Appendix B3 – Abnormal Indivisible Load Review

Abnormal Indivisible Load Movements

Introduction

Route 3 will be used for all AIL movements. The following sets out the rationale for this approach and some additional considerations that the Contractor will address as the CTMP is developed.

Abnormal Loads Services' Findings and Adopted Route

Abnormal Loads Services (ALS) were engaged on United Utilities behalf by Costain (Costain providing United Utilities with Early Contractor Involvement for the HARP). ALS's remit in relation to the MNA was the provision of route survey investigations to identify feasible access routes for the anticipated AILs focusing on the anticipated largest indivisible load (TBM Shield haulage). The review was completed in order to obtain advice on which route or routes are most suitable.

ALS provided a report (Route Survey Report, September 2020) that included a section that addresses the MNA (Section 3.2). The report also covers elements of HARP that relate to separate planning applications that are not applicable to the MNA so the report is not included in full here. The key findings relevant to the MNA are summarised below.

Figure B-3-01 in Appendix B3 shows the range of routes considered. ALS considered that the majority were not suitable. In particular the nature of many of the existing River Ribble crossings and the extent of road modification needed ruled these options out. The route ALS identified in their report as the most practical has been discounted. This was via Sawley (Option 3-E).

Along this discounted route ALS identified the following as being applicable to the whole route:

- It is advised that extensive tree surgery will be required on all roads on the route (this may attract objections from local residents)
- There are a number of structures along the route (culverts and bridges) for which the capacity is unknown. In the event there are structural limits it is anticipated that these structures can be "Overbridged" utilising temporary works (see Figure B-3-02)
- Temporary parking restrictions when AIL movements are proposed will be necessary to permit the sweep of the vehicle in a number of locations.

These considerations are also applicable to Route 3.

For Option 3-E the crossing of the River Ribble is the first area that is discussed in detail by ALS. They anticipate that the conventional TBM configuration considered will not be able to navigate the bridge without localised widening works (Figure B-3-02 illustrates this). They suggest that a suitable transhipment location should be sourced prior to the bridge and the TBM Section transferred to a shorter vehicle configuration. [Note: this may result in increasing the overall height of the vehicle to approx. 5.50m. At this increased height any overhead wires telecoms / electrical will have to be lifted or isolated. Swept path analysis will still be required to confirm this.]

Along Option 3-E, Sawley Road passes closely to the River Ribble wall. If Option 3-E is used ALS recommend the road should be assessed to check that it can withstand the pressure of the vehicle.

ALS concluded that Option 3-E (the route via Sawley) provides the best route to support the current vehicle configuration which is road going and legal, without the need for any bridge modifications. They highlight that this route does however include various pinch points between Sawley and Waddington which will need to be addressed. An alternative route via Chatburn (Option 3A) was discounted by ALS because of the limitations of Grindleton Bridge (East View).

There are two possible ways in which the Grindleton Bride limitation might be overcome:

- One will be to widen the approaches to Grindleton Bridge
- ALS suggest that another will be similar to that proposed for the Sawley crossing. It will be to tranship the TBM section onto a configuration that could navigate the crossing. In this

instance it will necessitate the use of a configuration using a self-powered remote power pack unit which attaches to the rear of the trailer, this will permit the removal of the tractor unit but still powers the trailer configuration to travel legally on a public road (the example system cited is produced by Enerpac). By removing the tractor unit and reconfiguring the trailer, the weight and length of the means of navigation could be reduced and the existing bridge crossed. Once the bridge has been crossed the tractor unit could be re-attached and the load could progress onwards to Waddington.

Independently of the ALS exercise, Jacobs were engaged by United Utilities to complete swept path analysis and as necessary develop appropriate indicative mitigation.

Figure B-3-02 shows the swept path for the TBM along the discounted Option 3-E route at the Sawley Ribble crossing and shows, as highlighted in the ALS report, that the proposed TBM configuration cannot cross the bridge.

Figure B-3-03 shows the swept path for Option 3A at the Grindleton Bridge Ribble crossing and the need for widening.

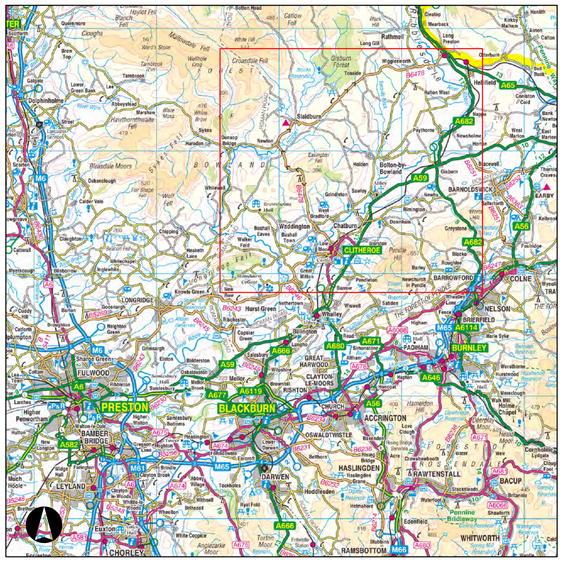
The Jacobs swept path analysis also identified a need for significant road widening at the junction between East View and Grindleton Road (see Figure B-3-04).

The proposed Route 3 whilst necessitating significant works across the Ribble valley avoids the need for these modifications and minimises the impact to the residential areas in Clitheroe, Sawley, Grindleton and Waddington.

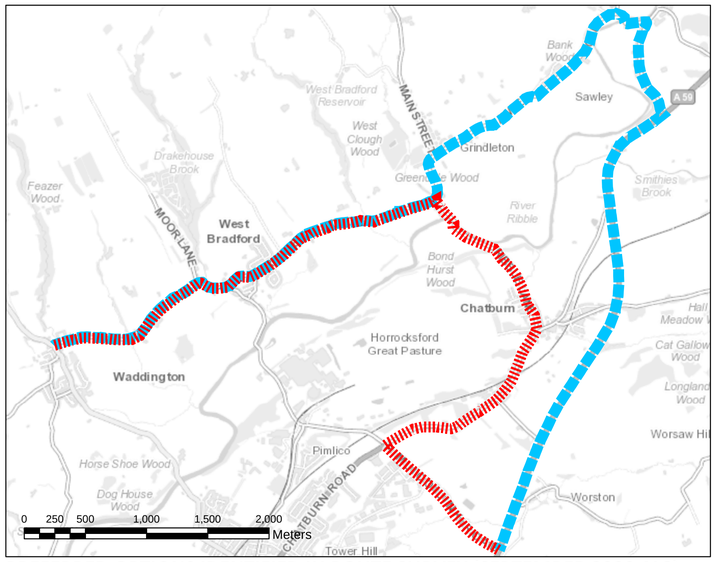
Travelling towards the proposed construction compounds along Route 3 West Bradford Road in Waddington and turning right onto Slaidburn Rd / The Square / B6478, ALS suggested that the removal of bollards is required outside the Higher Buck Inn. The initial swept path analysis completed by Jacobs suggests this may not be required (see Figure B-3-05). (Note: As stated elsewhere the specification of the TBMs and vehicle / trailer configurations will be determined by the appointed contractor(s) and a specific more detailed assessment will be completed in due course).

The swept path assessments indicate that some of the wider AILs will require temporary traffic management, the timing of movements will be agreed to minimise disturbance/disruption.

APPENDIX B3 - AIL ACCESS ROUTE OPTIONS
FIGURE B - 3 - 01



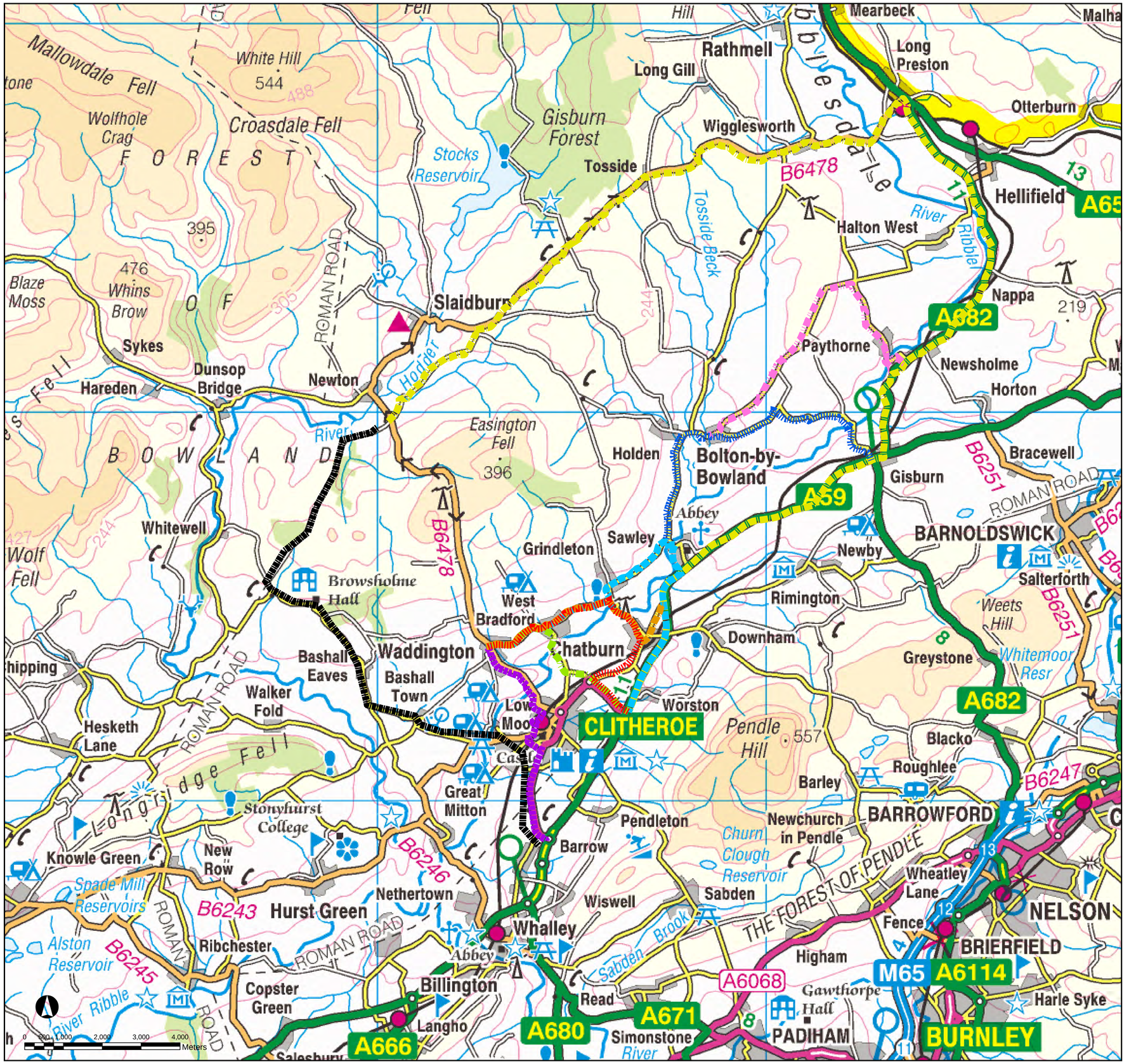
WIDER AREA



PREFERRED OPTIONS IDENTIFIED IN ROUTE SURVEY (SEPTEMBER 2020 ALS)

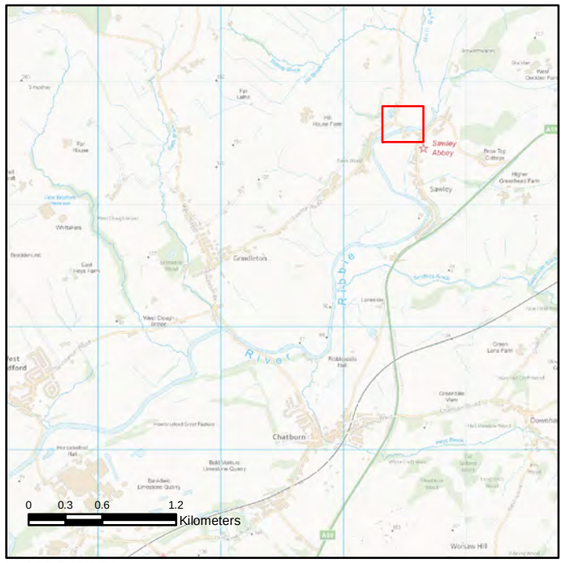
Legend

- Abnormal_Load_Route_3A
- Abnormal_Load_Route_3B
- Abnormal_Load_Route_3C
- Abnormal_Load_Route_3D
- Abnormal_Load_Route_3E
- Abnormal_Load_Route_3F
- Abnormal_Load_Route_3G
- Abnormal_Load_Route_3H
- Abnormal_Load_Route_3J



AIL Route Options Considered

APPENDIX B3 - AIL SWEPT PATH SAWLEY BRIDGE (DISCOUNTED OPTION)
FIGURE B - 3 - 02



WIDER AREA

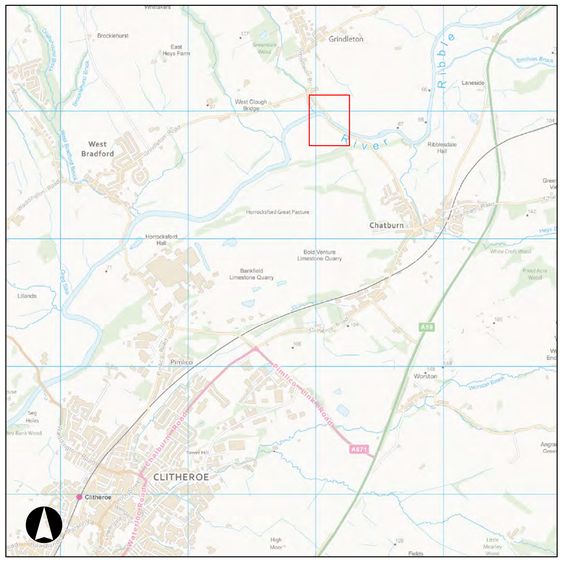
Largest AIL (TBM) from site (Southbound)

EXAMPLE OF OVERBRIDGING TEMPORARY WORKS

PROXIMITY OF SAWLEY ROAD TO RIVER RIBBLE WALL

Largest AIL (TBM) to site (Northbound)

APPENDIX B3 - AIL SWEPT PATH GRINDLETON BRIDGE
FIGURE B - 3 - 03



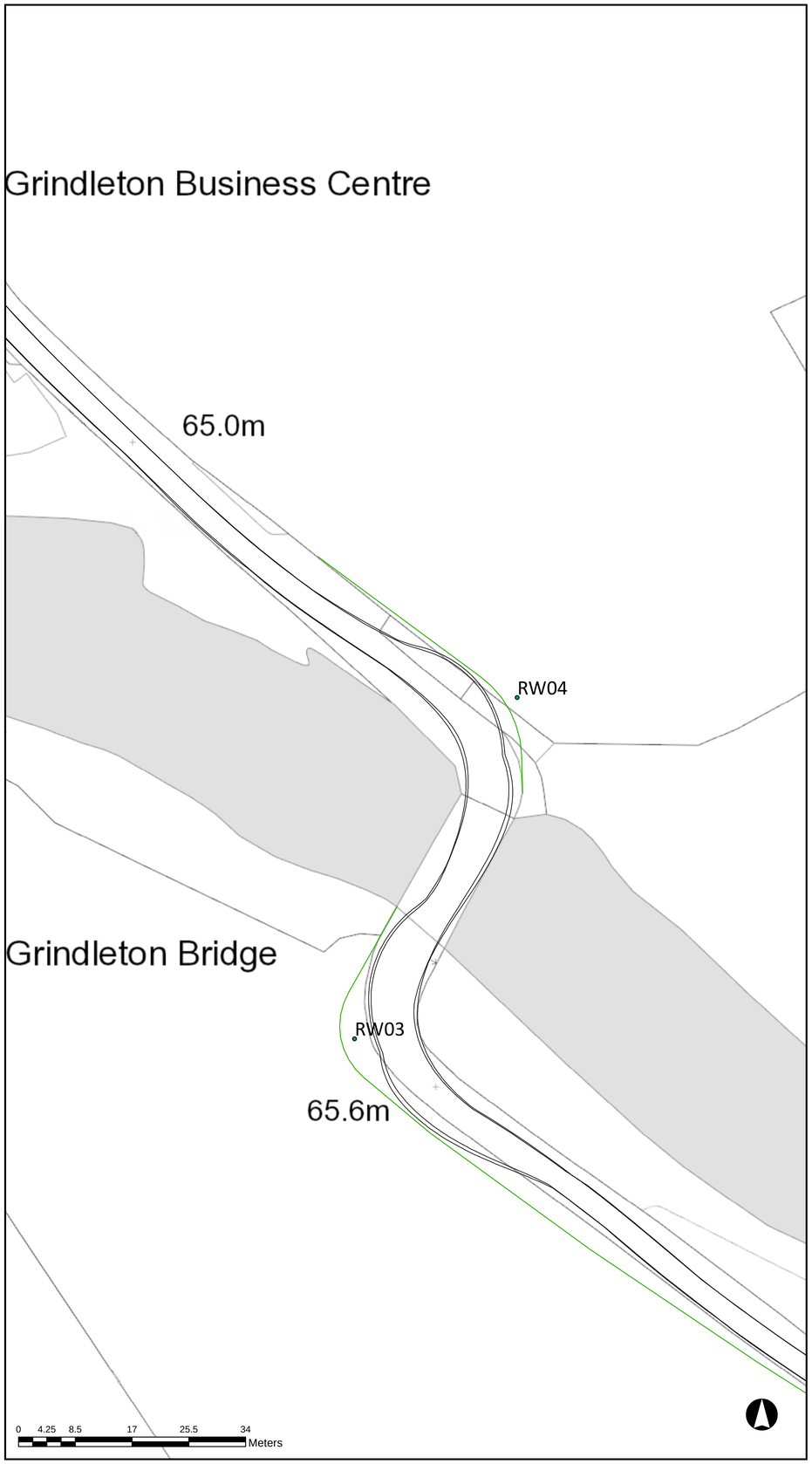
WIDER AREA 0 0.275 0.55 1.1 Kilometers

IMAGE 1: HGV TRIAL 11th NOVEMBER 2020
4 AXLE RIGID ENTERING BRIDGE FROM NORTH BANK

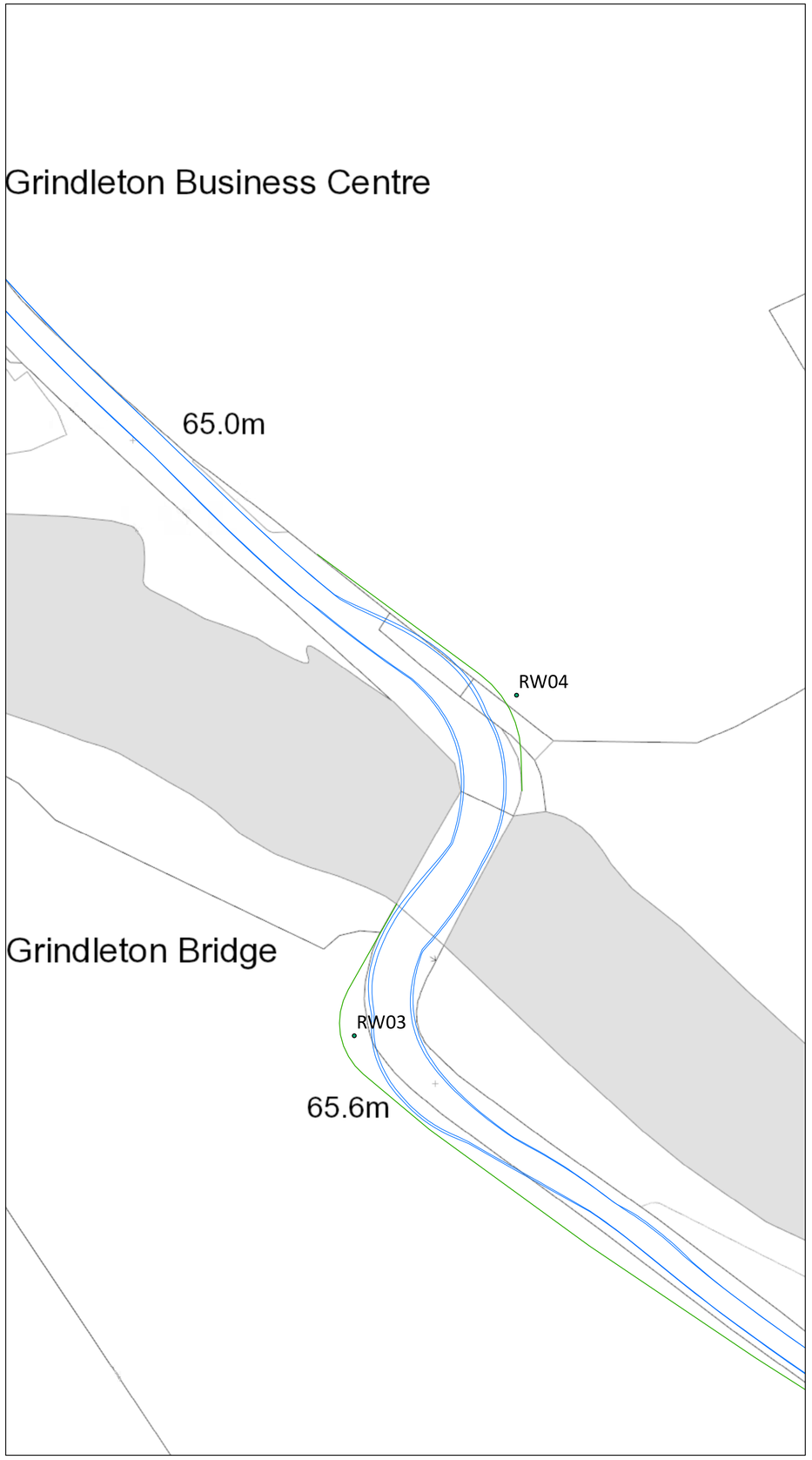
IMAGE 2: HGV TRIAL 11th NOVEMBER 2020
4 AXLE RIGID LEAVING BRIDGE TOWARDS SOUTH BANK

Legend

PROPOSED ROAD MODIFCATIONS

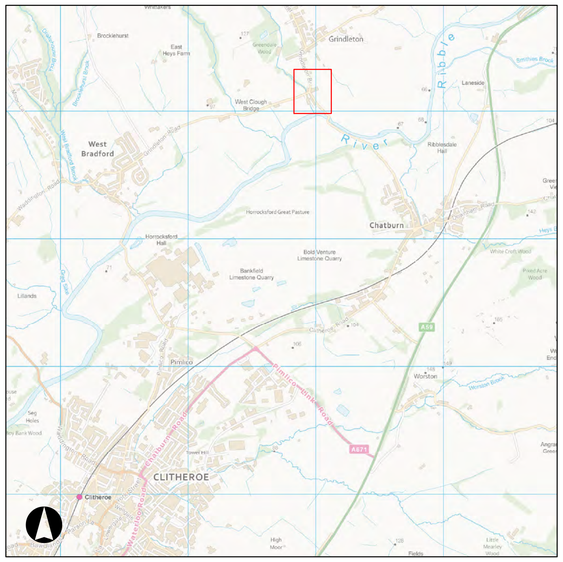


Largest AIL (TBM) to site (Northbound)



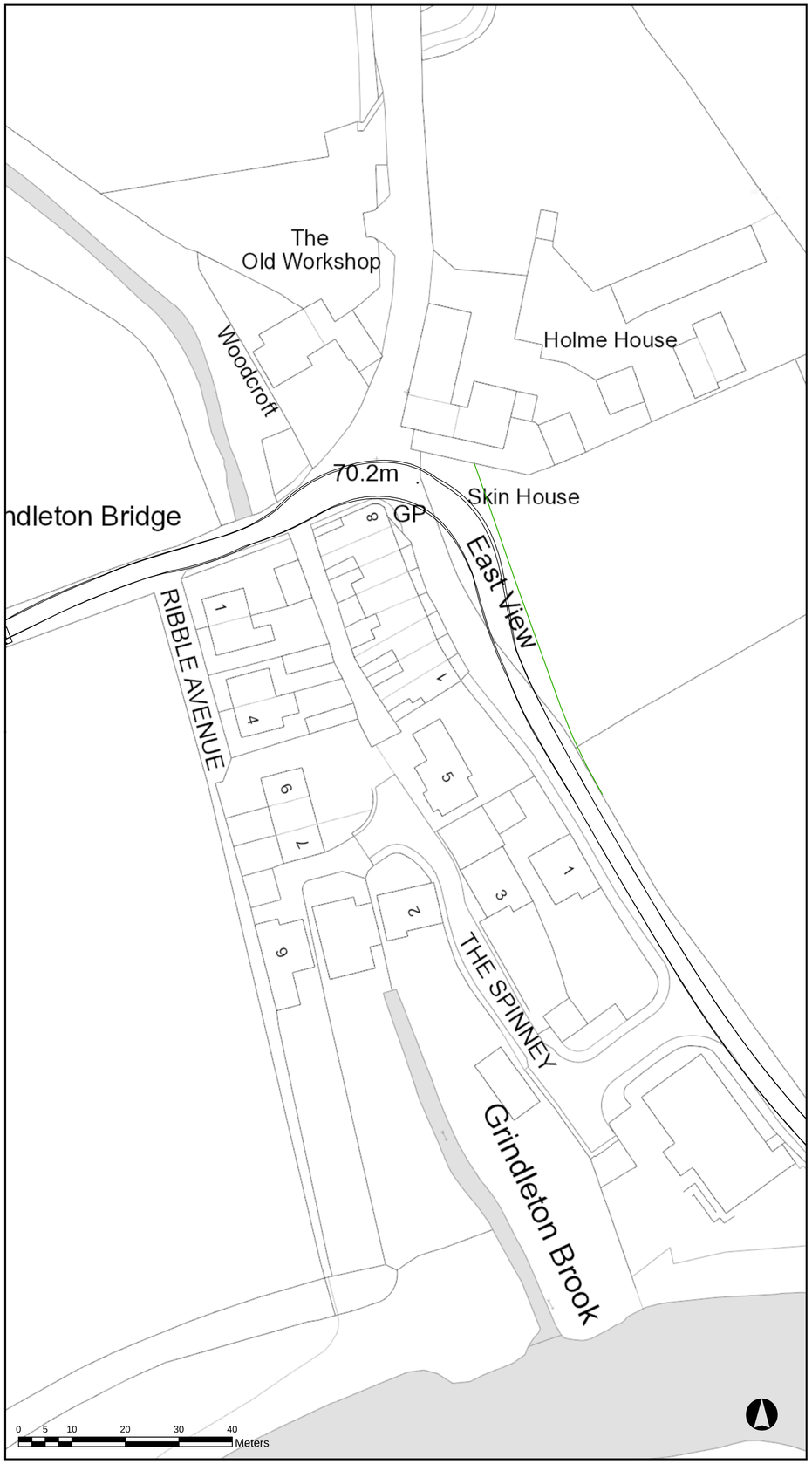
Largest AIL (TBM) from site (Southbound)

APPENDIX B3 - SWEPT PATHS GRINDLETON ROAD
FIGURE B - 3 - 04

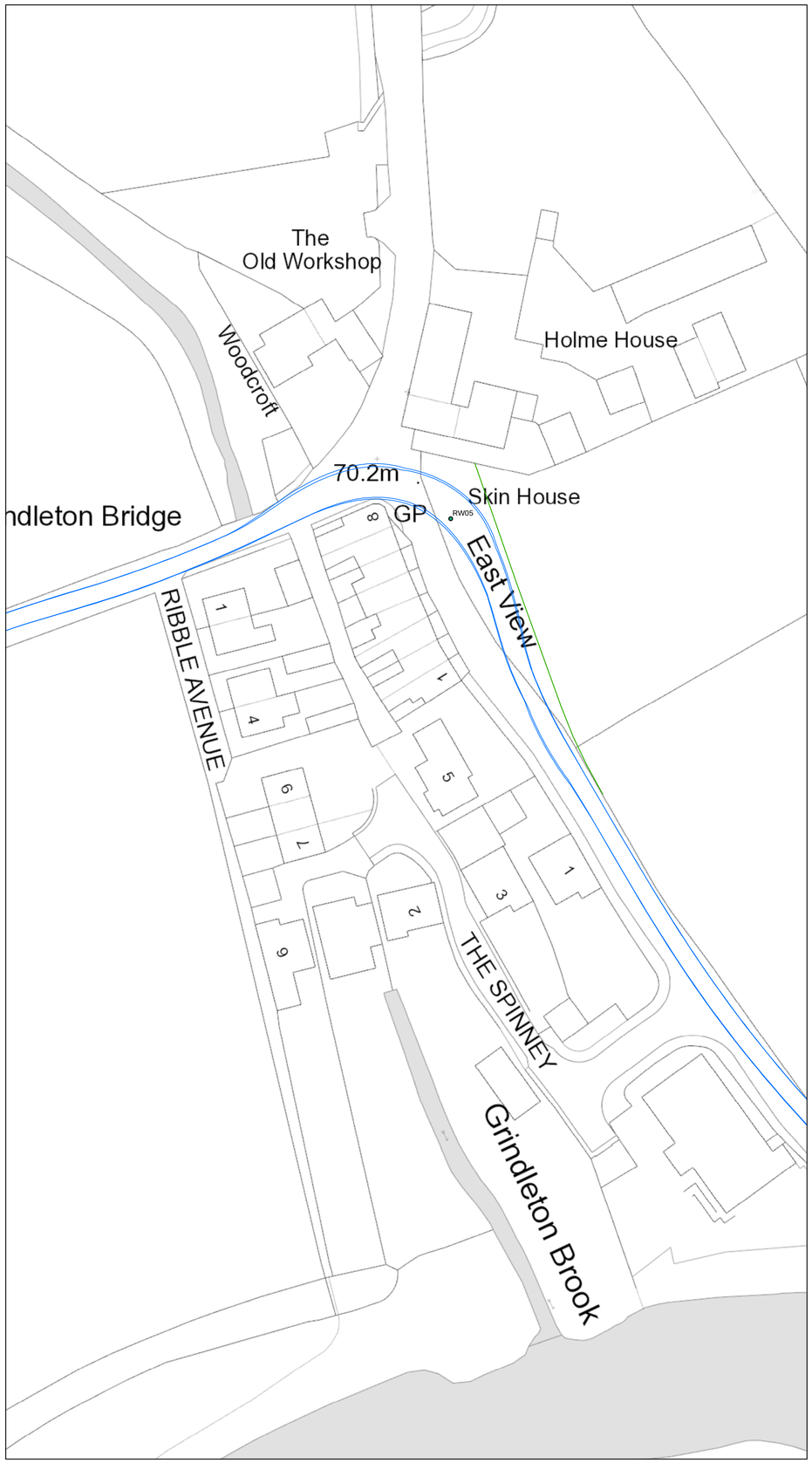


WIDER AREA 0 0.275 0.55 1.1 Kilometers

IMAGE 1: HGV TRIAL 11th NOVEMBER 2020
4 AXLE RIGID ENTERING EAST VIEW FROM GRINDLETON ROAD



Largest AIL (TBM) to site (Northbound)

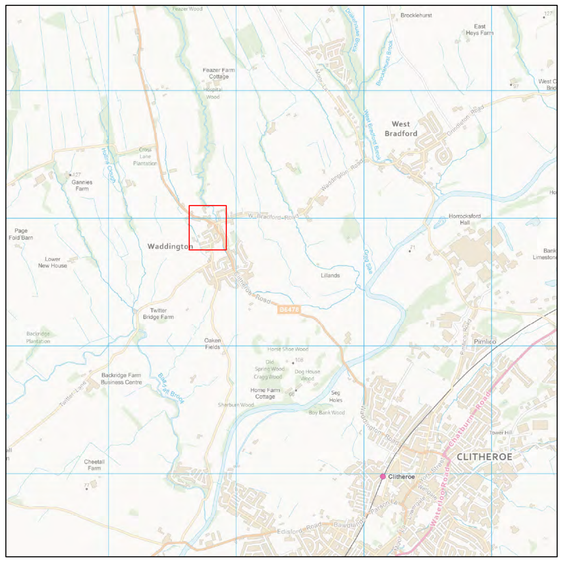


Largest AIL (TBM) from site (Southbound)

Legend

PROPOSED ROAD MODIFICATION

APPENDIX B3 - SWEPT PATHS WADDINGTON
FIGURE B - 3 - 05

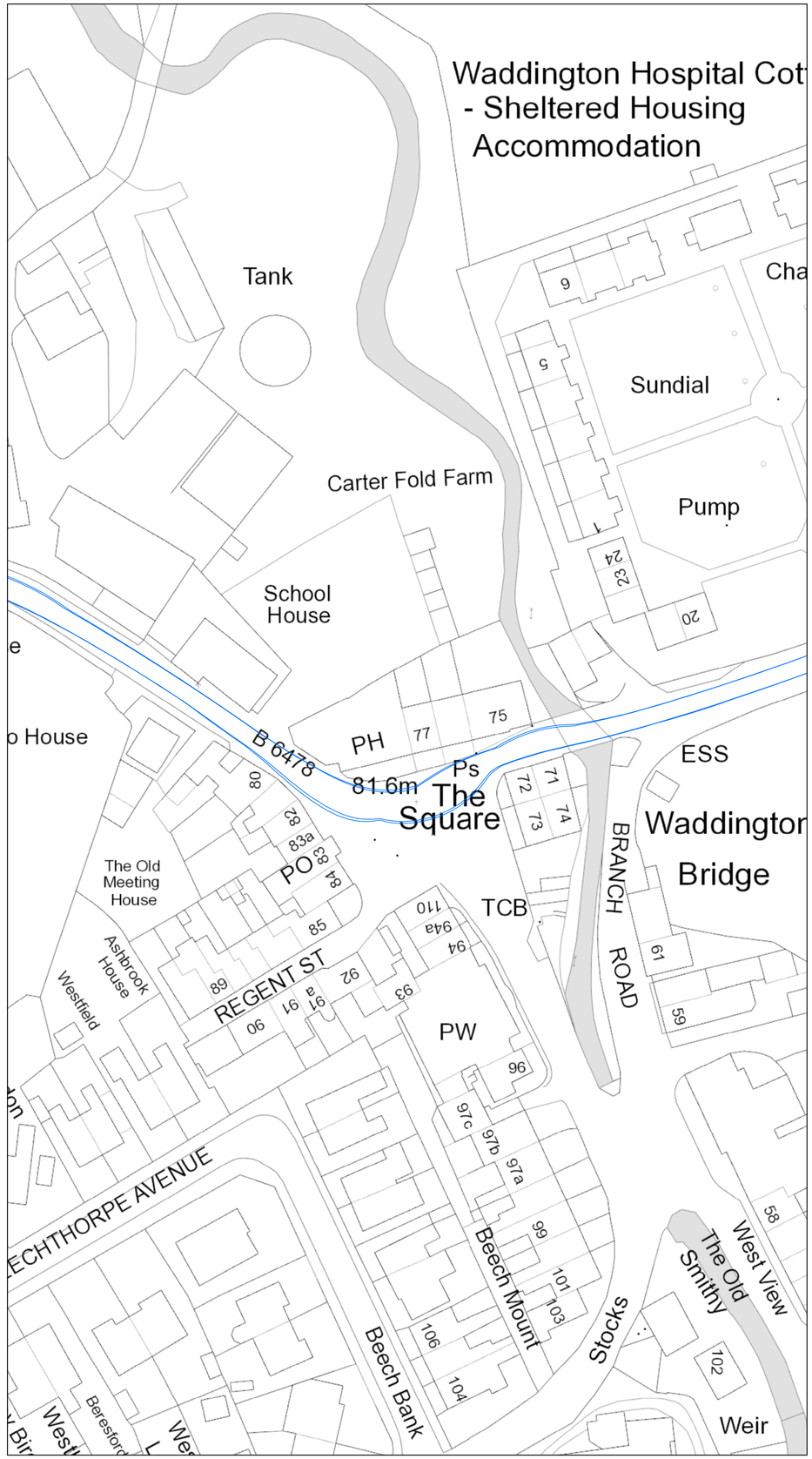


WIDER AREA 0 0.275 0.55 1.1 Kilometers

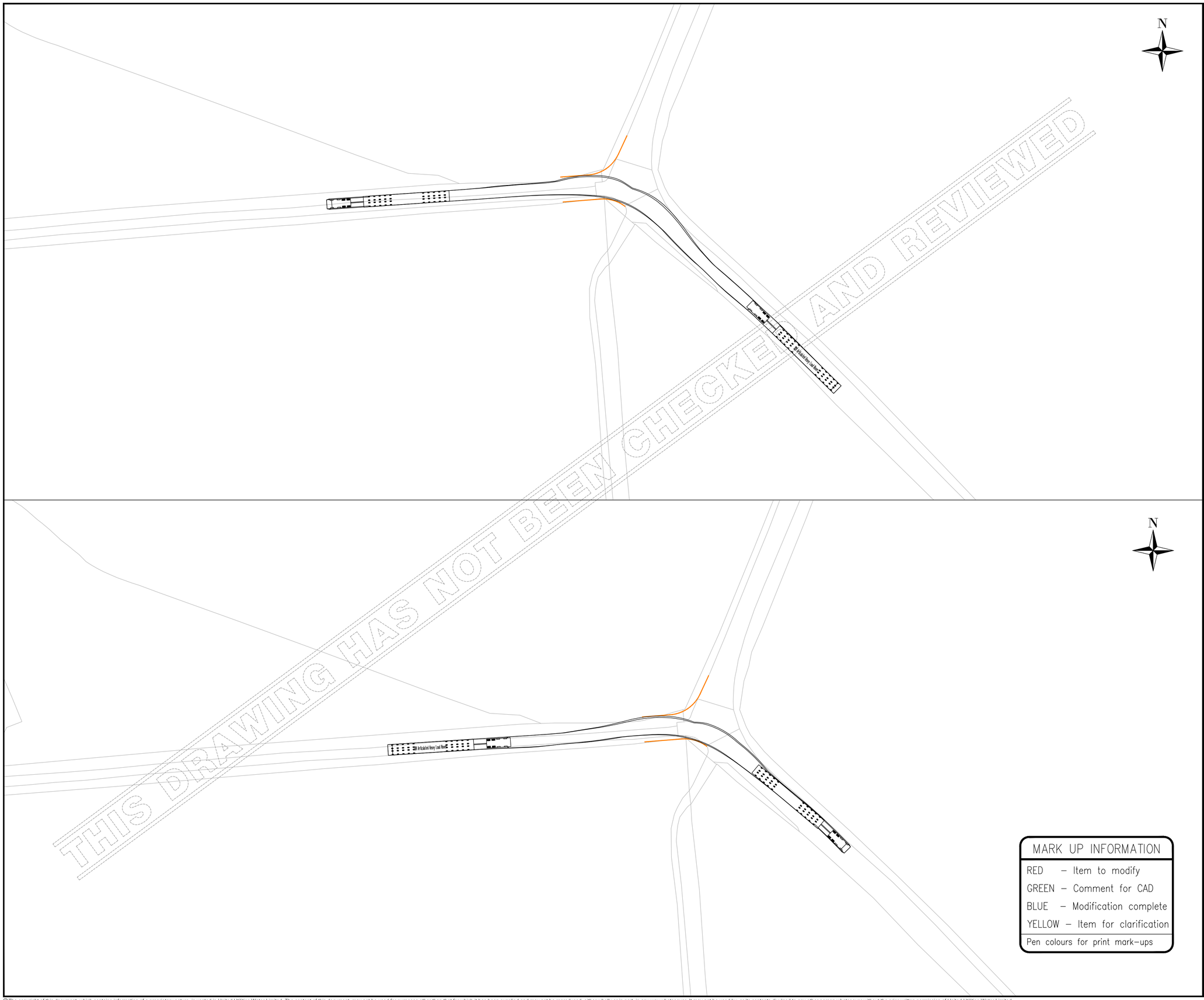
IMAGE 1: HGV TRIAL 11th NOVEMBER 2020
4 AXLE RIGID LEAVING THE SQUARE

IMAGE 2: HGV TRIAL 11th NOVEMBER 2020
4 AXLE RIGID LEAVING THE SQUARE (REAR SHOT)

Largest AIL (TBM) to site (Northbound)



Largest AIL (TBM) from site (Southbound)



NOTES

1. DO NOT SCALE FROM THIS DRAWING
2. VEHICLE MEASUREMENTS

TBM ARTICULATED HEAVY TRANSPORT	
OVERALL LENGTH	34.335m
OVERALL WIDTH	3.000m
OVERALL BODY HEIGHT	3.638m
MIN. BODY GROUND CLEARANCE	0.221m
TRACK WIDTH	3.000m

3. AN OVERRUN AREA HAS BEEN PROPOSED TO ALLOW EXTRA LEEWAY FOR THE TBM TO MANOEUVRE SAFELY INTO THE ACCESS POINT

LEGEND

PROPOSED KERB

EXISTING KERB

MARK UP INFORMATION

RED – Item to modify
GREEN – Comment for CAD
BLUE – Modification complete
YELLOW – Item for clarification

Pen colours for print mark-ups

CURRENT ISSUE INFORMATION

VERSION	AUTH	CHKD	REVD	REASON FOR ISSUE	DATE
P01.1	MB	SP	--	--	
S0	WORK IN PROGRESS (WIP)				
SUITABILITY CODE	SUITABILITY DESCRIPTION				

United Utilities
Water for the North West

HAWESWATER AQUEDUCT RESILIENCE PROGRAMME

PROPOSED MARL HILL SECTION

BONSTONE COMPOUND ACCESS JUNCTION WITH B6478

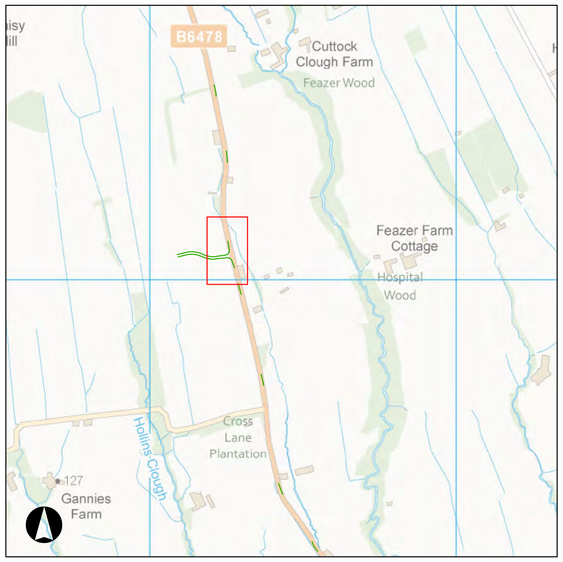
ABNORMAL LOAD VEHICLE TRACKING

SCALE	SHEET SIZE
1:500	A1

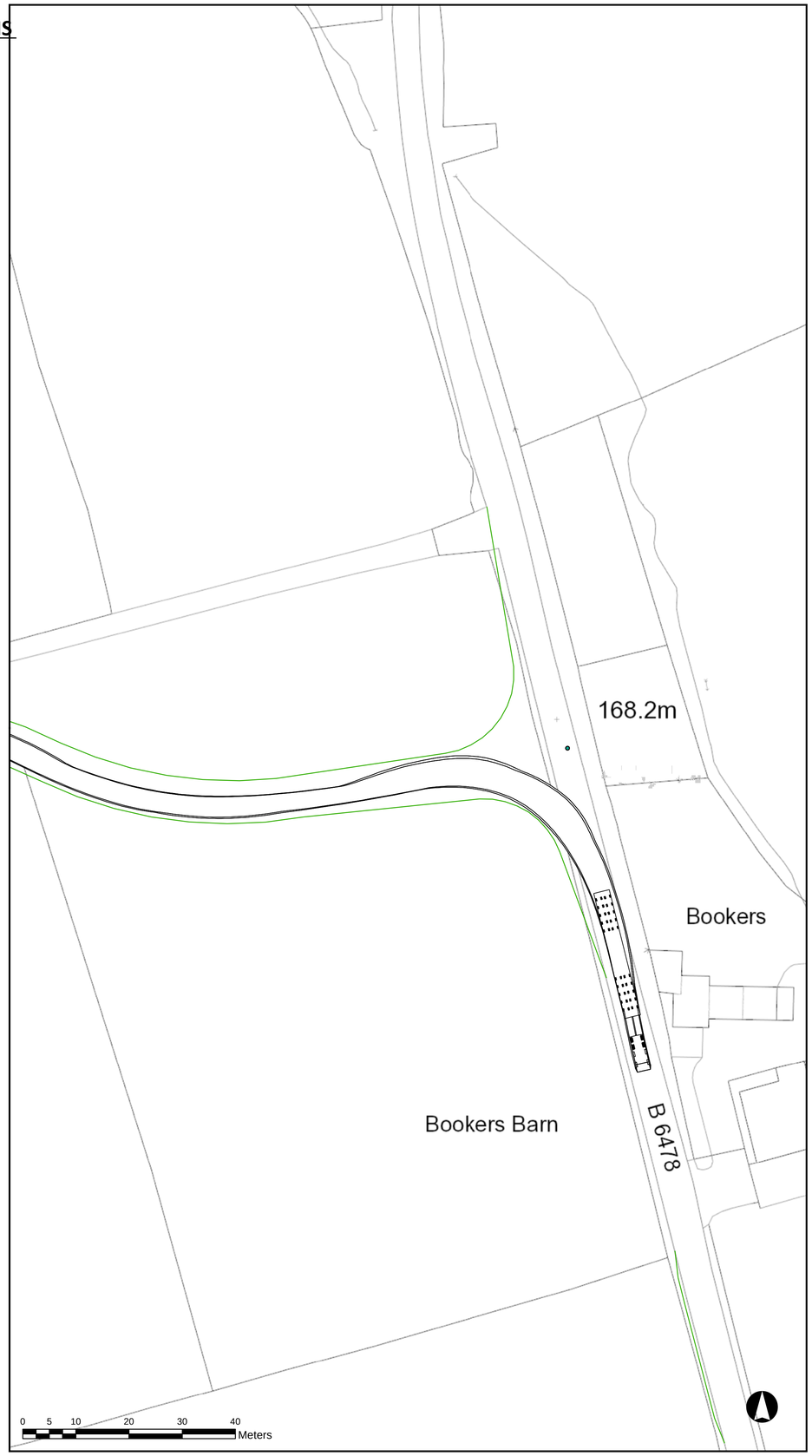
DRAWING NUMBER	REVISION
B27070CQ-JAC-XX-DR-C-TR4_VT-1113	P01.1

APPENDIX B3 - AIL PROPOSED JUNCTION SWEPT PATHS
JUNCTIONS FIGURE B -3 - 07

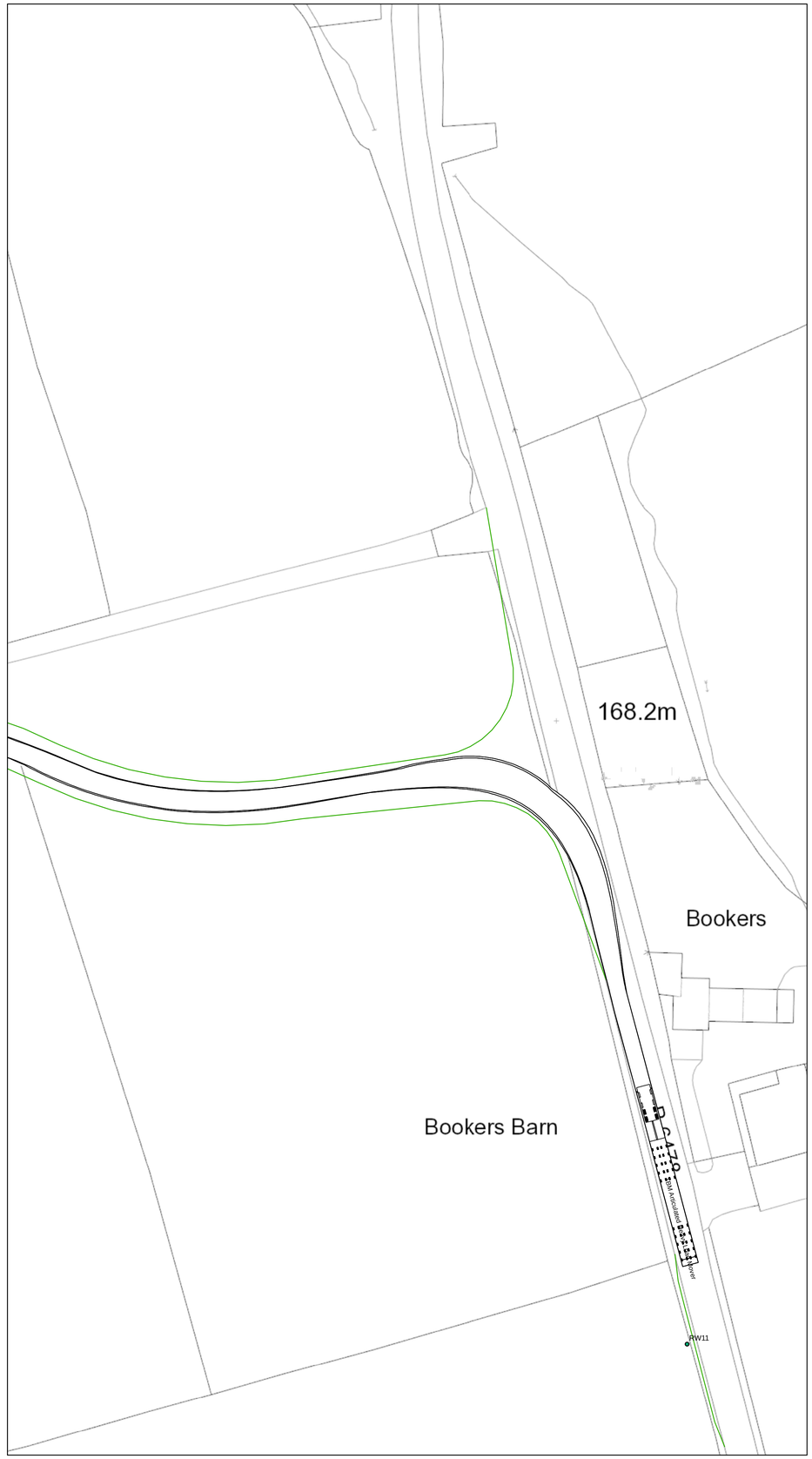
BRADDUP COMPOUND - B6478 SLAIDBURN ROAD JUNCTION



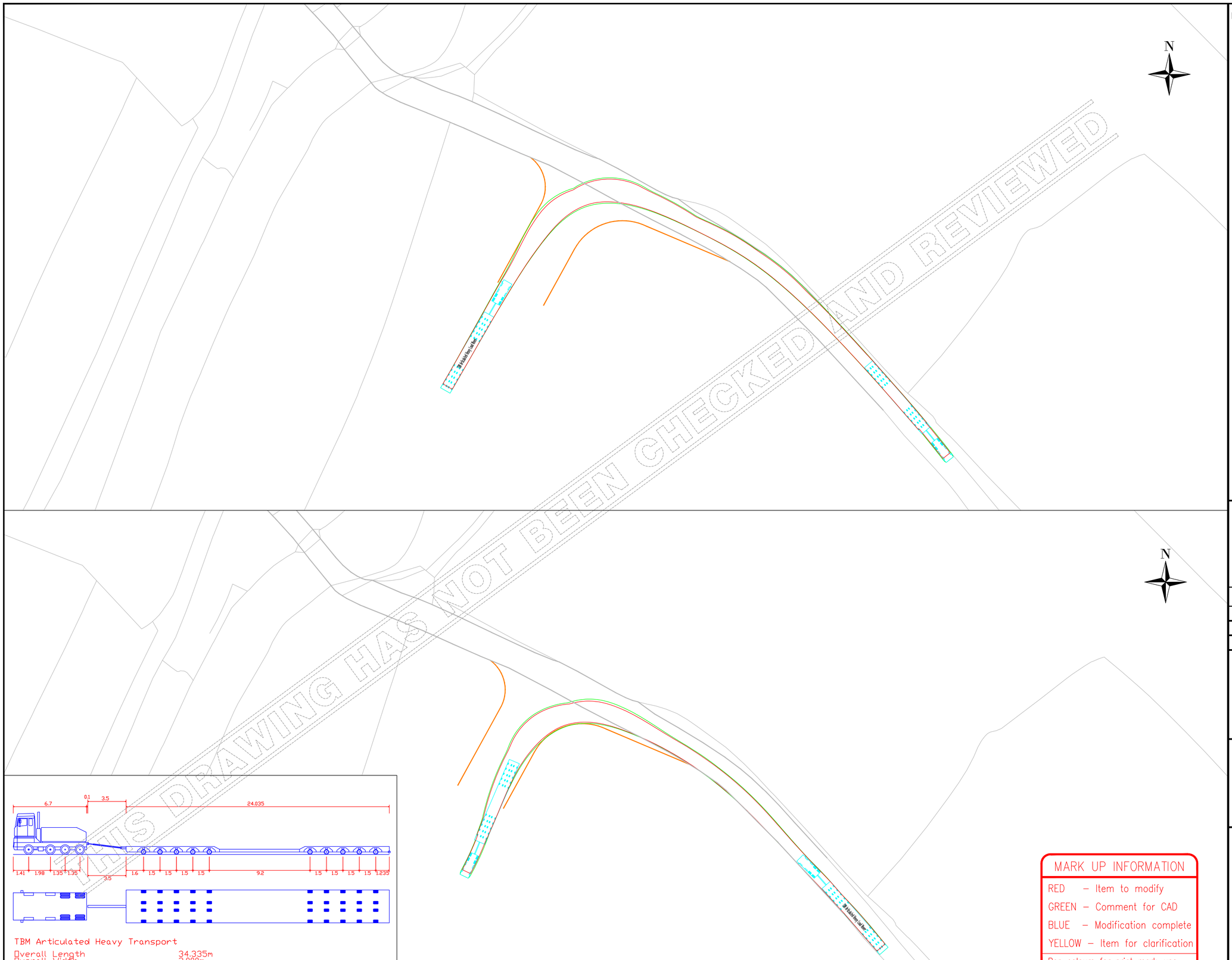
WIDER AREA 0 0.1 0.2 0.4 Kilometers



AIL - Tunnel Boring Machine Components from site (Southbound)



AIL - Tunnel Boring Machine Components to site (Southbound)



TBM Articulated Heavy Transport

Overall Length	34.335m
Overall Width	3.000m
Overall Body Height	3.638m
Min Body Ground Clearance	0.221m
Max Track Width	3.000m

MARK UP INFORMATION

RED – Item to modify

GREEN – Comment for CAD

BLUE – Modification complete

YELLOW – Item for clarification

Pen colours for print mark-ups

NOTES

1. DO NOT SCALE FROM THIS DRAWING

LEGEND

PROPOSED KERB

EXISTING KERB

CURRENT ISSUE INFORMATION

VERSION	AUTH	CHKD	REVD	REASON FOR ISSUE	DATE
P01.2	HS	SP	--	--	--

SUITABILITY CODE	SUITABILITY DESCRIPTION
S0	WORK IN PROGRESS (WIP)

United Utilities
Water for the North West

HAWESWATER AQUEDUCT RESILIENCE PROGRAMME

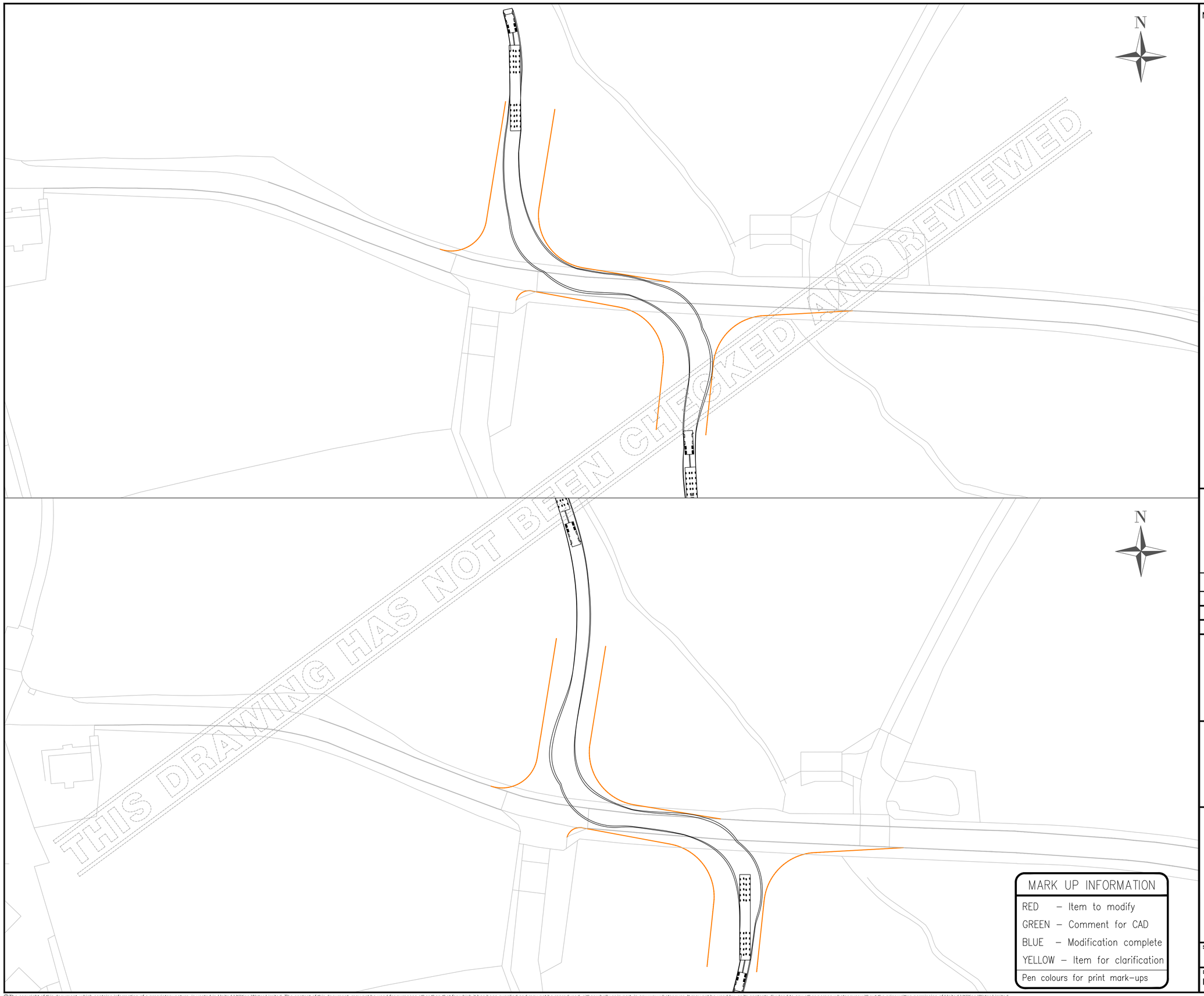
PROPOSED BOWLAND SECTION - TEMPORARY HAUL ROAD

HALLGATE HILL JUNCTION ABNORMAL LOAD

VEHICLE TRACKING

SCALE	SHEET SIZE
1:500	A1

DRAWING NUMBER	REVISION
B27070CQ-JAC-XX-DR-C-TR3_VT-1112	P01.3



NOTES

1. DO NOT SCALE FROM THIS DRAWING
2. VEHICLE MEASUREMENTS

TBM ARTICULATED HEAVY TRANSPORT	
OVERALL LENGTH	34.335m
OVERALL WIDTH	3.000m
OVERALL BODY HEIGHT	3.638m
MIN. BODY GROUND CLEARANCE	0.221m
TRACK WIDTH	3.000m

LEGEND

PROPOSED KERB

EXISTING KERB

MARK UP INFORMATION

RED – Item to modify

GREEN – Comment for CAD

BLUE – Modification complete

YELLOW – Item for clarification

Pen colours for print mark-ups

CURRENT ISSUE INFORMATION

VERSION	AUTH	CHKD	REVD	REASON FOR ISSUE	DATE
P01.1	HS	SP	--	--	-
S0		WORK IN PROGRESS (WIP)			
SUITABILITY CODE		SUITABILITY DESCRIPTION			

United Utilities
Water for the North West

HAWESWATER AQUEDUCT RESILIENCE PROGRAMME

PROPOSED BOWLAND SECTION

NEWTON-IN-BOWLAND COMPOUND

VEHICLE ACROSS JUNCTION (STAGGERED)

ABNORMAL LOAD VEHICLE TRACKING (TBM)

SCALE	SHEET SIZE
1:500	A1
DRAWING NUMBER	REVISION
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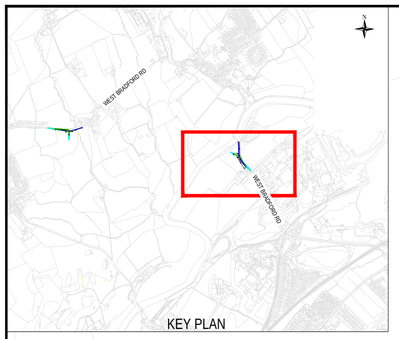
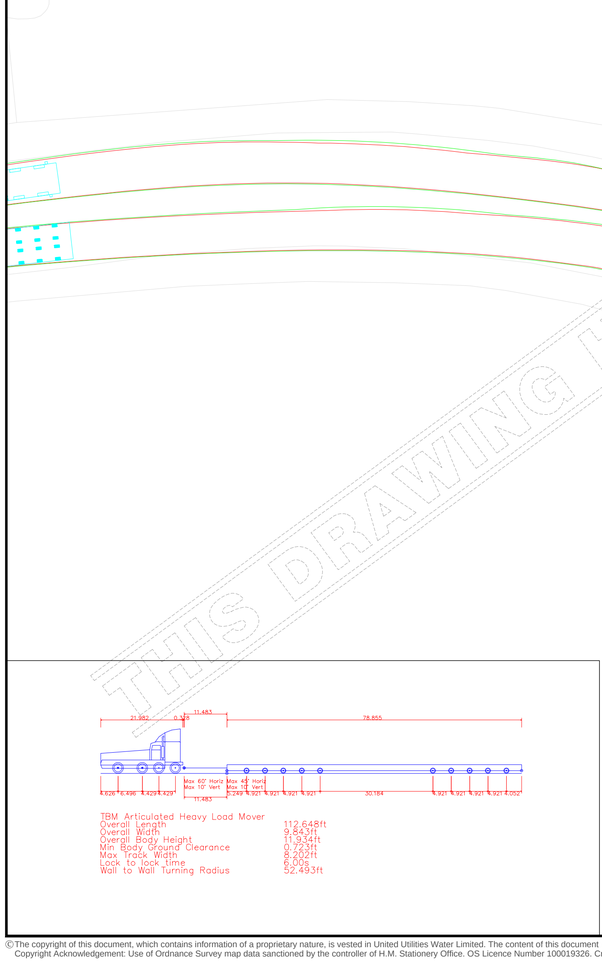


KEY PLAN



TBM Articulated Heavy Load Mover

Overall Length	112.648ft
Overall Width	9.843ft
Overall Body Height	11.954ft
Min Body Ground Clearance	0.723ft
Max Track Width	8.202ft
Lock to lock time	6.00s
Wall to Wall Turning Radius	52.493ft

MARK UP INFORMATION

RED – Item to modify

GREEN – Comment for CAD

BLUE – Modification complete

YELLOW – Item for clarification

Pen colours for print mark-ups

NOTES

1. DO NOT SCALE FROM THIS DRAWING.

LEGEND

EXISTING KERB

PROPOSED KERB

CURRENT ISSUE INFORMATION

VERSION	AUTH	CHKD	REVD	REASON FOR ISSUE	DATE
P01.2	HS	SP	--	--	--
S0		WORK IN PROGRESS (WIP)			
SUITABILITY CODE		SUITABILITY DESCRIPTION			

United Utilities
Water for the North West

HAWESWATER AQUEDUCT RESILIENCE PROGRAMME

PROPOSED CLITHEROE SECTION

RIVER RIBBLE HAUL RD

ACCESS DESIGN - BEFORE RIVER RIBBLE (A59, PIMLICO LINK RD, WEST BRADFORD RD)

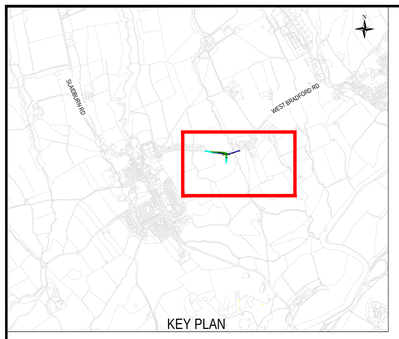
VEHICLE TRACKING TBM

SCALE 1:250

SHEET SIZE A1

DRAWING NUMBER B27070CQ-JAC-XX-DR-C-TR4_VT-1129

REVISION P01.2



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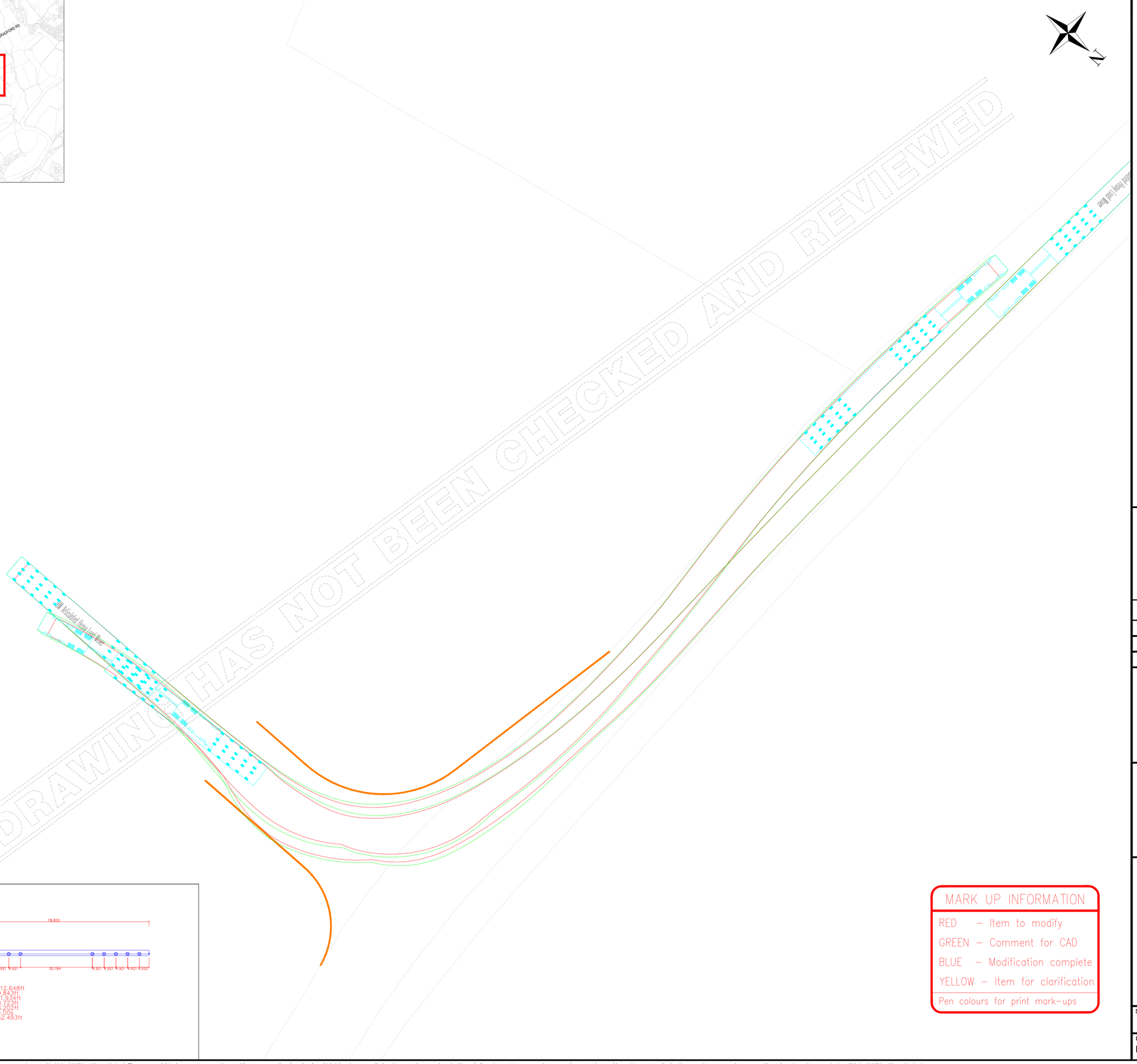

TBM Articulated Heavy Load Mover

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Overall Body Height	11.934ft
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Max Track Width	8.202ft
Lock to lock time	6.00s
Wall to Wall Turning Radius	52.493ft

NOTES

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LEGEND

EXISTING KERB

PROPOSED KERB

MARK UP INFORMATION

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GREEN – Comment for CAD

BLUE – Modification complete

YELLOW – Item for clarification

Pen colours for print mark-ups

CURRENT ISSUE INFORMATION

VERSION	AUTH	CHKD	REVD	REASON FOR ISSUE	DATE
P01.1	HS	SP	--	--	--

SUITABILITY CODE	SUITABILITY DESCRIPTION
S0	WORK IN PROGRESS (WIP)

United Utilities
Water for the North West

HAWESWATER AQUEDUCT RESILIENCE PROGRAMME

PROPOSED CLITHEROE SECTION

RIVER RIBBLE HAUL RD

ACCESS DESIGN - AFTER RIVER RIBBLE (WEST BRADFORD RD, WADDINGTON VILLAGE, SLAIDBURN RD)

VEHICLE TRACKING TBM

SCALE	SHEET SIZE
1:500	A1

DRAWING NUMBER	REVISION
B27070CQ-JAC-XX-DR-C-TR4_VT-1131	P01.1

Appendix B4 – Operational Overview

MNA_B-4.pdf

HARP Proposed Marl Hill and Bowland Sections CTMP

Appendix B4 – Operational Overview

United Utilities

Water for the North West

MNA Operation

Introduction

Illustrative daily models have been developed to demonstrate the nature of proposed operation.

The models have considered the worst case scenarios to establish the maximum HGV holding capacity required at each compound and the maximum hourly HGV arrivals and departures at each site.

All movements would be subject to the timing restrictions identified in Section 4.2 of the CTMP. In all cases to avoid excessive hourly demand, and adhere to restrictions around school drop off times, movements would be controlled by the delivery management systems (outlined in Section 6 of the CTMP).

The results of the models are presented below.

MNA Operation

Introduction

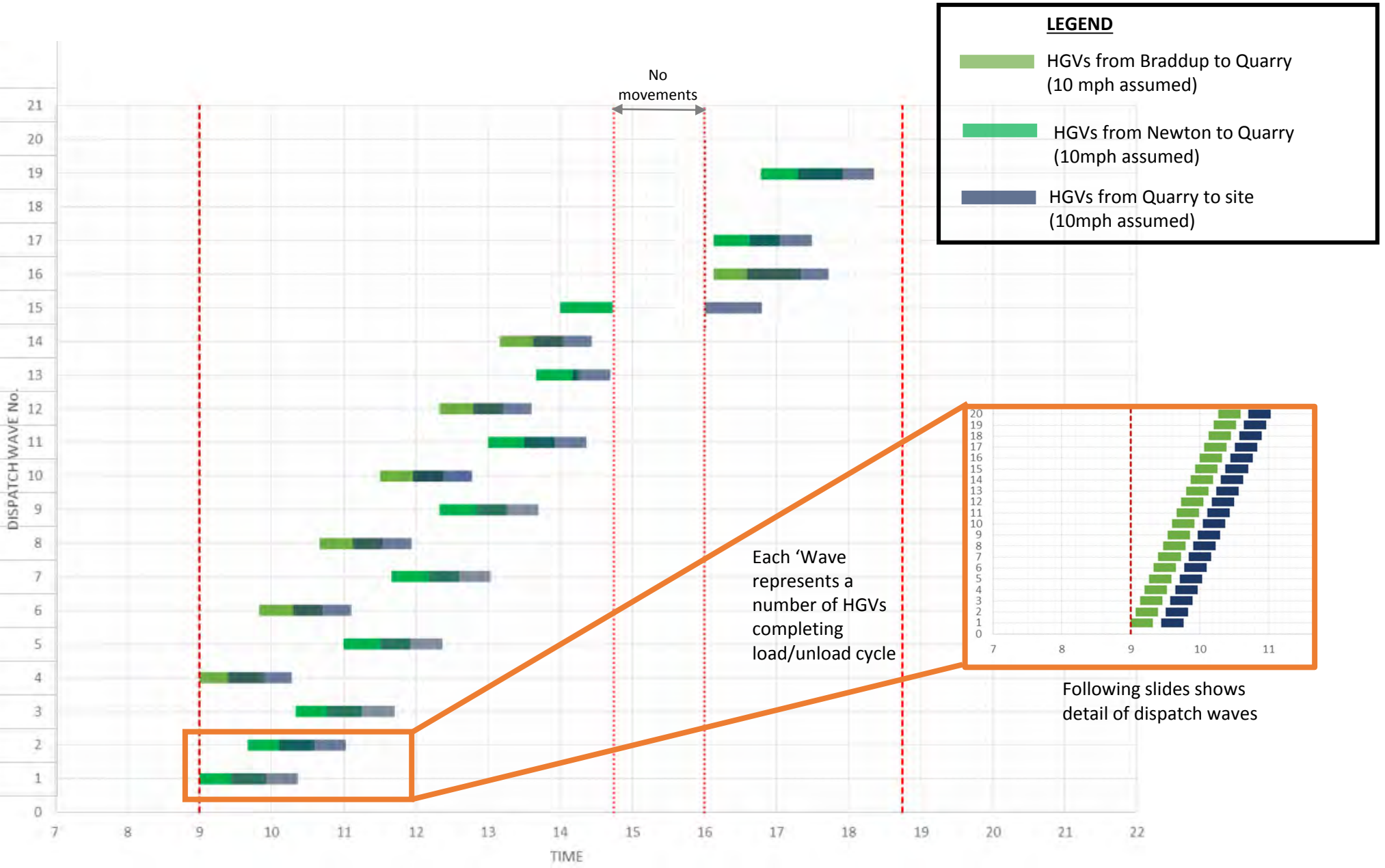
The models consider a range of HGV movement types:

1. **Tunnel arisings HGV movements** from the Braddup and Newton-in-Bowland Compounds to Waddington Fell Quarry. These movements are to the north of Waddington and the south of Newton-in-Bowland.
2. **Standard HGVs** less than 2.6m wide travelling between the A59 and the Marl Hill and Newton-in-Bowland compounds.
3. **Wide HGVs** 2.6m wide or greater travelling between the A59 and the Marl Hill and Newton-in-Bowland compounds. Such vehicle will be escorted in convoys of up to 2 No. HGV. The convoys would include marshals to actively manage traffic as necessary (notably through Waddington). The delivery management system would ensure such convoys would never meet in opposing directions on the road network to the north of the proposed marshalling area in Clitheroe.

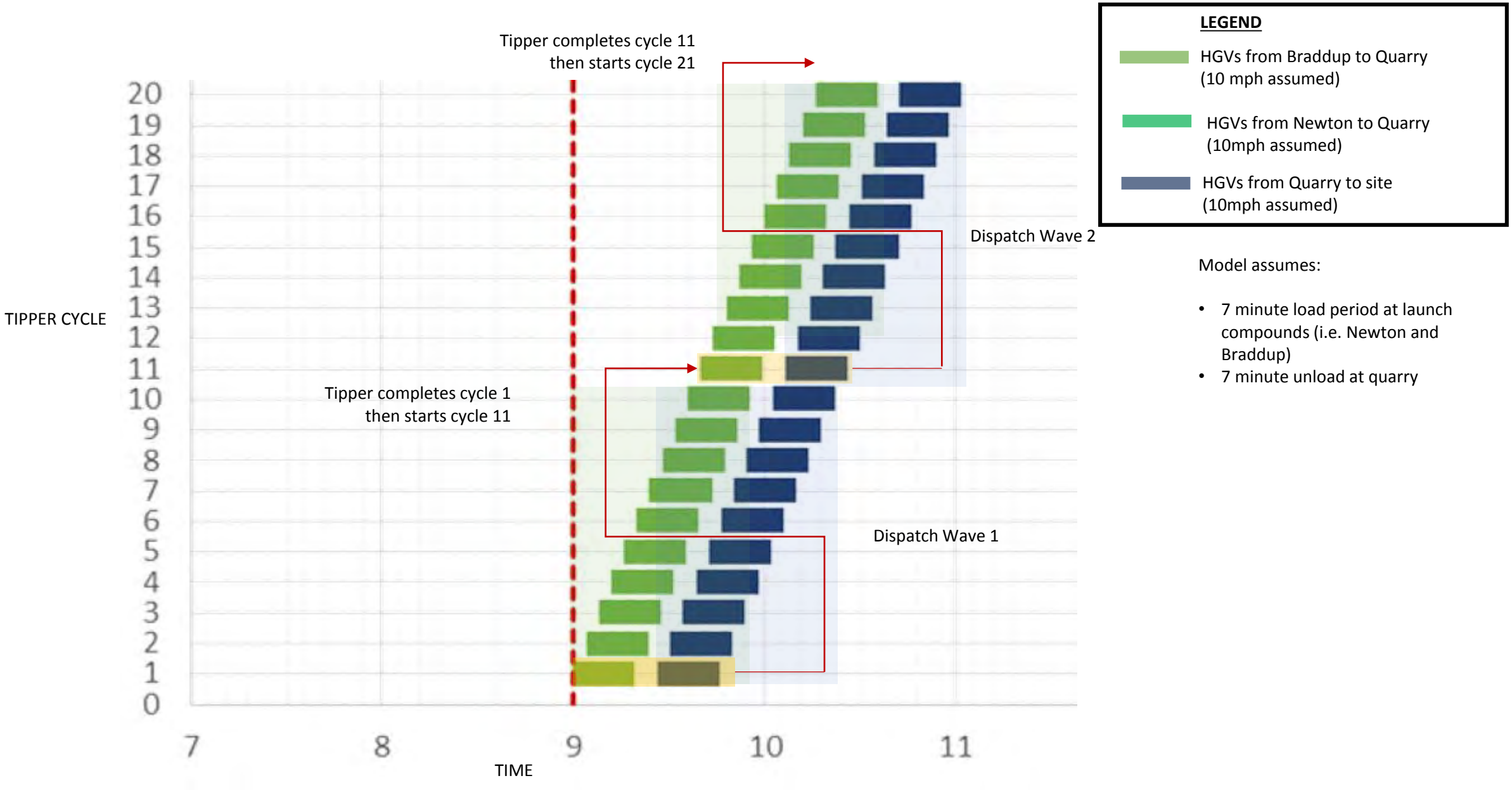
The results of the tunnel arising HGV movement modelling are presented first (note that these movements will confined to the north of the Braddup compound entrance) followed by the standard and wide HGV movement modelling.

Tunnel arisings HGV movements – model results considering peak production for both tunnels

Dispatch Wave No.	Destination	No. HGVs in Wave	Cumalative No. of movements
20	-	-	
19	Newton	13	360
18	-	-	334
17	Newton	10	334
16	Braddup	15	314
15	Newton	7	284
14	Braddup	10	270
13	Newton	5	250
12	Braddup	10	240
11	Newton	10	220
10	Braddup	10	200
9	Newton	10	180
8	Braddup	10	160
7	Newton	10	140
6	Braddup	10	120
5	Newton	10	100
4	Braddup	10	80
3	Newton	10	60
2	Newton	10	40
1	Newton	10	20



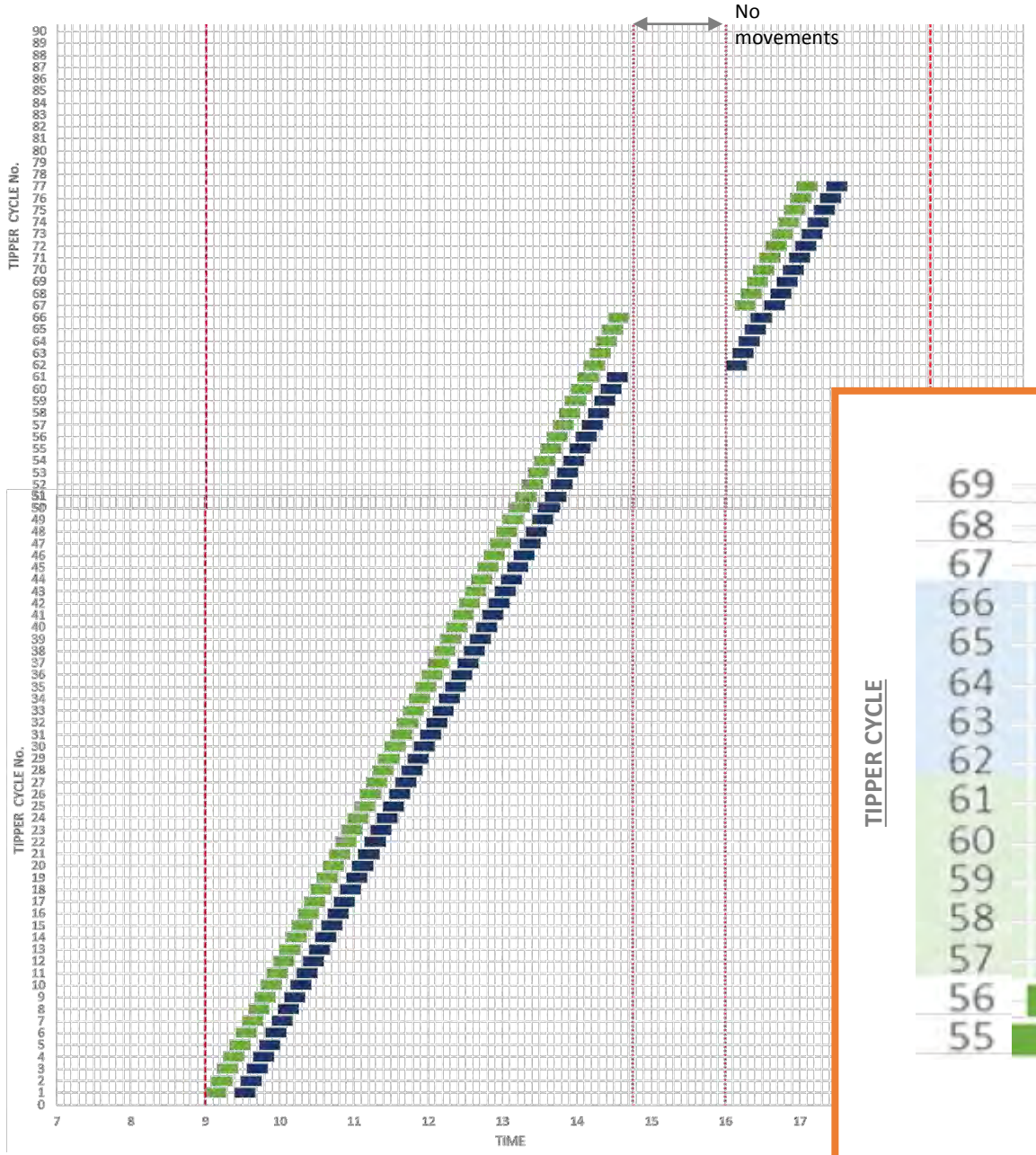
Tunnel arisings HGV movements – breakdown of 1st two waves considering peak production for both tunnels



Model assumes:

- 7 minute load period at launch compounds (i.e. Newton and Braddup)
- 7 minute unload at quarry

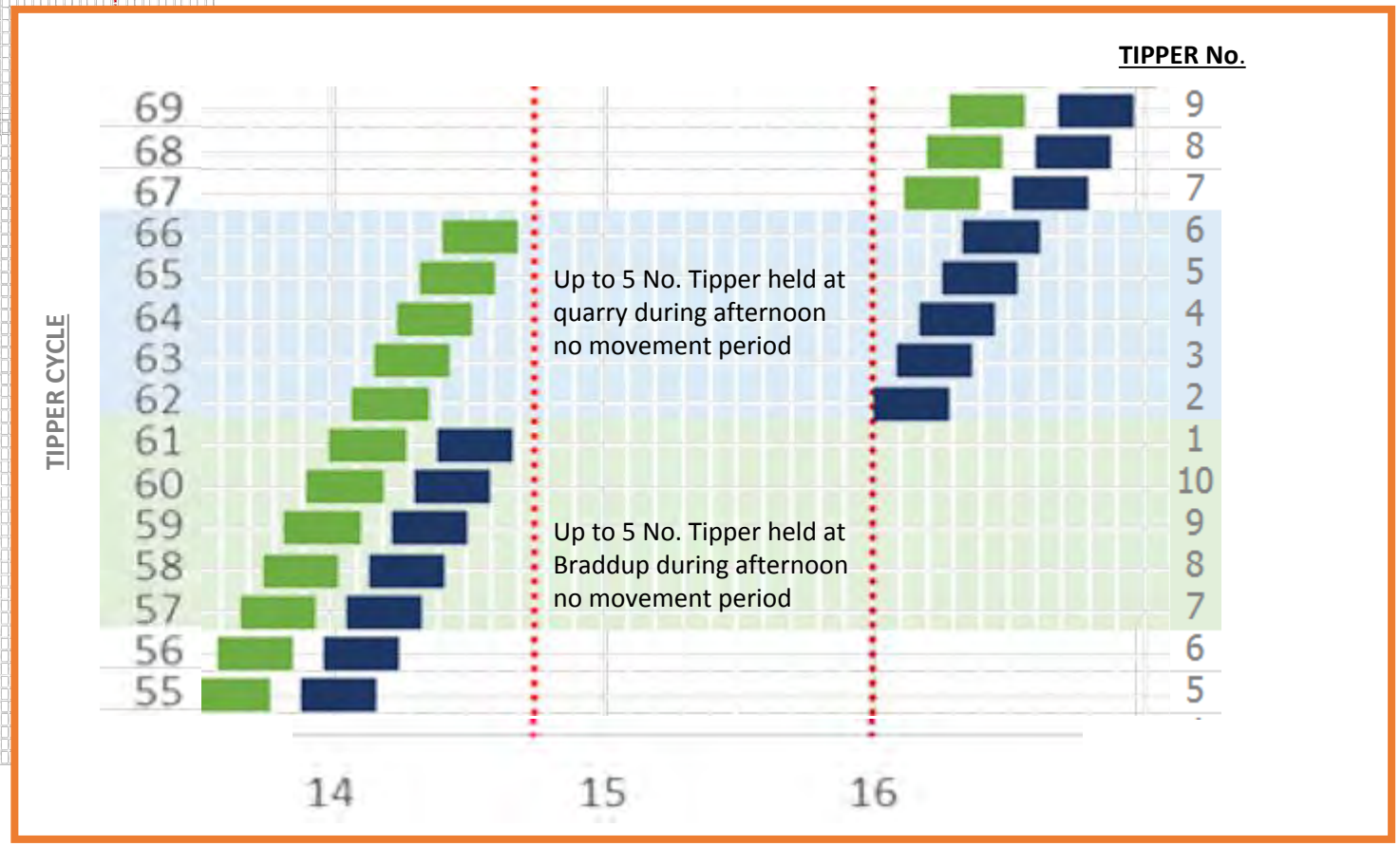
Braddup Tunnel arisings movements – impact of afternoon no movement restriction



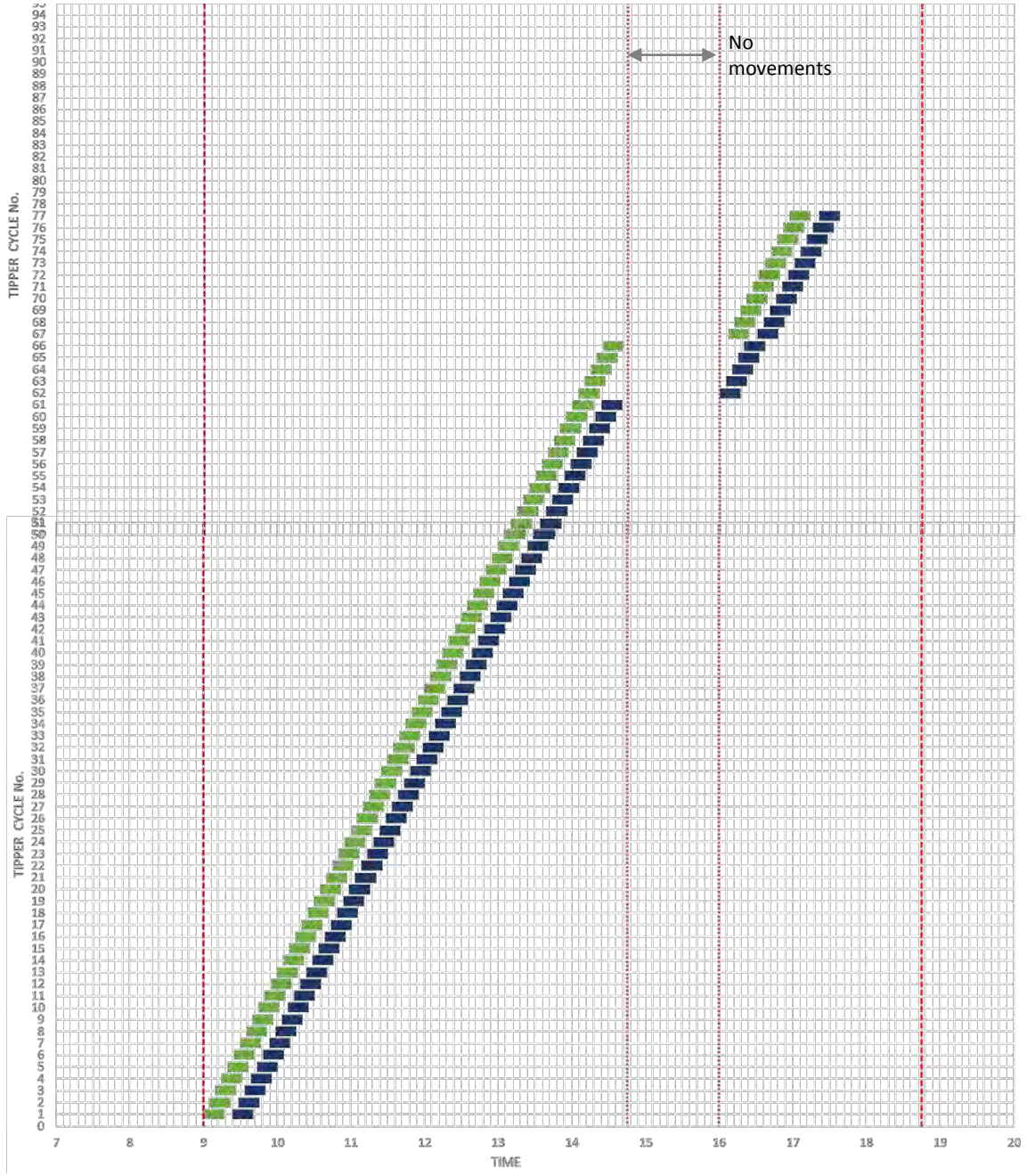
LEGEND

HGVs from Braddup to Quarry (10 mph assumed)

HGVs from Quarry to site (10mph assumed)



Braddup Tunnel arisings movements – movements per hour



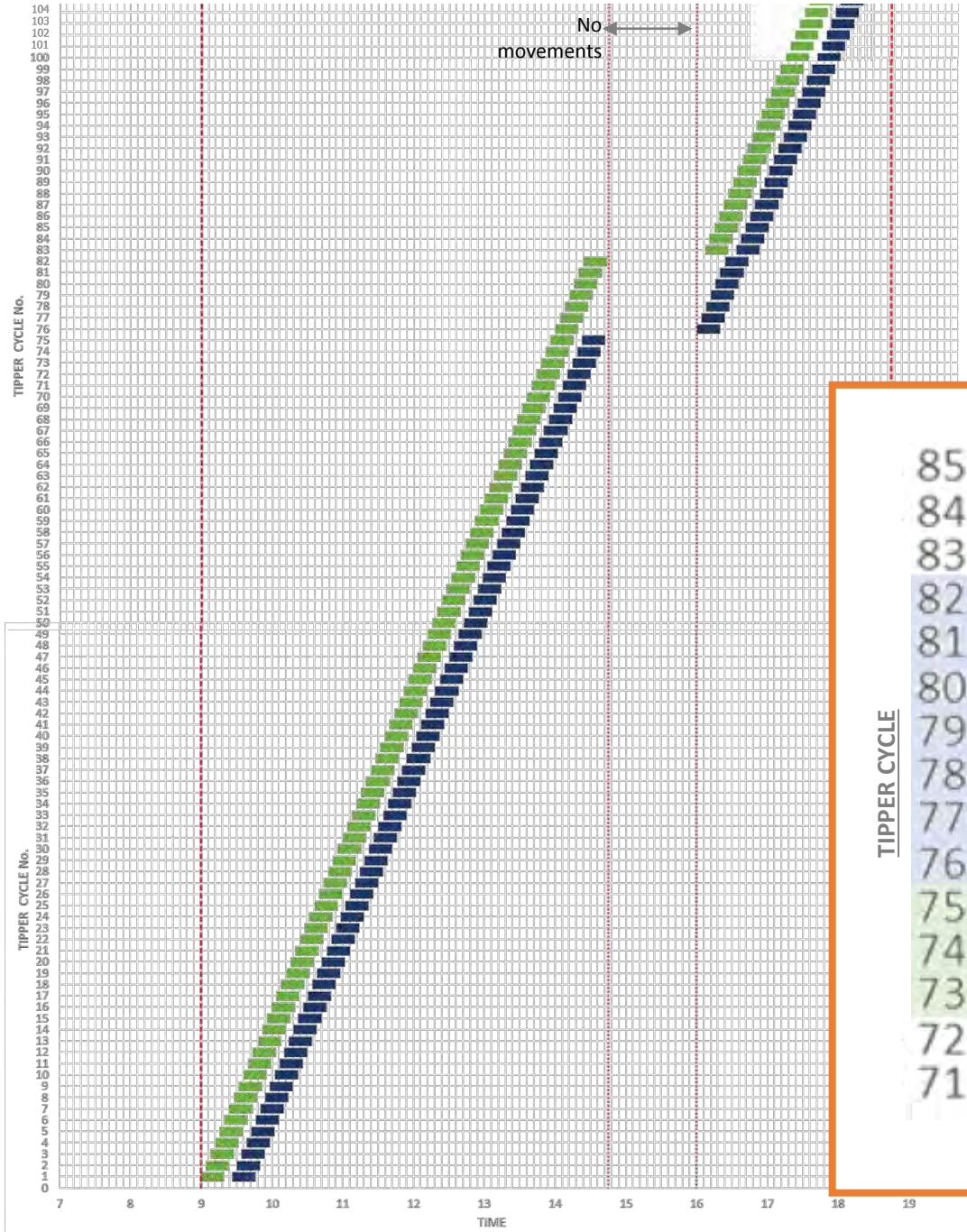
LEGEND

HGVs from Braddup to Quarry (10 mph assumed)

HGVs from Quarry to site (10mph assumed)

START	END	ARRIVALS AT BRADDUP	DEPARTURES FROM BRADDUP	TOTAL HOURLY MOVEMENTS	ARRIVALS TO QUARRY	DEPARTURES FROM QUARRY	TOTAL HOURLY MOVEMENTS
09:00:00	10:00:00	4	12	16	9	8	17
10:00:00	11:00:00	11	12	23	12	11	23
11:00:00	12:00:00	11	12	23	12	12	24
12:00:00	13:00:00	12	12	24	12	12	24
13:00:00	14:00:00	13	12	25	12	12	24
14:00:00	15:00:00	8	5	13	9	5	14
15:00:00	16:00:00	0	0	0	0	0	0
16:00:00	17:00:00	8	9	17	8	11	19
17:00:00	18:00:00	8	1	9	1	4	5
18:00:00	19:00:00	0	0	0	0	0	0
PEAK DAY TOTAL		75	75	150	75	75	150
PEAK DAY HOURLY MAXIMUM		13	12	25	12	12	24

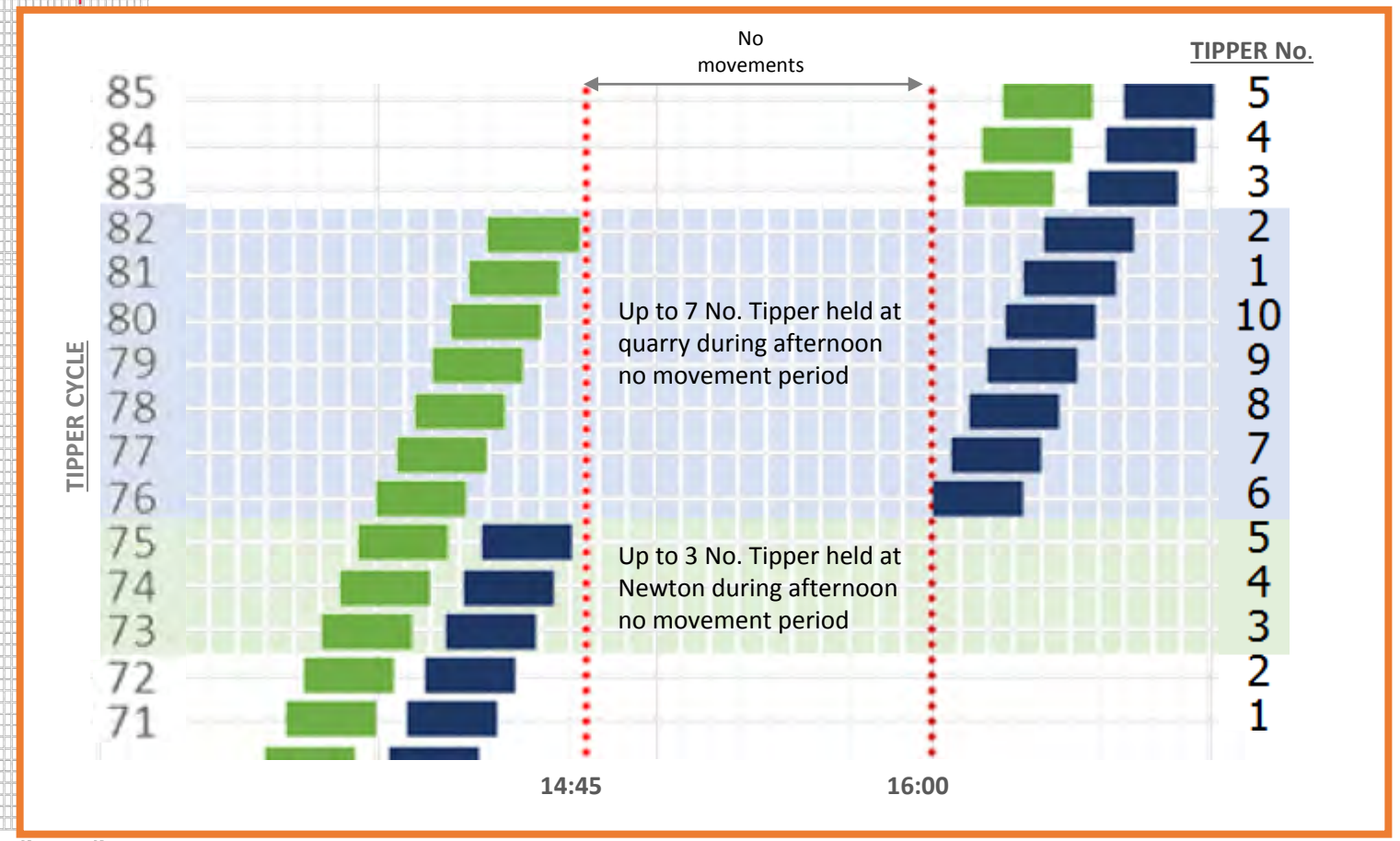
Newton-in-Bowland Tunnel arisings movements – impact of afternoon no movement restriction (peak week)



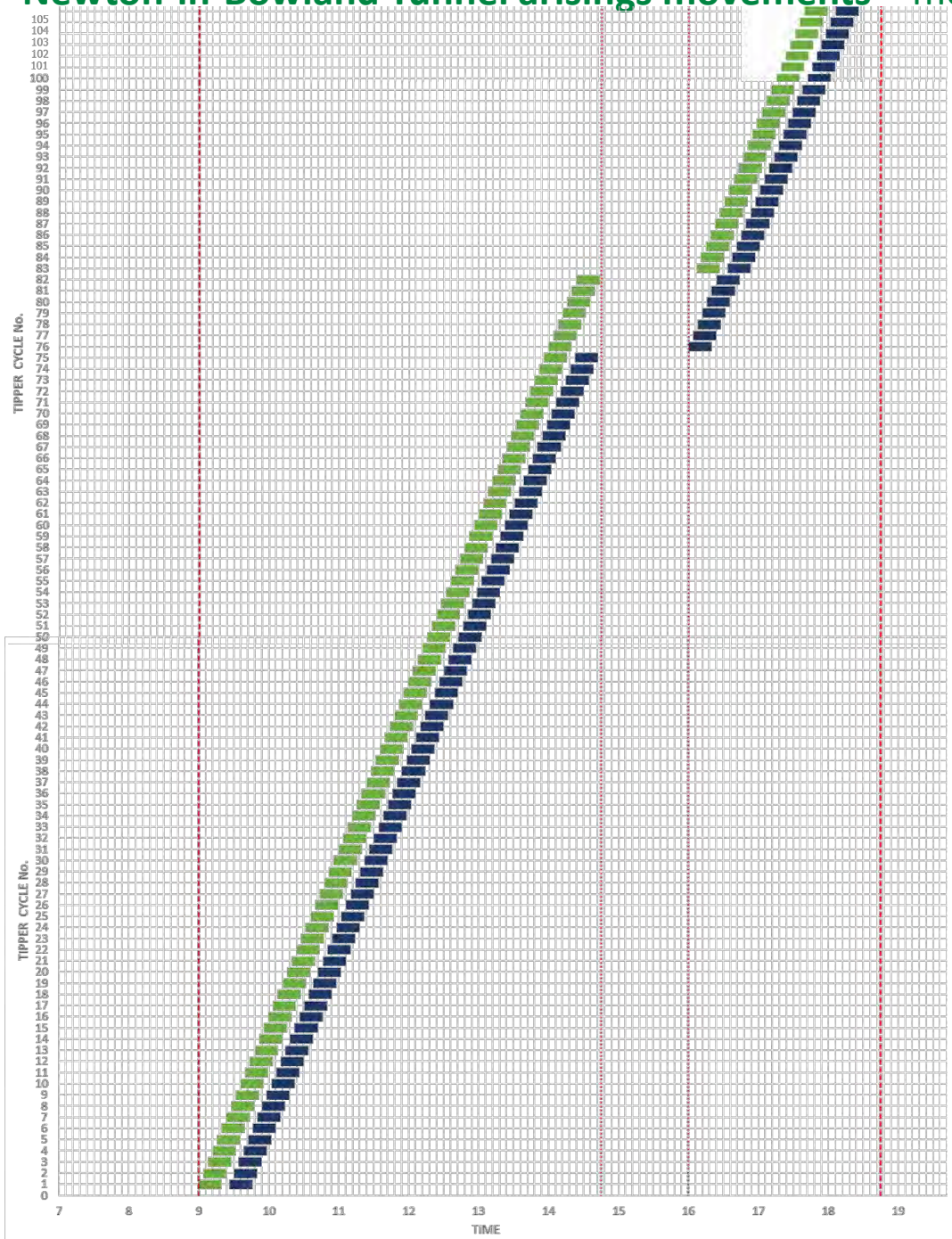
LEGEND

HGVs from Newton to Quarry (10mph assumed)

HGVs from Quarry to site (10mph assumed)



Newton-in-Bowland Tunnel arisings movements – movements per hour (peak week)



LEGEND

HGVs from Newton to Quarry (10mph assumed)

HGVs from Quarry to site (10mph assumed)

START	END	ARRIVALS AT NEWTON	DEPARTURES FROM NEWTON	TOTAL HOURLY MOVEMENTS	ARRIVALS TO QUARRY	DEPARTURES FROM QUARRY	TOTAL HOURLY MOVEMENTS
09:00:00	10:00:00	5	15	20	9	4	13
10:00:00	11:00:00	15	14	29	14	15	29
11:00:00	12:00:00	16	15	31	16	15	31
12:00:00	13:00:00	16	14	30	15	16	31
13:00:00	14:00:00	15	15	30	15	15	30
14:00:00	15:00:00	11	6	17	6	10	16
15:00:00	16:00:00	0	0	0	0	0	0
16:00:00	17:00:00	11	12	23	14	14	28
17:00:00	18:00:00	16	14	30	16	13	29
18:00:00	19:00:00	0	0	0	0	3	3
PEAK DAY TOTAL		105	105	210	105	105	210
PEAK DAY HOURLY MAXIMUM		16	15	31	16	16	31

Tunnel arisings movements

Discussion

Conservative speed assumptions have been made for tipper movements.

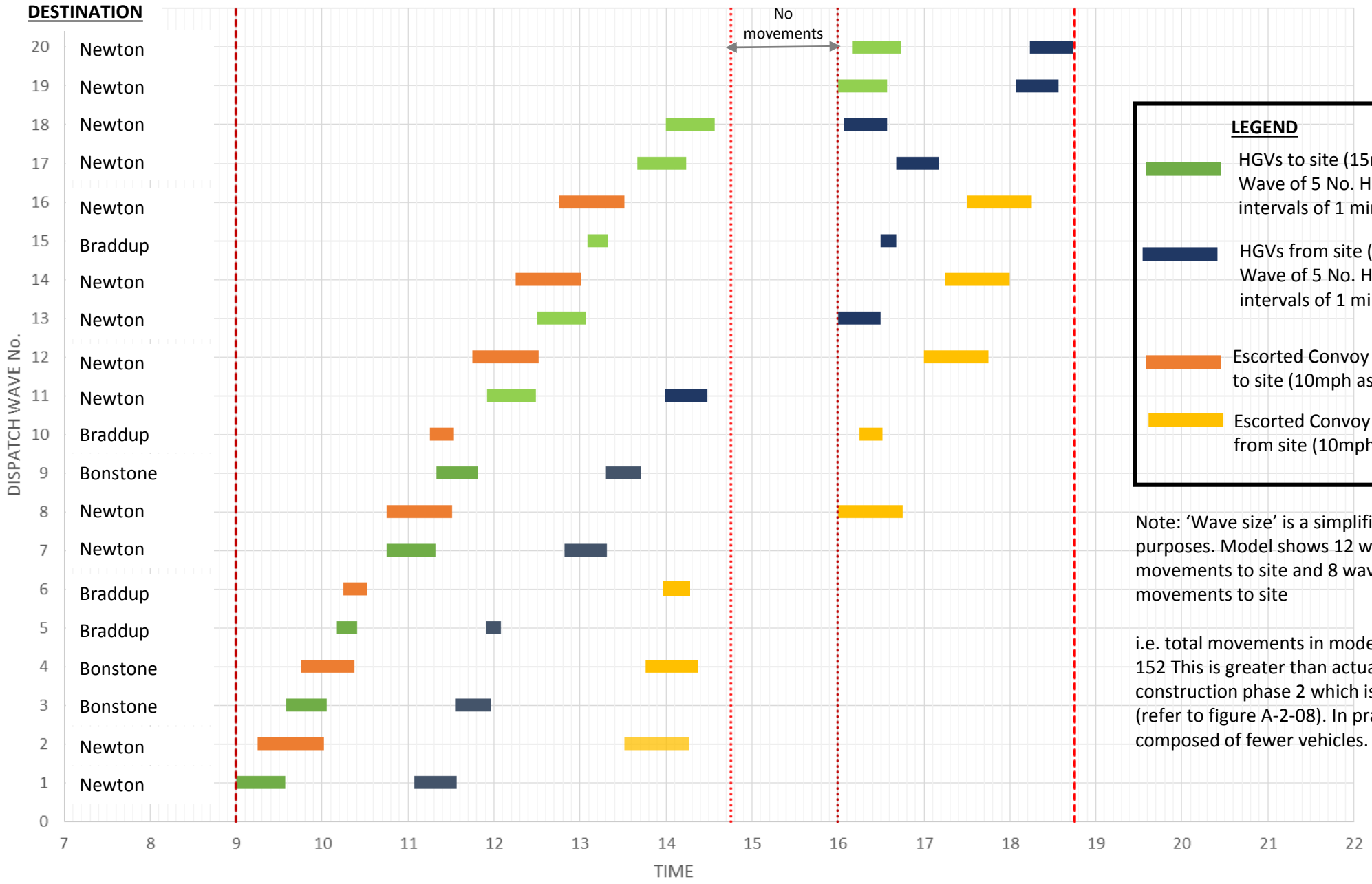
Based on assumed timings typically 2 tippers (4 axel rigid HGV) would be loading at each tunnel drive site (i.e. at Newton & Braddup) and 4 would be unloading at Waddington Fell Quarry. Making an allowance for cycle time variation, capacity for loading up to 3 No. tippers during operational periods has been allowed for in current illustrative compound layouts.

There is the possibility of disruption to the load/unload cycle (such as mechanical failure or material composition). As a contingency for this a total tunnel arisings HGV capacity at each tunnel drive site of 10 is included in the illustrative compound layouts.

There would be directional bias to traffic flows at the start and end of the day. The directional bias and movement restrictions will lead to fluctuations in the number of vehicles arriving/leaving the compounds in any given hour. As highlighted above there is also a need for an allowance for the possibility of disruption to the load/unload cycle or fluctuations in travel time. The impact of these fluctuations is included in the figures presented in appendix A2.

Total number of tippers required for the closed loop system would be a maximum of c. 20 which could be held over night at either the drive compounds (i.e. up to 10 at each tunnel drive site, refer to illustrative layouts below) or at Waddington Fell Quarry.

Standard and Wide HGV movements



LEGEND

- HGVs to site (15mph assumed) Wave of 5 No. HGV dispatched at intervals of 1 minute
- HGVs from site (15mph assumed) Wave of 5 No. HGV dispatched at intervals of 1 minute
- Escorted Convoy of 2 No. wide HGVs/AILs to site (10mph assumed)
- Escorted Convoy of 2 No. wide HGVs/AILs from site (10mph assumed)

Note: 'Wave size' is a simplification for modelling purposes. Model shows 12 waves x 5 Std. HGV = 60 movements to site and 8 waves x 2 Wide HGV = 16 movements to site

i.e. total movements in model is 2 x (60+16) = 76 x 2 = 152 This is greater than actual anticipated peak during construction phase 2 which is 134 daily HGV movements (refer to figure A-2-08). In practice some waves would be composed of fewer vehicles.

Hourly arrivals and departures

Summary of model results for hourly arrivals and departures

Movement period		1	2	3	4	5	6	7	8	9	PEAK DAY HOURLY MAXIMUM STANDARD AND WIDE HGV	PEAK DAY HOURLY MAXIMUM ARISINGS HGV	TOTAL
Start		09:00:00	10:00:00	11:00:00	12:00:00	13:00:00	14:00:00	16:00:00	17:00:00	18:00:00			
End		10:00:00	11:00:00	12:00:00	13:00:00	14:00:00	14:45:00	17:00:00	18:00:00	18:45:00			
Newton	Arrivals	5	2	7	7	9	10	10	0	0	10	16	26
	Departures	0	0	5	5	7	0	17	6	10	17	15	32
Bonstone	Arrivals	0	7	5	0	0	0	0	0	0	7	0	7
	Departures	0	0	5	0	7	0	0	0	0	7	0	7
Braddup	Arrivals	0	7	2	0	5	0	0	0	0	7	13	20
	Departures	0	0	5	0	0	2	7	0	0	7	12	19

The models highlight that fluctuations in the number of vehicles arriving/leaving the compounds and quarry in any given hour will be necessary because:

- there would be directional bias to traffic flows at the start and end of the day, and;
- the proposed movement restrictions result in a need to hold/release traffic around the restrictions

	PEAK DAY HOURLY MAXIMUM ARISINGS HGV AT QUARRY	
Arisings source	Arrivals	Departures
Newton	16	16
Braddup	12	12
Total	28	28

Standard and wide HGV movements

Discussion

Conservative speed assumptions have been made for all movements.

Minimum dwell time of 90 minutes assumed on site (impact of afternoon movement restriction and directional constraint for wide HGV convoys results in a number remaining on site for in excess of 3 hours).

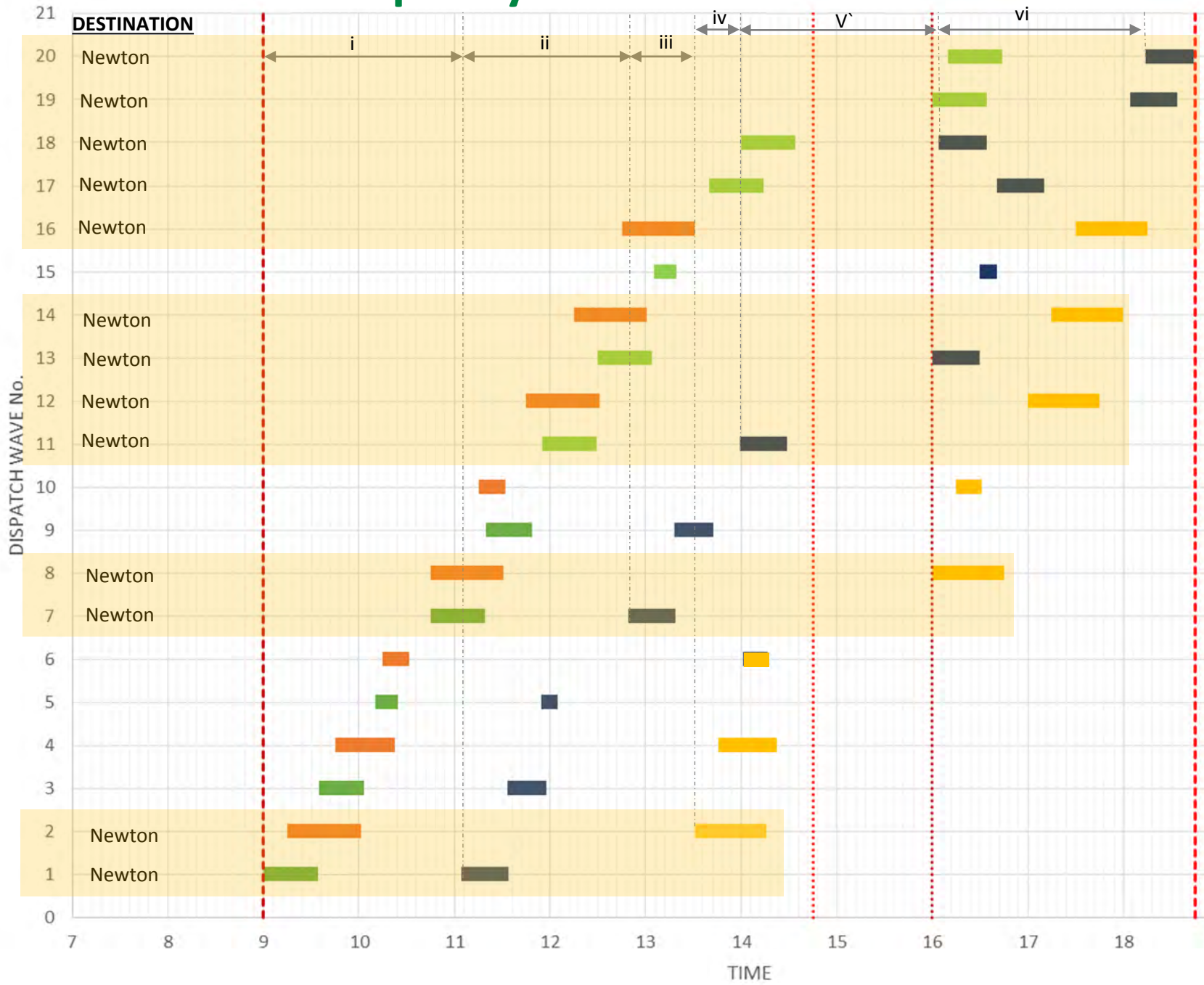
There would be directional bias to traffic flows at the start and end of the day.

The directional bias and movement restrictions will lead to fluctuations in the number of vehicles arriving/leaving the compounds in any given hour. An allowance for the impact of these fluctuations has been included in the figures presented in appendix A2.

The proposed directional control of the wide HGV convoys during peak activities can be accommodated across the proposed daily operational period (including significant dwell times on site and limiting convoy size to 2 No. HGV).

The following slides present illustrative site layouts and demonstrate adequate HGV holding capacity during peak periods.

Newton-in-Bowland Capacity

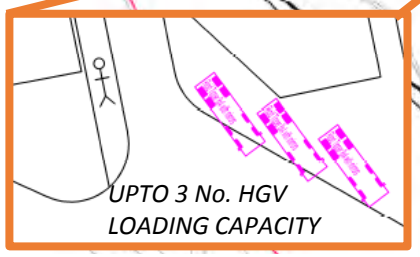


Peak No. of HGV on site*

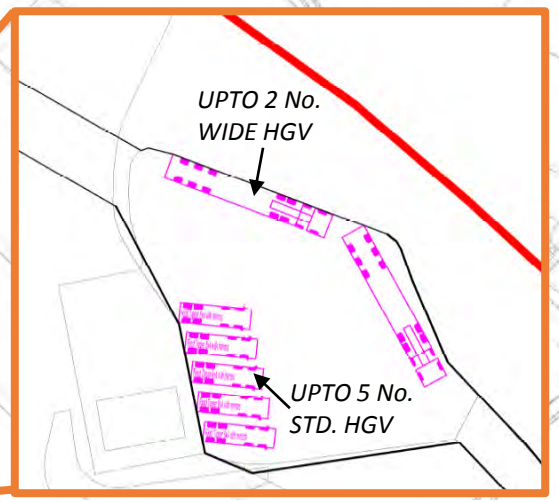
Period	Std. HGV	Wide HGV
i	5	2
ii	10	6
iii	10	8
iv	10	8
v	15	8
vi	15	6

*Analysis considers periods between groups of vehicles arriving and leaving site. For example period 'i' considers time from end of curfew to the first wave of vehicles leaving the site (9am to 11:04)

Newton-in-Bowland Capacity

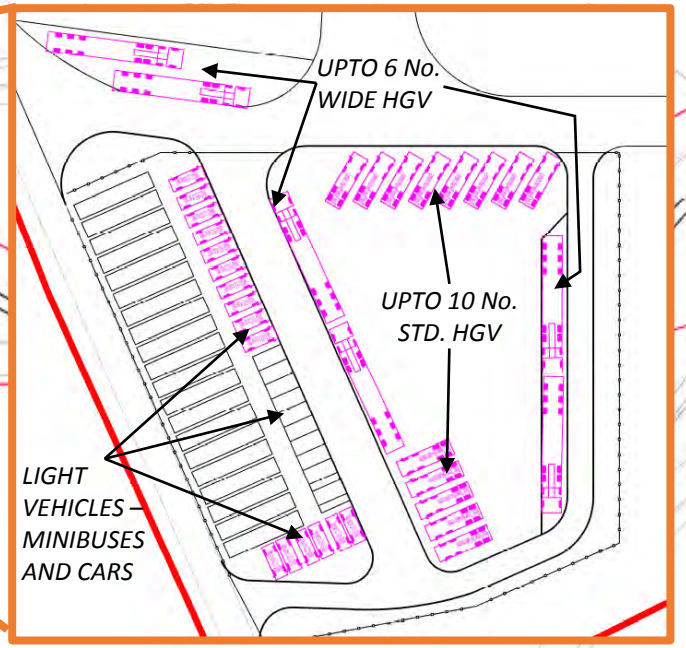


TUNNEL ARISINGS HGV LOADING AREA



NORTH HGV HOLDING AREA ADJACENT TO EXISTING UU BUILDING

SOUTH COMPOUND



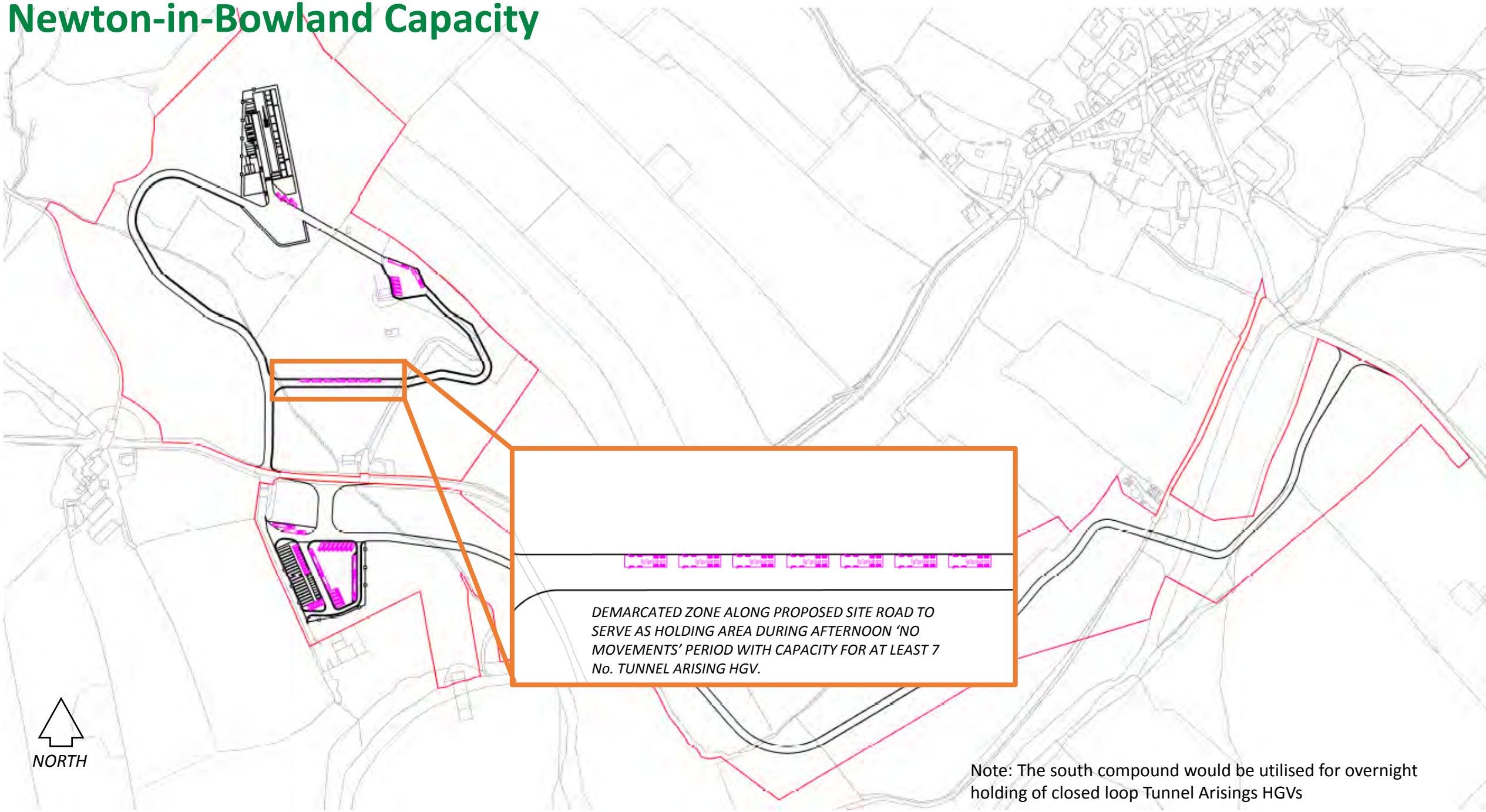
NORTH

PEAK ANTICPATED HGVs ON SITE
LAYOUT BASED UPON PLANNING APPLICATION DRAWINGS
RVBC-BO-APP-004-05_01 & RVBC-BO-APP-004-05_01

Note:

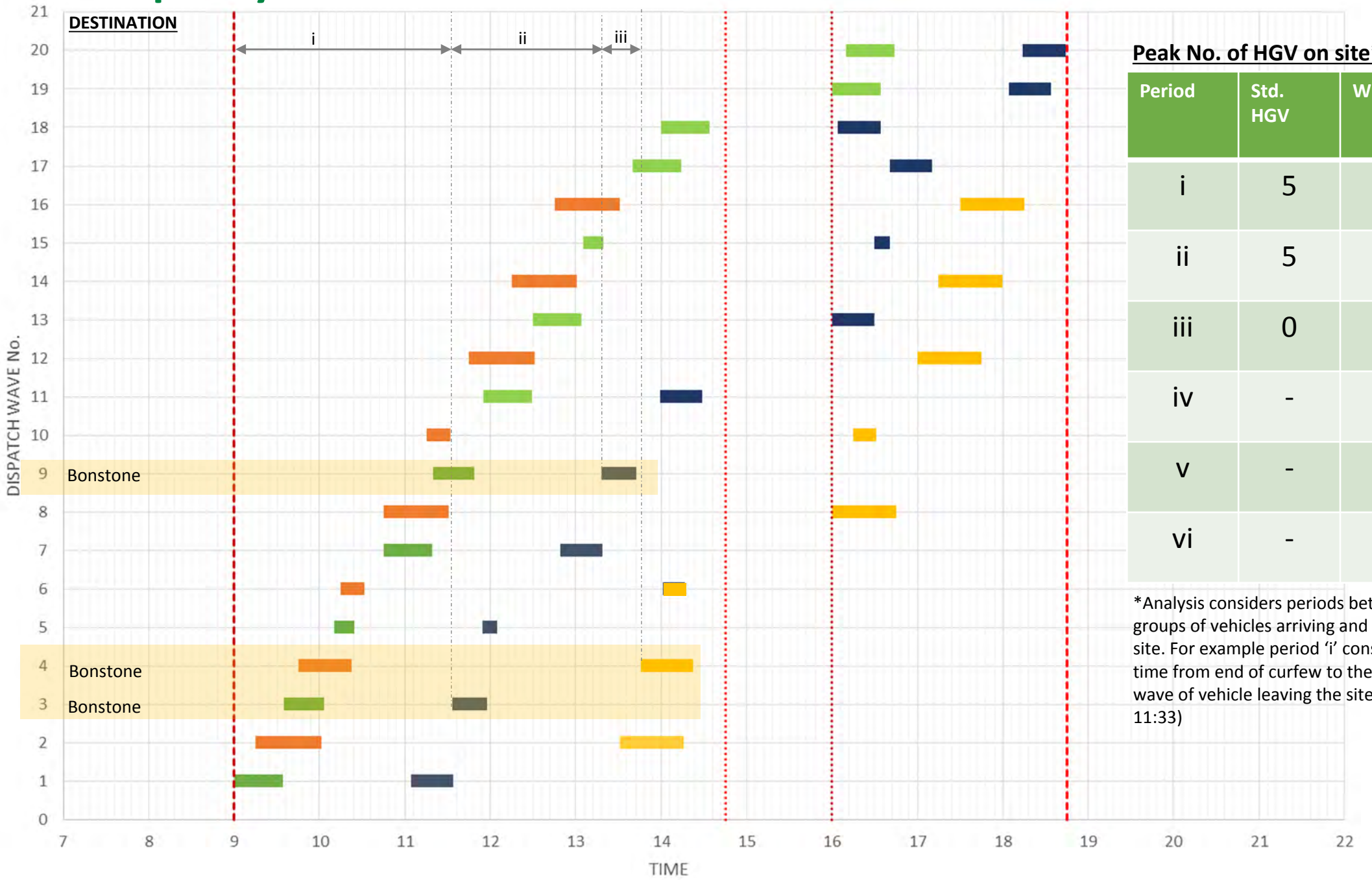
1. All layouts would be subject to detailed design by appointed contractor.
2. Layouts show anticipated extent and nature of the compound. Redline boundary has been set to accommodate extent needed for activities and marginal changes in configuration/extent necessitated by detailed design changes.
3. Total capacity 15 No. Std. HGV, 10 No. Tunnel arisings HGV (3 No. Loading shown here see following slide for indication of additional lay-by provision) and 8 No. wide HGV
4. The south compound would be utilised for overnight holding of closed loop Tunnel Arisings HGVs

Newton-in-Bowland Capacity



Note: The south compound would be utilised for overnight holding of closed loop Tunnel Arisings HGVs

Bonstone Capacity



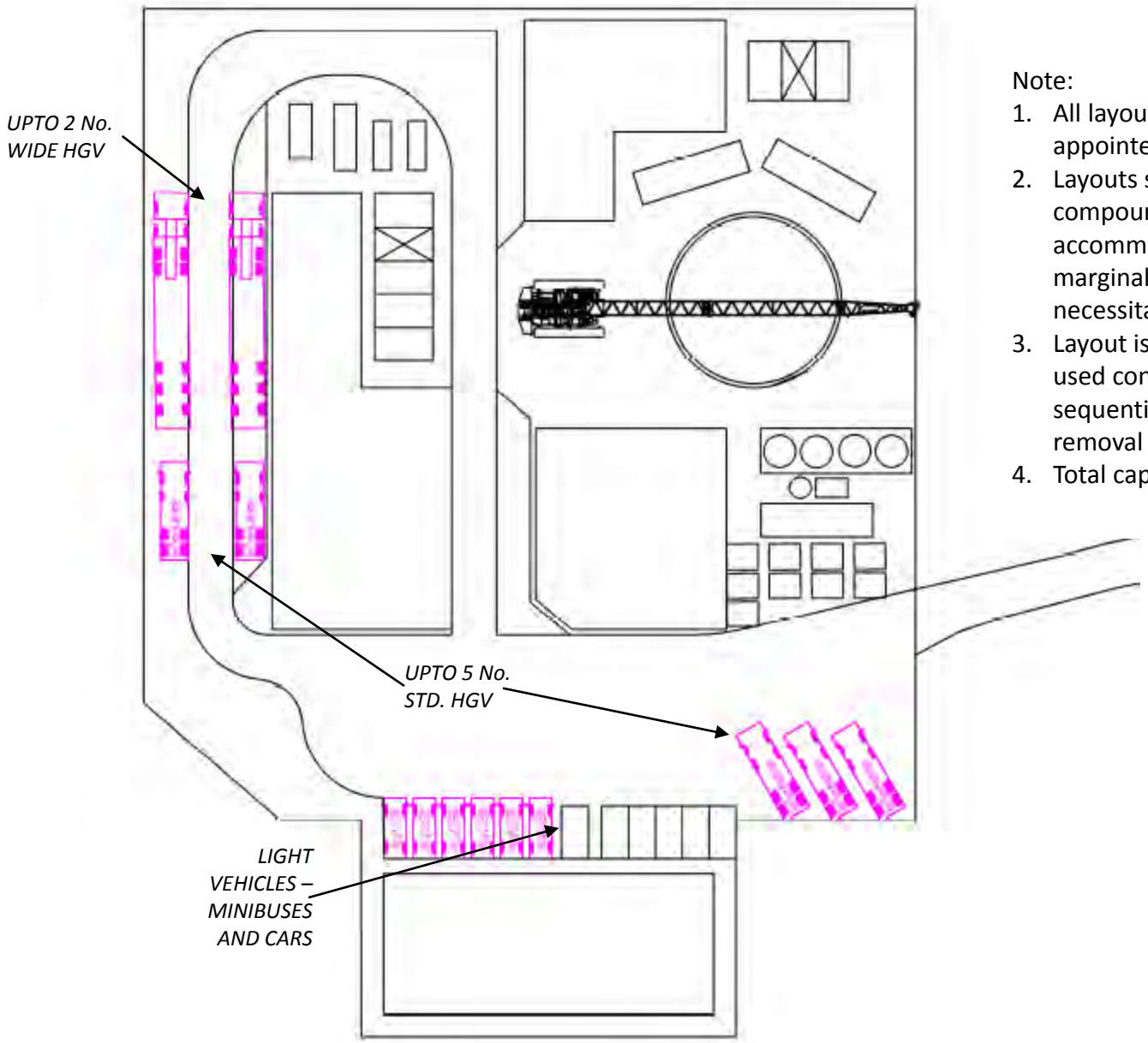
Peak No. of HGV on site*

Period	Std. HGV	Wide HGV
i	5	2
ii	5	2
iii	0	2
iv	-	-
v	-	-
vi	-	-

*Analysis considers periods between groups of vehicles arriving and leaving site. For example period 'i' considers time from end of curfew to the first wave of vehicle leaving the site (9am to 11:33)

Bonstone Capacity

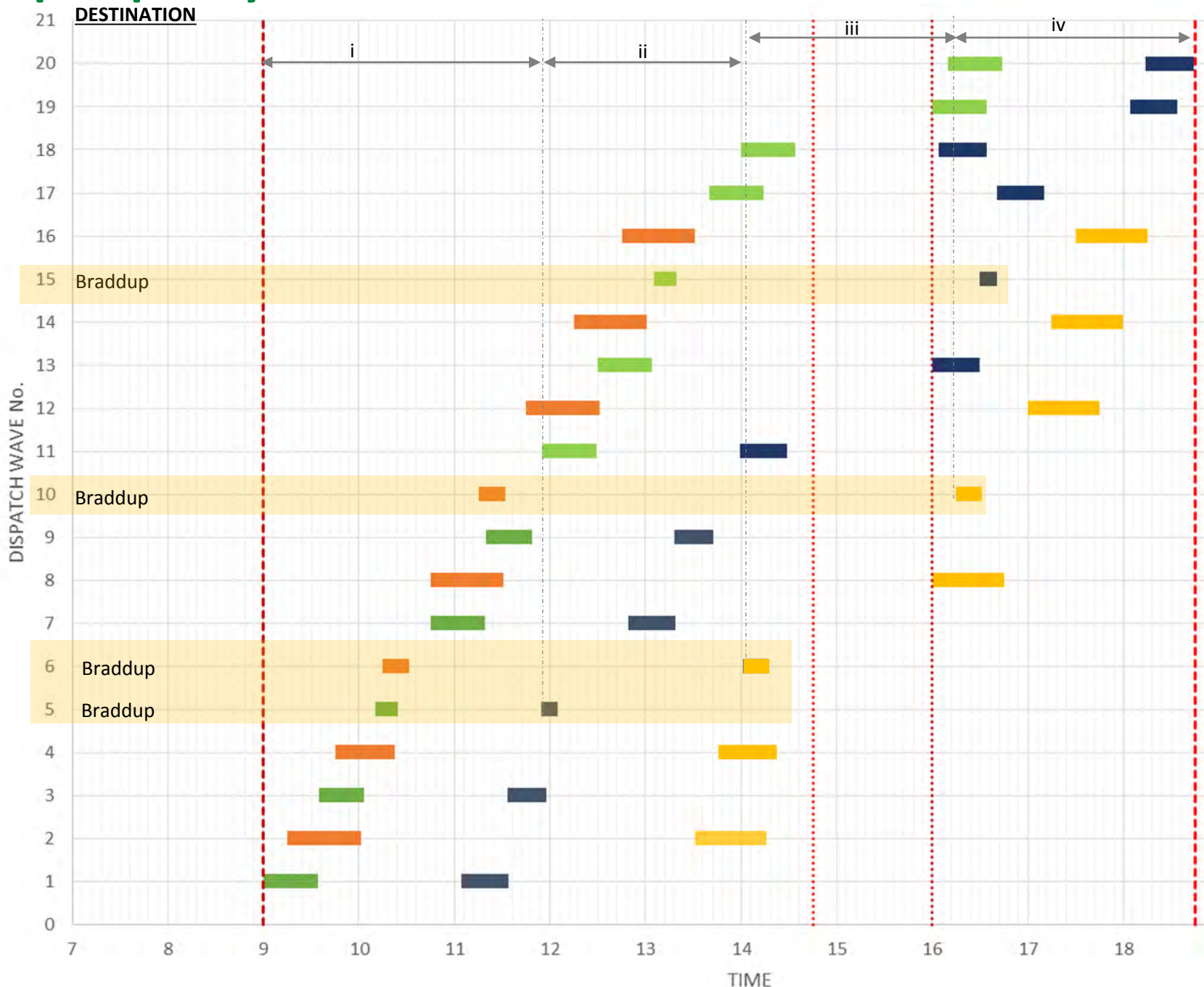
PEAK ANTICPATED HGVs ON SITE
LAYOUT BASED UPON PLANNING APPLICATION DRAWING RVBC-MH-APP-004-05_01



Note:

1. All layouts would be subject to detailed design by appointed contractor.
2. Layouts show anticipated extent and nature of the compound. Redline boundary has been set to accommodate extent needed for activities and marginal changes in configuration/extent necessitated by detailed design changes.
3. Layout is conservative, it shows multiple areas being used concurrently, in practice many activities will be sequential (for example shaft sinking and TBM removal will not happen at the same time)
4. Total capacity 5 No. Std. HGV and 2 No. wide HGV

Braddup Capacity

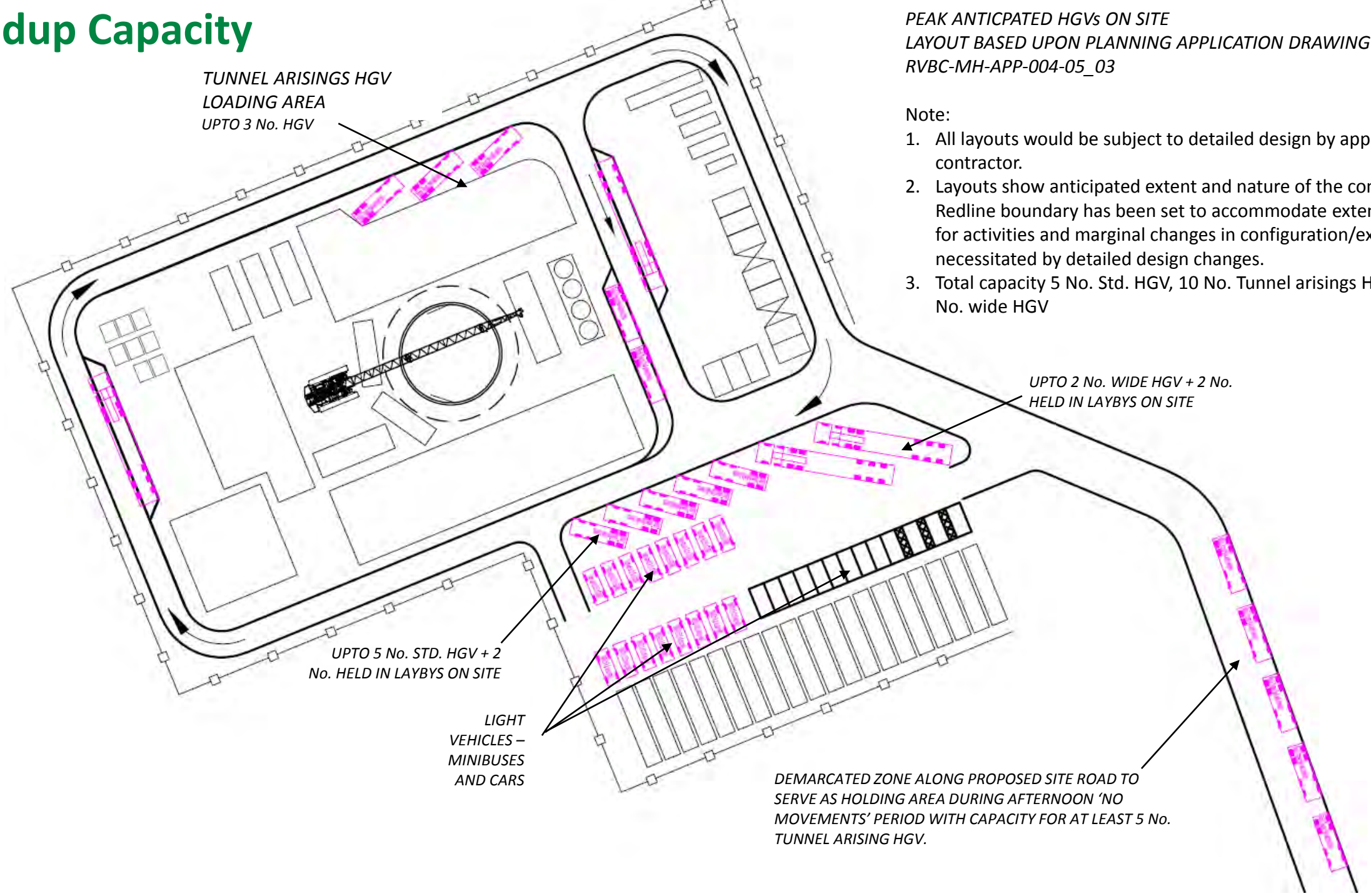


Peak No. of HGV on site*

Period	Std. HGV	Wide HGV
i	5	4
ii	5	4
iii	5	2
iv	5	0
v	-	-
vi	-	-

*Analysis considers periods between groups of vehicles arriving and leaving site. For example period 'i' considers time from end of curfew to the first wave of vehicle leaving the site (9am to 11:54)

Braddup Capacity

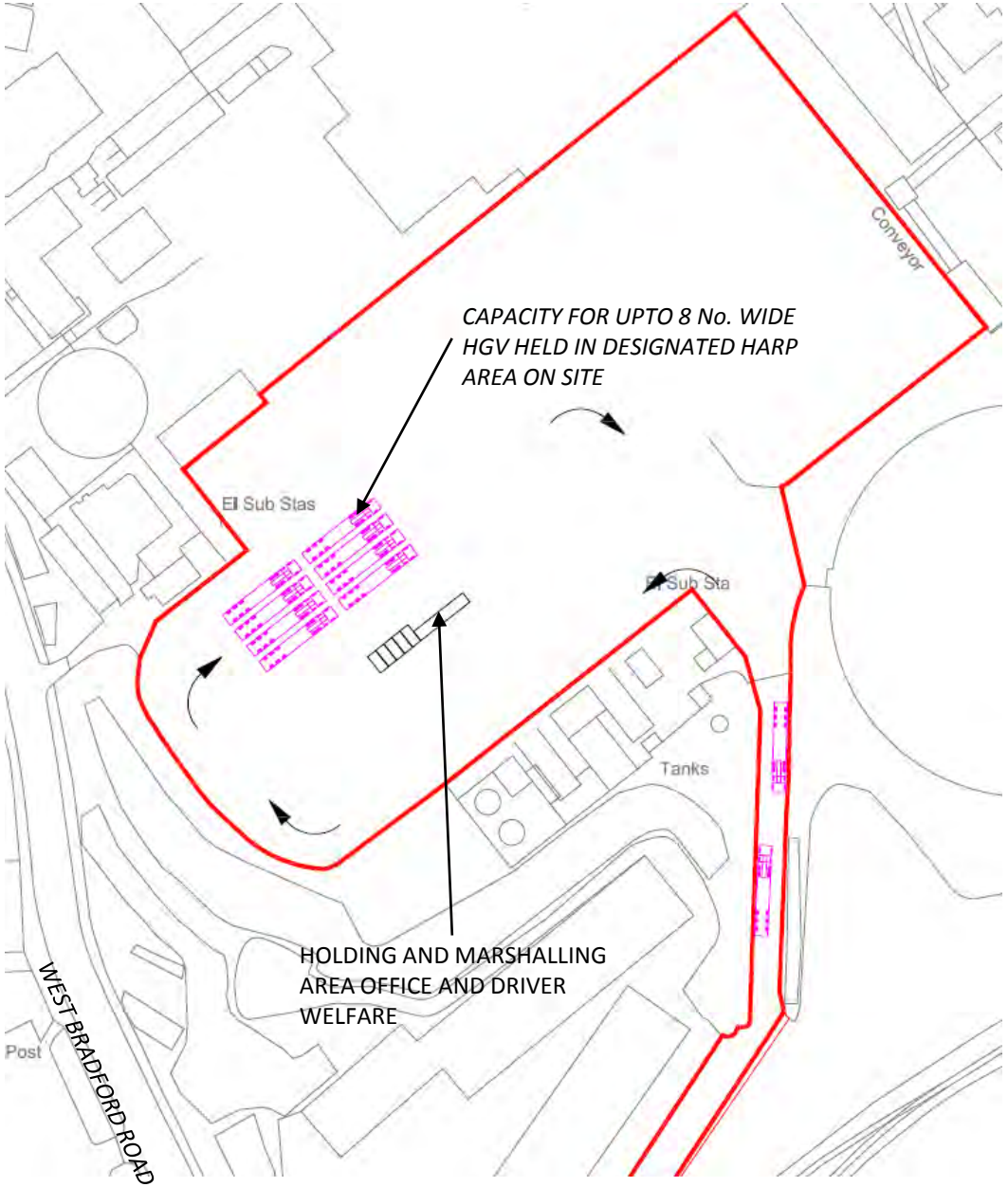


PEAK ANTICPATED HGVs ON SITE
LAYOUT BASED UPON PLANNING APPLICATION DRAWING
RVBC-MH-APP-004-05_03

Note:

1. All layouts would be subject to detailed design by appointed contractor.
2. Layouts show anticipated extent and nature of the compound. Redline boundary has been set to accommodate extent needed for activities and marginal changes in configuration/extent necessitated by detailed design changes.
3. Total capacity 5 No. Std. HGV, 10 No. Tunnel arisings HGV and 4 No. wide HGV

Clitheroe HGV marshalling area



PEAK ANTICPATED HGVs ON SITE
LAYOUT BASED UPON PLANNING APPLICATION DRAWING
80061155-01-UU-TR3-XX-DR-C-00045

A marshalling area for HGVs is proposed within Hanson Cement Ribblesdale, West Bradford Road ("Hanson's")

Note:

1. All layouts would be subject to detailed design by appointed contractor.
2. Layouts show anticipated extent and nature of the compound. Redline boundary has been set to accommodate extent needed for activities and changes in configuration/extent necessitated by Hanson's operational requirements. Flexibility required to ensure HARP vehicles and machinery and Hanson's vehicles and machinery can be accommodated on the site

Proposed access (Hanson's Gate 4) at the brow of the hill – Contractor to provide a Traffic management marshals (team of 'banksman') to assist vehicles exiting the site

Appendix C1 – Affected Bus Routes

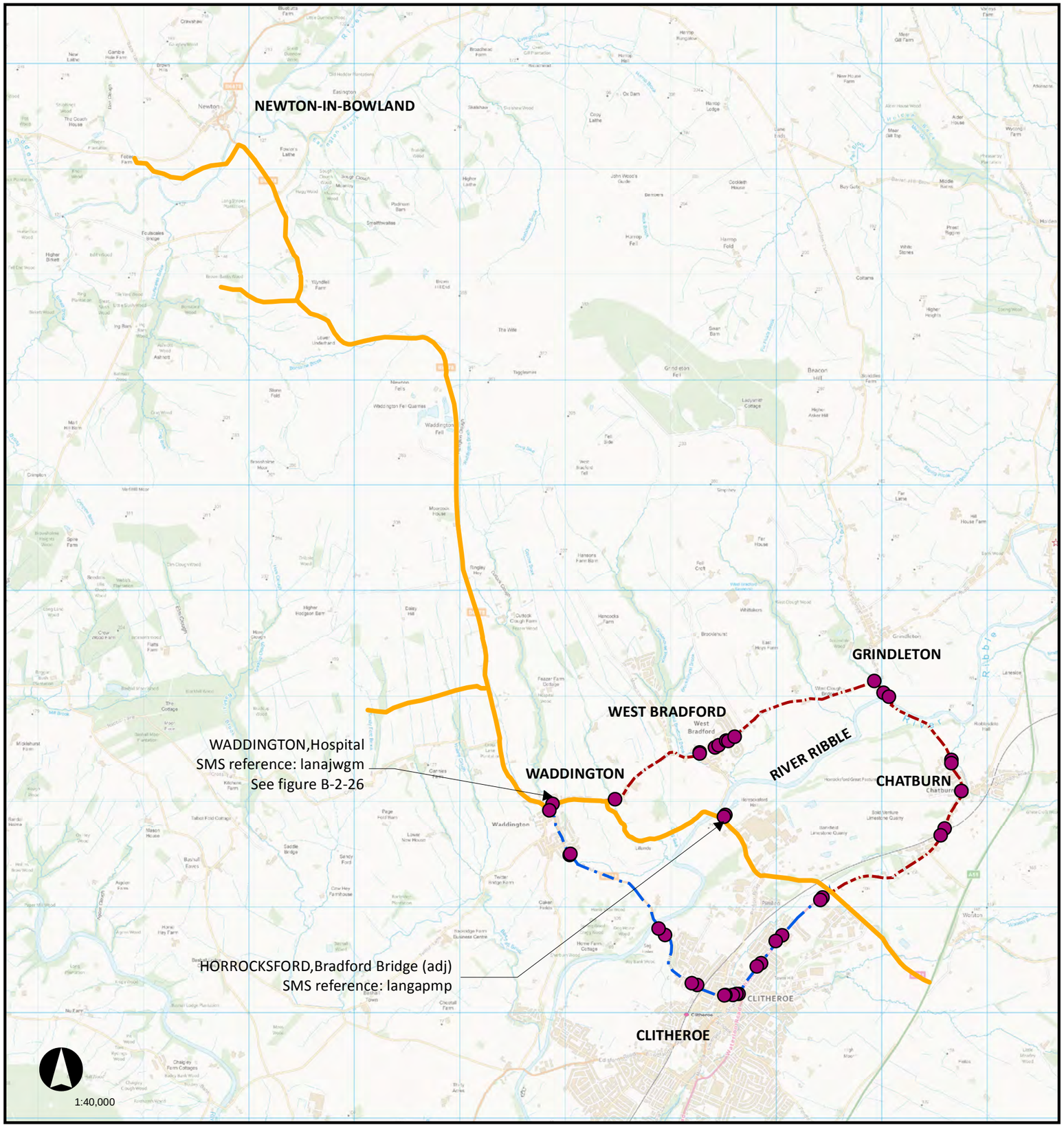
Figure C-1-01: Affected Bus Stop Overview and Impact Mitigation (MNA-C-1-02)

Identified bus services which may be affected as a result of the Proposed Bowland and Marl Hill Sections

Bus Service Number	Bus Operator
25	Pilkington Bus
25A	Pilkington Bus
59	Stagecoach
66	Boomerang Travel Ltd
67	Pilkington Bus
109	The Burnley Bus Company
280	Stagecoach
462	P&S Nelson
616	Longridge Coaches
617	Longridge Coaches
622	Hodsons Coaches
623	Pilkington Bus
643	Hodsons Coaches
852	The Burnley Bus Company
903	P&S Nelson

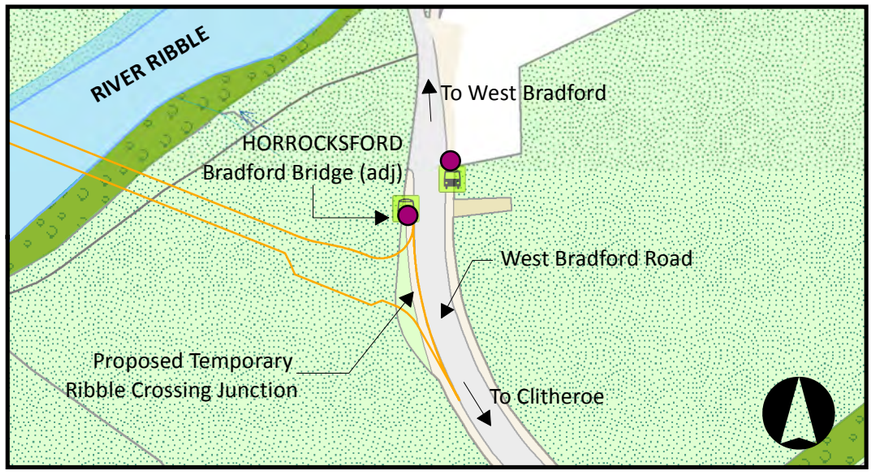
APPENDIX C1

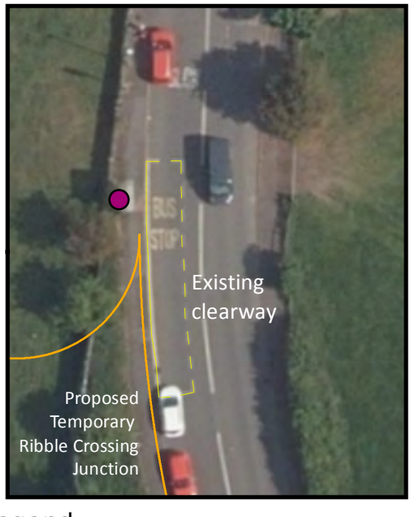
FIGURE C-1-02: AFFECTED BUS STOP OVERVIEW AND IMPACT MITIGATION

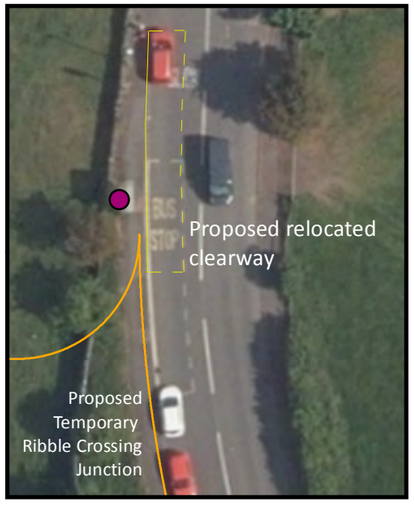


HORROCKSFORD,Bradford Bridge (adj) (Google Street View looking northwards)
SMS reference: langapmp

Of the Bus Stops identified along the proposed access routes two have been identified as being directly affected. Fo rthe above the existing shelter to be retained, marked stop and clearway to be relocated approximatley 10m to the north away from proposed Ribble Crossing junction.
Refer to figure B-2-26 for bus stop affected in Waddington.





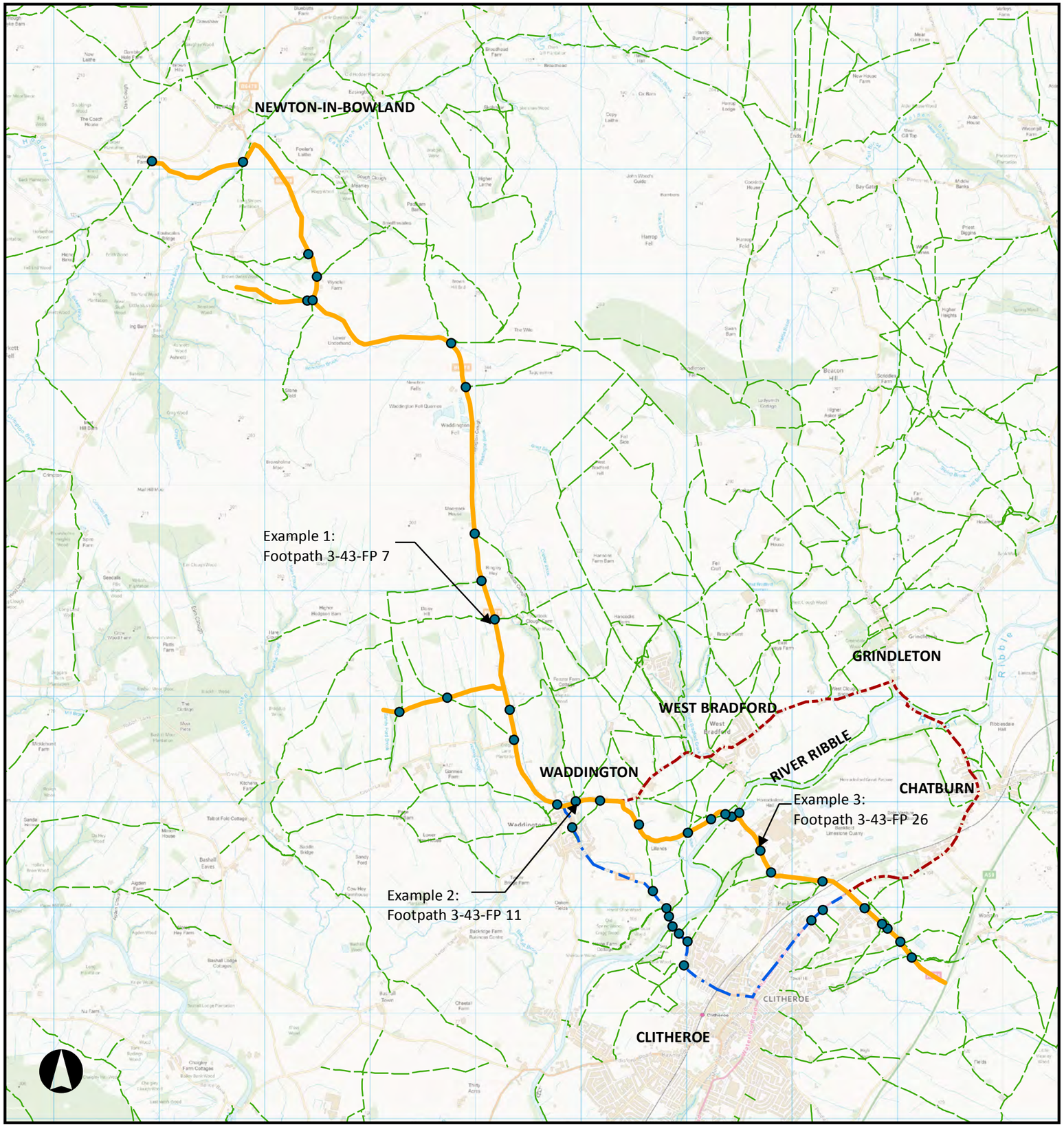


Legend

- Existing Bus Stops on proposed access routes
- Proposed access route
- Exceptional Access Route (Hooder and Ribble Crossing Construction only)
- Enabling Phase 1a Access Route (Hodder and Ribble Crossing Construction only)

APPENDIX C2

FIGURE C-2-01: PRoW OVERVIEW AND EXISTING HIGHWAY PRoW JUNCTION IMPACT MITIGATION



Where existing PRoWs meet the proposed access routes to the north of Waddington along the B6478 visibility is typically unobstructed and there are existing areas that provide pedestrian refuge. To ensure conditions (visibility and space) are maintained at all such junctions the contractor shall ensure an appropriate vegetation management regime is in place.

Where existing PRoWs meet the proposed access routes in Waddington there are existing areas that provide pedestrian refuge and are subject to an appropriate existing maintenance regime. Figures B-2-25 and B-2-26 provide an overview of proposed traffic management measures along West Bradford Road and at the Higher Buck Junction with the B6478. These traffic calming measures along with the control and management measures outlined in Section 6 of the CTMP are proposed to mitigate for the increase in HGV traffic along this section of road.

Where existing PRoWs meet the proposed access routes in Clitheroe area to the south of the River Ribble there are existing footways that provide pedestrian refuge and are subject to an appropriate existing maintenance regime.

Legend

- PRoW junction with proposed high frequency access route
- Proposed access route
- Exceptional Access Route (Hooder and Ribble Crossing Construction only)
- Enabling Phase 1a Access Route (Hodder and Ribble Crossing Construction only)
- Public Rights of Way (PRoW)

Appendix C2 – Affected Public Rights of Way

Figure C-2-01: PRoW Overview and Existing Highway Prow Junction Impact Mitigation (MNA_C-2-01)

Affected Public Rights of Way

There are a number of Public Rights of Way (PRoW) which are intersected by the construction traffic routes to the Newton, Bonstone and Braddup compounds. Whilst it is acknowledged that users may encounter additional traffic when crossing these routes, it is not anticipated that there will be any restrictions or limitations on the use of these PRoWs.

Regional Route 90 Lancashire Cycleway (Northern loop):[7] is a 130 mile (290 km) loop which takes in the Forest of Bowland Area of Outstanding Natural Beauty (AONB), Arnside and Silverdale AONB, the Ribble Valley and Blackpool Pleasure Beach. The route crosses the construction traffic route twice on the A59 near Billington and Whalley and follows West Bradford Road (Waddington) and crosses the B6478 on the outskirts of Waddington.

Regional Route 91 Lancashire Cycleway (Southern loop) is approximately a 130 mile loop which goes through Blackburn, Clitheroe, Burnley and Ormskirk.[8] The route crosses the construction traffic routes along the A59 twice near Pendle Road and just before Pimlico Link Road.

There are two recreational cycle routes which intersect with the construction traffic routes for the Proposed Bowland and Marl Hill Sections these are:

- The Ribble Valley Villages:[9] cycle route is a 29 mile (47 km) route which takes in both contrasting sides of the Ribble Valley. The route follows minor roads and B roads, starting and finishing at Waddington car park. The route takes in a number of places of interest including Downham, Ribchester Roman Museum and Stonyhurst College. The route crosses the construction traffic routes three times on the A59 at Billington, near Pendle Road and just before Pimlico Link Road. The route follows the construction traffic route along West Bradford Road (Waddington) before crossing the B6478
- The Clitheroe to Downham:[9] cycle route is a 13 mile (21.5 km) route commencing from Clitheroe Rail Station. The route takes in the villages of Worston, Downham, West Bradford and Waddington before returning to Clitheroe via the Edisford Bridge. The route crosses the construction traffic routes once on the A59 just before Pimlico Link Road. The route follows the construction traffic route along West Bradford Road (Waddington) before crossing the B6478.

The Tour of Lancashire cycle event[10] is a 162 km route starting from Preston College. The event consists of a long, medium and short route:

- The short route is a 67.7 km route which passes through the rolling Lancashire countryside towards Clitheroe through Sabden, Whalley and back to Preston. The route crosses the construction traffic routes twice on the A59 on Mitton Road and Pendle Road/Clitheroe Road
- The medium route is a 112.3 km route starting at Preston College, skirting the edge of the Forest of Bowland, passing through Inglewhite, Calder Vale and Okenclough, returning through the Trough of Bowland, Clitheroe, Sabden, Whalley and back to Preston. The route crosses the construction traffic routes twice on the A59 on Mitton Road and Pendle Road/Clitheroe Road

[7] https://www.openroadopenskies.co.uk/self-guided-cycling-holidays/route-90-north-lancashire-loop [Online] [Accessed: March 2021].

[8] https://www.visitlancashire.com/dbimgs/Lancashire%20Cycleway%20Southern%20Loop.pdf {Online] [Accessed June 2021]

[9] https://www.visitlancashire.com/dbimgs/Ribble-Valley-Cycle-Map.pdf [Online] [Accessed June 2021]

[10] https://velo29events.com/sportives/tour-of-lancashire-sportive/tour-of-lancashire-long/ [Online] [Accessed March 2021]

- The long route starts from Preston College, skirts the edge of the Forest of Bowland passing through Inglewhite, Calder Vale and Okenclough. The route returns through the Forest of Bowland, Slaidburn, Dunsop Bridge, Clitheroe, Sabden, Whalley and back to Preston. The route crosses the construction traffic routes twice on the A59 on Mitton Road and Pendle Road/Clitheroe Road. The route also goes along Newton Road crossing the access into the Newton-in-Bowland Compound.

The Pendle Witch trail[11] is a 45 mile (72 km) self-guided car, minibus or bike trail. The route starts from the Pendle Heritage Centre in Barrowford passing through Chatburn, Clitheroe, Waddington and Newton before heading towards Dunsop Bridge and Lancaster via the Trough of Bowland. The route crosses the construction traffic route on the A671 and follows the route along the B6478 and along Newton Road across the access to the Newton-in-Bowland Compound.

There are 20 long-distance footpaths located on the traffic routes to the Newton, Bonstone and Braddup Compounds; these are:

- Lancashire Way - Central Loop:[12] the Central Loop is the second part of the Lancashire Way. The 100 mile (161 km) route begins and ends in Preston taking in the Ribble Valley to Pendle Hill, the Hodder Valley and the southern half of the Bowland Fells. The route follows the B6478 Hallgate Hill from the River Hodder through Newton close to the temporary haul road across the River Hodder to the Newton-in-Bowland Compound
- Clitheroe 60K:[13] this 37 mile (60 km) route starts from the Ribble Valley, taking in Longridge Fell, the Hodder Valley, Newton, skirting Grindelton Fell to Sawley and Downham, finally traversing Pendle Hill. This route links with the Pendle Way and Ribble Way. The route crosses the construction traffic routes on the A59 near Clitheroe and crosses the temporary haul road to the Newton-in-Bowland Compound
- Hodder Way:[14] this is a 27 mile (43 km) route from the source of the River Hodder on access land near the Cross of Greet to Hodder Foot where it joins the River Ribble. The route passes through the villages of Slaidburn, Newton, Dunsop Bridge, Whitewell, Bashall Eaves and Great Mitton. The route crosses the temporary haul road to the Newton-in-Bowland Compound alongside the River Hodder
- Pendle Witches Way:[15] this is a 46 mile (74 km) route from Sabden in Lancashire through the Ribble Valley and the Forest of Bowland to Lancaster. The route crosses the construction traffic routes on the A59 near Clitheroe
- Pendle and Ribble Round:[16] this is a 20.5 mile (33 km) route crossing Pendle Hill and visiting Downham before returning by riverside and farm paths. The route crosses the construction traffic routes near Whalley on the A59 close to the River Calder and crosses the temporary haul road for the Ribble crossing south of the River Ribble
- Ribble Way:[17] this is a 70 mile (113 km) route which follows the valley of the River Ribble from the mouth to the source near to the Pennine Way National Trail on Gayle Moor. The route crosses the temporary haul road for the Ribble crossing south of the River Ribble

[11] https://www.visitlancashire.com/things-to-do/pendle-witch-trail-lancaster-to-pendle-p51630 [Online] [Accessed June 2021]

[12] https://ldwa.org.uk/ldp/members/show_path.php?menu_type=S&path_name=Lancashire+Way+-+Central+Loop [Online] [Accessed June 2021]

[13] https://ldwa.org.uk/ldp/members/show_path.php?path_name=Clitheroe+60K [Online] [Accessed June 2021]

[14] https://ldwa.org.uk/ldp/members/show_path.php?menu_type=S&path_name=Hodder+Way [Online] [Accessed June 2021]

[15] https://ldwa.org.uk/ldp/members/show_path.php?menu_type=S&path_name=Pendle+Witches+Way [Online] [Accessed June 2021]

[16] https://ldwa.org.uk/ldp/members/show_path.php?menu_type=S&path_name=Pendle+and+Ribble+Round [Online] [Accessed June 2021]

[17] https://ldwa.org.uk/ldp/members/show_path.php?menu_type=S&path_name=Ribble+Way [Online] [Accessed June 2021]

- Lancashire Witches Walk:[18] this is a sustainable 51 mile long distance walk in 2013 commemorating the 400th Anniversary of hanging of the Lancashire Witches. The route starts in Barrowford and finishes at Lancaster Castle where the witches were tried. The route crosses the construction traffic route on the A59 near Pendleton and crosses the temporary haul road for the Ribble crossing north of the River Ribble
- Trevine Trail:[19] this is a 54 mile (87 km) walk through the countryside of the lower Ribble Valley, based on Whalley heading to Hurst Green to Clitheroe and returning over Pendle Hill and via Sabden. The route crosses the construction traffic route on the A59 near Mellor Brook, Copster Green, Whalley and near Clitheroe
- Palatine Plod:[20] this is a 380 mile (612 km) long distance walk that aims to reflect the County of Lancashire, prior to 1974 when boundary changes were made. Starting from Liverpool South Parkway Station, it links the most distant towns of Mossley and Barrow-in-Furness, and visits what was Lancashire's highest point – The Old Man of Coniston – before finishing on Walney Island. The walk has been broken down into 26 stages. The route crosses the construction traffic route on the A59 near Copster Green, just before Pimlico Link Road and follows West Bradford Road (Clitheroe) past Ribblesdale Cement Works
- Wainwrights Way:[21] this is a 123 mile (198 km) walk through Alfred Wainwright's life from Lancashire to the Lakes. The walk links the place where he was born – a Victorian terraced house in Audley Range, Blackburn – with his final resting place on Haystacks, his heavenly corner of Lakeland. The route crosses the construction traffic route on the A59 near Whalley south of the River Calder
- Two Roses Way:[22] this is a 96 mile (154 km) six-day hill walk through Lancashire and the Yorkshire Dales, via the towns of Whalley, Gisburn, Skipton, Malham, Slaidburn and Chipping. The route crosses the construction traffic route on the A59 near Whalley south of the River Calder
- Whalley / Waddington / Wiswell Wander:[23] this is a 24 mile (39 km) route in the countryside west of Pendle Hill visiting Clitheroe, Whalley, Waddington, Wiswell, Pendleton and Great Mitton. The route crosses the construction traffic routes on the A59 twice near Whalley north of the River Calder and near Clitheroe just before Pimlico Link Road. The route crosses the temporary haul road for the Ribble crossing three times and follows the route along West Bradford Road (Waddington) between the temporary haul road and Waddington Almshouses. The route also crosses the B6478 Slaidburn Road near Daisy Hill
- Historical Walks through Lancashire and Yorkshire:[24] this is a 146 mile (235 km) route through Lancashire and Yorkshire, linking Lancaster and York. Including visits to the sites of seven castles and three abbeys. The route crosses the A59 twice near Whalley on both sides of the River Calder and the A671 Pimlico Link Road

[18] https://ldwa.org.uk/ldp/members/show_path.php?menu_type=S&path_name=Lancashire+Witches+Walk [Online] [Accessed June 2021]

[19] https://ldwa.org.uk/ldp/members/show_path.php?menu_type=S&path_name=Trevine+Trail [Online] [Accessed June 2021]

[20] https://ldwa.org.uk/ldp/members/show_path.php?menu_type=S&path_name=Palatine+Plod [Online] [Accessed June 2021]

[21] https://ldwa.org.uk/ldp/members/show_path.php?menu_type=S&path_name=Wainwrights+Way [Online] [Accessed June 2021]

[22] https://ldwa.org.uk/ldp/members/show_path.php?menu_type=S&path_name=Two+Roses+Way [Online] [Accessed June 2021]

[23] https://ldwa.org.uk/ldp/members/show_path.php?menu_type=S&path_name=Whalley+%2F+Waddington+%2F+Wiswell+Wander [Online] [Accessed June 2021]

[24] https://ldwa.org.uk/ldp/members/show_path.php?menu_type=S&path_name=Historical+Walks+through+Lancashire+and+Yorkshire [Online] [Accessed June 2021]

- Villages of the Ribble Valley:[25] this is a 29 mile (47 km) route through the central sections of the Ribble Valley encircling Clitheroe visiting 12 valley villages including Waddington, West Bradford, Grindleton, Chatburn and the outskirts of Clitheroe. The route crosses the construction traffic route on the A59 near Whalley north of the River Calder, it also crosses the temporary haul road for the Ribble crossing twice and follows the route along West Bradford Road (Waddington) to the junction with the B6478
- Trans Pennine Way:[26] this is a 102 mile (164 km) route linking the Forest of Bowland and Nidderdale AONB's taking a line through Pendle Country, Haworth, Ilkley Moor, Washburn Valley, Pateley Bridge and the area of Brimham Rocks. The route crosses the construction traffic route on the A59 near Pendleton
- Blackpool to Bridlington (Aerospace Way):[27] this is a 148 mile (238 km) low-level coast to coast route connecting the Lifeboat stations at Blackpool and Bridlington. The route crosses the construction traffic route on the A59 near Clitheroe just before the turn to Pimlico Link Road
- North West Way:[28] this is a 191 mile (307 km) route which starts in Preston following the Ribble Way through Ribchester and Hurst Green to Gisburn before picking up the Pennine Way at Malham then connecting to the South Tyne Trail and Hadrian's Wall National Trail before finishing in Carlisle. The route crosses the temporary haul road for the Ribble crossing south of the River Ribble
- Forest of Bowland Walk:[29] this is a 68 mile (109 km) circular walk around the Forest of Bowland AONB in Lancashire from Caton. It visits Slaidburn, Clitheroe and Garstang before returning to Caton. The route crosses the temporary haul road for the Ribble crossing south of the River Ribble
- Red Rose Trail:[30] this is a 112 mile (180 km) route around the North of Lancashire starting and finishing by Lancaster Castle via Garstang, Kirby Lonsdeale, Chipping, Whitewell, Waddington, Slaidburn, Wray and Silverdale. The route crosses the temporary haul road for the Ribble crossing twice north of the River Ribble and follows the construction traffic route along West Bradford Road (Waddington) to the junction with the B6478
- Lancashire Monastic Way Upholland to Sawley Abbey:[31] this is a 69 mile (111 km) two section walk linking many of the medieval monastic sites of Lancashire and South Cumbria, beginning in south Lancashire at Upholland and making its way up to Furness Abbey in Cumbria. The first section finishes at Sawley Abbey. The route crosses the construction traffic route twice on the A59 near Whalley on either side of the River Calder. The route crosses the temporary haul road for the Ribble crossing south of the River Ribble

There are a number of recreational trails on the construction traffic routes to the Proposed Bowland and Marl Hill Sections; these include:

[25] https://ldwa.org.uk/ldp/members/show_path.php?menu_type=S&path_name=Villages+of+the+Ribble+Valley [Online] [Accessed June 2021]

[26] https://ldwa.org.uk/ldp/members/show_path.php?menu_type=S&path_name=Trans+Pennine+Way [Online] [Accessed June 2021]

[27] https://ldwa.org.uk/ldp/members/show_path.php?menu_type=S&path_name=Blackpool+to+Bridlington+%28Aerospace+Way%29 [Online] [Accessed June 2021]

[28] https://ldwa.org.uk/ldp/members/show_path.php?menu_type=S&path_name=North+West+Way [Online] [Accessed June 2021]

[29] https://ldwa.org.uk/ldp/members/show_path.php?menu_type=S&path_name=Forest+of+Bowland+Walk [Online] [Accessed June 2021]

[30] https://ldwa.org.uk/ldp/members/show_path.php?menu_type=S&path_name=Red+Rose+Trail [Online] [Accessed June 2021]

[31] https://ldwa.org.uk/ldp/members/show_path.php?menu_type=S&path_name=Lancashire+Monastic+Way+Upholland+to+Sawley+Abbey [Online] [Accessed June 2021]

- River Ribble via Old Park Wood and Mercyfield Wood Loop:[32] this is a 11.6 km loop near Clayton Le Dale. The trail is primarily used for hiking, walking and running. The route follows the construction traffic routes along the A59 between Osbaldeston and Clayton Le Dale
- Ribble, Dinckley and Copster Green:[33] this is a 7.1 km loop near Little Mitton. The trail is primarily used for hiking, walking and running. The route follows the construction traffic route for a very short section along the A59 near Copster Green
- Ribble Circular:[34] this route is a 27.5 km loop near Blackburn. A route that can be used by walkers, cyclists and horse riders. The route crosses the construction traffic route along the A59 at four points near Northcote, Billington, Nethertown and Barrow
- Whalley and Wiswell:[35] this is a 6.6 km loop located near Clitheroe. The trail is primarily used for hiking and running. The route crosses the construction traffic route along the A59 at two points near Whalley and Wiswell
- Whalley and Garstang:[36] this is a 72.9 km loop near Clitheroe. The trail is primarily used for road biking. The route crosses the construction traffic route on the A59 twice close to Nethertown and Billington
- Wiswell and Clitheroe:[37] this is a 10.3 km loop near Clitheroe. The trail is primarily used for hiking, walking and running. The route crosses the construction traffic route on the A59 twice close to Barrow/Wiswell
- Ribble Way Section 3: Clitheroe to Gisburn:[38] this is a 19.3 km point to point trail near Clitheroe primarily used for hiking and walking. The route crosses the temporary haul road for the Ribble crossing south of the River Ribble
- Clitheroe Circular:[39] this is a 10.8 km loop near Clitheroe the trail is primarily used for walking and running and is accessible year-round. The route crosses the construction traffic routes twice on the A59 near Pendle Road and Pimlico Link Road. The route also follows Pimlico Link Road up to Worston Brook
- Grindleton and Harrop Fold:[40] this is a 14.5 km loop located near Clitheroe. The trail is primarily used for hiking, walking, nature trips and bird watching. The route follows alongside a short section of the B6478 Slaidburn Road close to Waddington Fell
- Dunsop Bridge to Slaidburn:[41] this route is a 9.3 km point-to-point trail near Clitheroe. This trail is primarily used for hiking, walking and nature trips. The route crosses the temporary haul road to the Newton-in-Bowland Compound
- Dunsop Bridge and Newton Circular:[42] this route is a 11.4 km heavily trafficked loop trail located near Slaidburn. The trail offers a number of activity options and is best used from March until October. Dogs are also able to use this trail. The route crosses the temporary haul road to the Newton-in-Bowland Compound twice

[32] https://www.alltrails.com/explore/trail/england/lancashire/river-ribble-via-old-park-wood-and-mercyfield-wood-loop [Online] [Accessed June 2021]

[33] https://www.alltrails.com/explore/trail/england/lancashire/ribble-dinckley-and-copster-green [Online] [Accessed June 2021]

[34] https://www.alltrails.com/explore/trail/england/lancashire/ribble-circular [Online] [Accessed June 2021]

[35] https://www.alltrails.com/explore/trail/england/lancashire/whalley-and-wiswell [Online] [Accessed June 2021]

[36] https://www.alltrails.com/explore/trail/england/lancashire/whalley-and-garstang [Online] [Accessed June 2021]

[37] https://www.alltrails.com/explore/trail/england/lancashire/wiswell-and-clitheroe [Online] [Accessed June 2021]

[38] https://www.alltrails.com/explore/trail/england/lancashire/ribble-way-section-3-cllitheroe-to-gisburn [Online] [Accessed June 2021]

[39] https://www.alltrails.com/explore/trail/england/lancashire/clitheroe-circular [Online] [Accessed June 2021]

[40] https://www.alltrails.com/explore/trail/england/lancashire/grindleton-and-harrop-fold [Online] [Accessed June 2021]

[41] https://www.alltrails.com/explore/trail/england/lancashire/dunsop-bridge-to-slaidburn [Online] [Accessed March 2021]

[42] https://www.alltrails.com/explore/trail/england/lancashire/dunsop-bridge-and-newton-circular [Online] [Accessed June 2021]

- Slaidburn Circular Walk:[43] this is a 10.1 km-loop trail near Slaidburn. This trail is primarily used for hiking, walking and bird watching. The route follows the B6478 Hallgate Hill for a short section across the River Hodder close to the temporary haul road to the Newton-in-Bowland Compound
- AA walks - Clitheroes River and Castle:[44] is a 6.1 km route which starts and finishes on Milton Avenue, Clitheroe and follows a section of the River Ribble. The route crosses the temporary haul road for the Ribble crossing four times both north and south of the River Ribble
- Trail Magazine – Forest of Bowland:[45] is a 22 km loop from Dunsop Bridge via Whin Fell and Whitendale. The trail is used for mountain biking. The route crosses the southern extent of the Newton-in-Bowland Compound.

The British Horse Society Equestrian Access Mapping DOBBIN[46] records no formal routes near the construction traffic routes to the Newton, Bonstone and Braddup compounds however it does identify a couple of potential unrecorded ways that intersect the construction traffic routes:

- Project2026 is a national web based project with the aim of identifying routes which are potentially unrecorded public rights of way with a view to submit Definitive Map Modification Order Applications that will otherwise be extinguished under the CROW Act 2000 in 2026. These are not formal routes but have been submitted by members of the public which identifies potential usage in the area, however this may not be by horse riders. The key areas that intersect with the construction traffic routes are on the B6478 Slaidburn Road near Grindleton Fell and on the B6478 Hallgate Hill near the River Hodder.

There are also stables located close to the construction traffic routes on the A59 near Langho (Longsight Stables) and near Northcote Road (Northcote Stud).

Although there are numerous formal PRoWs, cycleways, trails and footpaths within the area many non-motorised users will use the local road network to walk, cycle or for horse riding rather than following a formal path. Therefore consideration has been given to the local attractions in the area that may encourage general non-motorised user activity and potential desire lines that interact with the construction traffic routes.

The Proposed Bowland and Marl Hill Sections and the construction traffic routes north of Waddington are located within the Forest of Bowland AONB. There are areas of access land (under the Countryside and Rights of Way Act 2000) located between the Bonstone and Braddup compounds.

There are a number of recreational areas, tourist facilities, food establishments, schools and places of worship directly along the construction traffic routes which may act as an attraction for non-motorised users including:

- Along the A59 – St Mary's and St John Southworths RC Church, Huntleys farm store and outlet village, Samlesbury Sports and Social Canberra Club and Fitness Centre, Bay Horse Inn, St Mary's Roman Catholic Primary School, Osbaldeston, St Mary's Catholic Church, Mrs Dowsons Farm Park, Tiggis Ribble Valley Bar and Restaurant, Shajan Indian Restaurant and YU Copster Green Restaurant and Bar
- B6478 – Waddington post office

[43] https://www.alltrails.com/explore/trail/england/lancashire/slaidburn-circular-walk [Online] [Accessed March 2021]

[44] https://osmaps.ordnancesurvey.co.uk/route/514961/AA-Walks-Clitheroes-River-and-Castle [Online] [Accessed June 2021]

[45] https://osmaps.ordnancesurvey.co.uk/route/515839/Trail-Magazine-Forest-of-Bowland [Online] [Accessed June 2021]

[46] https://www.bhsaccess.org.uk/dobbin/ [Online] [Accessed June 2021]

There are also a number of hotels, holiday lets, B&B accommodation and a Caravan Park directly along the construction traffic routes which may increase the number of non-motorised users, these include:

- Along the A59 – Samlesbury Hotel, Bluebird Inn, Northwood Caravan and Holiday Park, Rose Cottage B&B and Fenwick Arms
- B6478 – Higher Buck and Sunnybrook Cottage, Waddington

Annual events in the area include the Newton-in-Bowland Duck Race, an annual event held around the start of May each year at Newton Bridge/Newton Village Hall. Further consideration has been given to planned events in Section 6.7 below which provides bespoke mitigation.

The main areas of pedestrian movements is likely to be along the A59 particularly near Mellor Brook, Copster Green, Whalley, Wiswell, Pendleton, Billington, Northcote, Nethertown, Barrow and Clitheroe. Pedestrian movement is also likely within Clitheroe, West Bradford and Waddington where there are a number of likely origins and destinations for pedestrian movements. There are a number of PRoWs which terminate onto West Bradford Road but do not cross it.

There are routes that follow Pimlico Link Road, West Bradford Road (Clitheroe), West Bradford Road (Waddington) and small sections of the B6478. There are also a number of routes near the River Hodder close to the temporary haul road to the Newton-in-Bowland Compound and River Ribble close to the temporary haul road for the Ribble crossing.

The main area of cyclist movement is likely to be crossing the A59 around Billington, Whalley, Mitton Road, Pendle Road and just before Pimlico Link Road.