

# Route Access Standard

## DIRN Section Pages D52 - Moss Vale to Unanderra

### Applicability

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ARTC Network Wide
SMS

### Publication Requirement

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External Only
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### Primary Source

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### Document Status

Version #	Date Reviewed	Prepared by	Reviewed by	Endorsed	Approved
1.8	Mar 2018	Manager Procedures Development	Stakeholders	Manager Standards	GM Technical Standards

### Amendment Record

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<b>Amendments to the RAS are published at the following link</b>
<a href="https://www.artc.com.au/uploads/RAS_Amendments_Register.xlsx">https://www.artc.com.au/uploads/RAS_Amendments_Register.xlsx</a>

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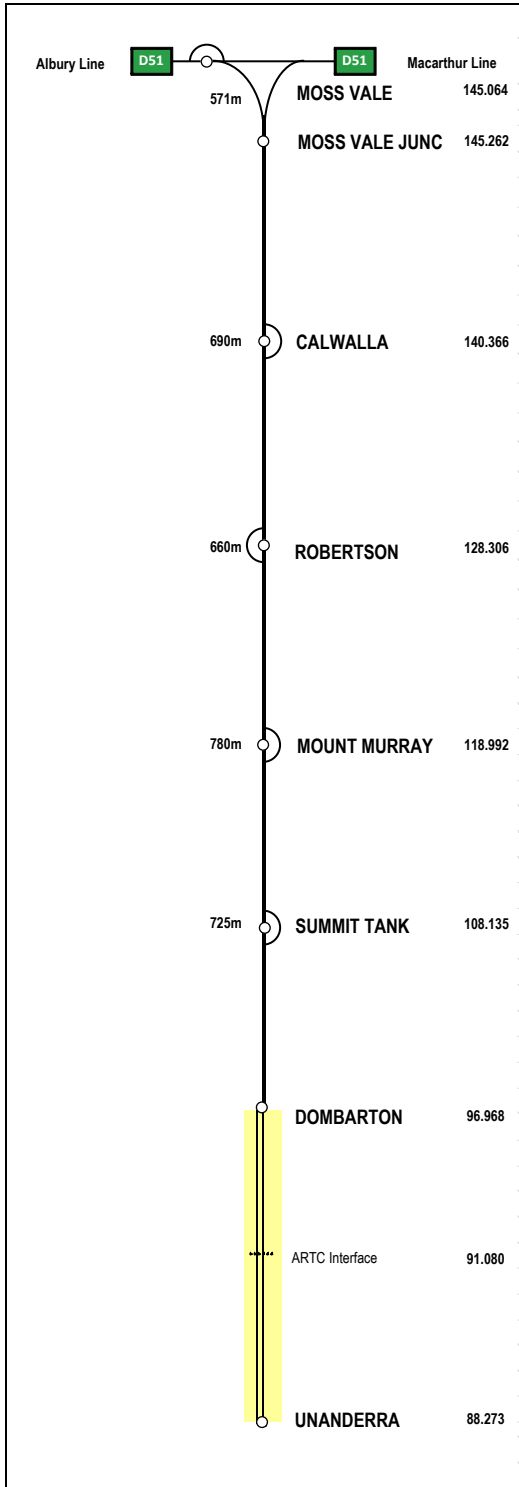
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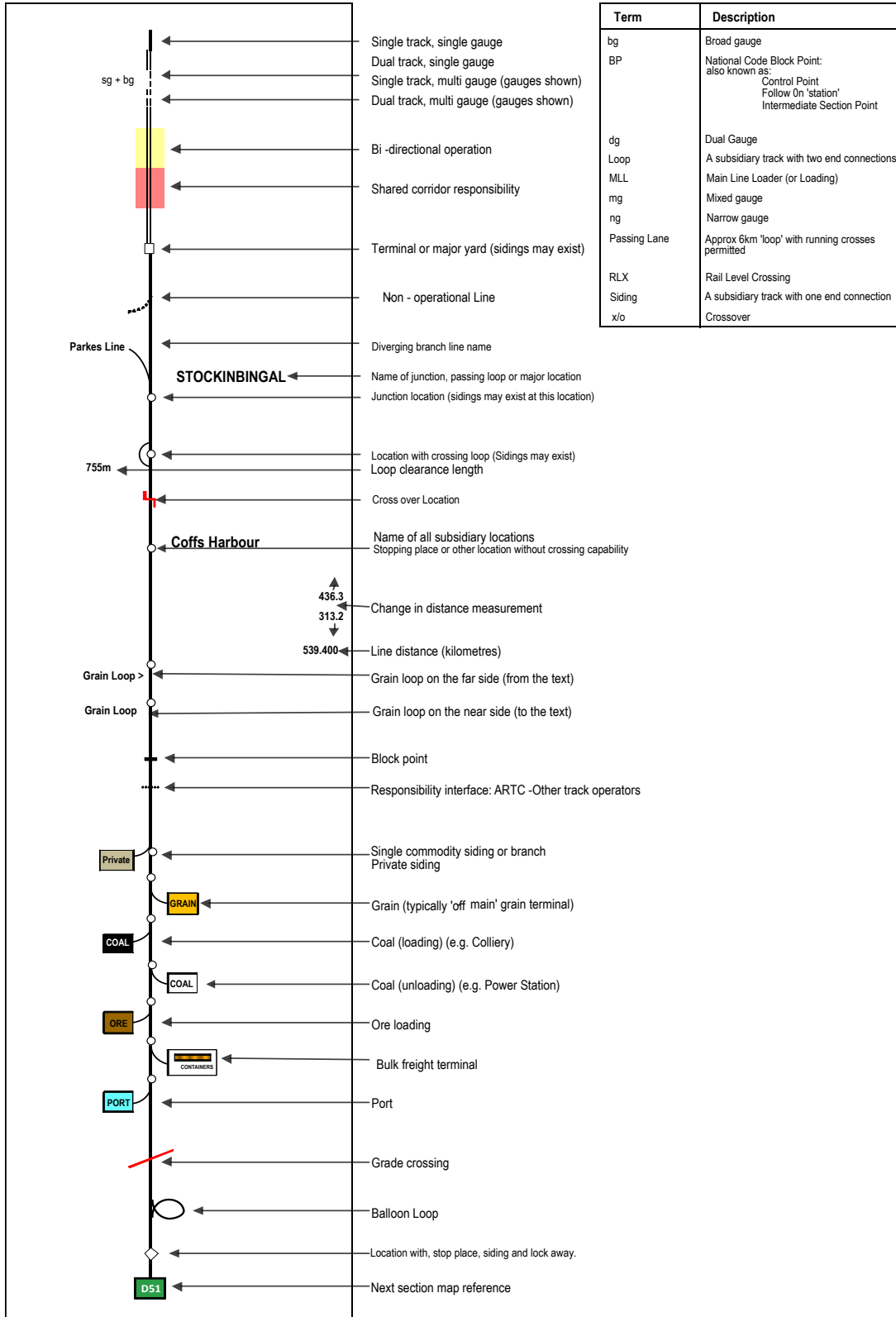
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# 1 D52–Moss Vale to Unanderra

NB: These line maps are indicative only and should be reviewed in conjunction with the legend on page 3. For more detailed map information refer to the ARTC website.



## 2 D52 Legend



### 3 D52 Route Capacity

MOSS VALE – ROBERTSON			
TRAIN TYPE	MAXIMUM SPEED (KM/H)	MAXIMUM AXLE LOAD (TONNES)	
		LOCOS	WAGONS
FREIGHT	115	22.3	19
	100	22.8	23
	80	22.8	25
PASSENGER			
XPT/RAILCAR	N/A	N/A	
XPLORER	115	N/A	
DIESEL HAUL	115	19	

ROBERTSON – UNANDERRA			
TRAIN TYPE	MAXIMUM SPEED (KM/H)	MAXIMUM AXLE LOAD (TONNES)	
		LOCOS	WAGONS
FREIGHT	50	22.8	25
PASSENGER			
XPT/RAILCAR	N/A	N/A	
XPLORER	N/A	N/A	
DIESEL HAUL	50	19	

*Note:*

1. Route capacity applies where vehicle characteristics and conditions permit.

## 4 D52 Maximum Trailing Loads

MOSS VALE (SUMMIT TANK) – UNANDERRA							
DETAILS	DOWN (UPHILL)			UP (DOWNHILL)			
	UNANDERRA- MOSS VALE			MOSS VALE - UNANDERRA			
TRAILING TONS	4500	3750	1500	4500	3600	3300	2400 <sup>1</sup>
TRAIN TYPE	GENERAL FREIGHT, GRAIN AND NON- COAL		EMPTY WHEAT COAL	COAL	GENERAL FREIGHT, GRAIN AND NON- COAL		
BRAKE	SINGLE PIPE	SINGLE PIPE	SINGLE & 2 PIPE	2 PIPE	2 PIPE	2 PIPE	SINGLE
LOCOS <sup>2</sup>	*L2/NR	*L3/*L4/81/82	*L3/*L4/81/82	*L3/82	*L2/NR	*L4/*L9/81/80	*L2/*L3/*L4/*L5/*L6/*L7/*L8/*L9/*L10
NUMBER LOCOS	5	5	3	2	2	2	2

Note:

\* Locomotive Load Categories or Equivalent motive power configuration

Operations under ECP braking are required to follow operator's individual procedures. Operators must have developed their own risk assessments in accordance with the use of ECP braking.

<sup>1</sup>See Special Access Conditions: Operation of single pipe trains in excess of 2400t on page 8 of this document.

<sup>2</sup>L' categories are defined as per the ARTC TOC manual and listed here until the full implementation of ARTC RAS and RVM manuals, when these categories become the responsibility of the operators and are subsequently removed from the RAS.

## 5 D52 Special Access Conditions

### 5.1 Out of Gauge Steel Trains

The following table lists locations where crossings may be made as authorised.

LOCATION	CROSSING
MT MURRAY	LOOP LINE
ROBERTSON	LOOP LINE
CALWALLA	LOOP LINE
MOSS VALE	NUMBER ONE BRANCH STORAGE SIDING

### 5.2 Freight Train Braking Requirements (Unanderra-Summit Tank)

#### 5.2.1 Down Direction

- Freight trains with grade control valves are required to have had a HP grade inspection carried out on the train
- Grade control valves are to be set in the EX position.

#### 5.2.2 Up Direction

- Unless at least 80 per cent of the train mass is fitted with approved fixed exhaust chokes, freight trains are required to have a HP grade inspection
- Grade control valves (where fitted) are to be set in the IP position at the inspection location or other approved location
- The dynamic brake must be used if available
- Main reservoir piped freight trains subject to a Periodic Maintenance Program must be under current 'periodic maintenance' and are required to have had a full train inspection or general train inspection
- When these trains are operated out of the Port Kembla area, the full train inspection or general train inspection may be conducted in the Port Kembla area and no further full train inspection is required during the round trip
- These trains may have consecutive general train inspections
- At run round locations, the train crew must carry out a brake holding test and endorse the train manifest to that effect. A holding test is not required if the first three vehicles are included on the unit train brake certificate or the train manifest was endorsed by the driver conducting a double ended holding test prior to the previous departure from the Port Kembla area.

### 5.2.3 Self-Propelled Diesel Trains

XPT	XPLORER/ ENDEAVOUR	620 CLASS DIESEL	900 CLASS DIESEL	CONDITIONS OF OPERATION
<b>DOWN DIRECTION (UNANDERRA – MOSS VALE)</b>				
✓				ALL POWER CARS OPERATING
	✓	✓	✓	ALL ENGINES OPERATING
✓				MAXIMUM OF SEVEN TRAILERS WITH TWO POWER CARS OR THREE TRAILERS WITH ONE POWER CAR
✓	✓	✓	✓	ALL COMPRESSORS OPERATING
✓	✓	✓	✓	EMERGENCY COUPLER AVAILABLE
✓	✓	✓	✓	NO BRAKE CUT OUTS ALLOWED
✓	✓	✓	✓	EP BRAKE, AUTOMATIC BRAKE, HAND AND ALL SPRING PARKING BRAKES FULLY OPERATIONAL
			✓	TRAIN TO COMPRISE OF FOUR CAR UNITS (I.E. MOTOR-TRAILER-TRAILER-MOTOR (ONLY UNITS EQUIPPED WITH CUMMINS ENGINES))
<b>UP DIRECTION (MOSS VALE – UNANDERRA)</b>				
✓				ONE OR TWO POWER CARS OPERATING
✓				SINGLE POWER CAR NOT PERMITTED (TRAIN MUST CONSIST OF AT LEAST TWO VEHICLES (I.E. TWO POWER CARS OF ONE POWER CAR, ONE TRAILER))
	✓	✓	✓	ALL ENGINES OPERATING
	✓			AT LEAST HALF TRACTION ENGINES WORKING. SINGLE CAR NOT PERMITTED
✓				MAXIMUM OF SEVEN TRAILERS WITH TWO POWER CARS OR THREE TRAILERS WITH ONE POWER CAR
		✓	✓	ALL COMPRESSORS OPERATING
✓	✓			ALL COMPRESSORS OPERATING (COMPRESSOR ON ANY DEAD POWER CAR TO BE SWITCHED TO HOTEL SUPPLY)
✓	✓	✓	✓	EMERGENCY COUPLER AVAILABLE
✓	✓	✓	✓	NO BRAKE CUT OUTS ALLOWED
✓	✓	✓	✓	EP BRAKE, AUTOMATIC BRAKE AND ALL SPRING PARKING BRAKES FULLY OPERATIONAL
			✓	TRAIN TO COMPRISE OF FOUR CAR UNITS (I.E. MOTOR-TRAILER-TRAILER-MOTOR (ONLY UNITS EQUIPPED WITH CUMMINS ENGINES))

#### 5.2.4 Single Pipe Trains up to 2400 Tonnes and up to 1500 Meters Long (Summit Tank-Unanderra)

On steeply falling grades between Summit tank and Unanderra loads for single pipe trains are limited due to air brake capacity to a maximum load of 2400 tonnes. The combination of loaded and empty vehicles in a train shall not exceed that listed in the table below. For multipack / articulated vehicles the number of platforms shall be counted instead of vehicles. For trains over 2400 tonnes see section 5.2.5.

Loaded Vehicles	Maximum Empties	Loaded Vehicles	Maximum Empties	Loaded Vehicles	Maximum Empties	Loaded Vehicles	Maximum Empties
0	45	9	33	18	21	27	10
1	43	10	32	19	20	28	9
2	42	11	30	20	19	29	7
3	41	12	29	21	18	30	6
4	39	13	28	22	16	31	5
5	38	14	27	23	15	32	3
6	37	15	25	24	14	33	2
7	36	16	24	25	12	34	1
8	34	17	23	26	11	35	0

#### 5.2.5 Single Pipe Trains in Excess of 2400 Tonnes and up to 1500 Meters Long (Summit Tank-Unanderra)

Single pipe trains between 2400 and 4000 tonnes and up to 1500 m long may operate from Summit Tank to Unanderra under the following mandatory dynamic brake conditions:

- These trains must have a HP grade inspection and grade control valves must be set in the IP position
- The minimum allowable vehicle mass for vehicles in the front third of the train must not be less than 25 tonnes. In the case of multipack vehicles, the minimum allowable vehicle mass shall be the gross mass divided by the number of platforms (decks). There must not be any empty platforms (decks).
- The maximum train length is 1500m plus locomotives
- The maximum train mass is 4000 tonnes plus locomotives
- The train must have three locomotives at the front of the train and up to two locomotives at the rear of the train from Summit Tank to Unanderra
- One locomotive shall be provided for each 800 tonnes or part thereof of train load
- All locomotives must have operable extended range dynamic brakes and a minimum mass of 129 tonnes
- The speed of the train must be controlled by the dynamic brake supplemented by the use of the air brake as required



- The speed of the train must not exceed 25 km/h
- Crews must have a clear understanding of procedures for operating these trains in the event of the loss of radio communication.

If the dynamic brake fails on one locomotive only after departing Summit Tank, the train may continue under the control of the remaining dynamic brake and supplemented by the air brake.

- If the driver has any trouble adequately recharging the brake pipe, the train must be brought to a stand and held on the locomotive independent brake and sufficient handbrakes and the brake pipe fully recharged
- The grade control valves must be placed in the HP position
- The train may then continue under the control of the remaining dynamic brake and supplemented by the air brake
- If the driver again has trouble adequately recharging the brake pipe, the train must be brought to a stand and secured by handbrakes
- The train may be subsequently moved only by dividing the train or attaching additional locomotive(s) with operable dynamic brake.

If the dynamic brake fails on more than one locomotive after departing Summit Tank, the train must be brought to a stand and secured by handbrakes. The train may be subsequently moved by dividing the train or attaching additional locomotive(s) with operable dynamic brakes.

If the dynamic brake fails on more than one locomotive between Moss Vale and Summit Tank, the train must be divided at the first suitable location.

If the train is required to be divided above, each portion of the train must comply with the Operator's procedure for single pipe train load and length limits.

### 5.2.6 Intermodal (Container Trains) Summit Tank-ARTC/Railcorp Boundary –Unanderra

This requirement applies to all intermodal (container) trains diverted from the Defined Interstate Rail Network via Summit Tank because of the potential for any vehicle in the consist to be loaded to the maximum allowable height above rail of 4050 mm (as published in the Route Access Standard General Information, Chapter 7 – Loading Restrictions).

As the tracks between Moss Vale and Unanderra are only authorised for container traffic operating to a maximum height of 3916 mm above rail, all trains conveying container traffic, which have been diverted from the Defined Interstate Rail Network, shall operate as an out of gauge train. This infringement is in height only and does not affect passing traffic.

The following operating conditions shall apply:

- A maximum speed of 15 km/h is imposed through all tunnels between Moss Vale and Unanderra. The speed limit shall apply for the full length of the train.
- The Network Controller shall ensure that all crews are reminded of this requirement prior to the operation.

### 5.2.7 D52 Location of Speed Signs

LOCATION	KILOMETRAGE	DOWN		UP	
		NORMAL	XPT	NORMAL	XPT
UNANDERRA	88.273				
	88.400	-	-	65	-
	88.800	-	-	X25	-
	88.900	50	-	-	-
	89.430	60	-	-	-
	89.500	-	-	40	-
	90.930	40	-	40	-
DOMBARTON	96.968				
PASSENGER TRAINS ONLY	107.970	-	-	40	-
	107.970	-	-	30	-
SUMMIT TANK	108.272				
	108.230	45	-	-	-
	116.070	-	-	45	-
	117.200	-	-	65	-
MT MURRAY	118.992				
	127.240	65	-	40	-
ROBERTSON	128.306				
	128.970	70	-	-	-
	130.640	-	-	70	-
	130.920	80	-	-	-
	133.480	-	-	80	-
	133.680	115			
CALWALLA	139.366				
	140.150	100		115	
	140.580	115		100	
	149.850	50		115	
	150.330			50	
MOSS VALE	150.898				