

Øresundsbros Konsortiet Railway Operations

Järnvägsnätsbeskrivning
Network Statement
Netredeegørelse

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Øresundsbro Konsortiet's Railway Network Statement 2023

In accordance with Directive 2012/34/EU of the European Parliament and of the Council of 21 November 2012 establishing a single European railway area, as well as applicable Swedish and Danish railway legislation, Øresundsbro Konsortiet has produced this description of the railway network managed by Øresundsbro Konsortiet: coast to coast between Denmark and Sweden (Copenhagen Airport, Kastrup-Lernacken).

With the publication of the document, Øresundsbro Konsortiet thus fulfils the requirement for preparing and publishing a description of the rail network.

The description sets out the conditions for traffic and principles for capacity allocation, applicant requirements, information on charges, and a description of the infrastructure for the period from 00:00, 2022-12-11 to 24:00, 2023-12-09.

Because the railway does not constitute a technical and commercial whole but is an integrated part of the Danish and Swedish national rail systems, an agreement was reached in April 2000 between Øresundsbro Konsortiet and Banedanmark and between Øresundsbro Konsortiet and Swedish Transport Administration concerning the coordination and delegation of responsibilities.

On behalf of Øresundsbro Konsortiet, Banedanmark and the Swedish Transport Administration undertake services such as rail operation, traffic management, traffic planning, capacity allocation, etc, on sections located in the respective Danish and Swedish technical interfaces and in the respective Danish and Swedish territories. In order to give the full picture, this network statement must be read together with the respective Banedanmark and Swedish Transport Administration network statements, where the application forms for capacity and detailed forms for capacity allocation, etc. are described.

Köpenhamn, September 2021

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Head of Railway Operations

This document is a translation of the Swedish prepared document. The Swedish document applies before this translation.

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0.0 Revideringslogg

Järnvägsnätsbeskrivning Revideringar i förhållande till tidigare versioner			
<i>Datum</i>	<i>Ansvar</i>	<i>Initialer</i>	<i>Org. Signatur</i>

0.1 Abbreviations

BAP	Engineering works plan
BVF	Swedish Rail Administration's internal regulations
COTIF	Convention relative aux transports internationaux ferroviaires (Convention concerning International Carriage by Rail)
DcDK	Operations Centre Denmark
EEA	European Economic Area
ELS	Eldriftledning Syd (Grid Operations South)
EN	European Standard developed by CEN/CENELEC. Harmonised EN is part of European legislation.
ERTMS	European Rail Traffic Management System
GSM-R	Global System for Communication – Railway
OCK	Traction Current Monitoring Centre
OSS	One Stop Shop
RFC Kh	Regional Remote Control Centre in Copenhagen
RNE	RailNetEurope
SCADA	Control, management and monitoring system
SI	Safety instruction
SP	Øresundsbro Konsortiet's safety procedure
SR	Safety regulations, Danish traffic safety regulations
TRV-TC M	Swedish Transport Administration's Traffic Control Centre Malmö
TC-ØSB	TrafikCenter, Lernacken (Øresundsbro Konsortiet's traffic management for the road section of the link.)
TDOK	Swedish Transport Administration's governing documents
TF	Traffic Safety Regulation (Øresundsbro Konsortiet's railway facility)
TRAV	Traffic agreement/Access contract
TrV	Swedish Transport Administration, Swedish national infrastructure manager
TSD	Technical Specifications for Operational Compatibility
TTJ	The Swedish Transport Administration's railway regulations
UIC	International Railway Union

0.2 Definitions

Capacity allocation: Allocation of infrastructure capacity.

Charges: Charges for the use of railway infrastructure and services provided in connection with the use of this shall be paid to Banedanmark and the Swedish Transport Administration as regulated in the Government Agreement between the Danish and Swedish governments.

Infrastructure manager: Whoever manages the railway infrastructure and operates installations belonging to the infrastructure, such as Øresundsbro Konsortiet, Banedanmark and the Swedish Transport Administration.

Maximum axle load (STAX): The maximum allowed pressure exerted by the weight of each wheelset of a railway vehicle on the track.

Maximum permitted speed (STH): The maximum speed that a train or other form of motion of a rail vehicle may be driven when all the criteria for the journey are met.

Maximum profile: The maximum dimensions a railway vehicle may have in order to be able to run on Øresundsbros Konsortiet's rail network.

Rail network: Railway infrastructure managed by one and the same infrastructure manager.

Railway infrastructure: Regarding railway traffic, refers to track, signalling and safety installations, traffic management facilities, electrical supply devices for traffic and other fixed devices necessary for the holding, operation or use of the installations.

Railway rolling stock: Rolling stock that can be driven on rail tracks. The term includes, for example, track vehicles, rail-mounted work tools, large vehicles, small vehicles, traction vehicles, driving vehicles, locomotives, railcars, wagons, etc.

Railway undertaking: Anyone who, with the aid of a licence or special permit, provides tractive effort and runs railway traffic.

Railway system: Railway infrastructure and railway vehicles, as well as the operation and management of infrastructure and vehicles.

Regional public transport authority: The authority responsible for regional public transport according to the law (2010:1065) on public transport.

Subsystem: Part of the rail system.

Traffic agreement (TRAV): Agreement between Øresundsbros Konsortiet and a railway undertaking regarding conditions and requirements for traffic on Øresundsbros Konsortiet's rail network. The agreement is concluded with railway undertakings through Banedanmark and the Swedish Transport Administration on behalf of Øresundsbros Konsortiet.

Traffic organiser: Persons or legal bodies who have a public or commercial interest in applying for infrastructure capacity but who do not undertake rail transport themselves.

Train path: The infrastructure capacity, as stated in a timetable, needed to transport rail vehicles, except work vehicles, from one place to another over a given period.

Train plan/timetable: Plan on the use of railway infrastructure for a specified period. Plan indicating train journey designation, distance, times and other required information concerning trains.

UIC leaflet: Standard issued by UIC, for example UIC 505 on the design of carriages.

Øresundsbros Konsortiet's rail network: The railway infrastructure, operated and managed by Øresundsbros Konsortiet, runs from Copenhagen's Kastrup Airport 12.854 km to Lernacken station 29.795 km (Swedish Transport Administration's measurement 281+810). The ownership border to SVEDAB is 29.137 km.

1. General information

1.1 Introduction

This railway network statement has been prepared by Øresundsbro Konsortiet and is aimed at railway undertakings that wish to run traffic or operate on the Øresund link and, as appropriate, at Banedanmark and the Swedish Transport Administration, which are important suppliers of rail operations, traffic management, dealings with railway undertakings, and more. The railway network statement shall be updated regularly and comments on both content and presentation may be sent to railway@oresundsbron.com.

1.1.1 Ownership

The Øresund Bridge is owned and operated by Øresundsbro Konsortiet, which in turn is jointly owned by A/S Øresund and Svensk-Danska Broföbindelsen AB (SVEDAB).

SVEDAB is owned by the Swedish State (Ministry of Enterprise and Innovation) while A/S Øresund is 100% owned by Sund and Bælt Holding A/S, which is owned by the Danish State (Ministry of Transport).

Øresundsbro Konsortiet's main responsibility is to own and operate the Øresund Bridge so that the loans that financed the construction and the initial operating period can be repaid.

Øresundsbro Konsortiet has an independent board and management. The Board has eight members with SVEDAB AB and A/S Øresund each appointing four. The Board's work is led by a chairperson. Sweden and Denmark take it in turns to nominate the chair and vice-chair every two years. The day-to-day activities are led by a Chief Executive.

The ownership of Øresundsbro Konsortiet is described in more detail in the Swedish-Danish Government Agreement of 1991 and in the Consortium Agreement concluded between SVEDAB AB and A/S Øresund.

1.1.2 Øresundsbro Konsortiet's railway organisation

Øresundsbro Konsortiet's railway organisation is an independent operating unit that is part of Øresundsbro Konsortiet's operating organisation.

Øresundsbro Konsortiet is approved as infrastructure manager in accordance with Danish and Swedish legislation.

As infrastructure manager, Øresundsbro Konsortiet is responsible for ensuring that the organisation has a sound and efficient rail safety organisation with a clear allocation of responsibility.

The principle behind Øresundsbro Konsortiet's allocation of rail safety responsibility is that responsibility is always placed in the operating unit Railway Operations. The safety organisation in relation to rail safety is set out in appendix 1.

Appendix 2.1 shows that Øresundsbro Konsortiet has the responsibility of coordinator for general traffic safety on the Copenhagen H – Malmö section.

All relevant reporting lines and areas of responsibility are set out in appendices 2.1 and 2.2.

Coordination responsibility, which is regulated through Øresundsbro Konsortiet Safety Procedure SP 03 07–09, commits Øresundsbro Konsortiet to initiate and make the necessary decisions so that all interfaces between its own functions and the functions of

others – as far as traffic safety on the Øresund link is concerned – are clear and that follow-ups are performed by the parties concerned.

The Chief Executive Officer (CEO) has overall responsibility for the activities of Øresundsbros Konsortiet in all units and departments and therefore also for rail safety.

The Railway Operations Unit has the overall responsibility for the operation of Øresundsbros Konsortiet's railway, i.e., repairs, documentation, and execution of operations and maintenance.

The Railway Operations Unit's overall function of managing the operation of Øresundsbros Konsortiet's railway falls mainly within the following areas of work.

- Traffic management
- Track and electricity management
- Technical operations and maintenance
- Standards and system management
- Safety management
- Quality, environmental and working environment management

The Head of Railway Operations (CJ) has overall responsibility for activities in the Railway Operations organisation. The CJ is responsible for the preparation of general guidelines for the unit, establishing the overall organisation, and delegation of the unit's functions in the organisation.

Øresundsbros Konsortiet's Rail Safety Manager follows up on rail safety at Øresundsbros Konsortiet and takes the necessary decisions to remedy any issues arising.

The established Railway Operations Organisation shall support and meet the safety objectives through the safety management function. This function also encompasses the coordination of the safety-related activities in the Railway Operations organisation.

The CJ is responsible for following up on the operational tasks below.

- Traffic management
- Rail operation, operation planning and operation of the 25 kV power supply and other systems
- Capacity allocation
- Conclusion of traffic agreements

The operational tasks above are mainly regulated through agreements entrusted to Bane-danmark in Denmark and the Swedish Transport Administration in Sweden. The necessary day-to-day functions are carried out from operations centres in Denmark and Sweden respectively. The CJ is responsible for the follow up of these tasks.

The CJ also receives continuous information on the operation on the railway.

The Railway Technical Manager (TA) has system responsibility for the railway technical systems.

The maintenance function has responsibility for the operation and maintenance of the railway.

The railway organisation is included administratively as a unit in Øresundsbros Konsortiet's Property Department.

Øresundsbros Konsortiet's Property Department also has a staff function with a Safety Manager for the road section and the non-rail specific facility. The staff function monitors the safety, the working environment and the safety of road users. The staff function is also responsible for the railway-specific facility in relation to the emergency authorities.

1.1.3 External parties

Traffic control and electric power management

Banedanmark and the Swedish Transport Administration are responsible for traffic control and electric power management, according to specific agreements.

Banedanmark and the Swedish Transport Administration are accountable to Øresundsbros Konsortiet in performing the functions in the operations management centres Operations Centre Denmark (DcDK), the Swedish Transport Administration's Traffic Control Centre Malmö (TRV-TC M), and the Traction Current Monitoring Centre (OCK) according to specific requirements.

In connection with this, Banedanmark and the Swedish Transport Administration also have responsibilities such as "investigation guard" and accident investigators in the event of accidents and "near misses".

Electric power management

Through the railway operations agreement, Banedanmark has electric power responsibility in relation to Øresundsbros Konsortiet. The electric power management is thus responsible for the electrical engineering management of OCK and Eldriftledning Syd (ELS) for Øresundsbros Konsortiet's railway section.

Operation and maintenance of the railway

Operation and maintenance of the railway infrastructure is covered through agreements with operations and maintenance contractors. The task also includes a function as railway safety coordinator. Also included is coordination of Øresundsbros Konsortiet's contractor requests for access to the railway facility, handling of track shutdowns, cutting power to the catenary system, etc. In connection with this, railway safety personnel, SR managers and/or deputies are made available for the work of existing contractors in or adjacent to the railway facility.

Maintenance of structures/tele

Øresundsbros Konsortiet's Technical Operations Unit is responsible for the maintenance of the railway's related structural elements – first and foremost the tunnel, bridge and installations on the island of Peberholm. In addition, there are interface responsibilities relating to telecommunications transmission and power supply for railway engineering installations. In relation to the Danish Transport, Building & Housing Authority and the Swedish Transport Agency, the Railway Operations Unit carries system responsibility for rail-related safety communication. Safety communication is conducted with GSM-R, safety phones and emergency telephones.

Technical monitoring

Øresundsbros Konsortiet's Traffic Centre (TC-ØSB), manages and controls maintenance personnel access to the facilities. TC-ØSB monitors the technical systems that are connected to the P-monitoring system. Technical alarms and announcements are entrusted to operations and maintenance managers.

1.1.4 PÖLS

PÖLS stands for *Punktlighet i Öresundstrafiken genom Ledningarnas Samverkan* (Punctuality in Øresund traffic through Management Cooperation). PÖLS are the parties that are contracted to operate the Øresund fixed link, and must, 4-8 times a year, in cooperation with relevant parties, infrastructure managers, and railway undertakings, participate in handling all cross-functional issues, thus ensuring that rail transport can maintain a high standard of punctuality for both passenger and freight traffic over the Øresund link. The strategy for the PÖLS work is that PÖLS shall deal with the issues in which joint action is deemed to be successful. The overall goal is to ensure safe trains that run on time. Common objectives for quality work shall be established. The work is organised in a steering committee consisting of representatives from Øresundsbro Konsortiet, Banedanmark, the Swedish Transport Administration and the railway undertakings operating the Øresund fixed link, with the following tasks and mandate.

- Have overall responsibility for the punctuality of Øresund traffic
- Monitor all punctuality activities in Øresund traffic
- Formulate and set objectives
- Are a decision-making body in matters relating to punctuality measures
- Set up, if necessary, specific cross-functional working groups
- Follow up on the impact of implemented activities.
- Representatives shall be the quorum for each organisation
- Present monthly punctuality statistics for Øresund traffic

1.2 The purpose of the railway network statement

By presenting the conditions that apply to railway undertakings, the railway network statement assists those who intend to operate railway traffic to find the necessary information. This document presents information about Øresundsbro Konsortiet's rail network and it also contains information on basic conditions for operating on the rail network that Øresundsbro Konsortiet manages.

1.3 Legal framework

The legal basis for this railway network statement as well as which EU regulations, laws and other national regulations that apply to railway transport across Øresund are the same as those that apply to connecting rail networks in Denmark and Sweden respectively. Existing legal instruments can therefore be found in Banedanmark's and the Swedish Transport Administration's railway network statements.

1.4 Legal status

1.4.1 General remarks

The railway network statement has been prepared based on the legislation in force at the time of publication, with the associated administrative regulations. The railway network statement does not take into account legislation that is being developed.

Railway undertakings expect the railway infrastructure to comply with the specifications set out in the railway network statement, and that Øresundsbro Konsortiet complies with the standards and procedures specified currently.

The railway network statement is a description of the rail network controlled by Øresundsbro Konsortiet and contains information about available infrastructure as well as information about the conditions for access to it. The railway network statement also contains information on procedures and criteria for the allocation of infrastructure capacity. Øresundsbro Konsortiet is responsible for the information in the railway network statement by law. A railway undertaking or applicant may refer to Transportstyrelsen (the Swedish

Transport Agency) as to whether the railway network statement has been established in accordance with current regulations. It is the responsibility of the reader to keep informed on updates to the contents of this document by taking note of the changes at Øresundsbro Konsortiet's [website](#).

Danish law applies to Danish territory, and the Danish Transport, Building and Housing Authority is the regulatory authority responsible for overseeing that the business meets the legal requirements. On Swedish territory, the Swedish Transport Agency exercises supervision under Swedish law and applicable regulations, statutes, etc. This also includes ensuring that the railway network statement meets the established requirements.

1.4.2 Liability

Øresundsbro Konsortiet disclaims responsibility for errors arising in connection with the production or printing of the railway network statement. Øresundsbro Konsortiet is also not responsible for the accuracy of information contained in this railway network statement submitted by other infrastructure managers.

Responsible authorities may decide on changes in information or legislation in relation to the information contained in this railway network statement. Øresundsbro Konsortiet reserves the right in general to revise the railway network statement or infrastructure condition for possible events that have not been foreseen.

1.4.3 Appeals procedure

For the Danish and Swedish territories, appeals concerning the railway network statement shall be submitted in writing to:

Denmark:

Jernbanenævnet/
Danish Rail Regulatory Body
Carsten Niebuhrs Gade 43
DK-1577 København V
Telephone: +45 41 78 03 86
E-mail: info@jernbanenaevnet.dk

Sweden:

Transportstyrelsen
Väg- och järnvägsavdelningen
Box 267
SE-781 21 Borlänge
Telephone: +46 (0) 771 503 503
E-mail: jarnvag@transportstyrelsen.se

1.5 Structure

Øresundsbro Konsortiet has entered into an agreement with Banedanmark and the Swedish Transport Administration, which are members of RailNetEurope (RNE). Among other things, RNE works to ensure that infrastructure managers' network statements follow a common document structure. The purpose is to make the information more readily accessible to readers of several railway network statements.

According to the RNE document structure, the railway network statement is divided into the following sections.

- Section 01. General information
- Section 02. Access conditions
- Section 03. Infrastructure
- Section 04. Capacity allocation
- Section 05. Services
- Section 06. Charges

1.6 Duration and changes

The information in this railway network statement applies to the period from 00:00, 11 December 2022 to 24:00, 9 December 2023.

The information is aimed at anyone who has a close interest in planning traffic flow during this train plan period. Necessary updates to this edition of the railway network statement shall be published in the form of change notifications on Øresundsbros Konsortiet's [website](#). However, change notices shall only be published if the information is urgent in nature. Change notices may relate to changes in the infrastructure that have not been foreseen at the time of publication of the document, or changes required as a result of changes in the applicable regulatory framework.

1.7 Publishing

The railway network statement and any change notifications are published on Øresundsbros Konsortiet's [website](#). In accordance with Directive 2012/34/EU of the European Parliament and of the Council the document is published in Swedish and in English.

1.8 Contact information

Contact information is available on Øresundsbros Konsortiet's [website](#).

1.9 Rail freight corridor

According to EU regulation 913/2010 concerning a European rail network for competitive freight, a freight corridor has been established from Stockholm/Oslo via Malmö, Hamburg and Innsbruck to Palermo, Italy. It is known as the Scandinavian-Mediterranean Corridor. The conditions for operating the freight corridor are described in an annually updated Corridor Information Document (CID). For further information see [scanmedfreight.eu](#).

1.10 RailNetEurope – international cooperation between infrastructure managers

RailNetEurope is a cooperation between some 40 infrastructure managers with the purpose of facilitating and promoting international rail traffic. More information is available on RNE's [website](#).

1.10.1 One Stop Shop (OSS)

Øresundsbros Konsortiet, Banedanmark and the Swedish Transport Administration cooperate with other European infrastructure managers to create a European infrastructure network. For all contact regarding OSS see either the Banedanmark or the Swedish Transport Administration railway network statement.

1.10.2 RNE tools

Path Coordination System (PCS) is a web application for international train paths offered by RNE. The system also supports railway undertakings upon request for train paths. The Charging Information System (CIS) offers the calculation of charges for international train paths. Train Information System (TIS) shows current train path information for international trains.

For more information: pcs.rne.eu
cis.rne.eu
tis.rne.eu

2. Access conditions

2.1 Introduction

This section of the network statement describes terms and conditions for accessing the railway infrastructure that Øresundsbros Konsortiet manages.

2.2 General access requirements

Øresundsbros Konsortiet is infrastructure manager according to the Danish Railway Act no. 686 of 27 May 2015 and the Swedish Railway Act (2004:519), the Railway Regulations (2004:526) and regulations in force pursuant to these regulations. As infrastructure manager, Øresundsbros Konsortiet is responsible for granting railway undertakings permission to operate on the railway. In general, access to Øresundsbros Konsortiet's railway infrastructure is given to railway undertakings or activities that meet the requirements for operating rail traffic in Denmark and Sweden.

To operate on the rail network either a licence and a safety certificate or a special permit is required. An agreement with Øresundsbros Konsortiet is also required. In order to facilitate the process, railway undertakings need only contact Banedanmark and the Swedish Transport Administration, which, on behalf Øresundsbros Konsortiet, sign the agreement.

2.2.1 Requirements for the application for a train path

Requirements for application are set out in Banedanmark's and the Swedish Transport Administration's respective network statements. In both cases, by law, a permit is required, see section 2.2.3.

It is not an obstacle to railway undertakings for the application for allocation of a conditional timetable/path to not comply with the basic requirements at the point of application.

2.2.2 Requirements for running traffic on Øresundsbros Konsortiet's network

The conditions that must be fulfilled for the right to run or organise traffic on the rail network are stated in the respective Danish and Swedish railways acts, as well as current executive orders, statutes and regulations applicable to them. For those undertakings that wish to run traffic on the Danish and Swedish rail infrastructure, there are different types of permits. Further details on this can be found in the respective Banedanmark and Swedish Transport Administration's railway network statements. The documents are available on the respective websites of [Banedanmark](#) and the [Swedish Transport Administration](#).

Advance notices can be submitted by Banedanmark and the Swedish Transport Administration. Conditional access to Øresundsbros Konsortiet's railway infrastructure can be issued to railway undertakings and others that meet the requirements for running rail traffic.

2.2.3 Licence and safety certificate

In order to operate railway traffic, both licences and safety certificates valid in Denmark and Sweden are required. A licence issued in an EEA state or Switzerland is subject to the provision of insurance covering the Øresund railway.

The Swedish Transport Agency and the Danish Transport, Building and Housing Authority may grant Safety Certificate Part A and Part B for Swedish and Danish territory.

If the conditions for permission are no longer met or the licence holder fails to fulfil the obligations, the permit may be revoked by the Swedish Transport Agency and/or the Danish Transport, Building and Housing Authority. Further details of the terms and conditions can be found on the respective websites of the [Swedish Transport Agency](#) and Denmark's [Transport, Building and Housing Authority](#).

2.2.4 Safety management system

Railway undertakings must themselves have the safety provisions needed, in addition to legislation and regulations issued. The details included in these safety regulations are regulated by the respective Swedish Transport Agency and the Danish Transport, Building and Housing Authority regulatory frameworks.

2.2.5 Agreement on access to services, etc.

Øresundsbro Konsortiet has commissioned Banedanmark and the Swedish Transport Administration to sign agreements with railway undertakings regarding capacity allocation, access to services, etc.

2.3 Other conditions

2.3.1 Safety regulation

Banedanmark Safety Regulation, SR 1975, applies to the Danish section of the section between 12.854 km and 18.235 km.

The Swedish Transport Administration Traffic Regulations (TTJ) (TDOK 2015:0309) apply to the Swedish part of the section between 18.235 km and 29.795 km (Swedish Transport Administration's measurement 281+810).

Øresundsbro Konsortiet's traffic safety regulation (TF) SP 03 07–06 applies to the entire section. TF describes the rules for crossing the border between the Danish part of the section and the Swedish part of the section. In addition, TF contains supplementary and stricter rules in relation to Banedanmark and the Swedish Transport Administration's rules for the entire Copenhagen Airport Kastrup – Lersø section.

2.3.2 Electrical Safety

Øresundsbro Konsortiet's electrical safety regulations SP 03 4–02 Electrical Procedure applies to the entire Øresundsbro railway. Fjernbane Kørestrøm Instruktion (FKI) applies to the Danish section and TDOK 2014:0415 (BVF 1921) applies to the Swedish section.

2.4 Operational rules

2.4.1 Denmark

The Danish timetable TKØ (Tjenstekøreplan Øst) and SIN (Safety Instructions) apply to the Danish part of the section between 12.854 km and 18.235 km. The line is described in TIB (Traffic Information on the Railway Section).

Temporary emergency speed restrictions are announced in "La". Late decided (urgent) jobs are announced in "Correction to La". The railway undertaking will receive information about this and shall ensure that the driver is notified before the journey begins:

Permissible types of vehicle movements when crossing the border between the Swedish and Danish systems are:

- Train: the maximum permissible speed is 180 km/h.
- Working vehicle: the maximum permissible speed is 40 km/h.

All radio communications shall be exchanged with the Regional Remote Control Centre in Copenhagen (RFC Kh). GSM-R radio shall be used. The language of the radio communication must be Danish or Swedish. Danish names of railway objects are to be used in Danish systems. For safety communication, a special glossary has been developed for cross-border rail traffic. The dictionary is available on Øresundsbro Konsortiet's [website](#).

2.4.2 Sweden

The Swedish Timetable applies to the Swedish part of the section between 18.235 km and 29.795 km. The line is described in the Swedish Line Book.

Temporary speed restrictions are announced in "Körorder". The driver must retrieve driving orders from a terminal before the journey commences or alternatively in the manner specified by the Swedish Transport Administration.

Permissible types of vehicle movements when crossing the border between the Swedish and Danish systems are:

- Train: maximum permissible speed is 200 km/h.
- Shunting speed limit is 30 km/h.

All radio communications shall be exchanged with TRV-TC in Malmö. GSM-R radio shall be used. The language of the radio communication shall be Swedish or Danish and Swedish words for railway objects shall be used on the Swedish system section. A separate glossary for cross-border rail traffic has been produced for safety communications. The glossary is available on Øresundsbro Konsortiet's [website](#).

2.5 Exceptional transports

Exceptional transports are transports that exceed the norms specified in section 3 of this document. Transport permits for exceptional transports are issued by Banedanmark for the Danish part of Øresundsbro Konsortiet's railway and by the Swedish Transport Administration for the Swedish part.

2.6 Dangerous goods

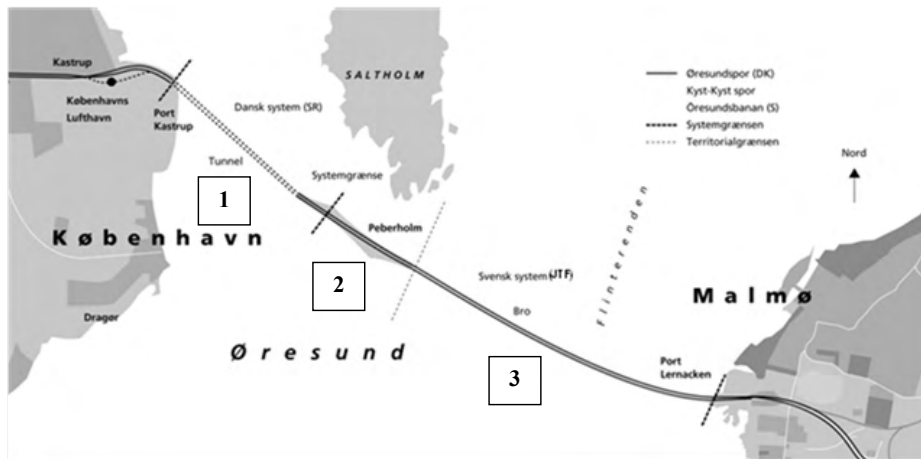
The responsibility for dangerous goods transported by train is on the sender, loader, unloader, recipient and carrier, as provided by COTIF, appendix RID. Particular attention shall be paid to the requirements of the Transport, Building and Housing Authority requirement BJ no. BJ 5-070.001-2017 (Provisions on the transport of explosives in the railway tunnels on Storebælt and Øresund) regarding the quantity limit for explosives in relation to the RID subclasses, 1.1, 1.2, 1.3, 1.5 or 1.6 to a maximum of 1 tonne. The railway undertaking is responsible for transport signage according to the current safety scheme, etc.

2.7 Approval process for vehicles

The railway undertaking that wishes to operate on Øresundsbro Konsortiet railway infrastructure shall only do so with rolling stock that meets the technical minimum requirements and is approved by the Danish and Swedish safety authorities.

The purpose of the requirement that vehicles shall meet the technical minimum requirements is based on the fact that Øresundsbro Konsortiet's overriding objective is to provide a safe and reliable communication link between Denmark and Sweden, a link that is characterised by openness and simplicity. In order to achieve this overriding objective, the rolling stock that operates on the link must be so designed that it cannot cause damage or inconvenience to either Øresundsbro Konsortiet or the railway undertakings that operate on the link.

Øresundsbro Konsortiet is the infrastructure manager for the section between Kastrup (km 12.854) and Lernacken (km 29.795) according to Danish longitudinal measurement. It shall be noted that the infrastructure contains both Swedish and Danish technical infrastructure.



Area division:

1. Danish railway technical system part located in Denmark.
2. Swedish railway technical system part located in Denmark.
3. Swedish railway technical system part located in Sweden.

2.7.1 Denmark

Rolling stock such as locomotives, trains, passenger carriages, freight wagons, work vehicles must not be taken into service until the Danish Transport, Building and Housing Authority has issued an authorisation in accordance with the Danish Railway Act and Executive Order no. 653 of 8 May 2015 on the Approval of Railway Vehicles. Information on procedures relating to authorisation for rolling stock can be found on the Transport Authority [website](#).

Work equipment/tools, and other machinery, driven at a speed of less than 20 km/h, which are used in a track shut off for work (A-protection, track shut-off) must be authorised by Øresundsbro Konsortiet before the vehicle is put on the track.

2.7.2 Sweden

Rolling stock such as locomotives, trains, passenger carriages, freight wagons, work vehicles must not be taken into service until the Swedish Transport Agency has issued an approval for the subsystem in accordance with the Swedish Transport Agency regulations on approval of railway subsystems (TSFS 2010:116).

For a subsystem not covered by the EU Technical Specifications for Operational Compatibility (TSD), the approval process is handled by the Swedish Transport Agency. There are exceptions from the requirement for approval. The document governing vehicle approval can be found on the Swedish Transport Agency's [website](#).

Work equipment/tools, and other machinery, driven at a speed of less than 20 km/h, which are used in a track shut off for work (A-protection, track shut-off) must be authorised by Øresundsbro Konsortiet before the vehicle is put on the track.

2.7.3 Test run

Anyone wishing to conduct a test run must have a traffic agreement with Øresundsbro Konsortiet.

In order to conduct technical test runs on Øresundsbro Konsortiet's rail network located in Danish territory, it is required that the Danish Transport Authority and the Swedish Transport Agency have issued temporary approval for a technical test run. After this, Øresundsbro Konsortiet can approve a technical test run on the Danish section of the

Øresund link. If the technical test run refers to a test of mobile ATC STM/STM emissions, a special dispensation shall be given from Øresundsbro Konsortiet's Traffic Safety Regulations (TF).

When applying for exemption from Øresundsbro Konsortiet's safety instructions, safety procedures and agreements, which do not require the approval of the safety authorities, the application shall be received by Øresundsbro Konsortiet no later than one week before the exemption shall be applied.

When applying for exemption from Øresundsbro Konsortiet's safety regulations that require approval from the safety authorities in Denmark and/or Sweden, the application must be submitted to Øresundsbro Konsortiet far enough in advance for Øresundsbro Konsortiet to carry out the permit process and thus also comply with the requirements in accordance with Commission Implementing Regulation (EU) No 402/2013 of 30 April 2013 on the common safety method for risk evaluation and assessment and repealing Regulation (EC) No 352/2009.

The application form is available on Øresundsbro Konsortiet's website and the application shall be sent to railway@oresundsbron.com.

2.8 Conditions for approval of safety personnel

Procedures for training personnel with duties relevant to safety are tried by the Danish Transport, Building and Housing Authority in Denmark and the Swedish Transport Agency. Øresundsbro Konsortiet has drawn up special rules for the personnel serving on passenger trains. Rules for staff training are set out in Øresundsbro Konsortiet's procedure for training and instruction ([SP 03 7-01](#)).

3. Infrastructure

3.1 Introduction

According to the Swedish Railway Act (2004:519), an infrastructure manager's description of the rail network that the manager controls shall include information on the accessible infrastructure. This part of the railway network statement describes Øresundsbros Konsortiet's accessible infrastructure in Sweden and Denmark. The infrastructure is not fully TSD INF compatible but the TSD can be used as a reference to the appropriate extent.

3.2 Extent of network

3.2.1 Limits

Øresundsbros Konsortiet's railway section borders west to the Banedanmark administrative boundary at 12.854 km and east to the Swedish Transport Administration boundary at 29.795 km. The longitudinal measurement is a continuation of Banedanmark's length measurement and it starts from Copenhagen Central Station.

3.3 Network description

3.3.1 Geographic identification

The railway section managed by Øresundsbros Konsortiet is located between Copenhagen Airport Kastrup (12.854 km) and the Swedish station (operating site) Lernacken (29.795 km or 281+810 in the TrV system).

The section is divided into a Danish part between Copenhagen Airport Kastrup and the system border (18.235 km) and a Swedish part between the system border and Lernacken. The system boundary is the boundary between the Swedish and Danish traffic management areas, catenary control, signalling systems and radio systems. The boundary between the different catenary systems is located at Lernacken. Summary drawings are given in appendices 5–13. The railway line is dual-tracked in its entirety and is standard gauge 1435 mm. A tunnel/bridge crossover station Peberholm (Phm) is located at 19.140 km. Within the operating location there is no exchange of goods or passengers.

3.3.2 Capabilities

3.3.2.1 Loading gauge

Øresundsbros Konsortiet's Railway can be operated with vehicles that comply with loading gauge A, UIC GC, and P/C450, according to UIC 506 (see appendix 4).

3.3.2.2 Weight limits

Maximum permitted axle load (STAX) is 22.5 tonnes at 200 km/h and 25.0 tonnes at 120 km/h.

The maximum permitted standard metric weight (STMV) is 8.3 tonne/m

The maximum permitted train weight is for 1 EG locomotive 2120 tonnes and for 2 EG locomotives 2600 tonnes.

The maximum permitted train weight for exceptional transports is 4000 tonnes.

3.3.2.3 Line gradients

The maximum slope along the section is 15.6 permille This incline is found on the slope in and out of the tunnel as well as towards the bridge from the tunnel. See the slope diagram in appendix 11.

3.3.2.4 Line speeds

On the Swedish part between 18.235 km and 29.795 km, the maximum speed is 200 km/h.

On the Danish part between 12.854 km and 18.235 km, the maximum speed is 180 km/h.

These speeds apply on the assumption that the journey meets the conditions of TF and SR

and that the running dynamics of the vehicles comply with EN 14 363:2012 or UIC 518:2009.

3.3.2.5 Maximum train length

Normal train length in the Danish technical system section is 835 m.

Normal train length in the Swedish technical system section is 730 m.

The maximum authorised train length for exceptional transport is 1000 m.

3.3.2.6 Power supply

The catenary system is powered by AC 25 kV 50 Hz.

Catenary height is 5330 mm for the major part of the section.

3.3.2.7 Rail and superstructure (wheel-rail interface)

The track is built to UIC60 profile on 60 kg concrete sleepers with Fastclips fastenings.

Calculations of equivalent conicity shall be based on EN 15 302.

3.3.2.8 Traffic capacity

Capacity used is estimated at less than 60 % of available capacity per day and per two-hour period.

3.3.3 Traffic control and communication systems

3.3.3.1 Traffic control system

The traffic is monitored and operated by central traffic controllers. The section between Copenhagen Airport Kastrup station (12.854 km) and the Danish system boundary (18.235 km) is monitored by the traffic management in the Regional Remote Control Centre in Copenhagen (RFC Kh). The Swedish section between the system boundary and the station (operating site) Lernacken (29.795 km or 281+810 in the Swedish Transport Administration's system) is supervised by the Swedish Transport Administration's Traffic Control Centre in Malmö (TRV-TC M).

The section between Copenhagen Airport Kastrup Station and Peberholm Station is equipped with Danish line block and axle counter system. Peberholm station is equipped with Swedish signals. The section between Peberholm Station and the Lernacken operating site is equipped with Swedish line blocks and track circuits.

3.3.3.2 Communication system

The GSM-R radio system is used between 12.812 km and 29.795 km. System change between Danish and Swedish GSM-R takes place on the line between Tårnby and Copenhagen Airport Kastrup, which is outside Øresundsbro Konsortiet's infrastructure.

Additional features in addition to the general GSM system in use are call prioritisation, railway emergency call, group call, call train number and automatic call control.

3.3.3.3 ATC Train Protection System

The Swedish part of the section between 18.235 km and 29.795 km is equipped with Swedish ATC EBICAB 700. The Danish part of the section between 12.854 km and 18.235 km is equipped with Danish ATC ZUB 123. The vehicle must be equipped with both EBICAB 700 and ZUB 123 systems. The systems must be connected via an ATC-bus and a system selection panel. ATC systems must use software versions that can handle the automatic system override when the train crosses the system boundary. Both systems shall be active.

The Danish-Swedish ATC system change boundary also handles vehicles equipped with ETCS and STM, for Danish and Swedish ATC systems. This feature is a preparation for a

change on the Danish and Swedish sides to the ERTMS signalling system. The STM switch zone is adjacent to the ATC system change boundary.

3.3.3.4 Detection of hot box, dragging brakes, and derailment

The Øresund link is protected by defect detectors for hot box, dragging brakes, and derailment from both sides of the link. Detectors are located in part on Banedanmark's infrastructure and in part on the Swedish Transport Administration's infrastructure. The detectors' location, performance and detection requirements are reported by the respective infrastructure managers. In order to cross the link, the rolling stock is required to comply with technical requirements for detection to be possible.

3.4 Traffic restrictions

3.4.1 Dangerous goods

In general, when running freight trains with dangerous goods on the Danish section of the Øresund tunnel, there are no other trains allowed on the same track in the tunnel.

Freight trains carrying wagons loaded with goods bearing the RID Class 1 and RID sub-classes 1.5 or 1.6 must not be in the Øresund tunnel while there are other trains in the tunnel.

Wagons operating through the Øresund tunnel that are loaded with explosive goods class 1 may only be loaded with 1000 kg of explosive material per wagon.

3.4.2 Environmental restrictions

Unlimited diesel operation is not allowed on the section between Copenhagen Airport Kastrup and Lernacken. Special permission for driving diesel trains is required. It is a requirement that emissions from diesel trains meet Euro II and Euro III standards.

Further information can be obtained by contacting:

Øresundsbro Konsortiet
Jernbaneafdelingen
Vester Søgade 10
DK-1601 København V
E-mail: railway@oresundsbron.com

3.4.3 Tunnel restrictions

There are certain restrictions on driving with diesel in the Øresund tunnel. In addition, passenger trains shall meet certain conditions. Authorisation for passenger carriage in tunnels shall be stated in the vehicle's "commissioning permit from the Transport, Building and Housing Authority."

For further information, see Øresundsbro Konsortiets's Traffic Safety Regulations (TF) and Banedanmark's SR, SIN and traffic messages.

3.4.4 High wind speeds

In connection with high wind speeds, restrictions on rail traffic may occur. The aim of the restrictions is to ensure that any evacuation/rescue effort shall be carried out according to plan, and to prevent parts of the load being blown from freight wagons.

The following restrictions apply to different wind speeds:

Level	Measured wind speed	Traffic restrictions		
		Freight trains	Other trains, electric traction	Other trains, diesel traction
1	Over 18 m/s actual <i>or</i> 12 m/s effective wind	None	None	None
2	Over 21 m/s actual <i>or</i> 15 m/s effective wind	Max 80 km/h	None	None
3	Over 24 m/s actual <i>or</i> 20 m/s effective wind	Traffic cancelled	None	None
4	Over 27 m/s actual wind		Traffic cancelled	Traffic cancelled

Weather conditions affecting rail traffic on the link, such as swaying catenary lines due to high winds, are notified by train drivers to RFC Kh/TRV-TC M. Decisions about restrictions are made in consultation between TRV-TC M and RFC Kh.

3.5 Infrastructure accessibility

Periodic maintenance is planned annually and is reported in a maintenance plan (see appendix 3.2). Periodic maintenance is performed at night as much as possible as this is when there is less traffic. In such work, single-track operation often occurs on all or parts of the facility. Speed reduction may also occur. Information on traffic restrictions in connection with periodic maintenance can be obtained from Øresundsbro Konsortiet. In case of emergency malfunction, parts of the infrastructure can be closed at short notice. Information about this is provided by RFC Kh and TRV-TC M.

3.6 Maintenance and service facilities

Railway undertakings are responsible for the transport of wrecked trains and equipment for the salvaging of derailed vehicles. The railway undertakings shall describe how they will use auxiliary trains or salvage equipment. Clearance is to be undertaken as soon as possible. If clearance does not occur, Øresundsbro Konsortiet (Banedanmark or the Swedish Transport Administration) can implement this, however the railway undertaking shall be liable for such an effort.

The nearest Swedish carriage shed is located in Malmö and the nearest Danish carriage shed is located in Copenhagen Airport Kastrup.

4. Capacity allocation

4.1 Introduction

The following section describes the rules and processes for allocation of capacity on the Øresund link. In order to operate the link, it is required that railway undertakings have taken note of Banedanmark's and Swedish Transport Administration's network statements, which are available on the respective websites. Their statements also contain forms and detailed descriptions for each country's handling of allocation of capacity issues, etc.

4.1.1 Banedanmark and the Swedish Transport Administration's implementation of the task

Because the railway does not constitute a technical and commercial whole but is, instead, an integrated part of the national rail systems, Øresundsbros Konsortiet has reached an agreement with Banedanmark for the Danish system part of the link and with the Swedish Transport Administration for the Swedish system part of the link. This agreement provides for the management of capacity allocation on the railway between Lernacken and Copenhagen Airport Kastrup on behalf of Øresundsbros Konsortiet. Øresundsbros Konsortiet is responsible for allocating capacity, while Banedanmark and the Swedish Transport Administration are contracted to allocate capacity on their respective sections of the railway. The task includes all the preparations required for the allocation of capacity.

Capacity allocation shall be in accordance with the overall objective of promoting safe, effective and efficient rail traffic between Sweden and Denmark. Within the framework of this overall objective and the applicable legislation, Banedanmark and the Swedish Transport Administration shall ensure an appropriate balance between local/transit traffic, passenger/freight traffic and east/west traffic.

Capacity allocation shall be conducted in a competitively neutral and non-discriminatory manner within the framework of Danish and Swedish legislation on track capacity, and in compliance with any applicable legislation in force. Allocation shall be characterised by full transparency, objectivity and neutrality.

When allocating capacity, Øresundsbros Konsortiet shall, at all times, comply with applicable regulations regarding safety, rolling stock, diesel traffic, dangerous goods and other aspects. It is the responsibility of Øresundsbros Konsortiet to keep all parties informed continuously on Øresundsbros Konsortiet's current regulations for rail traffic.

Capacity allocation shall take into account the needs of Øresundsbros Konsortiet to continuously maintain the railway. It is the responsibility of Øresundsbros Konsortiet to keep Banedanmark and the Swedish Transport Administration informed about the planned maintenance activities of Øresundsbros Konsortiet.

As part of the allocation of capacity, Banedanmark and the Swedish Transport Administration are required to provide necessary information to the railway undertakings regarding, among other things, service schedule, TIB, LA instructions, timetable book and graphical timetable or documents that replace or complement these.

Banedanmark and the Swedish Transport Administration shall handle complaints and demands from railway undertakings attributable to capacity allocation on their respective sections of the railway. If Banedanmark and the Swedish Transport Administration and the railway undertakings do not succeed in resolving disputes through consultation, the matter shall be referred to Øresundsbros Konsortiet for a ruling.

4.1.2 Coordination of capacity allocation

With particular regard to the cross-border nature of the railway and the need to offer a technical and commercial whole, Banedanmark and the Swedish Transport Administration have undertaken to continuously coordinate their remit under this agreement with the other party. Banedanmark and the Swedish Transport Administration also acknowledge that their organisations shall work in all respects to facilitate effective coordination with the aim of creating efficient and appropriate rail transport across Øresund.

The obligation to identify coordination aspects is the responsibility of Banedanmark and the Swedish Transport Administration respectively, with Banedanmark as the overall coordinator responsible for ensuring that coordination is initiated and methodical and that coordination aspects are regularly monitored. The definition of coordination responsibility is as follows:

Øresundsbros Konsortiet has agreed with Banedanmark and the Swedish Transport Administration that Øresundsbros Konsortiet does not have overall coordination responsibility and that this is regulated by special agreements. Øresundsbros Konsortiet, however, is prepared to rule at any time on disagreements in matters relating to the commission-based relationship or on other matters for which Øresundsbros Konsortiet is responsible.

Banedanmark and the Swedish Transport Administration, by agreement, may represent Øresundsbros Konsortiet in the forum for coordinating international timetables (RNE).

4.2 Description of process

The application for train path shall be addressed to either Banedanmark or the Swedish Transport Administration. Banedanmark and the Swedish Transport Administration receive and register the application for a train path. Applications that are submitted to Øresundsbros Konsortiet shall be forwarded as soon as possible and no later than within two working days to Banedanmark and the Swedish Transport Administration or other infrastructure managers that may be affected. Banedanmark and the Swedish Transport Administration provide Øresundsbros Konsortiet with continuous information on applications and timetable proposals presented during the train scheduling process.

An applicant is assigned capacity with a regard to the applicant running rail traffic as well as the operation and maintenance of the infrastructure. Allocation takes place every year based on specific capacity applications. Rail work equates to a capacity application from a railway undertaking or applicant.

In addition, capacity is allocated for occasional traffic on an ad hoc basis.

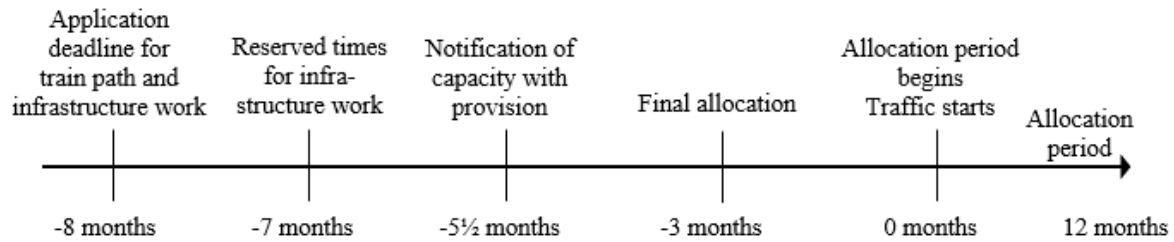
Railway undertakings applying for capacity shall use the common European planning system Path Coordination System (PCS), formerly known as Pathfinder. More about this can be found on the RailNetEurope [website](#).

4.3 Schedule for path requests and allocation process

The allocation process is performed in accordance with the respective Banedanmark and Swedish Transport Administration network statements.

4.3.1 Schedule for working timetable

Allocation of capacity on Øresundsbros Konsortiet infrastructure follows the procedure described below with the stated deadlines:



Based on applications that arrive 8 months before the allocation period begins, Banedanmark/the Swedish Transport Administration (Øresundsbros Konsortiet) shall decide on the allocation of paths.

Øresundsbros Konsortiet announces its overall need for work-related shutdowns. Total shutdowns of less than 56 hours are applied for eight months before the capacity allocation period starts for infrastructure work, subject to the incoming capacity applications.

Banedanmark/the Swedish Transport Administration (Øresundsbros Konsortiet) assign conditions/provisions at least 5½ months before the allocation period begins.

The final capacity allocation is announced no later than 3 months before the allocation period commences.

4.3.2 Ad-hoc allocation process

Applications for access services and other track work that are submitted after the "date of application for access services, international" are handled in an ad hoc allocation process. However, ad hoc applications are handled differently depending on when they arrive in relation to the various process steps.

4.4 Allocation process

At the closing date for application for access services, internationally and nationally, the allocation process for the one-year train plan begins with Banedanmark and the Swedish Transport Administration presenting a Proposal for train plan. The Proposal for train plan forms the basis for the RailNetEurope (RNE) process steps taken to determine border crossing times for international traffic. A timetable technical conference in collaboration with RNE is held each year, after which applicants receive the Proposal for train plan, which includes capacity allocation as well as border crossing times for international traffic. After this, a comment and coordination period for the cross-border traffic's border crossing times begins and runs until the beginning of August. The border crossing times are decided in consultation between Banedanmark and the Swedish Transport Administration after coordination between the infrastructure managers. The decision period includes a two-week period for the decision to be notified to the applicants for coordination of all border crossings. RNE's decision forms the basis for the continued national allocation process.

When the Proposal for train plan is being prepared, Banedanmark and/or the Swedish Transport Administration may contact the applicants for working meetings as part of the process of drafting the proposal. When the Proposal for train plan has been sent to the applicants concerned, they have a month to comment on the proposal. If the comments include the need for changes, the process step coordination is initiated, which is described below. If the comments do not contain any need for changes, the train plan can be finalised. In the Proposal for train plan, Banedanmark and/or the Swedish Transport Administration report on how the planning of the railway works looks and what measures are proposed for access services that conflict with the work of the railways. See appendix 3.1 for timetable.

Øresundsbros Konsortiet establishes the train plan for Øresundsbros Konsortiet's rail network at the same time as Banedanmark and the Swedish Transport Administration decide on the train plan/timetable for their respective railway facilities.

4.4.1 Coordination process

Coordination aims to balance the needs of the applicants and the needs of Øresundsbros Konsortiet for time to maintain the infrastructure, in order to establish a train plan without conflicts of interest. During the coordination Banedanmark and/or the Swedish Transport Administration can contact the applicants or invite them to coordination meetings. If a conflict of interest does not appear to be able to be resolved, applicants may request conflict resolution at a given time within the coordination. If there are no conflicts of interest, this process step is not undertaken. If a potential conflict of interest is resolved in this process step, the train plan can be determined. See appendix 3.1 for timetable.

4.4.2 Dispute resolution process

If a conflict of interest does not appear to be resolved during the coordination process, the applicants affected by the conflict of interest may request a conflict resolution at a specified time that applies to all conflict resolution. When requesting conflict resolution, the applicant is, at the same time, to submit to Banedanmark or the Swedish Transport Administration a description of the conflict of interest, an impact assessment concerning the production of the access service and a justification for why the solutions proposed in the coordination are not acceptable. Along with a request for conflict resolution, applicants may also submit new proposals for solutions to the conflict of interest. After the requested conflict resolution, Øresundsbros Konsortiet calls the parties involved to a conflict resolution council where Øresundsbros Konsortiet reports on which solution has been chosen and which options have been discarded and the reasons for this. If the applicants do not accept the solution as reported, coordination continues. If there are no conflicts of interest, this process is not carried out. If a potential conflict of interest is resolved in this process, the train plan can be finalised.

4.4.3 Congested infrastructure

If there are still conflicts of interest that remain unresolved after coordination, Øresundsbros Konsortiet shall declare the affected part of the infrastructure to be congested. Øresundsbros Konsortiet notifies the applicant of the decision and publishes it on its [website](#). The decision shall contain information on the part of the infrastructure affected by a conflict of interest, during what times, the parties concerned, whether conflict resolution has occurred, and the reason why the conflict of interest could not be resolved. The decision that a track is declared congested allows Øresundsbros Konsortiet to unilaterally settle the conflict of interest by applying priority criteria for allocating capacity to applicants affected by the conflict of interest. If the track is declared congested, a capacity analysis and a capacity enhancement plan is to be prepared.

In the allocation process for the 2022 train plan, as regards Swedish territory, Øresundsbros Konsortiet does not intend to take advantage of the possibility of giving preference to those paying an additional fee on a congested part of the infrastructure. For Danish territory, this is a matter for the Transport, Building and Housing Authority to decide. If it is clear that there will be a significant capacity shortage on part of the infrastructure, Øresundsbros Konsortiet can report that this part of the infrastructure is congested before the coordination begins. So far, Øresundsbros Konsortiet has not declared that any part of the track is congested due to an apparent significant capacity shortage. If a conflict of interest between train paths and other track work leads to a track being congested, Øresundsbros Konsortiet shall allocate capacity for the track work where it is deemed to be most favourable to traffic and for the implementation of the track work to be possible. In such cases, the allocation of capacity shall be justified in writing and the proposed solution, such as diversion of

trains, shall be presented to the applicant. Øresundsbros Konsortiet may, however, choose to postpone track work to another time period or train plan in instances where the consequences for traffic as a result of a conflict of interest are deemed to be of such a nature.

4.4.4 Capacity analysis

No later than six months after the infrastructure has been declared congested, Øresundsbros Konsortiet shall publish a capacity analysis on Øresundsbros Konsortiet's [website](#).

The capacity analysis shall be carried out based on the congested infrastructure decision.

The capacity analysis states:

- the cause of the congestion
- proposal for ways to fix the congested infrastructure
- proposal for action in the short term (up to one year) and long term (up to three years).

4.4.5 Capacity enhancement plan

Within six months after a capacity analysis under section 4.4.4, Øresundsbros Konsortiet publishes a capacity enhancement plan on Øresundsbros Konsortiet's [website](#). The plan is drawn up after consultation with those using the congested infrastructure and indicates:

- the cause of congestion
- probable future traffic development
- obstacles to infrastructure development
- options and costs for capacity enhancement.

The capacity enhancement plan also includes a cost-benefit analysis of possible actions, an indication of the actions the infrastructure manager intends to take based on this analysis and a timetable for this work. The timetable reported in the capacity enhancement plan extends up to a maximum of three years. Measures analysed and proposed in the capacity enhancement plan may include, for example, infrastructure measures, timetable adjustments or measures related to the railway undertakings' vehicles and freight wagons. If there is an established capacity enhancement plan for the congested infrastructure and this plan is in the process of being implemented, no new capacity analysis or capacity enhancement plan is prepared.

4.5 Allocation of capacity for maintenance work and other track work

Planned major track work will have been the subject of consultation prior to the publication of the railway network statement, and this type of track work forms part of the requirements for, for example, accessibility and speed on the track in the allocation process. All capacity-related applications must be adapted to the planned major track work found in the engineering works plan (BAP) (see appendix 3.2). This could, for example, mean that an applicant applies for a traffic diversion path for planned major track work performed on a track with single track operation. In order to reduce traffic impact, Øresundsbros Konsortiet can, without affecting the total time required for the track work, bring forward or postpone the starting time specified in BAP. In order to select the works to be included in the railway network statement, Øresundsbros Konsortiet uses the following model for the criteria for planned major track works.

Class	Type of rail work	Shown in
1	Øresundsbro Konsortiet's requirement for planned <i>major track work</i> involving capacity reduction is given under this heading. "Major" track work involving closed track for extended periods of time.	<i>Railway Network Statement</i>
2	Track work of a continuous nature that must be implemented to manage the infrastructure.	Øresundsbro Konsortiet's proposal for times according to appendix 3.1-2, alternatively Railway network statement 4.5.2 Infrastructure work.
3	Minor work with traffic impact.	In collaboration with Banedanmark, Swedish Transport Administration.
4	Emergency repairs	Remedial work occurs as needed in consultation with the Danish and Swedish traffic management function.

4.5.1 Definitions

Infrastructure work: Any work that may affect railway undertakings' traffic flow or reduce the available capacity.

Infrastructure data: The data necessary for railway undertakings to design transport requests for Banedanmark and the Swedish Transport Administration (Øresundsbro Konsortiet) capacity planning.

Train-free intervals: Shutdown of tracks in the period when two trains pass. Train-free interval shutdowns do not affect punctuality and do not result in amendments to the timetable. The purpose of the train-free interval shutdown is to ensure access to the track in short periods of time with a minimum of pre-planning of work.

Track shutdowns: (Excluding shutdowns that incorporate system and interval shutdowns.) Shutdowns that are caused by corrective actions in the timetable. Adjustment of trains may occur. The purpose of suspending the track is to secure access to the track for necessary infrastructure work, where trains will be affected.

System shutdowns: System shutdowns are shutdowns of tracks typically in the evening and at night during, but not limited to, the period from 22:00 to 05:00, which allows for minor infrastructure work to be planned and implemented as far as possible without traffic impact in relation to agreed hubs in the timetable. That is, so that the timetable can be maintained at the hubs, but not necessarily at stations in between.

4.5.2 Infrastructure work

Øresundsbro Konsortiet plans and implements the work within Øresundsbro Konsortiet's current railway network statement. It is the responsibility of Banedanmark and the Swedish Transport Administration, on behalf of Øresundsbro Konsortiet, to notify the railway undertaking of planned infrastructure work. In the event of extensive traffic disruption that coincides with planned infrastructure work, Banedanmark and the Swedish Transport Administration shall invite Øresundsbro Konsortiet for a discussion on traffic flow. Øresundsbro Konsortiet is then prepared to postpone or call off the infrastructure work. Banedanmark and the Swedish Transport Administration cannot postpone or call off infrastructure work without Øresundsbro Konsortiet's acceptance.

4.5.3 Priority in planning work/track closures for infrastructure work

When planning infrastructure work, it can often happen that reliability/robustness has to be balanced against available capacity. It has been agreed between Øresundsbro Konsortiet

through Banedanmark with the railway undertakings to prioritise the reliability of infrastructure work and planning. Reliability includes both that notification deadlines in the planning process are complied with, so that passengers and freight customers can get reliable information about which trains will run and so on, and that the actual infrastructure work is planned to be robust in performance, with high punctuality and start-up and completion of infrastructure work according to the agreed upon time.

4.5.4 Notification deadlines

Banedanmark and the Swedish Transport Administration give notice to railway undertakings about infrastructure work. The below mentioned notification deadlines apply to the planning of infrastructure work involving exclusive infrastructure work comprising system and interval shutdowns. System and interval shutdowns require no notification from Banedanmark and the Swedish Transport Administration to the railway undertakings. Additional definition of system and interval shutdowns can be found in the section "Definitions" above.

Banedanmark and the Swedish Transport Administration are not required to report infrastructure work to repair faults and deficiencies. Faults are defined in this context as situations where the event originates from a technical fault, accident or damage, as well as special weather and natural conditions that cause (or may cause) malfunctions and/or safety consequences.

As a result of standards-based inspection, so-called monthly notifications are issued that shall be remedied within 3 months of notification. Such infrastructure work is exempt from N-4 months' notice, even if the length of the infrastructure work provides for this notice. Infrastructure work will instead be planned through dialogue between the interested parties.

Notification deadlines are set out in the table below:

	Notification X-12 months.* ¹	Notification X-4 months.* ¹
Media	Railway network statement	LA-letter, BUP/BAP
Infrastructure work with a duration of >56 consecutive hours	For all infrastructure work provide: 1. TIB/BAP/BUP no. 2. Demarcation station/operational location with reversed signals. * ³ 3. Approx. duration (number of days). 4. If the infrastructure work is in a holiday period or on a public holiday. * ³ 5. Start beginning/middle/end of summer vacation. 6. Overall shutdown configuration (closes one or more tracks total shutdown, etc.).	For all infrastructure work provide: 1. Exact location. 2. Exact date of start and end. 3. Exact time of start and end. 4. Finally, traffic consequences (driveability) with respect to infrastructure works.
Infrastructure work with a duration ≤56 consecutive hours, but not part of system and interval shutdowns	No information is provided.	For all infrastructure work state: 1. Exact location 2. Exact date of start and end 3. Exact time of start and end 4. Finally, traffic consequences (driveability) with respect to infrastructure works.
System shutdowns	No information is provided.	No information is provided.
Train-free intervals	No information is provided.	No information is provided.

All dates are counted from the first day of the week when the infrastructure work begins. One week is defined as starting Monday at 00:01.

^{*1}X denotes the date of the timetable's start (Sunday after the second Saturday in December)

^{*2}N denotes the date of the first day of the week when the infrastructure work starts (Monday 00:01 continuous).

^{*3}The public holiday and summer period shall be defined in collaboration with Banedanmark, the Swedish Transport Administration and railway undertakings.

Øresundsbros Konsortiet shall notify Banedanmark and the Swedish Transport Administration about the status of project work or otherwise provide information about the status of major infrastructure work covered by X-12 and N-4 months work. Banedanmark and the Swedish Transport Administration shall notify railway companies about Øresundsbros Konsortiet's needs for times on tracks for infrastructure work.

When infrastructure work is notified to railway undertakings in relation to the above table, the railway undertaking does not have the right of disposition to timetable locations for the scheduled work period, even though the railway undertaking has been allocated the paths in the path allocation for the timetable period.

In the case where the railway undertakings have a request which requires implementation in the current timetable period, Øresundsbros Konsortiet is, on principle, open to such a request.

The planning is carried out in close cooperation between Banedanmark, the Swedish Transport Administration, railway undertakings and Øresundsbros Konsortiet with regard to traffic impact. Infrastructure projects in response to the railway undertaking shall be notified by Banedanmark and Swedish Transport Administration to other railway undertakings affected by the work, according to notice periods in the table above. Separate agreements are entered into for every infrastructure work.

4.5.5 Use of the liquidity principle

In order to optimise the planning and use of the shut down track, notified shutdowns at X-12 months are liquid up to N-4 months. Øresundsbros Konsortiet therefore has the option to "exchange" a notified shutdown to an alternative track shutdown. This can only be done if the following is calculated by X-12 months.

- Total service for end customer (passenger and freight customers), defined as the number of paths that are not unsafe.
- Financially: that overall impact on the railway undertaking does not increase. (Planning costs will not be included in the overall financial impact.)

When the liquidity principle is used, the railway undertakings are obliged to present the "business case", where the original budgeted track shutdown coheres with the desired change. The liquidity principle is not a general planning principle but can be used on occasions when reprioritisations of projects are necessary.

4.5.6 Concept for interval shutdowns

The timetable has taken account of the planning of interval shutdowns. Interval shutdowns are shutdowns of tracks during evening and night hours, i.e. typically (but not limited to) the hours of 22:00 – 05:00, which allows for minor infrastructure work to be planned and to be carried out as far as possible without affecting traffic according to agreed upon hubs

in the timetable. This is achieved by adding amendments to the timetable that absorb any delays from the infrastructure work before arrival at the defined hub.

4.5.7 Management by objectives

Øresundsbro Konsortiet continuously measures the utilisation rate of infrastructure work and aims to use these times as efficiently as possible. Therefore, Øresundsbro Konsortiet has set up Key Performance Indicators (KPI) in agreement with its maintenance contractors.

4.6 Non-usage / Cancellation rules

If allocated capacity following allocation is not used, Banedanmark and the Swedish Transport Administration are to be informed immediately that the capacity is therefore available for other use. Applicants assigned capacity but not utilising it to the extent required shall, at Banedanmark and the Swedish Transport Administration's request, relinquish the capacity. However, this does not apply if the lack of utilisation is due to non-economic factors and is beyond the control of the capacity holder. These rules ensure that the track is used in practice. If allocated capacity has not been used, this may be considered in a subsequent allocation of train paths.

4.7 Exceptional transports and dangerous goods

4.7.1 Train path with exceptional transport

Application for train paths for exceptional transport is made according to Banedanmark and the Swedish Transport Administration's requirements. The decision on the conditions of transport shall be attached to the train path application. Based on this application, Banedanmark and the Swedish Transport Administration decide on the capacity for an exceptional transport. The decision usually contains a requirement for a call-off order within a certain period of time before the exceptional transport can be carried out. The train path for exceptional transport is determined in the allocation process in accordance with the conditions of transport.

4.7.2 Train path with dangerous goods

If the train path includes dangerous goods, this must be notified when applying for the train path. Dangerous goods transports must be reported to Banedanmark and the Swedish Transport Administration.

4.8 Special measures in case of disruptions

4.8.1 Principles

Operational guidelines are issued for each train plan. Capacity allocation for unforeseen events, such as railway accidents or other damage to the infrastructure, is decided on a case-by-case basis by Banedanmark, the Swedish Transport Administration and Øresundsbro Konsortiet. To minimise the consequences and promptly restore the capacity of a damaged track section, there are special procedures for accident management.

In case of accident or breakdown, rescue will come from the Danish and Swedish rescue services. Øresundsbro Konsortiet is responsible for clearance and the railway undertaking is responsible for salvage. It is the responsibility of railway undertakings to demonstrate to Banedanmark, the Swedish Transport Administration (Øresundsbro Konsortiet) the resources required for salvage, or to conclude a salvage agreement with another party before re-commencement of traffic.

4.8.2 Operational regulation

Trains departing and running according to their timetable are prioritised according to their schedule. The reason for this rule is that punctual trains will not be disrupted by trains that are delayed or premature in relation to their timetables. Exceptions can be made to this rule as follows. If the consequences of a disruption would be particularly difficult for some trains, an applicant may submit a request that such trains are given priority over other (punctual) trains with the same applicant. Applicants may also agree with each other that certain punctual trains may be assigned lower priority than individual particularly important trains of another applicant. Such agreements shall be reported in writing to Banedanmark and the Swedish Transport Administration (Øresundsbros Konsortiet), which decides on capacity allocation. A request for changed operational priority shall indicate which trains are considered to be particularly sensitive to disruption and the reasons for this (e.g. traffic information, connecting transport, tight vehicle circulation). It must also state which trains the applicant is prepared to give priority to. The request must be submitted to Banedanmark and the Swedish Transport Administration (Øresundsbros Konsortiet) in connection with the application for services. This is because the applicant's request will be taken into account when the guidelines for prioritisation of traffic management are received. Exceptions to the rule of priority for punctual trains can be made if there are special reasons, such as more difficult traffic disruptions, agreed deviations from the timetable or if the traffic situation clearly dictates otherwise. In cases where the rule would lead to unreasonable consequences for traffic as a whole, it shall not be applied. Banedanmark and the Swedish Transport Administration (Øresundsbros Konsortiet) always aim to eliminate traffic disruptions in the smoothest way possible and to restore traffic to the scheduled timetable.

4.8.3 Foreseen problems

Banedanmark and the Swedish Transport Administration (Øresundsbros Konsortiet) shall, before each autumn and winter, prepare contingency plans in consultation with the parties concerned and, in these plans, describe which measures will be planned.

4.8.4 Unforeseen problems

4.8.4.1 Clearance and emergency situations

A railway undertaking is obligated to provide such resources as the infrastructure manager considers most appropriate for restoring the conditions to normal in clearance and emergency situations. This is at the request of the infrastructure manager and in accordance with the parties' agreement. The process of clearing rolling stock and towing of wrecked vehicles within as well as to and from the accident site is conducted by Øresundsbros Konsortiet, or those appointed by Øresundsbros Konsortiet. The accident site is defined as the area limited by the nearest non-affected stations on either side of the accident site to the fixed boundaries that Øresundsbros Konsortiet is responsible for. In the case of vehicle damage, railway undertakings have the right to deal with the clearance of their own vehicles as well as property, upon approval of Øresundsbros Konsortiet. If an agreement cannot be reached, Øresundsbros Konsortiet undertakes the clearance of the railway undertaking's vehicles and property at their expense.

Before the clearance begins, the railway undertaking shall earth its vehicle and ensure that the necessary measures are taken. If the railway undertaking uses a different model of pantograph or vehicle other than those described in the Swedish Transport Administration's Railway network statement 2022, Appendix 2 A, information is to be provided prior to the train's departure. Before clearance, Øresundsbros Konsortiet reserves the right to disassemble the railway undertaking's pantograph. In emergency situations, Øresundsbros Konsortiet may remove the pantograph using the methods that the situation requires. Øresundsbros Konsortiet is not responsible for damage to the pantographs. If the railway under-

taking's vehicle or its pantograph type is not found in the above-mentioned network statement appendix, or otherwise differs from the descriptions given, the railway undertaking is to immediately ensure that its own personnel arrive at the scene of the accident at the request of Banedanmark and/or the Swedish Transport Administration (Øresundsbro Konsortiet). In such cases, such personnel are to perform the earthing work, tying down or disassembly of the pantograph.

4.8.4.2 *Salvage*

After clearance has been completed, the railway undertaking will attend to the recovery of its own vehicle from the site designated by Banedanmark, the Swedish Transport Administration or Øresundsbro Konsortiet. To minimise traffic disruption, it is important that this happens quickly. If salvaging does not take place within a reasonable time, Øresundsbro Konsortiet shall recover the railway undertaking's vehicles and property on behalf of the railway undertaking. Øresundsbro Konsortiet and the railway undertaking can reach agreement that salvaging can begin before clearance has been completed.

4.8.4.3 *Accident management*

Procedures for handling, notifying and collaboration in case of incidents, accidents and disruptions involving accident hazards in rail traffic can be found in Øresundsbro Konsortiet's Safety Instructions, SI 7-02 Accident Management. The safety instruction is available on Øresundsbro Konsortiet's [website](#).

An insert card is a technical description of a railway vehicle intended for rescue service. In connection with the application for a declaration of compatibility/compliance, upon request, technical information about the vehicle shall be submitted to the infrastructure manager as a basis for the insert card.

4.9 **Right of appeal**

As described above, anyone who is dissatisfied with the decision shall contact Banedanmark and/or Swedish Transport Administration respectively in the first instance.

Appeals shall also be sent to:

Øresundsbro Konsortiet
Jernbanedrift
Vester Søgade 10
DK-1601 København V

Or by email to: railway@oresundsbron.com

5. Services

5.1 Introduction

The infrastructure manager must provide a minimum package of services and track access services to the railway undertakings that gain access to the railway infrastructure. In addition, the infrastructure manager may choose to provide certain additional services and ancillary services.

5.1.1 Additional services

Traction current

Øresundsbros Konsortiet provides CO₂ neutral Green electric power for train operation. Banedanmark collects charges for electricity consumption on behalf of Øresundsbros Konsortiet.

5.2 Minimum package of access services

The services to be provided are:

- Handling of infrastructure capacity applications
- Permission to utilise the capacity granted
- Use of switches and transitions in train tracks
- Traffic management including signalling systems, traffic monitoring, train dispatching, and transmission and provision of information about train movements
- All other information that may be required to implement or operate the rail traffic for which capacity has been allocated.

Øresundsbros Konsortiet has reached an agreement with Banedanmark and the Swedish Transport Administration to handle applications for infrastructure capacity and to provide traffic management for Øresundsbros Konsortiet's railway. The above listed services are provided within the Banedanmark and Swedish Transport Administration remits.

5.3 Track access services

The track access services described shall be provided to railway undertakings in a non-discriminatory manner. The following are classified as track access services.

- Power supply equipment for traction current, where there is access to such.
- Train refuelling facilities.
- Passenger stations, including buildings and other facilities.
- Freight terminals.
- Marshalling yards.

Of these services, only the power supply equipment for traction current to trains is available on Øresundsbros Konsortiet's railway. For other rail access services, please refer to Banedanmark and the Swedish Transport Administration.

5.4 Additional services

5.4.1 Traction current

Øresundsbros Konsortiet provides electric power for train operation. Banedanmark collects charges for electricity consumption on behalf of Øresundsbros Konsortiet.

5.4.2 Ancillary services

Øresundsbros Konsortiet can provide ancillary services in the form of assistance for railway personnel in the case of exceptional transport, such as the need for the reset of the axle

counter system when transporting vehicles with a wheel diameter less than 300 mm, shut-down of track when moving FOMUL (fixed objects between the survey section and the loading gauge boundaries) for transport with excess load and the like. Please refer to section 6.3 Charges for ancillary services.

6. Charges

6.1 Essentials

Charges for traffic are set out in the Swedish-Danish Government Agreement of 1991. This determines that Øresundsbros Konsortiet receives a fixed index-linked fee per year from Banedanmark and the Swedish Transport Administration.

Changes in railway charges can thus only be made by governments through the Danish Ministry of Transport and the Swedish Transport Administration.

For diesel trains, Øresundsbros Konsortiet can require an additional diesel charge. The fee is justified by the extra pollution caused by diesel operations in the Øresund tunnel.

6.1.1 Denmark

The collection authority for charges on the Danish side of the Øresund link is Banedanmark. For more information on payment terms, etc., see Banedanmark's railway network statement, available at www.bane.dk.

6.1.2 Sweden

The collection authority for charges on the Swedish side of the Øresund link is the Swedish Transport Administration. For more information on payment terms, etc., see the Swedish Transport Administration's railway network statement, available at www.trafikverket.se.

6.2 Quality charges

6.2.1 Swedish part

On the Swedish part of the Øresund link, the Swedish Transport Administration's quality charge system applies, which in practice means that no fees are charged for the section that is on Swedish territory, 23.6 km – 29.1 km.

6.2.2 Danish part

On the Danish state track sections, a form of quality charge, "performance scheme", has been introduced. The Danish government has exempted Øresundsbros Konsortiet from this system and has exempted Øresundsbros Konsortiet from entering into quality charge agreements because it does not add value. Contracted quality of delivery on the Øresund link does not apply to any delays or other disruptions due to the cross-border nature of the railways and related technical organisational implications.

6.3 Charges for ancillary services

Charges for the services Øresundsbros Konsortiet provides are based on the cost price of providing the service. The cost price is the sum of all costs, both direct and indirect, for the provision of a service. For the services in question, the requirement for full cost coverage applies. Payment for extra services is preceded by a separate agreement with the railway undertaking.

7. Appendices

1. Safety organisation in relation to rail safety
- 2.1 Terms of responsibility in relation to Øresundsbro Konsortiet
- 2.2 Function description, Overall coordination responsibility for the Øresund link
- 3.1 Timetable for train plan work
- 3.2 Engineering works plan (BAP)
4. Loading gauges
5. Catenary system and alignment. R5G00/R5G-2840
6. Radio system R5G00/R5G-2841
7. Interlocking system and ATC CRWY64-1A0006
8. Track System and Point Heating R5G00/R5G-2843
9. High voltage system R5G00/R5G-2844
10. Tunnel ventilation system R5G00/R5G-2845
11. Line plan Infrastructure description Rev X
12. Overview track plan Rev 2005-11-29
13. Overview drawing, drawing number: 3532-100 Rev 1

Front cover photo: Øresund Bridge Photographer: Øresund Bridge

Safety organisation in relation to rail safety

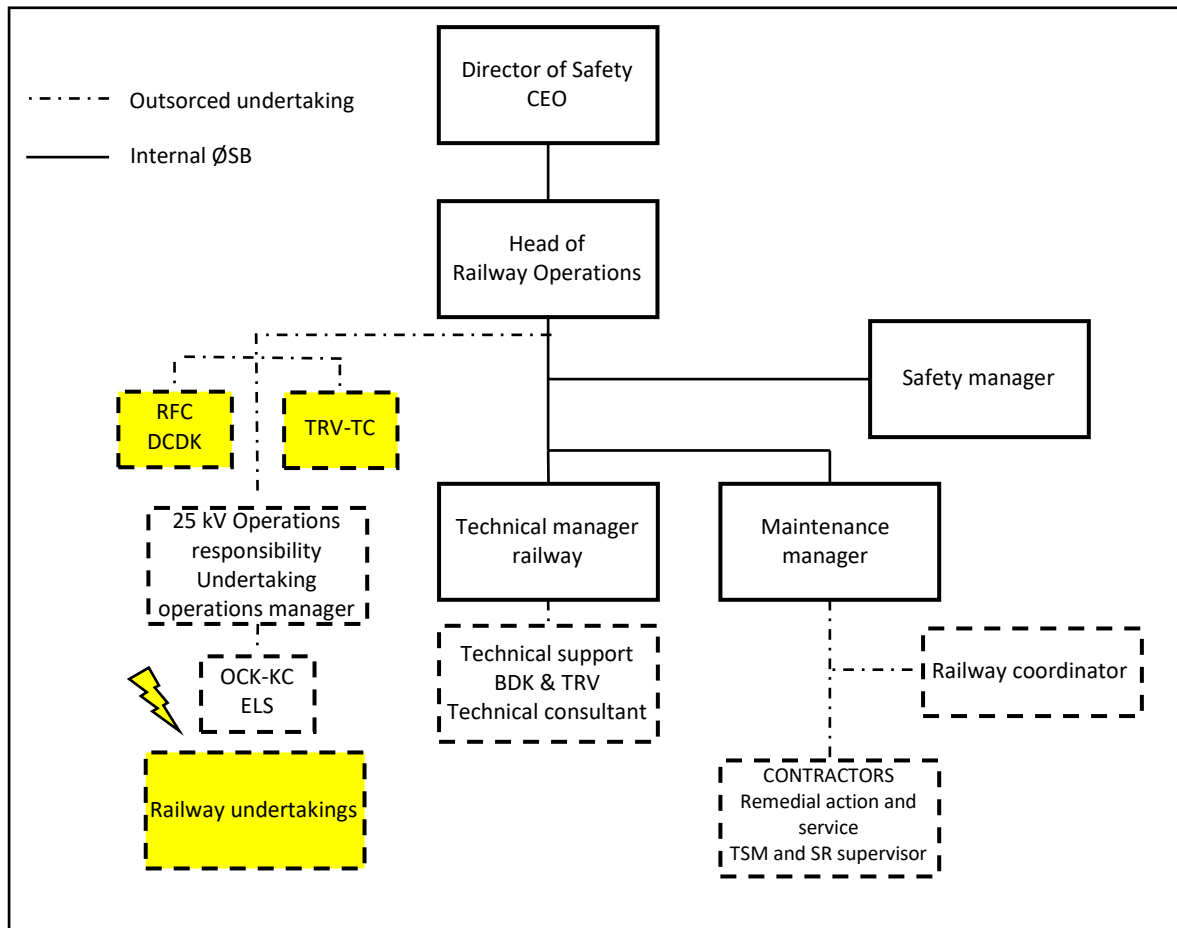


Figure: Safety organisation in relation to rail safety

Responsibility co-ordination within Øresundsbro Konsortiet

Responsibility		Performance-related responsibility	Coordination & control responsibilities	Overall responsibility, such as approval of changes and exemptions
1	Overall responsibility for safety in the company.	SL	CJ	VD
2	Responsibility for ensuring that personnel with safety duties meet the training requirements.	TA + UL	SL	CJ
3	Responsibility for traffic management.	*	SL	CJ
4	Responsibility for ensuring that the necessary rules, standards and guidelines, etc. of importance to safety are in place.	SL+TA	CJ	CJ
5	Responsibility for ensuring compliance with the safety regulations.	CJ + UL	SL	CJ
6	Responsibility for the systematic and statistical oversight of safety-related events.	SL	CJ	CJ
7	Responsibility for ensuring that only safety-approved rolling stock is used.	**	UL	CJ
8	Responsibility for the safety maintenance of the rolling stock used by the railway infrastructure manager.	□	□	□
9	Responsibility for ensuring that only safety approved subsystems are used in the railway infrastructure.	TA+UL	SL	CJ
10	Responsibility for the safety-related maintenance of the railway infrastructure.	TA	SL-UL	CJ
11	Responsibility for ensuring the existence of written agreements with suppliers with regard to duties with safety-related content.	CJ+UL	SL-TA	CJ
12	Responsibility for ensuring the existence of written agreements with other railway infrastructure managers that clearly define and set out responsibility for the safety-related conditions for the relevant Railway Infrastructure Managers.	CJ	CJ	CJ
13	Responsibility for the investigation and follow-up of safety-related events.	SL	CJ	CJ
14	Responsibility for the implementation and follow-up of revisions.	SL	CJ	CJ

Figure 2. Allocation of responsibilities relating to safety-related conditions in the Railway Department. The numbering relates to the Øresundsbro Konsortiet safety certificate for infrastructure managers.

Symbols used:

- *: Performance responsibility lies with Banedanmark and the Swedish Transport Administration, by special agreement.
- : The Consortium does not have, and does not expect to acquire, its own equipment.

Abbreviations used:

- VD: CEO, Øresundsbro Konsortiet
- CJ: Head of Rail Operations, Øresundsbro Konsortiet (Rail Operations)
- SL: Safety Manager, Øresundsbro Konsortiet (Rail Operations)
- TA: Technical Manager, Øresundsbro Konsortiet (Rail Operations)
- UL: Maintenance Manager, Øresundsbro Konsortiet (Rail Operations)

Function Description

Overall coordination of responsibility for the Øresund link

Task	Responsibility Copenhagen- Kastrup	Responsibility Malmö- Lernacken	Responsibility Coast-Coast	Coordination of Responsibility Copenhagen-Malmö	Responsibility is regulated via ØSB:
Overall responsibility	BDK	TRV	ØSB/VD	-	Main agreement on management with BDK & TRV – April 2000
Traffic management	BDK	TRV	ØSB/CJ	BDK	Traffic Management Agreement with BDK & TRV
Rail operations management	BDK	TRV Trafik	ØSB/CJ	TRV	Rail operations agreement with BDK & TRV
Capacity allocation	BDK	TRV Trafik	ØSB/CJ	BDK	Capacity allocation agreement with BDK & TRV
Adm. Traffic agreement	BDK	TRV	ØSB/CJ	BDK	Agreement on capacity allocation with BDK & Agreement on dealings between railway undertakings and TRV
Adm. Track access charges	BDK	TRV	ØSB/CJ	BDK	Agreement on capacity allocation with BDK & Agreement on dealings between railway undertakings and TRV
Adm. Utilisation charges	BDK	TRV	ØSB/CJ	ØSB	Agreement on capacity allocation with BDK & Agreement on dealings between railway undertakings and TRV

Abbreviations

ØSB: Øresundsbros Konsortiet
 VD: Chief Executive (CEO)
 TRV: Swedish Transport Administration
 LOC: Lernacken Operation Centre
 BDK: Banedanmark
 CJ: Head of Railway Operations

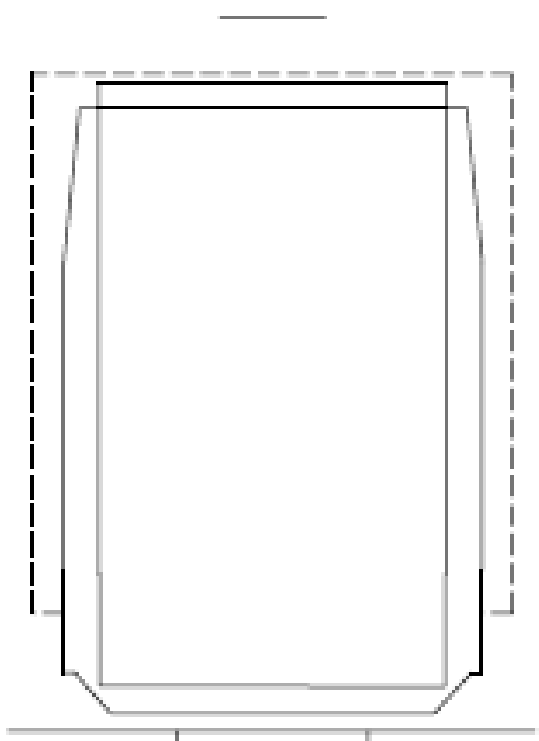
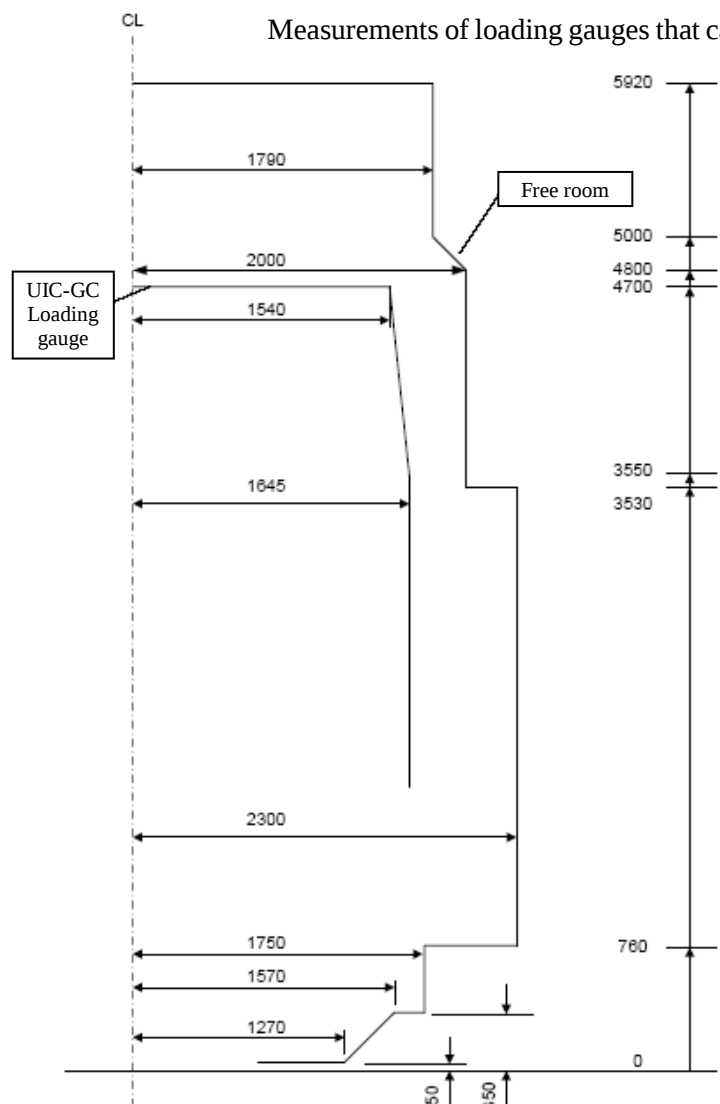
Appendix 3.1

Timetable for train plan work (overview)

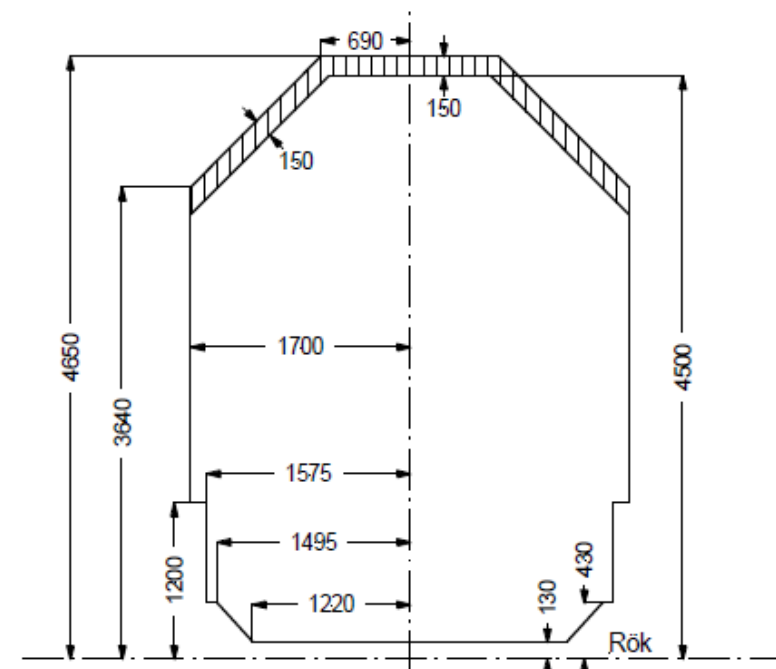
Timetable for train plan work 2023 (2022-12-11 - 2023-12-09) ØSB section 4.3.1.

- 2022-04-11: Date of application for access services, internationally and nationally.
- 2022-06-13 – 2022-06-16: RNE timetable technology conference.
- 2022-07-04: Draft train plan incl. border crossing times for international traffic. The proposal to be sent to the relevant parties and published on the respective websites: Banedanmark (<http://www.bane.dk>) and Swedish Transport Administration (<http://www.trafikverket.se>)
- 2022-07-05 -2021-08-05: Comment and coordination period for the international border crossing times.
- 2022-08-22: Notification of approved border crossing times.
- 2022-10-22: Draft train plan/timetable 2022 and determined border crossing times for international traffic. The draft to be sent to the relevant parties and published on the respective websites: Banedanmark (<http://www.bane.dk>) and Swedish Transport Administration (<http://www.trafikverket.se>)
- 2022-10-18: First day of ad-hoc application train plan 2022
- 2022-12-11: Timetable 2022 applies (traffic start).

Measurements of loading gauges that can be allowed on the Øresund link, km 12.854–29.795, both tracks as well as all transversals.



Combination gauge P/C 450 (2.60 m x 4.83 m)



Loading gauge A has a width of 3.40 metres and a height of 4.65 metres, with a narrowing towards the top (maximum width up to 3.64 metre height) which limits utilisation of the storage space. This is because the space under, for example, older overpasses in Sweden narrows significantly towards the top. Loading gauge A has been the standard in Sweden for a long time.

UIC loading gauge GC = "Gabarit C", where "gabarit" is the loading gauge in French.
UIC GC = 3.15 m x 4.65 m, top slightly narrower, top width 2.91 m, static dimensions.

KM:
13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29

Denmark

Peberholm

Bridge

Sweden

KØRELEDNINGSCENTRALEN
LOCATED IN COPENHAGEN

KC

ELCOM

ELCOM

ELDRIFTCENTRALEN
LOCATED IN GÖTHEBURG

EDC

DISTRIBUTION
CENTRAL

SUB
CENTRAL

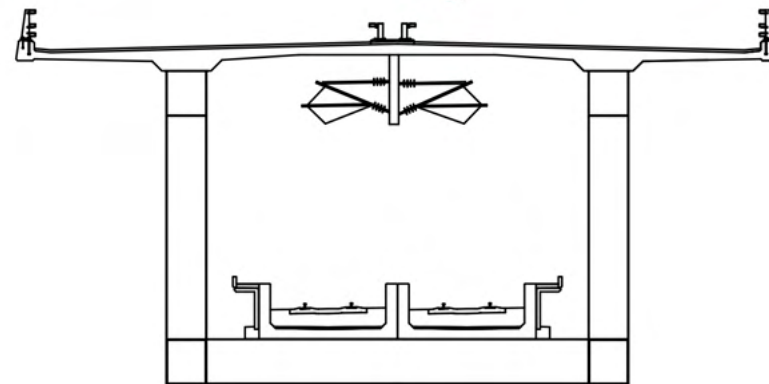
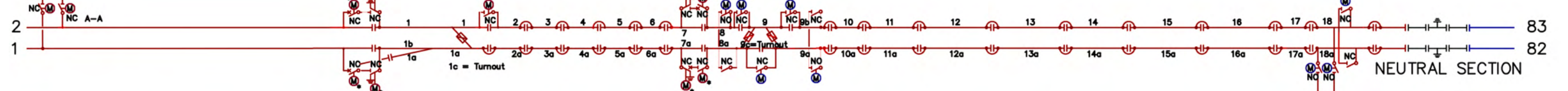
SUB
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SUB
CENTRAL

SUB
CENTRAL

132/25kV

KASTRUP
FEEDER
STATION



A-A

LEGEND

- ELECTRIC RAILWAY LINE
- CABLE
- ISOLATOR, REMOTE CONTROLLED
- ISOLATOR WITH EARTH POINT, REMOTE CONTROLLED
- CIRCUIT BREAKER, REMOTE CONTROLLED
- MANUAL OPERATED ISOLATOR, ADAPTED FOR MAINTENANCE WORK
- SECTION INSULATOR
- CONNECTION BETWEEN SECTIONS
- OVERLAP SPAN
- SECTION NUMBER
- * LOCAL AND REMOTE CONTROLLED EMERGENCY BREAKERS
- NO ISOLATOR, NORMAL STATE DISCONNECTED
- NC ISOLATOR, NORMAL STATE CONNECTED
- RC RETURN CONDUCTOR

GENERAL NOTES:

BLUE PRINTING INDICATES SWEDISH CONTROLLED EQUIPMENT
RED PRINTING INDICATES DANISH CONTROLLED EQUIPMENT
BLACK PRINTING INDICATES COMMON CONTROLLED EQUIPMENT

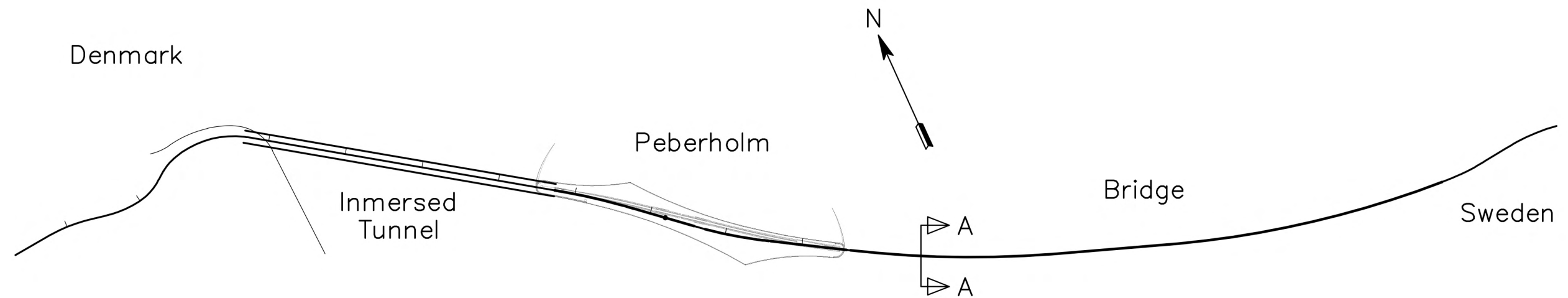
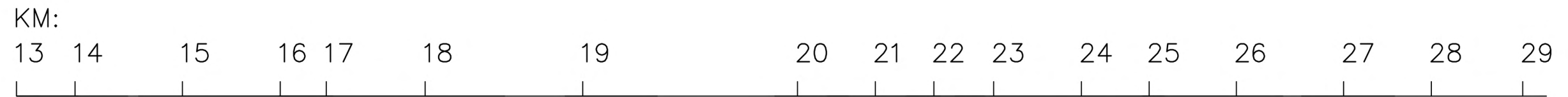


Rev.	Description	Drawn	Designed	Checked	Approved	Date
X	New Drawing Railway Operation	AFRY-VGA	AFRY-AGU	AJL	AJL	2020-08-05

Coast-to-Coast, Railway
Catenary System
Plan drawing
Catenary System and Alignment

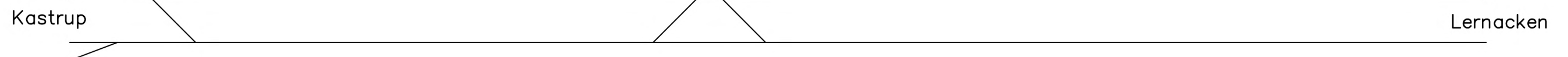
As Built Original Size A3

Sheet no.	Drawing no.	Rev.
	CRWY61-1A0001	X



Swedish GSM-R

Radio coverage between DK GSM-R SE GSM-R system change is performed between Tårnby and Kastrup with special safety regulations.



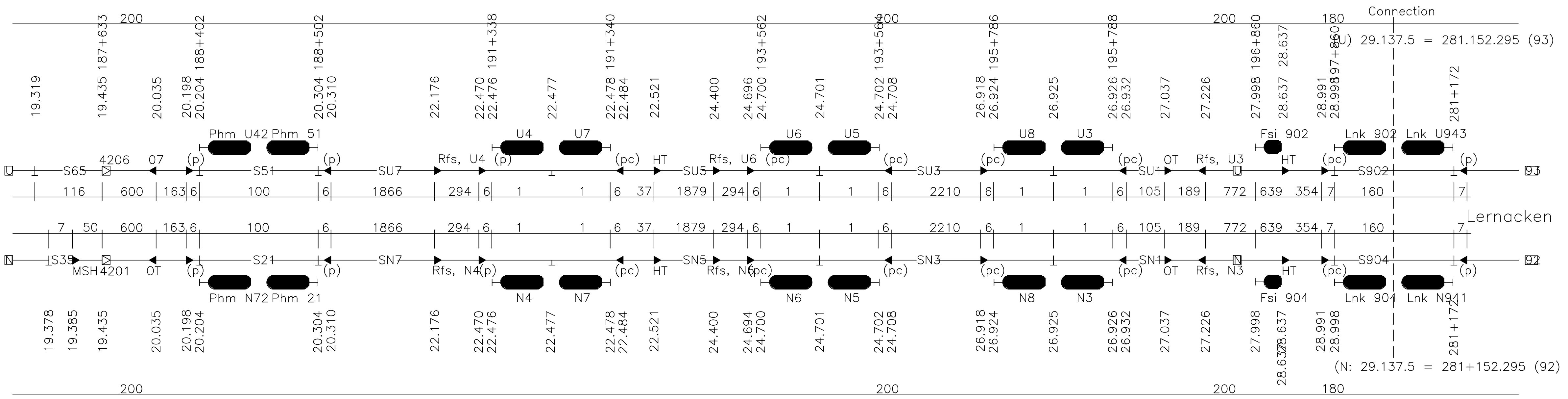
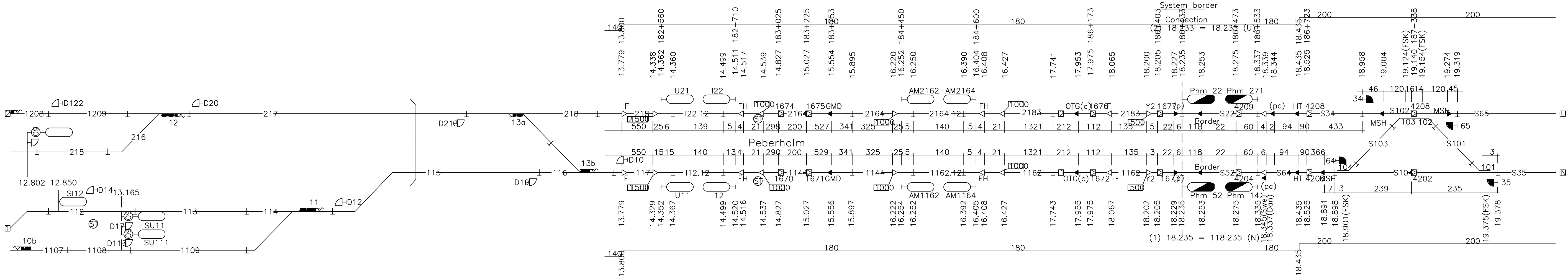
LEGEND:

GSM-R INDICATES COVERING AREA OF SWEDISH RADIO SYSTEM GSM-R
MSR-3 INDICATES COVERING AREA OF DANISH RADIO SYSTEM MSR-3
◄ RADIO SWITCH

GENERAL NOTES:

BLUE PRINTING INDICATES SWEDISH CONTROLLED EQUIPMENT
RED PRINTING INDICATES DANISH CONTROLLED EQUIPMENT
BLACK PRINTING INDICATES COMMON CONTROLLED EQUIPMENT

	Rev.	Description	Drawn	Designed	Checked	Approved	Date	Coast-to-Coast, Railway Radio System Plan drawing Radio System	As Built Original Size A3		
									Sheet no.	Drawing no.	Rev.
	X	New Drawing Railway Operation	AFRY-VGA	AFRY-AGU	AJL	AJL	2020-08-05			CRWY5D-1A0003	X



Danish signal

Danish balise

Swedish signal

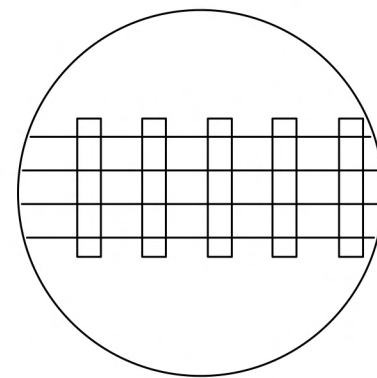
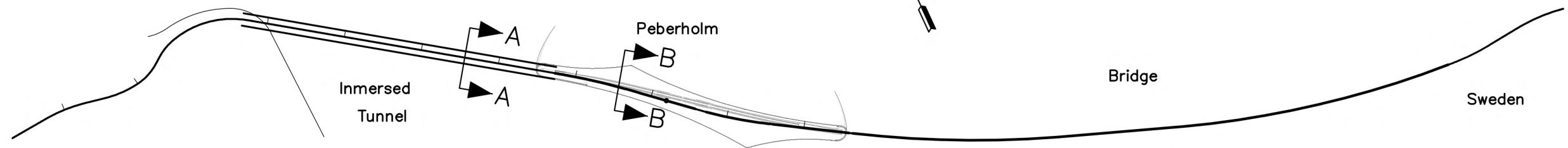
Swedish balise group

ERTMS balise

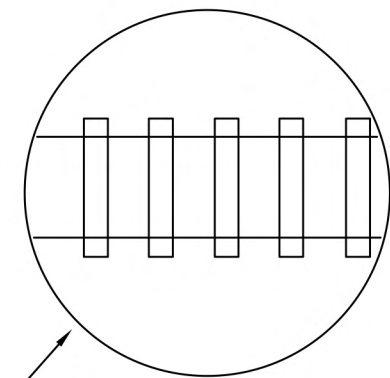
Dan/Swe signal

KM: 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29

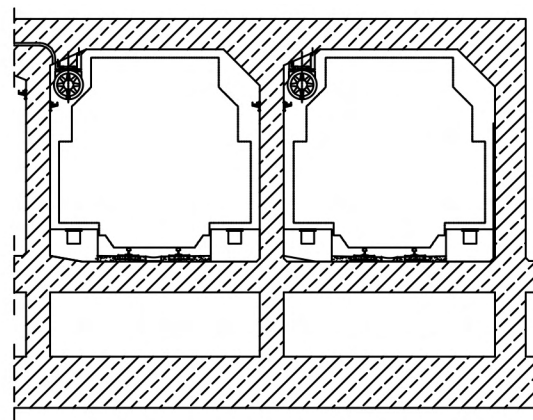
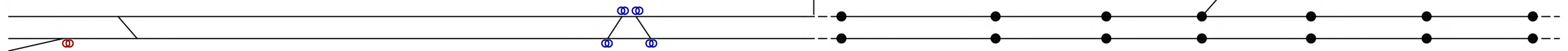
Denmark



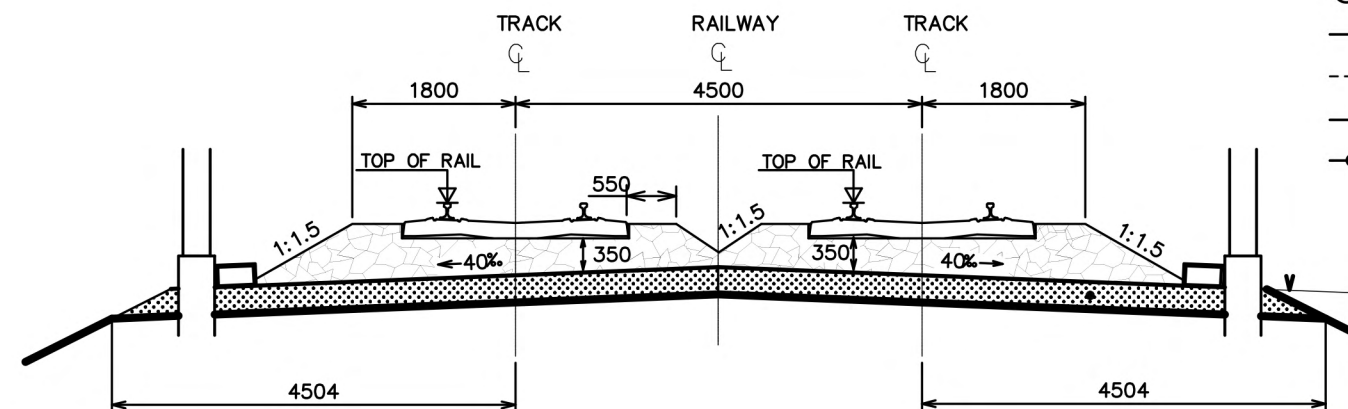
DETAIL OF EXPANSION JOINT WITH BUILDING CONSTRUCTIONS



DETAIL OF EXPANSION JOINT



SECTION A-A



SECTION B-B

LEGEND:

- ⊗ TRANSFORMER FOR POINT HEATING OF TURNOUTS
- TRACK
- - - TRACK WITH GUIDING CONSTRUCTIONS
- ⋈ TURNOUT
- EXPANSION JOINT

GENERAL NOTES:

BLUE PRINTING INDICATES SWEDISH CONTROLLED EQUIPMENT
RED PRINTING INDICATES DANISH CONTROLLED EQUIPMENT
BLACK PRINTING INDICATES COMMON CONTROLLED EQUIPMENT



Rev.	Description	Drawn	Designed	Checked	Approved	Date
X	New Drawing Railway Operation	AFRY-VGA	AFRY-AGU	AJL	AJL	2020-08-05

Coast-to-Coast, Railway
Track System and Alignment
Plan drawing
Track System and Point Heating

As Built Original Size A3

Sheet no.	Drawing no.	Rev.
	CRWY70-1A0006	X



Denmark



Peberholm

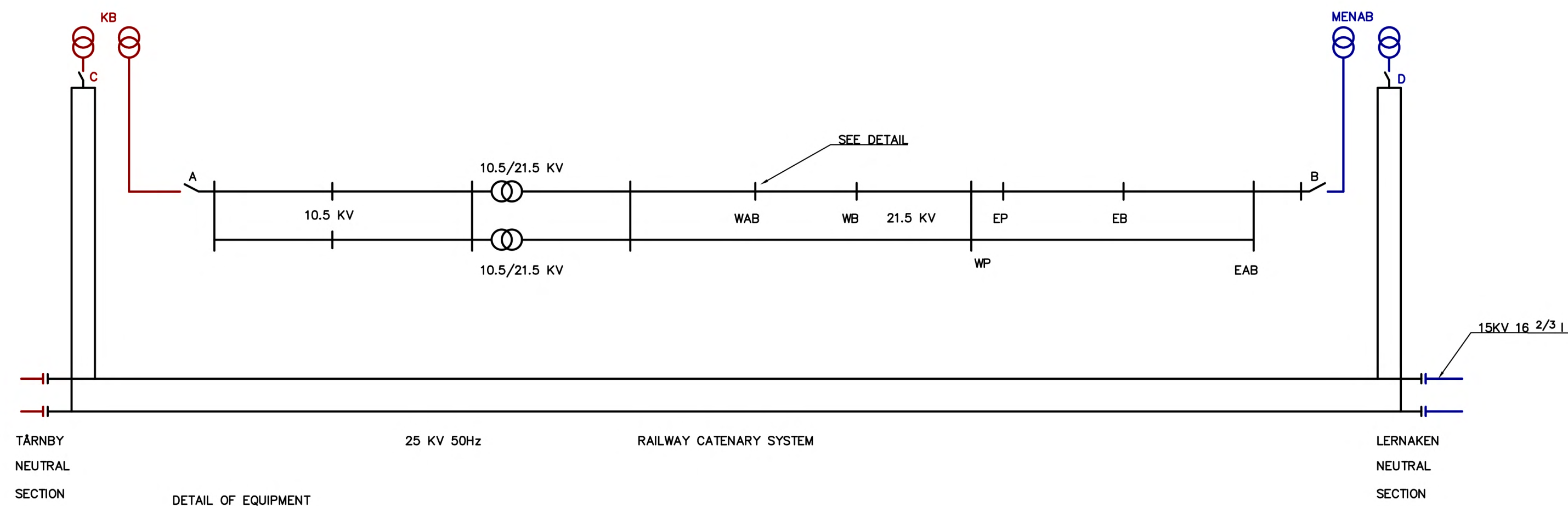
Bridge

Sweden

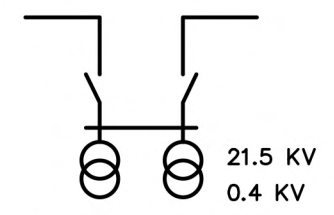
Inmersed Tunnel

NOTE:
THE SWITCHES A AND B ARE MUTUALLY INTERLOCKED I.E. SWITCH A CANNOT CLOSE WHEN SWITCH B IS CLOSED AND VICE VERSA.
THE SAME KIND OF INTERLOCKING IS BETWEEN THE SWITCHES C AND D.
THE INTERLOCKING IS A SEPARATE SYSTEM INDEPENDENT OF THE SCADA SYSTEM.
WAB WESTERN ABUTMENT
WB WESTERN BRIDGE
WP WESTERN PYLON
EB EASTERN BRIDGE
EAB EASTERN ABUTMENT

- LEGEND:
- ⊗ TRANSFORMER
 - HV EQUIPMENT
 - HV SWITCH REMOTE CONTROLLED
 - NEUTRAL SECTION



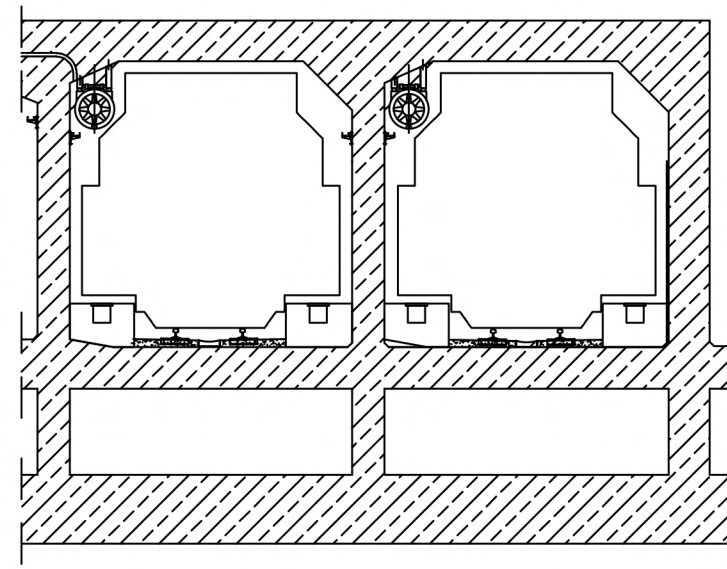
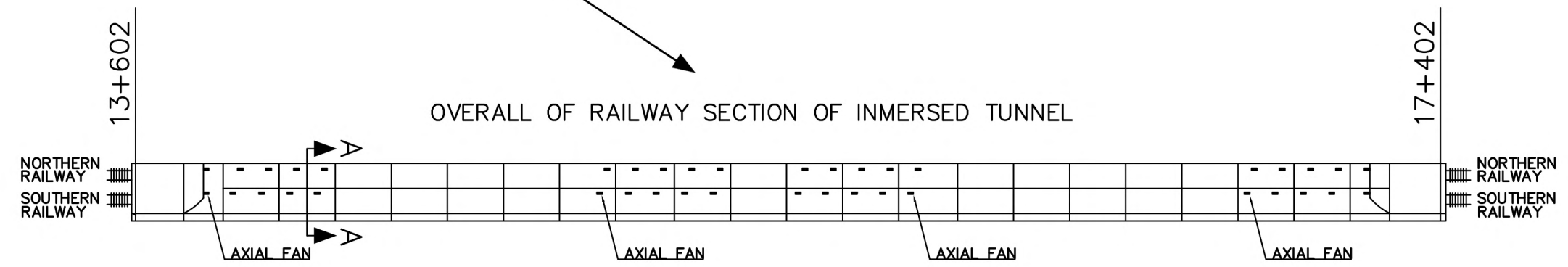
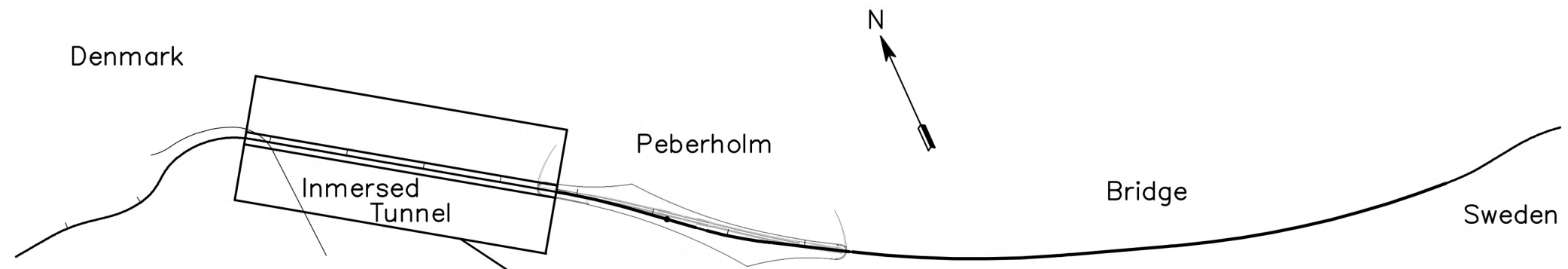
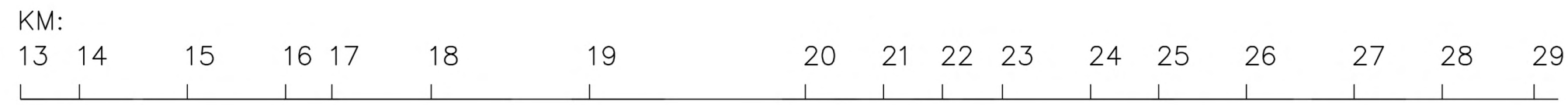
DETAIL OF EQUIPMENT



NO'S OF TRANSFORMERS
MAY VARY

GENERAL NOTES:
BLUE PRINTING INDICATES SWEDISH CONTROLLED EQUIPMENT
RED PRINTING INDICATES DANISH CONTROLLED EQUIPMENT
BLACK PRINTING INDICATES COMMON CONTROLLED EQUIPMENT

	Rev.	Description	Drawn	Designed	Checked	Approved	Date	Coast-to-Coast, Railway High Voltage Power Distribution System Plan drawing High Voltage System	As Built Original Size A3		
									Sheet no.	Drawing no.	Rev.
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SECTION A-A

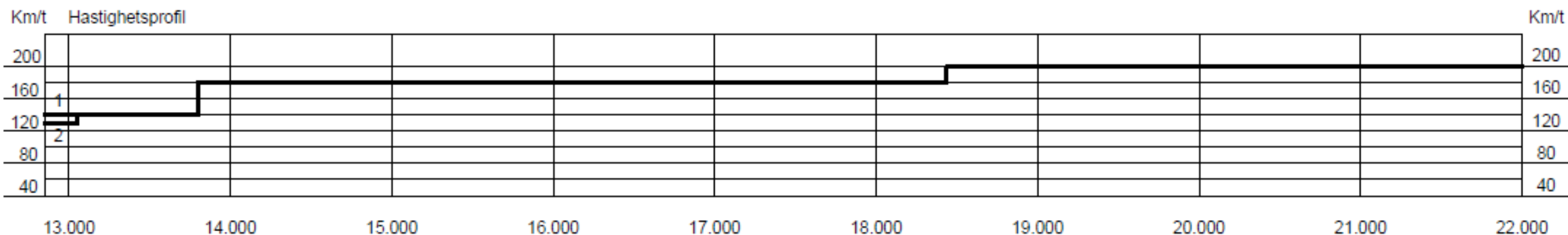
GENERAL NOTES:

BLUE PRINTING INDICATES SWEDISH CONTROLLED EQUIPMENT

RED PRINTING INDICATES DANISH CONTROLLED EQUIPMENT

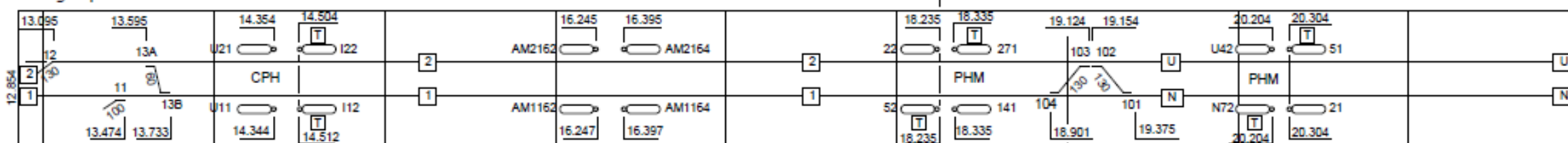
BLACK PRINTING INDICATES COMMON CONTROLLED EQUIPMENT

	Rev.	Description	Drawn	Designed	Checked	Approved	Date	Tunnel, Common HVAC System Plan drawing Tunnel Ventilation System	As Built Original Size A3		
									Sheet no.	Drawing no.	Rev.
	X	New Drawing Railway Operation	AFRY-VGA	AFRY-AGU	AJL	AJL	2020-08-05			TCOM34-1A0009	X

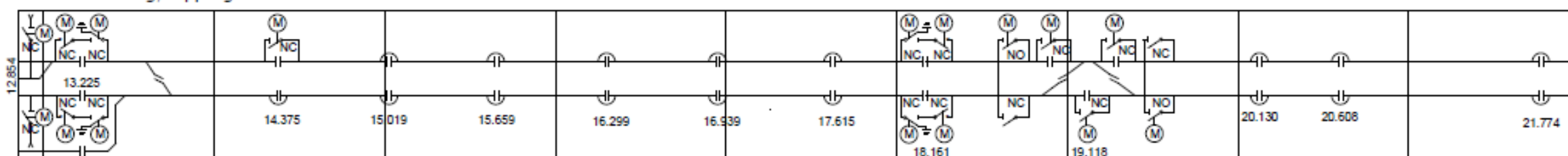


Dansk - svensk systemgräns

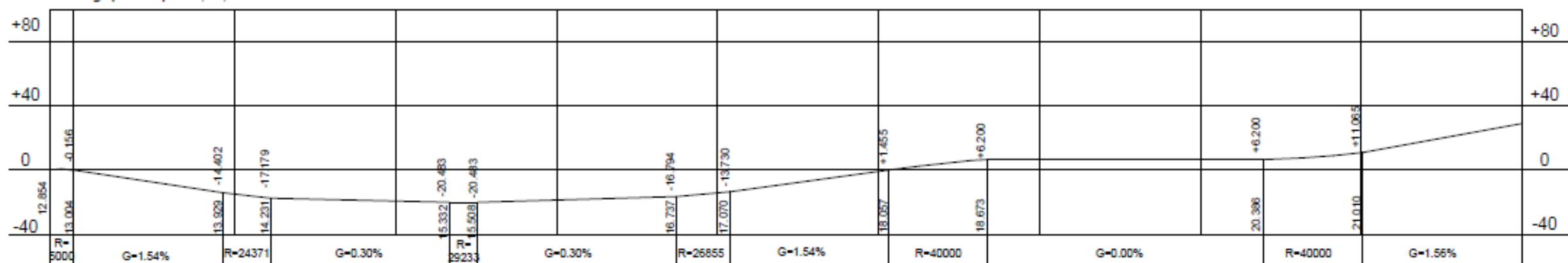
Signalplan



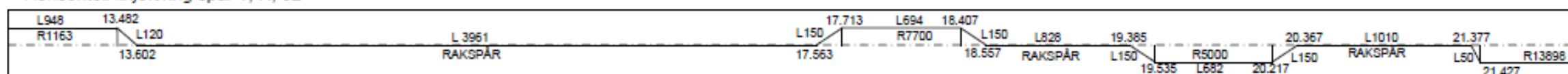
Kontaktledning, kopplingsschema



Längdprofil spår 1, N, 92



Horisontell linjeföring spår 1, N, 92



Ritningen är endast avsedd som bilaga till infrastrukturregistret. Den får inte användas som underlag för underhåll eller andra arbeten i järnvägsanläggningen.

Ver.	Uppgjord	Kontrollerad	Godkänd	Datum
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2	LaE	MLu	RSu	2005-10-10
3	LaE			2009-05-31

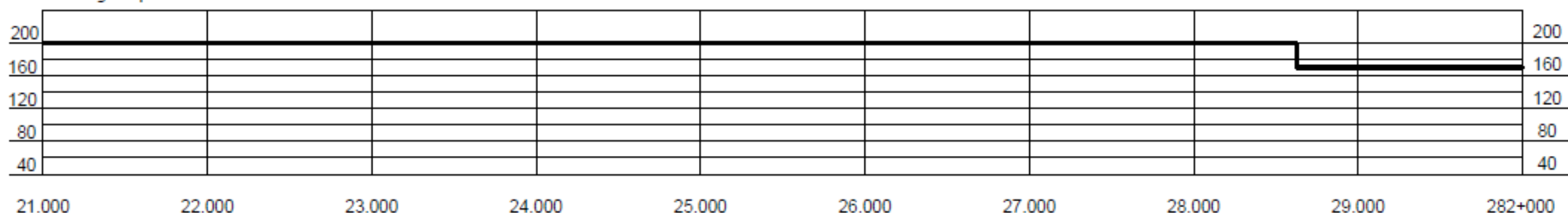
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Längd 1:25000
Höjd 1:2500



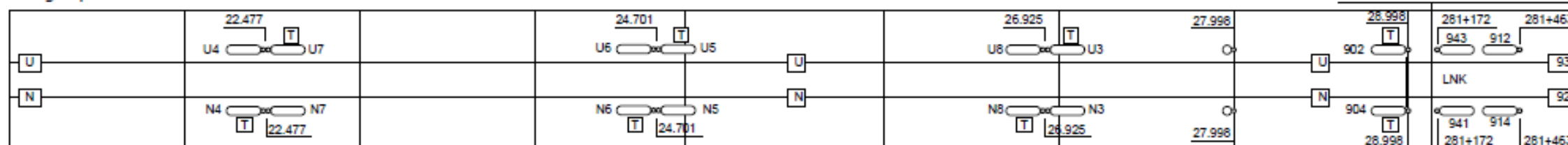
Infrastrukturregister Kasturp - Lemacken
Bilaga 11 , Linjeplan, Sida 1(3)

Km/t Hastighetsprofil

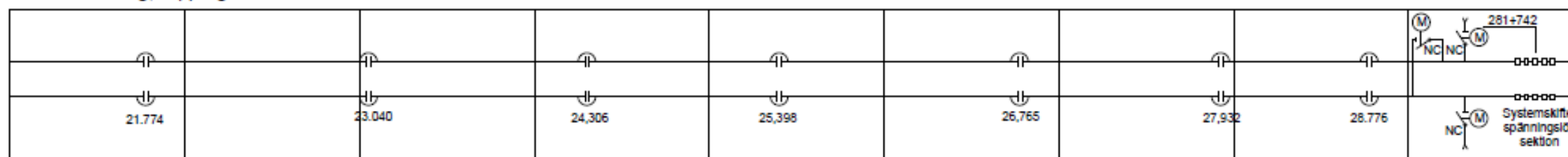
Km/t



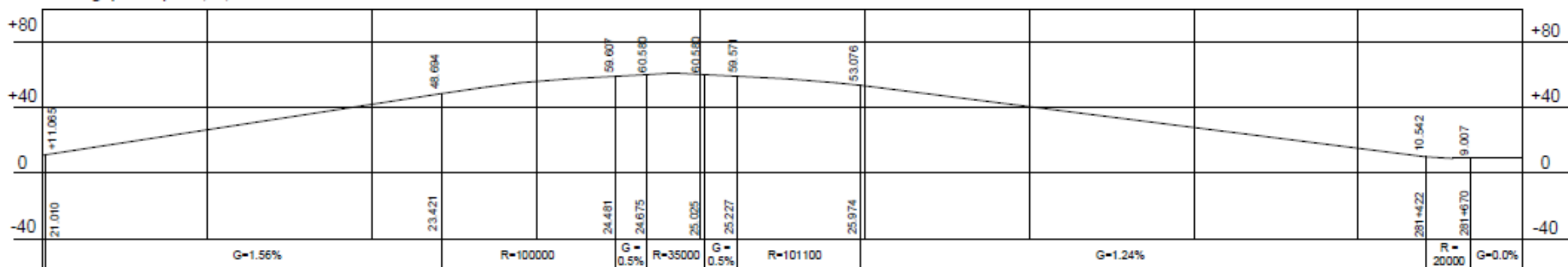
Signalplan



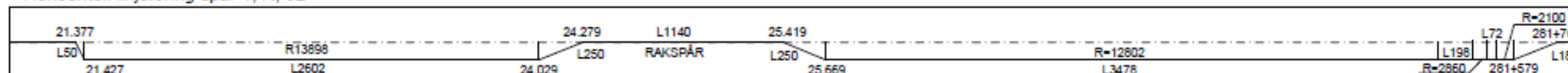
Kontaktledning, kopplingsschema



Längdprofil spår 1, N, 92



Horisontell linjeföring spår 1, N, 92



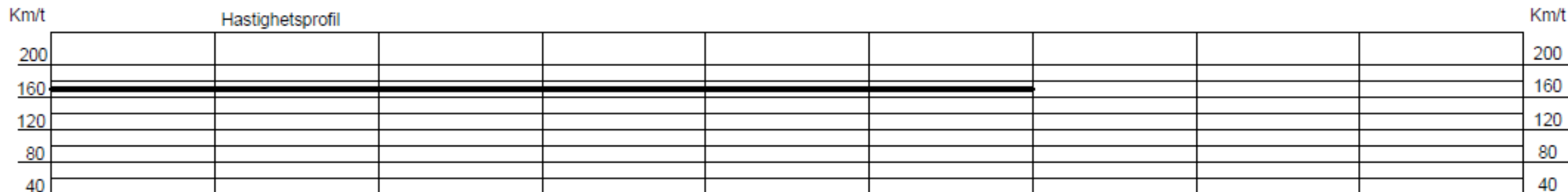
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3	LaE			2009-05-31

Skala
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Infrastrukturregister Kastrup - Lemacken
Bilaga 11 Linjeplan, Sida 2(3)



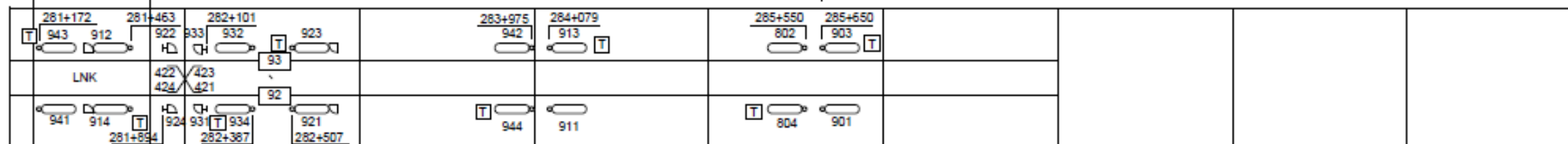
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Konnection
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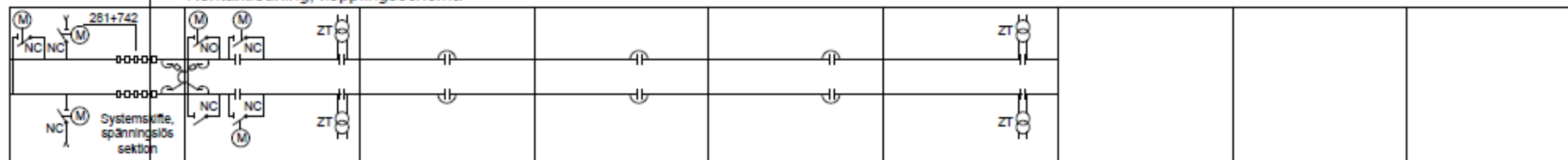
Signalplan

Lnk

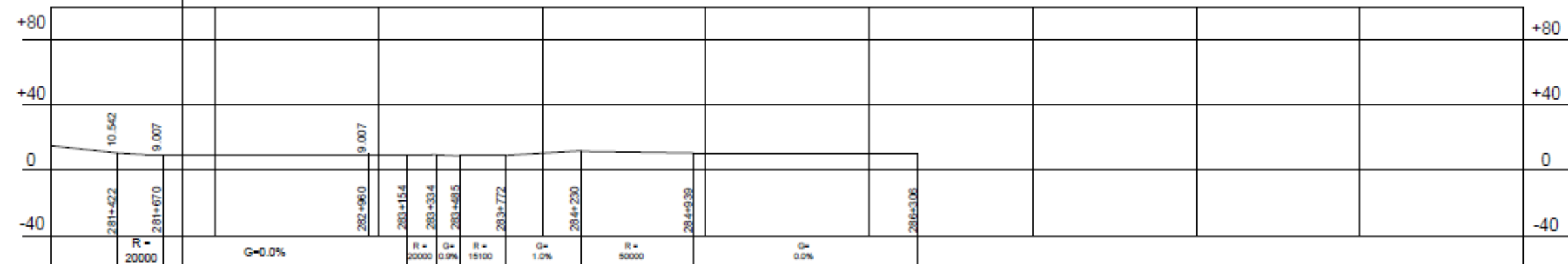
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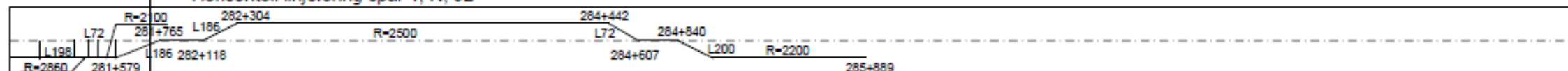
Kontaktledning, kopplingsschema



Längdprofil spår 1, N, 92



Horisontell linjeföring spår 1, N, 92



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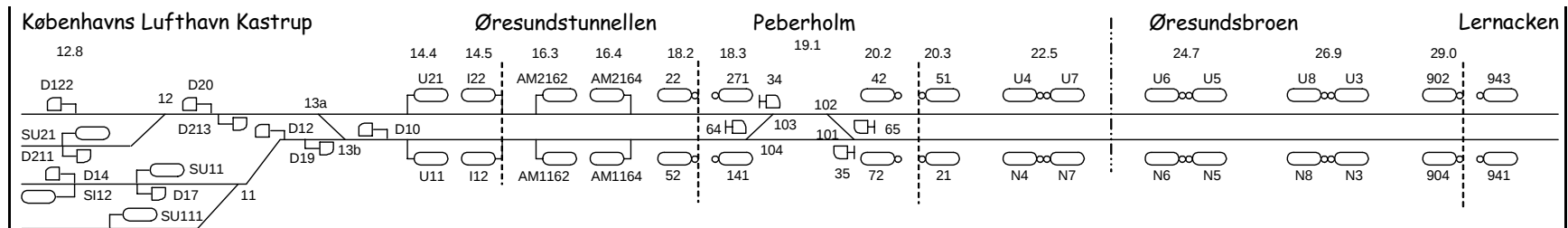
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Infrastrukturregister Kasturp - Lemacken
Bilaga 11 Linjeplan, Sida 3(3)

Öresundsförbindelsen

Översiktlig spår- signalplan Kust till Kust



ÖSB: Rolf Sundqvist

Rev 0

Daterad 2005-11-29

