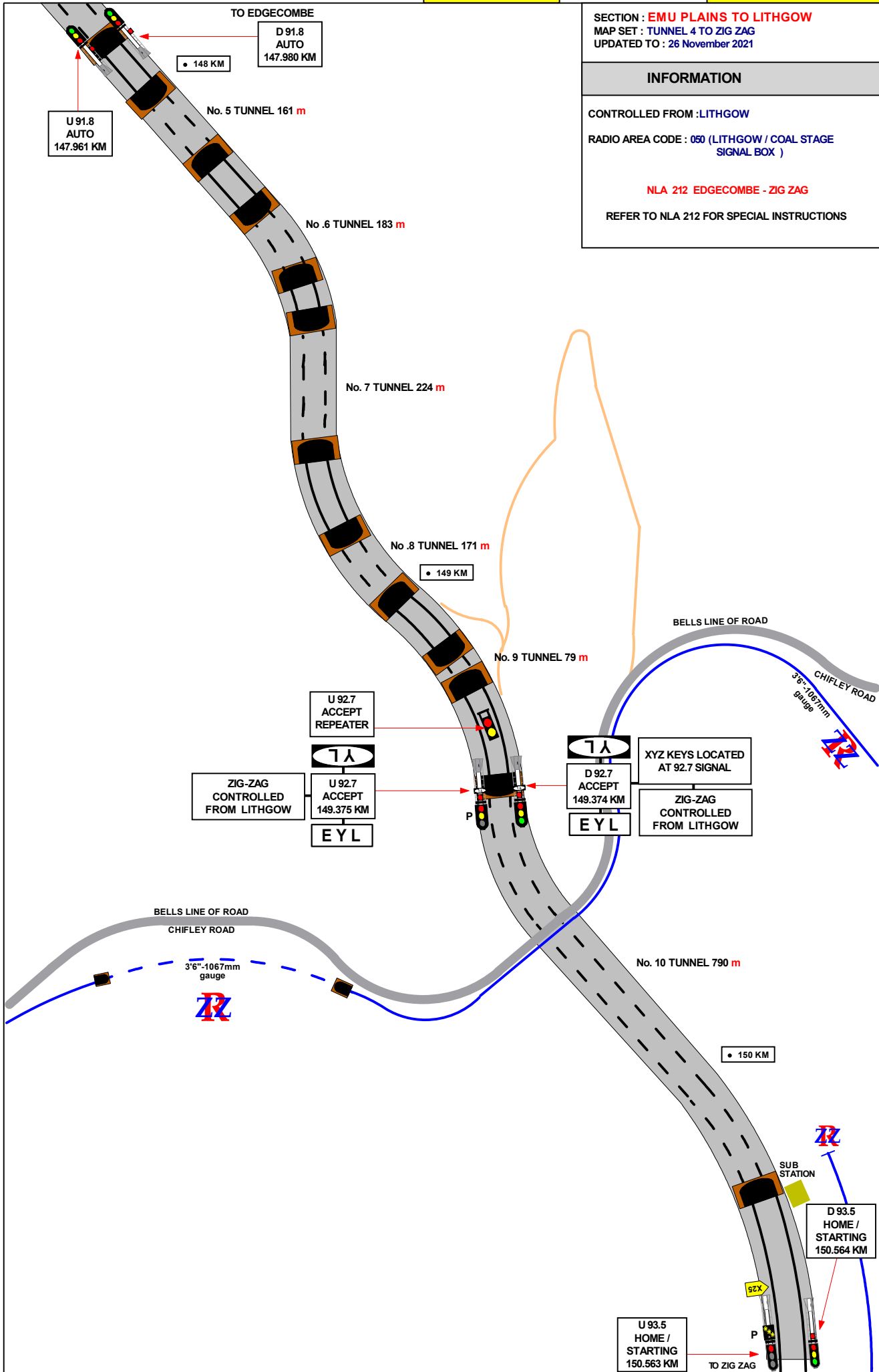
RADIO AREA CODE : 050 (LITHGOW / COAL STAGE
SIGNAL BOX)

NLA 212 EDGECOMBE - ZIG ZAG

REFER TO NLA 212 FOR SPECIAL INSTRUCTIONS

1 IN 90

1 IN 42



SECTION : EMU PLAINS TO LITHGOW
MAP SET : ZIG ZAG TO OAKY PARK
UPDATED TO : 26 November 2021

INFORMATION

CONTROLLED FROM : LITHGOW

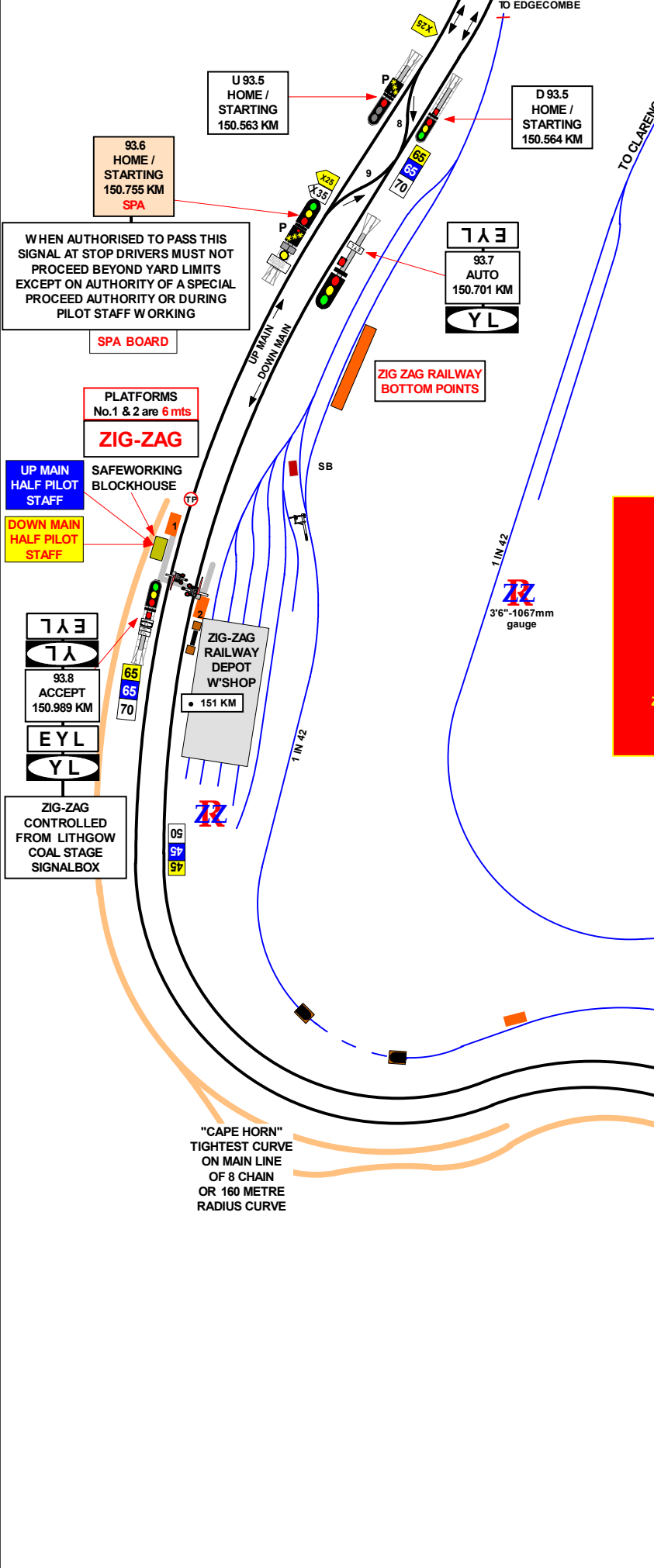
RADIO AREA CODE : 050 (LITHGOW / COAL STAGE SIGNAL BOX)

NLA 212 EDGECOMBE - ZIG ZAG

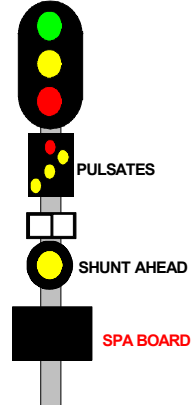
REFER TO NLA 212 FOR SPECIAL INSTRUCTIONS

SIGNAL	DESTINATION	INDICATION
D 93.6	UP MAIN	UM
	DOWN MAIN	DM

1 IN 89

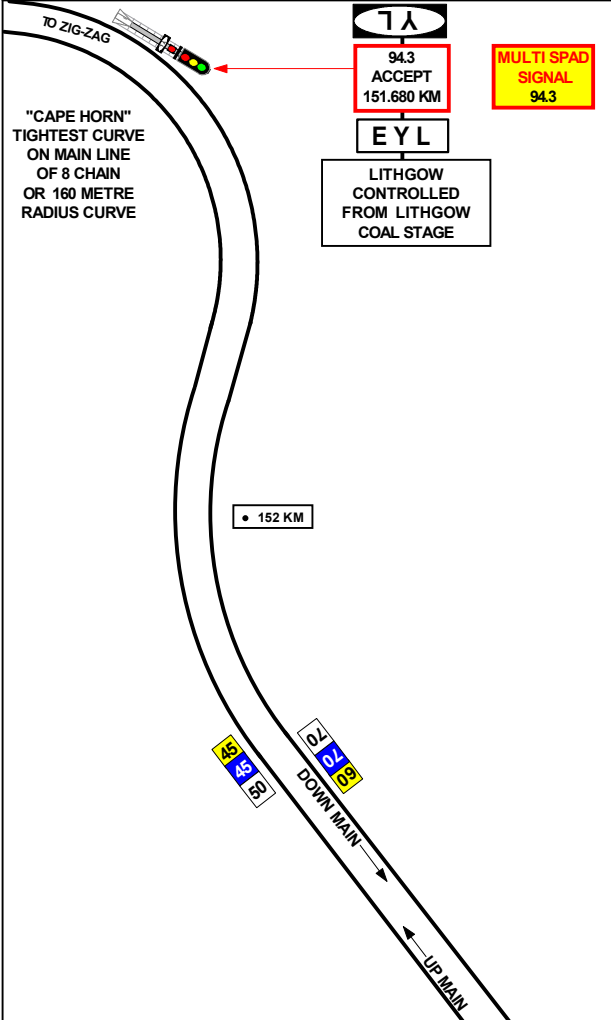


1/2 PILOT STAFFS FOR
 UP  AND
 DOWN  MAIN
 LINES ARE LOCATED
 IN SAFEWORKING
 BLOCKHOUSE NEAR
 ZIG-ZAG No. 1 PLATFORM



1 IN 42

"CAPE HORN"
TIGHTEST CURVE
ON MAIN LINE
OF 8 CHAIN
OR 160 METRE
RADIUS CURVE



SECTION : **EMU PLAINS TO LITHGOW**
 MAP SET : ZIG ZAG TO OAKEY PARK
 UPDATED TO : 15 April 2024

INFORMATION

CONTROLLED FROM : LITHGOW

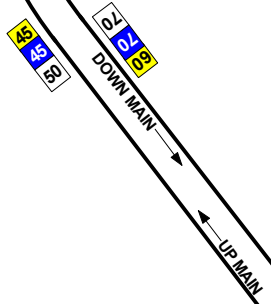
RADIO AREA CODE : 050 (LITHGOW / COAL STAGE SIGNAL BOX)

NLA 212 EDGECOMBE - ZIG ZAG

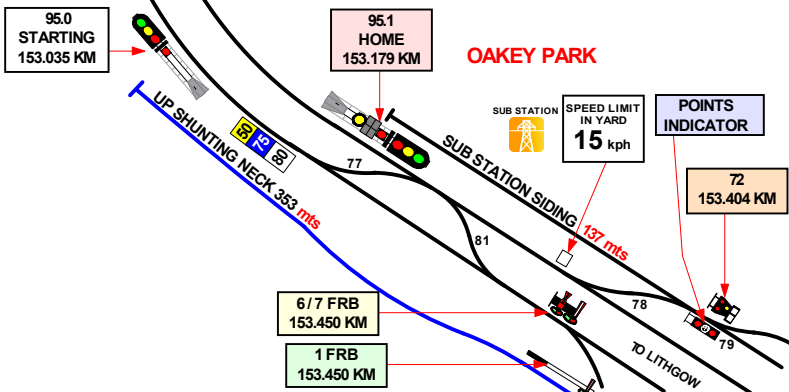
REFER TO NLA 212 FOR SPECIAL INSTRUCTIONS

SIGNAL	DESTINATION	INDICATION
95.1	DOWN SIDINGS	DS
	DOWN MAIN	DM
	UP MAIN	UM

SIGNAL	DESTINATION	INDICATION
72	No.2 RECEPTION SIDING	2R
	No.1 RECEPTION SIDING	1R



153 KM



SECTION : EMU PLAINS TO LITHGOW
 MAP SET : OAKLEY PARK TO LITHGOW YARD
 UPDATED TO : 15 April 2024

GRADIENT

INFORMATION

CONTROLLED FROM : LITHGOW

RADIO AREA CODE : 050 (LITHGOW / COAL STAGE SIGNAL BOX)

NLA 218 LITHGOW

SIGNAL	DESTINATION	INDICATION
72	No.2 RECEPTION SIDING	2 R
	No.1 RECEPTION SIDING	1 R

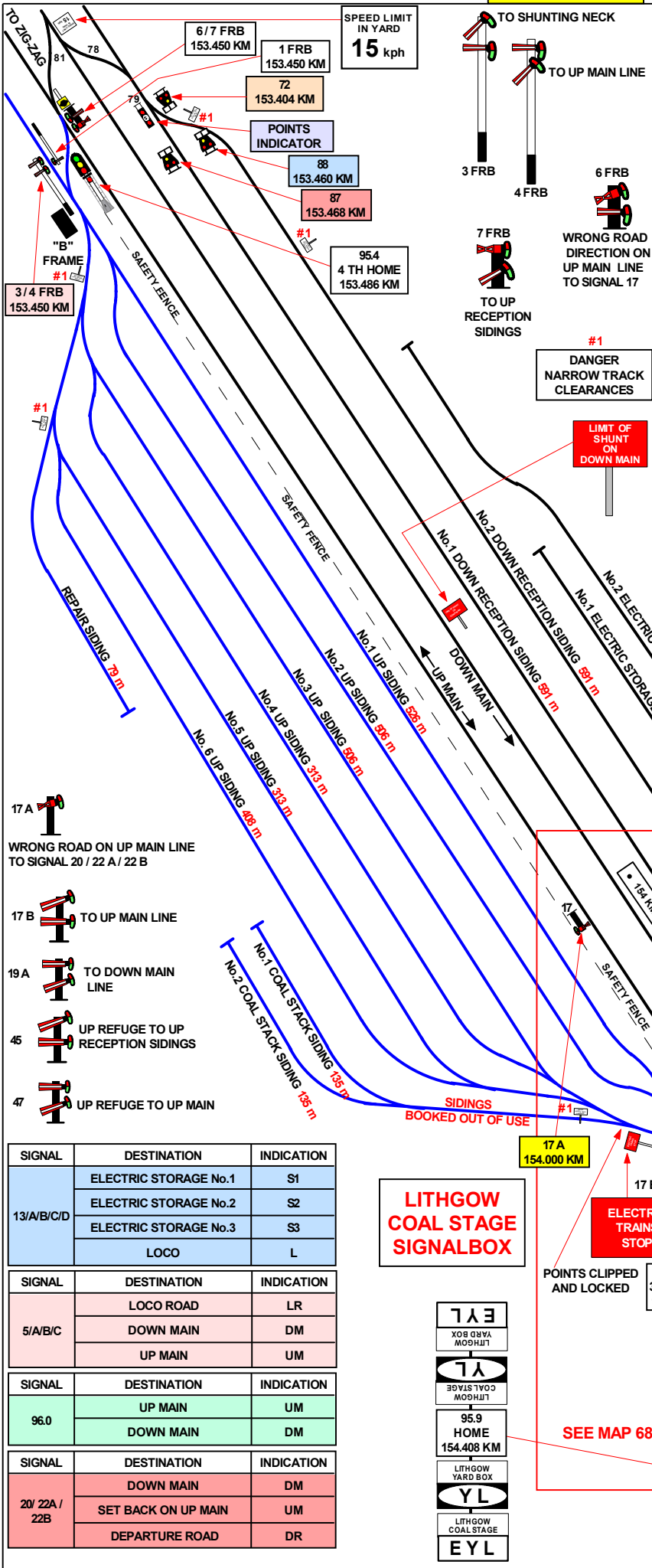
SIGNAL	DESTINATION	INDICATION
87	UP MAIN	UP
	SUB STATION SIDING	SS

SIGNAL	DESTINATION	INDICATION
88	UP MAIN	UP
	SUB STATION SIDING	SS

SIGNAL	DESTINATION	INDICATION
95.8 33 / 42	UP MAIN - CALL ON	UM
	UP YARD	UY

SIGNAL	DESTINATION	INDICATION
46/15/10	LOCO ROAD	LR
	DOWN MAIN	DM
	UP MAIN	UM

MULTI SPAD SIGNAL 14



- 17 A: WRONG ROAD ON UP MAIN LINE TO SIGNAL 20 / 22 A / 22 B
- 17 B: TO UP MAIN LINE
- 19 A: TO DOWN MAIN LINE
- 45: UP REFUGE TO UP RECEPTION SIDINGS
- 47: UP REFUGE TO UP MAIN

SIGNAL	DESTINATION	INDICATION
13/A/B/C/D	ELECTRIC STORAGE No.1	S1
	ELECTRIC STORAGE No.2	S2
	ELECTRIC STORAGE No.3	S3
	LOCO	L
SIGNAL	DESTINATION	INDICATION
5/A/B/C	LOCO ROAD	LR
	DOWN MAIN	DM
	UP MAIN	UM
SIGNAL	DESTINATION	INDICATION
96.0	UP MAIN	UM
	DOWN MAIN	DM
SIGNAL	DESTINATION	INDICATION
20/ 22A / 22B	DOWN MAIN	DM
	SET BACK ON UP MAIN	UM
	DEPARTURE ROAD	DR

LITHGOW COAL STAGE SIGNAL BOX

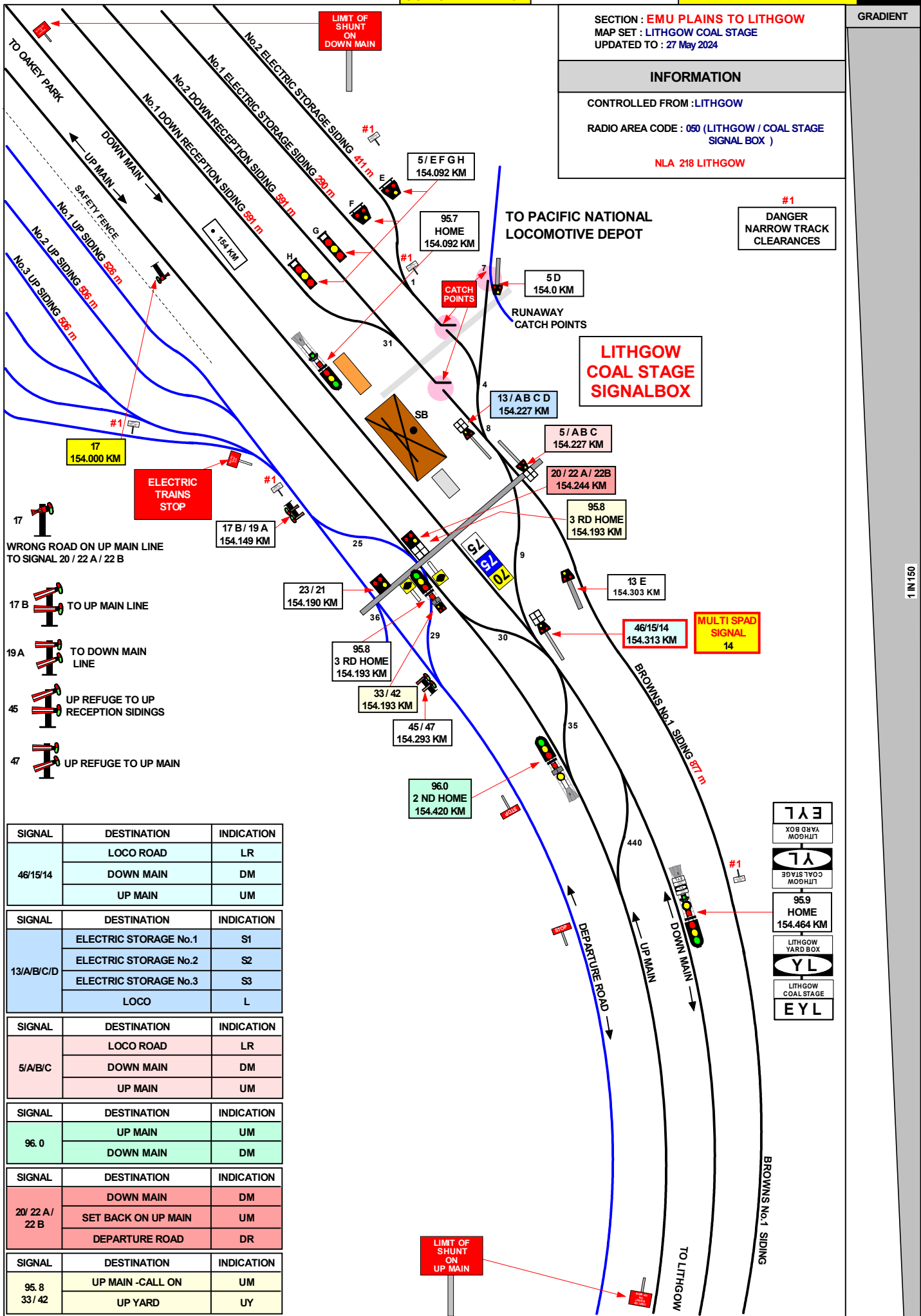


SEE MAP 68 FOR DETAILS

SECTION : EMU PLAINS TO LITHGOW
 MAP SET : LITHGOW COAL STAGE
 UPDATED TO : 27 May 2024

INFORMATION

CONTROLLED FROM : LITHGOW
 RADIO AREA CODE : 050 (LITHGOW / COAL STAGE SIGNAL BOX)
 NLA 218 LITHGOW



#1
 DANGER
 NARROW TRACK
 CLEARANCES

LITHGOW
 COAL STAGE
 SIGNALBOX

MULTI SPAD
 SIGNAL
 14

- 17

 WRONG ROAD ON UP MAIN LINE
 TO SIGNAL 20 / 22 A / 22 B
- 17 B

 TO UP MAIN LINE
- 19 A

 TO DOWN MAIN LINE
- 45

 UP REFUGE TO UP RECEPTION SIDINGS
- 47

 UP REFUGE TO UP MAIN

SIGNAL	DESTINATION	INDICATION
46/15/14	LOCO ROAD	LR
	DOWN MAIN	DM
	UP MAIN	UM
13/A/B/C/D	ELECTRIC STORAGE No.1	S1
	ELECTRIC STORAGE No.2	S2
	ELECTRIC STORAGE No.3	S3
	LOCO	L
5/A/B/C	LOCO ROAD	LR
	DOWN MAIN	DM
	UP MAIN	UM
96.0	UP MAIN	UM
	DOWN MAIN	DM
20/22 A / 22 B	DOWN MAIN	DM
	SET BACK ON UP MAIN	UM
	DEPARTURE ROAD	DR
95.8 33/42	UP MAIN -CALL ON	UM
	UP YARD	UY

1 IN 150

FOR ACCESS AND INFORMATION
CONTACT COORDINATOR
Mr J . BROOKS on 063 507 515



**LITHGOW LOCOMOTIVE
DEPOT
PACIFIC NATIONAL**

4 October 2023

Diesel By-Pass Road

No. 7 Loco Workshop Rd 217 m

No. 6 Loco Workshop Rd 264 m

No. 3 Loco Workshop Rd 259 m

No. 2 Electric Loco Workshop Rd 259 m

No. 1 Electric Loco Workshop Rd 294 m

Electric Loco Departure Rd 275 m

Electric Loco Sand Rd 339 m

Diesel Loco and Sand Rd 319 m

No. 2 ELECTRIC STORAGE SIDINGS 411 m

No. 1 ELECTRIC STORAGE SIDINGS 290 m

JOINS MAP MW 68



CATCH POINTS
RUNAWAY CATCHPOINTS

5 D
154.0 KM

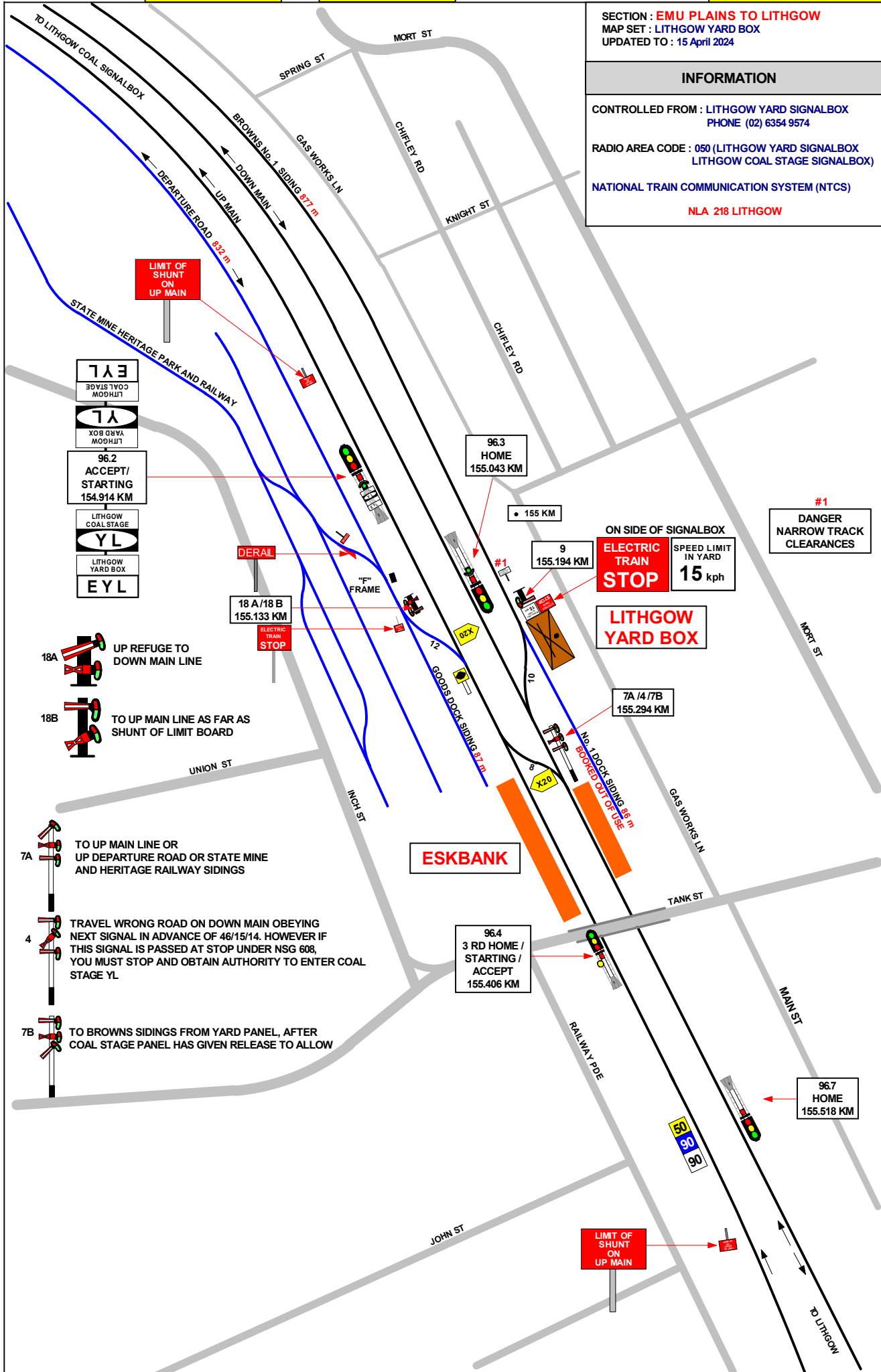
**ELECTRIC
TRAINS
STOP**

TO COAL STAGE SIGNALBOX

SECTION : EMU PLAINS TO LITHGOW
MAP SET : LITHGOW YARD BOX
UPDATED TO : 15 April 2024

INFORMATION

CONTROLLED FROM : LITHGOW YARD SIGNALBOX
PHONE (02) 6354 9574
RADIO AREA CODE : 050 (LITHGOW YARD SIGNALBOX
LITHGOW COAL STAGE SIGNALBOX)
NATIONAL TRAIN COMMUNICATION SYSTEM (NTCS)
NLA 218 LITHGOW



7A3
LITHGOW COAL STAGE

7A
LITHGOW COAL STAGE

96.2
ACCEPT/
STARTING
154.914 KM

LITHGOW COAL STAGE

YL
LITHGOW YARD BOX

EYL

18A
UP REFUGE TO
DOWN MAIN LINE

18B
TO UP MAIN LINE AS FAR AS
SHUNT OF LIMIT BOARD

7A
TO UP MAIN LINE OR
UP DEPARTURE ROAD OR STATE MINE
AND HERITAGE RAILWAY SIDINGS

4
TRAVEL WRONG ROAD ON DOWN MAIN OBEYING
NEXT SIGNAL IN ADVANCE OF 46/15/14. HOWEVER IF
THIS SIGNAL IS PASSED AT STOP UNDER NSG 608,
YOU MUST STOP AND OBTAIN AUTHORITY TO ENTER COAL
STAGE YL

7B
TO BROWNS SIDINGS FROM YARD PANEL, AFTER
COAL STAGE PANEL HAS GIVEN RELEASE TO ALLOW

SECTION : EMU PLAINS TO LITHGOW
MAP SET : LITHGOW
UPDATED TO : 4 October 2023

INFORMATION

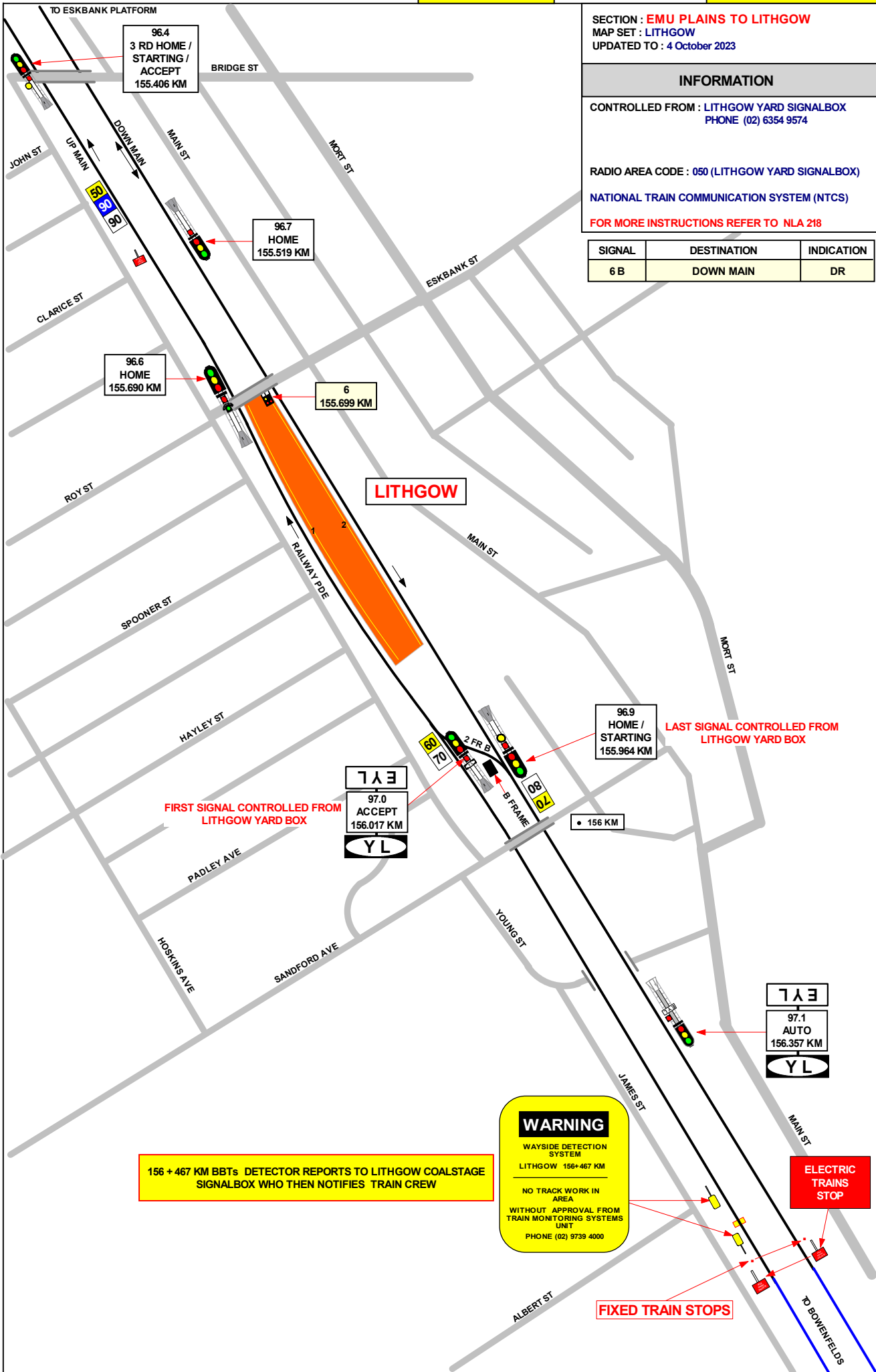
CONTROLLED FROM : LITHGOW YARD SIGNALBOX
PHONE (02) 6354 9574

RADIO AREA CODE : 050 (LITHGOW YARD SIGNALBOX)

NATIONAL TRAIN COMMUNICATION SYSTEM (NTCS)

FOR MORE INSTRUCTIONS REFER TO NLA 218

SIGNAL	DESTINATION	INDICATION
6 B	DOWN MAIN	DR



FIRST SIGNAL CONTROLLED FROM LITHGOW YARD BOX

LAST SIGNAL CONTROLLED FROM LITHGOW YARD BOX

156 + 467 KM BBTs DETECTOR REPORTS TO LITHGOW COALSTAGE SIGNALBOX WHO THEN NOTIFIES TRAIN CREW

WARNING
WAYSIDE DETECTION SYSTEM
LITHGOW 156+467 KM

NO TRACK WORK IN AREA
WITHOUT APPROVAL FROM TRAIN MONITORING SYSTEMS UNIT
PHONE (02) 9739 4000

ELECTRIC TRAINS STOP

FIXED TRAIN STOPS

1 IN 150

CONTROL PANELS	DEPARTMENTAL	PUBLIC
PENRITH PANEL-----	83 824-----	02 4780 3824
KATOOMBA PANEL-----	87 401-----	02 9851 7401
MT VICTORIA PANEL 1-----	88 837-----	02 6354 9837
MT VICTORIA PANEL 2-----	88 887-----	02 6354 9887
ZIG-ZAG TRAFFIC HUT-----	88 569-----	NA
LITHGOW COAL STAGE-----	88 524-----	63 549 524
LITHGOW YARD-----	88 574-----	63 549 574
LITHGOW STATION-----	88 565-----	63 549 565

STATIONS	DEPARTMENTAL	PUBLIC
BELL-----	NA-----	02 4787 8452
BLACKHEATH-----	83 992-----	02 4780 3992
BLAXLAND-----	83 806-----	02 4739 1620
BULLABURRA-----	NA-----	02 4780 3935
EMU PLAINS-----	NA-----	02 4735 2506
FAULCONBRIDGE-----	83 906-----	02 4780 3906
GLENBROOK-----	83 805-----	02 4739 1753
HAZELBROOK-----	83 913-----	02 4780 3913
KATOOMBA-----	83 965-----	02 4782 1902
LAPSTONE-----	83 813-----	02 4780 3813
LAWSON-----	83 914-----	02 4780 3914
LEURA-----	83 933-----	02 4780 3933
LINDEN-----	NA-----	02 4780 3915
LITHGOW-----	88 565-----	02 6354 9507
MEDLOW BATH-----	NA-----	02 4782 1902
MOUNT VICTORIA-----	88 838-----	02 6354 9838
SPRINGWOOD-----	83 905-----	02 4780 3915
VALLEY HEIGHTS-----	83 105-----	02 4780 3105
WARRIMOO-----	NA-----	02 4780 3808
WENTWORTH FALLS-----	NA-----	02 4780 3931
WOODFORD-----	NA-----	02 4780 3910