



# Network statement – Appendix E.5

Description of service facility “Marshalling  
facility *Antwerpen-Noord*”

**INFRABEL**





## Versions

Version	Date	Changes
1	15/06/2020	First version
2	20/08/2020	The main changes are: <ul style="list-style-type: none"><li>- Addition of Chapter 6 “Capacity request and allocation”;</li><li>- Chapters 1 and 2: stressing the self-sufficiency of services in this service facility.</li></ul>
3	11/12/2020	Point 3: correction made regarding the track possessions.



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# 1. General information

## 1.1 Introduction

Infrabel has prepared this document in accordance with Commission Implementing Regulation (EU) 2017/2177. This document describes the access to and use of the marshalling facility of *Antwerpen-Noord*, namely yards B1, B2, C1 and C2 and the hump yards B and C, located in the Port of Antwerp. A map containing all the yards involved can be found in point 3.2.

Infrabel is the infrastructure manager of the Belgian railway network and, within the framework of the marshalling facility in *Antwerpen-Noord*, is also considered as the operator of a service facility.

This document is published on <https://infrabel.be/en/networkstatement>.

## 1.2 Operator of the service facility

Infrabel owns and operates this service facility, whereby it:

- provides access to the marshalling facility to the railway undertakings and;
- offers services to the railway undertakings so that the marshalling can run smoothly (IT system, AUTRI traffic controller, etc.).

However, the services in this facility are self-sufficient within the meaning of Implementing Regulation 2017/2177. The services for which the railway undertaking itself is responsible are specified in point 5.3.

Below is an overview of the necessary addresses and key contact details.

### Official details of Infrabel

Infrabel N.V. under public law  
Marcel Broodthaersplein 2  
B-1060 Brussels

### Address of the facility described

Signal box 9 *Antwerpen-Noord*  
Noorderlaan 630  
Haven 500  
B-2030 Antwerpen

### Contact details of administrative services

Who?	Telephone number	E-mail address	Opening hours
Area Manager North East	03 204 22 00	<a href="mailto:itms.areane.manager@infrabel.be">itms.areane.manager@infrabel.be</a>	From Monday to Friday from 8 a.m. to 12 p.m. and from 12.30 p.m. to 4.30 p.m.
Secretariat Area Manager	03 204 22 02	<a href="mailto:itms.areane.secretariat.manager@infrabel.be">itms.areane.secretariat.manager@infrabel.be</a>	From Monday to Friday from 8 a.m. to 12 p.m. and from 12.30 p.m. to 4.30 p.m.

### Contact details for operational services (Signal box 9 *Antwerpen-Noord*)

Who?	Telephone number	Opening hours
<b>Emergency phone</b>	<b>03 204 41 00</b>	
AUTRI traffic controller for the B-yards	03 204 45 71	From Monday 6 a.m. to Saturday 6 a.m.
AUTRI traffic controller for the C-yards	03 204 45 67	From Sunday 5 p.m. to Monday 2 p.m.
<b>Safety Supervisor</b> (for full working area of signal box <i>Antwerpen-Noord</i> )	03 204 45 68	From Sunday 10 p.m. to Saturday 2 p.m.

All other contact details of both the administrative and operational services can be found in the local protocol for the use of the infrastructure for the *Antwerpen-Noord* action zone (marshalling), available on the Infrabel *Business Corner* via [partners.infrabel.be](https://partners.infrabel.be). In order to use the *Business Corner*, the railway undertakings must apply to their *Account Manager*.

## 1.3 Validity and update process

This description of the marshalling facility does not have a fixed period of validity, and is valid from the time of publication. This document will be updated if there are substantive changes and the railway undertakings that have requested access to the facility will be informed by e-mail.

Most of the information in this description can also be found in part 1 of the local protocols for the use of the infrastructure of *Antwerpen-Noord*. There are two local protocols for the area described, namely rules specific to the infrastructure manager for the *Antwerpen-Noord* action zone: general (hereinafter referred to as: local protocol general) and rules specific to the infrastructure manager for the *Antwerpen-Noord* action zone: marshalling (hereinafter referred to as: local protocol marshalling).

Part 1 of both documents can be found on the Infrabel *Business Corner*.

If, despite Infrabel’s efforts to provide correct information, there are differences between this description of the service facility and the local protocols, the latter will be decisive.

## 2. Services

As mentioned above, Infrabel provides:

- access to the marshalling facility to the railway undertakings and
- services to the railway undertakings so that the marshalling can run smoothly.

However, the services in this facility are self-sufficient within the meaning of Implementing Regulation 2017/2177.

Below is a description of how sorting by hump shunting works.

Both in the B-yards and in the C-yards, wagons can be sorted by hump shunting. Rail brakes controlled by the *Siemens* automatic marshalling system slow down the wagons. The control of switches and signals is carried out by computer, following the track planning prepared by the railway undertaking in the marshalling bulletin.

In order to allow a set of wagons to be sorted through the automatic shunting system, the following persons are required as a minimum:

- an AUTRI traffic controller from the infrastructure manager at signal box 9,
- a marshalling operator from the railway undertaking at signal box 9,
- a shunter<sup>1</sup> from the railway undertaking at the hump yard,
- a driver from the railway undertaking.

In terms of resources, the following are needed:

- A switch engine from the railway undertaking,
- An electronic wagon management system allowing the railway undertaking to transmit the required wagon data to the MSR computer of Infrabel's automatic shunting system.

The marshalling operator prepares the marshalling bulletin for the AUTRI traffic controller and the shunter, monitoring the filling of the tracks and operating the marshalling computer. He works closely with the traffic controller, who builds the itineraries and controls the switch engine during the approach and marshalling movements and informs the EBP post of which switch engine should be directed towards which track to be marshalled.

Below is an overview of the tasks assumed by the AUTRI traffic controller and thus the service provided to the railway undertaking. The tasks of the marshalling operator, shunter and driver can be found in point 5.3.

### Tasks of the AUTRI traffic controller

The AUTRI traffic controller carries out the following tasks:

- Build itineraries for approach and marshalling movements to and onto the hump, as well as for other journeys that must pass through the marshalling zone;
- Carry out the procedures for the issue of exceedance orders;
- Control the switch engine during the approach and marshalling movements;
- Monitor the wagons that are marshalled;
- Inform the shunter when a set to be marshalled is approaching the hump, and maintain constant close contact with this operator;

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<sup>1</sup> Operator at the hump yard, charged with uncoupling the various points using a shunter's pole.

- Inform the EBP post of which switch engine should be directed to which track to be marshalled;
- Be particularly alert each time a set of wagons is pushed over the hump and deposited in the classification bowl. This is to bring the runaway wagon(s) to a standstill with the appropriate functions in the event of any coupling break;
- Cooperate closely with the marshalling operator and follow up on his recommendations (setting the marshalling order etc.) to ensure that the work is carried out as smoothly as possible;
- Take the safety measures to carry out maintenance work at the marshalling facility and of the shunting switches (decommissioning of the zone concerned etc.);
- Secure the shunting switches in different positions for the protection of locomotives present on the bowl tracks;
- Secure the shunting switches in different positions for the protection of persons performing activities on the bowl tracks.
- ....

## 3. Description of the service facility

The full description of the operation of marshalling in automatic mode can be found in point 1.3 of the local protocol for *Antwerpen-Noord*.

### 3.1 List and name of all installations

The following yard tracks are part of the *Antwerpen-Noord* marshalling facility and can be used by the railway undertakings.

Installation	Associated tracks
Reception yard B1	Tracks 401 to 411
Arrival yard B2	Tracks 501 to 540
Reception yard C1	Tracks 101 to 119 and dead-end tracks 178, 186 and 684
Arrival yard C2	Tracks 209 to 264 dead-end tracks 293, 294, 295 and 296
Hump yards B	-
Hump yards C	-

A comprehensive overview of all available tracks per yard can be found in point 1.3.2 of the local protocol general. For each track, the operational length, the catenary, the gradient, whether it is a dead-end track and the smallest intermediate track width are shown.

Appendix F.1 to the network statement also contains an overview of the technical equipment per track.

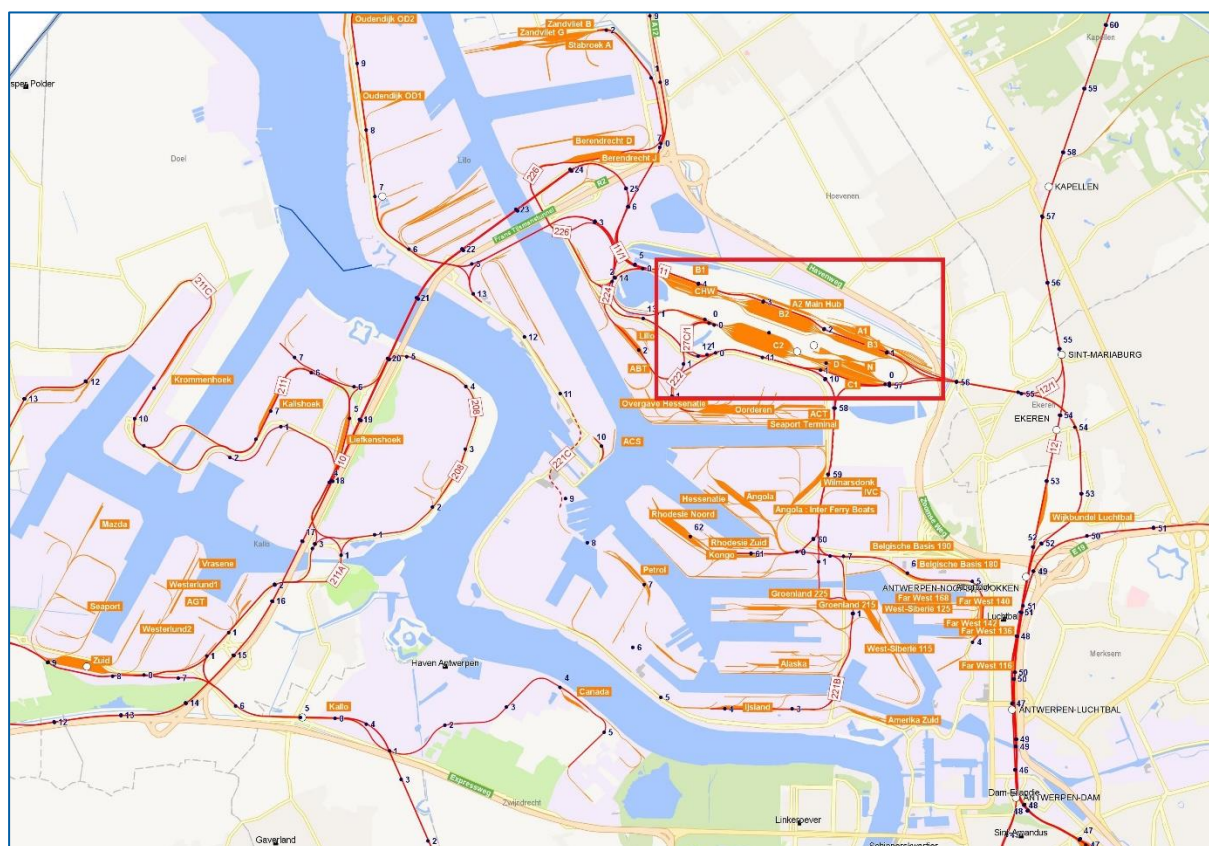
Private tracks and/or railway connections are outside the scope of this document.

## 3.2 Location

The humps and associated yards are located in the Port of Antwerp. Signal box 9 can be reached by road via Noorderlaan (Noorderlaan 630, Haven 500, 2030 Antwerpen). Yards B1, B2, C1 and C2 are located behind and around signal box 9.

The coordinates of signal box 9 are: N 51°17'27.0" - E 4°22'41.2".

Below is a map of the installations in the Port of Antwerp. The red rectangle indicates the location of signal box 9 and the surrounding yards. The second map gives a detailed overview of the area described.





### 3.3 Opening hours

An overview of the different opening hours of the facilities in *Antwerpen-Noord* is available in list 11 of the LST (see appendix D.9 of the network statement).

When planning the maintenance work on the technical components of the marshalling system itself, Infrabel will use the following preferred track possessions:

- Marshalling facility B-yards: on Monday from 8 a.m. to 12 p.m.
- Marshalling facility C-yards: on Tuesday from 8 a.m. to 12 p.m.

During maintenance work, the marshalling facilities are not accessible.

There are also track possessions scheduled on Sundays from 6:00 am to 5:00 pm, during which works can take place with a possible impact on the reception and arrival of all yards.

Maintenance work on the yard tracks is carried out in accordance with the provisions of the network statement.

### 3.4 Technical characteristics

This point explains some technical aspects, all technical characteristics are discussed in the local protocol shunting.

#### Technical facilities of the tracks

In addition to point 1.3.2 of the local protocol general, appendix F.1 of the network statement also gives an overview of technical equipment by track, such as the length of the tracks, electrification, presence of lighting and rail brakes.

#### Radio communication

Communication between the AUTRI traffic controller, the shunter and the driver of the switch engine is by radio, for both automatic marshalling (normal operation) and manual marshalling (abnormal operation).

Marshalling in manual mode is done entirely through radio communication. In this case, only one switch engine may be approached and marshalled at the same time. It is worth bearing in mind that, when marshalling in a manual way (i.e. without remote control and with radio communication only), the likelihood of human error is real.

### Malfunctions

During the marshalling, the automatic system takes into account malfunctions, error messages and other conditions to move switches into the safety position and to divert any blocks<sup>2</sup>. Depending on each case, the system will automatically perform a marshalling break or marshalling stop.

In principle, marshalling must always take place in automatic mode. marshalling in manual mode is only permitted if circumstances so require, for example due to malfunction or in adverse weather conditions. Further information can be found in points 1.3.5 and 1.3.6 of the local protocol marshalling.

### Deceleration

Rail brakes have been installed in 3 zones for braking the blocks:

- the hump brakes;
- the valley brakes;
- the bowl track brakes.

The first two braking zones are responsible for braking the blocks so that, on the one hand, sufficient gaps remain between the blocks while passing through the sorting fan and, on the other hand, the blocks reach the following braking zone at a certain run-in speed.

The third brake zone ensures efficient braking with a view to allowing the various blocks on the destination track to collide at a low run-up speed.

The requirements for the switch engine are described in point 5.2 of this document.

### Siemens marshalling system

The operation of *Siemens* marshalling system is described in the appendices to the local protocol marshalling:

- Appendix 1: ‘Operating manual Trackguard Cargo MSR32 Marshalling Station *Antwerpen-Noord* (B2)’;
- Appendix 2: ‘Operating manual Trackguard Cargo MSR32 Marshalling Station *Antwerpen-Noord* (C2)’;

These manuals describe the *Trackguard Cargo* automation system in *Antwerpen-Noord* and include the information required for the operation of the marshalling system for the railway undertakings as well as information that enables the marshalling operator to correct malfunctions.

## 3.5 Planned changes in technical characteristics

This document will be adapted for each planned change in technical characteristics.

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<sup>2</sup> A block is a set of subsequent cars with the same destination in a train.

## 4. Costs

### 4.1 Information on costs

Below are the costs specific to the infrastructure manager and other costs for the railway undertaking if it wishes to use the marshalling facility.

#### 4.1.1 Costs specific to Infrabel

##### Costs of access to and use of the marshalling facility

The fees charged by Infrabel for access to and use of the marshalling yards can be found in the network statement and appendix F.2 of the network statement via the website [www.infrabel.be/en/networkstatement](http://www.infrabel.be/en/networkstatement).

Access to and use of the humps is not charged.

#### 4.1.2 Other costs

##### Switch engine

The railway undertaking must have a switch engine equipped for the use of the automatic marshalling system (see point 5.2).

Infrabel recommends contacting *Siemens Belgium* and the locomotive constructor to request a precise overview of these costs.

##### Wagon management system

The railway undertaking needs its own electronic wagon management system to communicate with Infrabel's automatic marshalling system. Infrabel does not offer an electronic wagon management system.

##### Additional costs

Any additional costs must be determined by the railway undertaking itself.

### 4.2 Information on discounts

Infrabel offers no discounts.

## 5. Conditions of access

### 5.1 Legal requirements

The Infrabel network statement sets out the conditions to be met for access to infrastructure. For example, a railway undertaking must be in possession of a licence as a railway undertaking, including a safety certificate.

The railway undertaking must have concluded a track access agreement with Infrabel before it can carry out its activities. In addition, any railway undertaking wishing to use the local railway infrastructure, such as *Antwerpen-Noord*, must have concluded a local protocol with Infrabel in advance. By signing the protocol, the railway undertaking undertakes to respect the conditions of use of this service facility. The protocol defines the rights and obligations of both parties. These local

protocols can be found on Infrabel’s *Business Corner*. A full explanation of the local protocols can be found in the network statement.

## 5.2 Technical conditions

Several technical conditions have to be met before using the marshalling facility in *Antwerpen-Noord*. The following requirements apply with regard to the switch engine, the software, the shunter and the safety regulations.

### Switch engine

The requirements for the switch engine are as follows:

- The switch engine must have sufficient power. The railway undertaking may decide, on its own initiative, to deploy 2 locomotives coupled or to hump-shunt with single traction. However, this should not result in a switch to manual marshalling mode.
- The switch engine should preferably be equipped with an automatic BSI coupling. If not, the shunter must be aware of this and will have to uncouple the last wagon himself;
- The switch engine must be equipped such that the speed can be adjusted automatically (by remote control via computer-controlled radio signals) by the marshalling system;
- The switch engine must be equipped with a radio that can be switched on at the frequency 457.370 (UHF channel 2) for the marshalling facility of the C-yards, or 458.530 (UHF channel 14) for the marshalling facility of the B-yards.

At the same time, a maximum of 3 switch engines may be deployed in the same working area (B- or C-yards).

### Software system

The railway undertaking needs an electronic wagon management system that allows the required wagon data to be transferred to the MSR computer of Infrabel’s automatic marshalling system. For more information, please contact Infrabel via [accountmanagement@infrabel.be](mailto:accountmanagement@infrabel.be).

### Shunter

The railway undertaking must have a shunter responsible for uncoupling the various points using a shunting pole at the hump yard. This is a safety function and may only be performed by a person trained as a shunter.

### Safety regulations

For the safe operation of the automatic marshalling facilities, it is essential that the required data provided by the railway undertaking to Infrabel is correct. This applies in particular to the technical data of the wagons to be hump-shunted (load, protection class, etc.).

If a lack of correct information or an error in communication concerning the required data to be provided leads to an accident, this is entirely the responsibility of the railway undertaking.

## 5.3 Self-sufficiency of track-related services

The railway undertaking needs a marshalling operator, a shunter and a driver to use the marshalling facility, and the tasks of each of them are described below.

### Tasks of the

The marshalling operator performs the following tasks:

- Update and adapt the track planning;
- Prepare the shunting bulletin for the AUTRI traffic controller and the shunter;
- Monitor the filling of the tracks on the GSS screens, transfer the appropriate push proposals to the driver of the pusher locomotive and control the driver of the pusher locomotive;
- Communicate the push proposals to the AUTRI traffic controller, who builds the itinerary for the requested track;
- Monitor the removal of immobilisation before automatically shunting a set;
- Operate the shunting computer in accordance with the professional training and within the limitations in the use of the functions and menus provided for the GSS profile;
- For a rail journey in yard C2 (excluding track 264) or yard B2, check the clearance of the track concerned and confirm via DICA to the AUTRI traffic controller concerned before applying for the crossing of the track in question as follows:  
*... (surname and first name) of IG ... On tracks nos. ... there are no more wheel chocks and wagons, these tracks are free for passage;*
- ...

### Tasks of the shunter

The shunter performs the following tasks:

- Uncouple the points on the shunting hump;
- Immediately report to the AUTRI traffic controller any lack of agreement between the marshalling bulletin and its actual composition;
- Follow the orders of the AUTRI traffic controller;
- Check whether there are any wagons with jammed or insufficiently fluttered brakes in the set and, where appropriate, release or spray these brakes;
- In case of danger, operate the emergency stop on the hump;
- ...

### Tasks of the driver of the switch engine

- The driver of the switch engine performs the following tasks:
- Follow closely the communications and orders of the AUTRI traffic controller;
- Strictly comply with the speeds communicated by the AUTRI traffic controller in case of non-automatic shunting;
- Stop the movement immediately if he does not hear the orders of the AUTRI traffic controller at the prescribed rate, if marshalling is not automatic;
- ...

## 5.4 IT systems

The necessary IT system is described in point 5.2 Technical conditions.

# 6. Request and allocation of capacity

## 6.1 Requests for access

The humps of the C- and B-facilities can be reserved for each 1h time window via the reservation form in Appendix B.1.6 of the network statement and per period of application of the timetable (see description of the ‘Your Facilities’ service - tracks reservable for a long period of time - in the network

statement). When reserving the time windows, account should be taken of the time needed to prepare the use of the hump and to leave the facility again.

The reservation form must be sent by e-mail to [your.facilities@infrabel.be](mailto:your.facilities@infrabel.be).

For the 2021 timetable, the following dates apply:

Deadline for submitting applications	Start of application period
31 August 2020	1 <sup>st</sup> period: 13 December 2020
21 December 2020	2 <sup>nd</sup> period: 1 February 2021
22 February 2021	3 <sup>rd</sup> period: 5 April 2021
2 May 2021	4 <sup>th</sup> period: 13 June 2021
26 July 2021	5 <sup>th</sup> period: 6 September 2021

The tracks of yards B2 and C2 are intended only for marshalling and are considered to be “hump marshalling tracks” (*Spoor met Triëring door Zwaartekracht* - STZ). They are not reservable but Infrabel takes into account the needs as indicated in form B.1.6 as far as possible.

The tracks of yards B1 and C1 are considered as process tracks (see description of the ‘Your Facilities’ service - process tracks - in the network statement) and are therefore not reservable. The maximum occupancy time for this type of track is set out in appendix F.1 of the network statement (for 2021 timetable this is 12h).

## 6.2 Answer to requests

Infrabel reports by email to the railway undertakings which time windows of the shunting humps have been allocated to them.

For the 2021 timetable, the following dates apply:

Deadline for submitting applications	Deadline for allocating time windows	Start of application period
31 August 2020	15 October 2020	1 <sup>st</sup> period: 13 December 2020
21 December 2020	18 January 2021	2 <sup>nd</sup> period: 1 February 2021
22 February 2021	22 March 2021	3 <sup>rd</sup> period: 5 April 2021
2 May 2021	30 May 2021	4 <sup>th</sup> period: 13 June 2021
26 July 2021	23 August 2021	5 <sup>th</sup> period: 6 September 2021

In the event of competing requests, Infrabel will set up a dialogue with the railway undertakings concerned and formulate alternative proposals based on available capacity.

Infrabel formulates as many alternative proposals as possible according to its available capacity. If at least two railway undertakings concerned refuse Infrabel’s alternative proposal(s), Infrabel will

refuse the request and the railway undertakings and the regulatory body will be informed accordingly.

If Infrabel and the railway undertaking cannot agree on a viable alternative, the latter may submit a complaint to the regulatory body in accordance with Article 9(5) of the Railway Code.

### 6.3 Information on available capacity and temporary capacity restrictions

The information on temporary capacity restrictions of the marshalling facility in *Antwerpen-Noord* that may have a major impact on the operation of the service facility is provided in accordance with the procedure set out in the network statement (see point 'temporary capacity restrictions').

The information on available capacity can be obtained from Infrabel ([your.facilities@infrabel.be](mailto:your.facilities@infrabel.be)).