

Øresundsbro Konsortiet Railway Operations

Järnvägsnätbeskrivning
Network Statement
Netredegørelse

Train plan 2020
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Øresundsbro Konsortiet's Railway Network Statement 2020

In accordance with the EU Directive (2001/14/EC) on the allocation of infrastructure capacity, levying of charges for use of infrastructure and issue of safety certificates and 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 fulfills 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, 2019-12-08 to 24.00, 2020-12-12.

In view of the fact that the railway does not constitute a technical and commercial whole but is an integral 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 november 2018
Rolf Sundqvist

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

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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 Swedish Transport Administration, which are important suppliers of rail operations, traffic management, dealings with railway undertakings etc.

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 Broförbindelsen 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 the 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 Background

Øresundsbro Konsortiet has entered into an agreement with Banedanmark and the Swedish Transport Administration, which are members of Rail Net Europe (RNE), which, in turn, is a collaboration between 40 different European infrastructure managers with the aim of facilitating cross-border rail traffic. 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 rail network statement is divided into the following sections:

Section 01. General information

Section 02. Conditions for access and traffic

Section 03. Infrastructure

Section 04. Capacity allocation

Section 05. Services

Section 06. Charges

Øresundsbro Konsortiet has followed the RNE document structure in the development of the railway network statement. The railway network statement will be be

updated on a regular basis and it is possible to comment on content as well as presentation to the editors via e-mail: Railway@oresundsbron.com.

Øresundsbro Konsortiet 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 railway operation.

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 7-09, 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 Øresundsbro Konsortiet in all units and departments and therefore also for rail safety.

The Railway Operations Unit has the overall responsibility for the operation of Øresundsbro Konsortiet's railway, ie, repair, documentation and execution of operations and maintenance operations.

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

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

The track manager (BC) has overall responsibility for activities in the railway operation organisation. The track manager is responsible for the preparation of general guidelines for the unit, determination of the overall organisation and delegation of the unit's functions in the organisation.

Øresundsbro Konsortiet's rail safety manager follows up on rail safety at Øresundsbro 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 operation organisation.

The operating manager is responsible for following up on the operating 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 operating tasks above are mainly regulated through agreements entrusted to Banedanmark 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 operations managers are responsible for updating these tasks.

The operations managers also receive continuous information on the operation on the railway.

The operations managers have system responsibility for the railway technical systems.

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

The Railway organisation is included administratively as a unit in Øresundsbro Konsortiet's construction unit.

Øresundsbro Konsortiet's construction unit 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 power management

These functions are handled by Banedanmark and the Swedish Transport Administration in relation to special agreements.

Banedanmark and the Swedish Transport Administration accountable to Øresundsbro Konsortiet because the functions in DcDK, TC M and OCK (Operations Management Centres) are performed 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".

Power management

Through the railway operation agreement, Banedanmark has electric power responsibility in relation to Øresundsbro Konsortiet. The electric power management is thus responsible for the electrical engineering management of OCK (Overvågningsscenter Kørestrøm (Banedanmark Eldriftscentral)) and PPELS (Produktionsplats El Syd Göteborg) for Øresundsbro 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 largest maintenance contractor is Infranord AB. The task also includes a function as a railway safety coordinator. Also included is coordination of Øresundsbro Konsortiet's contractor requests for access to the railway facility, handling of track shut downs, 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

Øresundsbro 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

Øresundsbro Konsortiet's traffic centre, TC, manages and controls maintenance personnel access to the facilities. ØSB-TC monitors the technical systems that are connected to the P-monitoring system. Technical alarms and announcements are entrusted to operating and maintenance managers.

1.2 The purpose of the railway network statement

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

1.3 Legal basis

The legal basis for this railway network statement and 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 are therefore evident from Banedanmark's and the Swedish Transport Administration's railway network statements.

1.4 Legal status

General remarks

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

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: www.oresundsbron.com

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. In Swedish territory, the Swedish Transport Agency exercises supervision under Swedish law and the issue of regulations, statutes, etc. This also includes ensuring that the rail network statement meets the requirements.

Responsibility

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.

Appeal

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

Denmark	Sweden
Jernbanenævnet / Danish Rail Regulatory Body Carsten Niebuhrs Gade 43 DK-1577 København V Telephone: +45 41 78 03 86 Email: info@jernbanenaevnet.dk	Transportstyrelsen Väg- och järnvägsavdelningen Box 267 SE-781 21 Borlänge Telephone: +46 (0) 771 503 503 Email: jarnvag@transportstyrelsen.se

1.5 Structure

The railway network statement follows the document structure agreed by European infrastructure managers within the framework of the RNE European infrastructure managers.

A common structure for the different countries' railway network statements shall facilitate those planning to run cross-border traffic and seeking information in the various countries' documents. Øresundsbro Konsortiet therefore, in the preparation of

this document, has followed this structure, including in instances where relevant information is missing under a heading.

1.6 Duration and changes

The information in this railway network statement applies to the period from 00.00, 8 December 2019 to 24.00, 12 December 2020

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 Øresundsbro Konsortiet's website: <https://www.oresundsbron.com/sv/info/jarnvagsnatbeskrivning>

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 Distribution/publishing, publisher

The railway network statement is published on Øresundsbro Konsortiet's website <https://www.oresundsbron.com/sv/info/jarnvagsnatbeskrivning>. The website also publishes change notifications.

1.8 Freight Corridor

According to EU regulation 913/2010 on a European rail network for competitive freight traffic, 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: www.scanmedfreight.eu

1.9 One Stop Shop (OSS)

Øresundsbro 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 RNE system 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: <http://pcs.rne.eu>
<http://cis.rne.eu>
<http://tis.rne.eu>

1.11 Glossary

1.11.1 Abbreviations

BAP	Engineering works plan
BDK	Banedanmark, Danish National Infrastructure Manager
UIC	International Railway Union
DcDK	Operations Centre Denmark
EES	European Economic Area
EG (EC)	European Community (European Parliament and of the Council)
EN	European Standard developed by CEN/CENELEC. Harmonised EN is part of European legislation.
JF/JBV	Railway Undertaking
JvSFS	Transportstyrelsen's (Swedish Transport Agency's) regulations for railways
OCK	Traction Current Monitoring Centre
OSS	One Stop Shop
PPELS	Production Site El Syd Göteborg
RAS	Rules for work in track (Øresundsbro Konsortiet railway facility)
RFC Kh	Regional Remote Control Central in Copenhagen (Banedanmark Trafikledning)
RNE	RailNetEurope
SCADA	Control, management and monitoring system
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)
TF	Traffic Safety Regulation (Øresundsbro Konsortiet's railway facility)
TRAV	Traffic agreement/Access contract
TrV	Swedish Transport Administration, Swedish national infrastructure manager
TSB	Denmark's Transport, Building and Housing Authority
TSJ	Swedish Transport Agency's road and railway department, Swedish national security authority
SI	Safety instruction
SP	Øresundsbro Konsortiet's safety procedure
SR	Safety regulations, Danish traffic safety regulations

1.11.2 Definitions

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 provided for in the Government Agreement between the Danish and Swedish Governments.

Subsystem

Part of the rail system.

Infrastructure manager

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

Railway rolling stock

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

Railway undertaking SE/Railway undertaking DK

Anyone who, with the aid of a licence or special permit, provides traction and runs railway traffic.

Railway Infrastructure

With regard to 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.

Rail Network

Railway infrastructure managed by one and the same infrastructure manager

Railway system

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

Capacity allocation

Allocation of infrastructure capacity.

Regional public transport authority

Responsible for regional public transport according to the 2010:1065 law on public transport.

Maximum profile

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

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.

Traffic agreement (TRAV)

Agreement between Øresundsbro Konsortiet and a railway undertaking regarding conditions and requirements for traffic on Øresundsbro Konsortiet's rail network.

The agreement is concluded with railway undertakings through Banedanmark and the Swedish Transport Administration on behalf of Øresundsbro 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 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.

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.

UIC Sheet

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

Øresundsbro Konsortiet's rail network

The railway infrastructure, operated and managed by Øresundsbro 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.

2. Conditions for access and running

2.1 Constitutional regulation

Øresundsbro Konsortiet is infrastructure manager according to the Danish Act on Railways, cf. statutory order no. 686 of 27.05 2015 and the Swedish Railways Act (2004:519), the Railway Regulations (2004:526) and regulations in force pursuant to these regulations.

As infrastructure manager, Øresundsbro Konsortiet is responsible for granting railway undertakings permission to operate on the railway.

General terms:

Access to Øresundsbro Konsortiet's railway infrastructure is given to railway undertakings or activities that meet the requirements for operating rail traffic in Denmark and Sweden.

2.2 General access requirements

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

2.2.1 *Who has the right to run traffic/Permit*

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 [Banedanmark](#) and [Swedish Transport Administration \(Swedish Transport Administration\)](#) websites.

2.2.2 *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.

A body that organises, but does not operate, rail traffic may apply for capacity under the terms in Danish and Swedish railway legislation.

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. Link to [Transportstyrelsen](#) and/or [Trafik-, Bygge og Boligstyrelsen](#) websites.

2.2.3 *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.

2.2.4 Revocation of safety certificate/permit

If the conditions for permission are no longer met or the licence holder fails to fulfill the obligations, the permit may be revoked by the Swedish Transport Agency and/or the Danish Transport, Building and Housing Authority.

2.2.5 Requirements for the application for a train path

Requirements for application are set out in Banedanmark's Network Statement and by the Swedish Transport Administration's Railway Network statement.

In both cases, the state law requires a permit, see section 2.2.3.

2.2.6 Requirements for running traffic on Øresundsbro Konsortiet's network

To operate on Øresundsbro Konsortiet's rail network, a Danish and Swedish traffic agreement is required. The agreement shall be met with railway undertakings through Banedanmark and the Swedish Transport Administration on behalf of Øresundsbro Konsortiet.

2.2.7 Advance notice

Advance notices can be submitted by Banedanmark and the Swedish Transport Administration. Access to Øresundsbro Konsortiet's railway infrastructure can be issued to railway undertakings and others that meet the requirements for running rail traffic. It is not an obstacle to railway undertakings for the application for allocation of a conditional timetable/path to not comply with the basics at the point of application.

2.2.8 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 281,813).

Øresundsbro Konsortiet's traffic safety regulation SP 7-06 – TF 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 – Lernacken section.

2.3.2 Electrical Safety

For work at or near catenary and train heating systems on the section, Øresundsbro Konsortiet's electrical safety regulations SP 4-02 Electrical Procedure, Fjernbane Kørestrøm Instruksion (FKI) apply to the Danish section and TDOK 2014:0415 (BVF 1921) apply to the Swedish section.

Operational rules

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:

- 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 RFC Kh (Regional Fjernstyringscentral København H). GSM-R radio shall be used. The language of the radio communication must be in Danish or Swedish. Danish names on 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 www.oresundsbron.com

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 the TRV-TC Syd Öresund 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 transport has been produced for safety communications. The glossary is available on Øresundsbro Konsortiet's website <https://www.oresundsbron.com/sv/info/trafiksakerhetsforeskrift>

2.3.3 PÖLS collaboration (Operations Forum Øresund)

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 the 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:

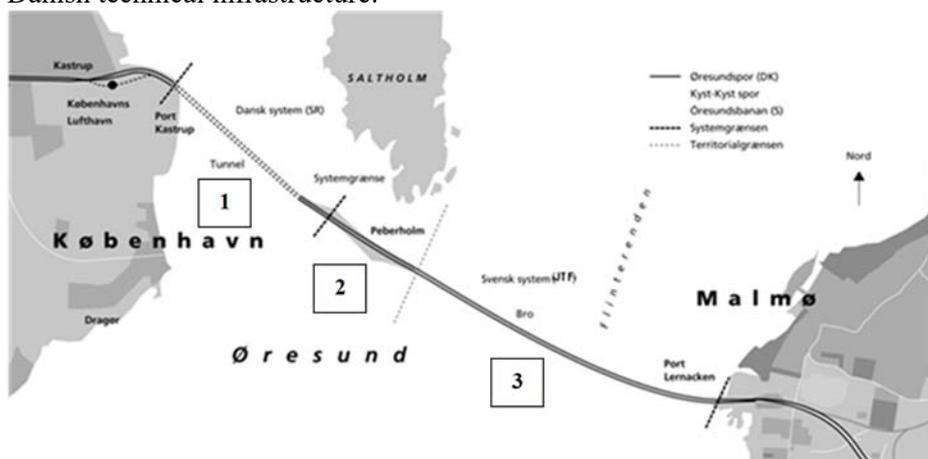
- Have overall responsibility for the punctuality of Øresund traffic
- Monitor all punctuality activities in Øresund traffic
- Formulate and set objectives
- Are a decision-making body in matters relating to punctuality measures
- Set up, if necessary, specific cross-functional working groups
- Follow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

2.4 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 (12 km + 854) and Lernacken (29 km + 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

2.4.1 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 a "commissioning permit" in accordance with the

"Railway and Regulations Act 56 of 24/01/2013 on the approval of vehicles on railway facilities".

Information on procedures etc. about "commissioning permission" can be found on the Transport, Building and Housing Authority website at <http://www.trafikstyrelsen.dk>

“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 track).”

2.4.2 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 Subsystem" in accordance with the "Swedish Transport Agency's statute (TSFS 2010:116) Swedish Transport Agency for approval of subsystem for railways.”

For a subsystem not covered by 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 at www.transportstyrelsen.se

“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 track).”

2.4.3 Test run

In order to conduct technical test runs on Øresundsbro Konsortiet's rail network located in Danish territory, it is required that the Danish Transport, Building and Housing 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).

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

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 1 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 Regulation (EC) No. 352/2009 of 2 April 2009.

The application form is available on Øresundsbro Konsortiet's website. <https://www.oresundsbron.com/sv/info/ansokan-om-dispens>

Application for special dispensation from TF is sent to Railway@oresundsbron.com.

2.5 Conditions for approval of safety personnel

Procedures for training personnel with duties relevant to safety are examined 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 7-01](#)).

3. Infrastructure

3.1 General information

According to the 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 Øresundsbro Konsortiet's accessible infrastructure in Sweden and Denmark. The infrastructure is not fully TSD INF compatible but the TSD:n can be used as a reference to the appropriate extent.

3.1.1 Geographical information

The railway section managed by Øresundsbro 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. Conceptual drawings can be seen in appendix 5-1.

Øresundsbro 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.

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.

3.1.2 Performance

Axle load

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

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

Power supply

The catenary system is powered by AC 25 kV 50 Hz. Catenary height is 5,330 mm for the major part of the section.

Load profile

Øresundsbro Konsortiet's Railway can be operated with vehicles that comply with UIC GC and P/C450, according to UIC 506, see Appendix 4.

Incline

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, Appendix 11.

Metric weight

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

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.

Traffic capacity

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

Train length

Normal train length in the Danish technical system section is 835m and Swedish technical system section is 730m. The maximum authorised train length for special transport is 1,000m.

Train weight

1 EG locomotive 2,120 tonnes. 2 EG locomotive 2,600 tonnes. Special transport, the maximum permitted train weight is 4,000 tonnes.

3.1.3 Traffic and safety system

Traffic management system

The traffic is monitored and operated by traffic controllers (Remote Traffic Controller). 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 RFC Kh (Regional Remote Control Centre Copenhagen H). The Swedish section between the system boundary and the station (operating site) Lernacken (29.795 km or 281+813 in the Swedish Transport Administration's system) is supervised by the Swedish Transport Administration TC Malmö Trafikledning Øresund (Operations Centre in Malmö).

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.

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.

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 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 Signal System. The STM switched zone is adjacent to the ATC system change boundary.

Detection of hot running, dragging brake, derailment

The Øresund link is protected by hot running, dragging brakes, derailment detectors 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.

3.2 Traffic restrictions

3.2.1 Dangerous goods

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

Freight trains carrying wagons loaded with goods bearing the RID Class 1 and RID subclasses, 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 and loaded with explosive goods class 1 may only be loaded with 1000 kg of explosive material per wagon.

3.2.2 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
Jernbanaafdelingen
Vester Søgade 10
DK-1601 København V
e-mail: Railway@oresundsbron.com

3.2.3 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.

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, in part to prevent parts of the load being blown from freight wagons.

The following restrictions apply to different wind speeds:

Level	Measured wind speed	Trafik restrictions		
		Freight trains	Other trains, Electric traction	Other trains, Diesel traction
1	Over 18m/s, actual or 12m/s effective wind	None	None	None
2	Over 21m/s actual or 17m/s effective wind	max 80 km/hr	None	None
3	Over 24 m/s actual or 20m/s effective wind	max 80 km/hr	None	None
4	Over 27m/s actual wind	Traffic cancelled	max 100 km/h	None
5	Over 30m/s actual wind	Traffic cancelled	max 40 km/h	max 100 km/h
6	Over 34 m/s actual wind	Traffic cancelled	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 RFC Kh, TRV-TC M and Øresundsbro Konsortiet's Traffic Manager Road (ØSB -TC).

When the wind speed is over 25 m/s and the road link is closed, a normal rescue effort cannot be expected in the case of a possible railway accident on the bridge.

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

3.3 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 rolling stock shed is located in Malmö and the nearest Danish rolling stock shed is located in Copenhagen Airport Kastrup.

3.4 Infrastructure accessibility

Periodic maintenance is planned annually and is reported in a maintenance plan. Periodic maintenance is performed at night as much as possible as this is when there are fewer trains. In such work, single-track operation often occurs on all or part of the facility. There may even be a reduced speed. 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 Syd Trafikledning (South Traffic Management) Øresund

4. Capacity allocation

4.1 Introduction

The following describes the rules and processes in connection with the allocation of capacity on the Øresund link. Because the railway does not constitute a technical and commercial whole but is, instead, an integral part of the national rail systems, Øresundsbro Konsortiet has reached an agreement with Banedanmark on the Danish system part of the link and with the Swedish Transport Administration on 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 Øresundsbro Konsortiet.

Øresundsbro 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 assignment includes all the preparations required for the allocation of capacity.

Railway undertakings applying for capacity shall use the common European planning system PCS (Path Coordination System), formerly known as Pathfinder. More about this can be read on the RailNetEurope web page section 1.10.2.

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

All forms and further descriptions can be found in Banedanmark and the Swedish Transport Administration's railway network statements. In order to operate the link, it is also required that railway undertakings have taken note of Banedanmark's and Swedish Transport Administration's statements. Their statements also contain forms and detailed descriptions for each country's handling of allocation of capacity issues, etc.

See: www.bane.dk
www.SwedishTransportAdministration.se
www.rne.eu

The parties' main tasks relate to the following activities:

4.1.1 Allocation of train path and timetable construction

Allocation of capacity to those parties that have applied.

4.1.2 Timetable and train plan periods

The parties draw up a timetable for the work on the train schedule. The timetable is presented annually, following which Øresundsbro Konsortiet shall state its order of priority.

4.1.3 Application for train path

The application 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 Øresundsbro Konsortiet shall be forwarded as soon as possible and no later than 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 Øresundsbro Konsortiet with continuous information on applications and timetable proposals presented during the train scheduling process.

4.1.4 Conflict resolution

In case of conflict regarding requests for train paths, Banedanmark and the Swedish Transport Administration consult with interested parties to seek optimum solutions.

Determination of the train schedule.

Øresundsbro Konsortiet establishes the train plan for Øresundsbro 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.

4.1.5 International timetable planning

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

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

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, Øresundsbro 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 Øresundsbro Konsortiet to keep all parties informed continuously on Øresundsbro Konsortiet's current regulations for rail traffic.

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

4.1.7 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 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:

Øresundsbro Konsortiet has agreed with Banedanmark and the Swedish Transport Administration that Øresundsbro Konsortiet does not have overall coordination responsibility and that this is regulated by special agreements. Øresundsbro 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 Øresundsbro Konsortiet is responsible.

4.2 Description of the capacity allocation process

An applicant is assigned capacity with a view 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 can be allocated to free locations.

Ad hoc allocation process

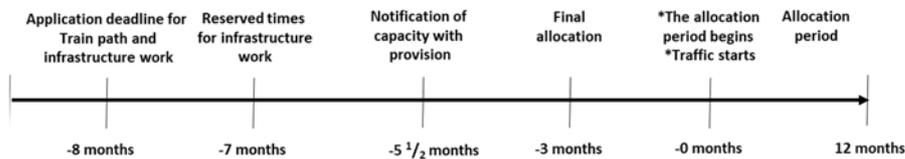
Applications for access services and other track work that are submitted after "Date of application for access services, international" are handled in an ad hoc allocation process. However, ad hoc applications are handled differently depending on when they arrive in relation to the various process steps.

4.3 Plan for the allocation process

This is done in accordance with the respective Banedanmark and Swedish Transport Administration network statements.

4.3.1 *Deadlines for the process*

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



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

Øresundsbro Konsortiet announces its overall requirement for work-related shut-downs. 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/Swedish Transport Administration (Øresundsbro 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 *Preliminary proposal for timetable/train plan*

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 the "Preliminary draft train plan". The "Preliminary draft 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 "Preliminary draft 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 which 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.

4.3.3 *Proposal for train plan*

When the "Proposed train plan" is 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 "Proposed 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 steps are initiated. For details, see the following sections on coordination. Timetable: see Appendix 3.1. If the comments do not contain any need for changes, the train plan can be determined. In the "Proposed 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.

4.3.4 Coordination

Co-ordination aims to balance the needs of the applicants and the needs of Øresundsbro Konsortiet for time to maintain the infrastructure, in order to establish a train plan without conflicts of interest. During the coordination Banedanmark and/or 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. Timetable: See Appendix 3.1.

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.

4.3.5 Conflict resolution

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, Øresundsbro Konsortiet calls the parties involved to a conflict resolution council where Øresundsbro 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 determined.

4.3.6 Overloaded infrastructure

If there are still conflicts of interest that remain unresolved after coordination, Øresundsbro Konsortiet shall declare the affected part of the infrastructure to be overloaded. Øresundsbro Konsortiet, notifies the applicant of the decision and publishes it on the website: www.oresundsbron.com. 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 overloaded allows Øresundsbro Konsortiet to unilaterally determine the conflict of interest by applying priority criteria for allocating capacity to applicants affected by the conflict of interest. For details on prioritisation criteria see the section on prioritisation criteria. If track is declared overloaded, a capacity analysis and a capacity enhancement plan is to be prepared.

In the allocation process for the 2019 train plan, as regards Swedish territory, Øresundsbro Konsortiet intends not to take advantage of the possibility of giving preference to those paying an additional fee on an overloaded 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, Øresundsbro Konsortiet can report that this part of the infrastructure is overloaded before the coordination begins. So far, Øresundsbro Konsortiet has not declared that any part of the track is overloaded due to an apparent significant capacity shortage. If a conflict of interest between train paths and other track work leads to overloading a track, Øresundsbro Konsortiet shall allocate capacity for the track work where it is deemed to be most favourable to traffic 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. Øresundsbro 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.

4.3.7 Capacity analysis

No later than six months after the infrastructure has been declared overloaded, Øresundsbro Konsortiet shall publish a capacity analysis on Øresundsbro Konsortiet's website: www.oresundsbron.com

The capacity analysis shall be carried out on the basis of the overloaded infrastructure decision.

The capacity analysis states:

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

4.3.8 Capacity enhancement plan

Within six months after a capacity analysis under section 4.3.7, Øresundsbro Konsortiet publishes a capacity enhancement plan on Øresundsbro Konsortiet's website www.oresundsbron.com. The plan is drawn up after consultation with those using the overloaded infrastructure and indicates:

- the cause of overloading
- 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 on the basis of 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 overloaded infrastructure and this plan is in the process of being implemented, no new capacity analysis or capacity enhancement plan is prepared.

4.4 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 track work plan. 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, Øresundsbro Konsortiet can, without affecting the total time required for the track work, bring forward or postpone the starting time specified in BanArbetsPlanen (the track works plan), Appendix 3.2, Planned major track work. In order to select the works to be included in the railway network statement, Øresundsbro 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 involves 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 4.4.1 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.

4.4.1 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.

4.4.2 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 passengers and freight customers can get reliable information about which trains will run etc.) 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 time).

4.4.3 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 – "Øresundsbro Konsortiet" – to the railway undertakings. Additional definition of system and interval shutdowns can be found in the section "Definitions" below.

Banedanmark and the Swedish Transport Administration – "Øresundsbro Konsortiet" – 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) malfunction 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	Rail 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. 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.

Øresundsbro 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 Øresundsbro Konsortiet's requirements in times of 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, Øresundsbro 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 Øresundsbro 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 each infrastructure work.

Use of the liquidity principle

In order to optimise the planning and use of the suspended track, the works are notified at X-12 months liquidity up to N-4 months.

Øresundsbro Konsortiet therefore has the option to "exchange" a notified shutdown to an alternative track shutdown. This can only be done if it is calculated by X-12 month:

- Total service for end customer (passenger and freight customers), defined as the number of paths that are not unsafe
- Financially, 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.

Concept for interval shutdowns

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

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 at evening and night (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).

4.4.4 Management by objectives

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

4.5 Allocated capacity not utilised

If allocated capacity following allocation is not used, Banedanmark and 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 taken into account in a subsequent allocation of train paths.

4.6 Special transport

4.6.1 Train path with special transport

Application for train paths for special 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 a special transport. The decision usually contains an on call requirement within a certain period before special transport can be carried out. The train path for special transport is determined in the allocation process in accordance with the conditions of transport.

4.6.2 Train path with dangerous goods

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

4.7 Special measures in case of disruptions

4.7.1 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 restore the capacity of a damaged track section promptly, there are special procedures for accident management.

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

4.7.2 Operational rules

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 (Øresundsbro 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 (eg 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 (Øresundsbro 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 (Øresundsbro Konsortiet) always aim to eliminate traffic disruptions in the smoothest way possible and restore traffic to the scheduled timetable.

4.7.3 Predictable problems

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

4.7.4 Non-predictable problems

Clearance and emergency situations

A railway undertaking is obliged 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 and to and from the accident site is conducted by Øresundsbro Konsortiet, or those appointed by Øresundsbro Konsortiet. Accident site means the area limited by the nearest non-affected stations on either side of the accident site to the fixed boundaries that Øresundsbro 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 Øresundsbro Konsortiet. If an agreement cannot be reached, Øresundsbro 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 JNB 2020 Appendix 2 A, information is to be provided prior to the train's departure. Before clearance, Øresundsbro Konsortiet reserves the right to disassemble the railway undertaking's pantograph. In emergency situations, Øresundsbro Konsortiet may remove the pantograph using the methods that the situation requires. Øresundsbro Konsortiet is not responsible for damage to the pantographs. If the railway undertaking's vehicle or its pantograph type is not found in the above-mentioned JNB 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 Swedish Transport Administration (Øresundsbro Konsortiet). In such cases, such personnel are to perform the earthing work, tying down or disassembly of the pantograph.

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.

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. Available on Øresundsbro Konsortiet's website: www.oresundsbron.com.

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.

4.8 Special transports and dangerous goods

Special transports

Transport permits for special transports are issued by Banedanmark for the Danish part of Øresundsbro Konsortiet's railway and the Swedish Transport Administration for the Swedish part.

Dangerous goods

The responsibility for dangerous goods transported by train rests with 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.

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: E-mail: 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 to obtain access to the railway infrastructure. In addition, the infrastructure manager may choose to provide certain supplementary services and extra services.

5.1.1 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 signal systems, traffic monitoring, train clearance 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.

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

5.1.2 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 refueling 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 Øresundsbro Konsortiet's railway. For other rail access services, please refer to Banedanmark and Swedish Transport Administration.

5.1.3 Supplementary Services

Traction current

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

5.1.4 Extra services

Øresundsbro Konsortiet can provide extra services in the form of assistance for railway personnel in the case of special transport, such as the need for the reset of the axle counting system when transporting vehicles with a wheel diameter less than 300 mm, shutdown of track when moving FOMUL (fixed objects between the survey section and the load profile boundaries) for transport with excess load and the like. Please refer to item 6.2.4 Additional Services

6. Charge basis

6.1 Essentials

Charges for traffic are set out in the Swedish-Danish Government Agreement of 1991. This determines that Øresundsbro 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, Øresundsbro Konsortiet can require an additional diesel charge. The fee is justified by the extra pollution caused by diesel operations in the Øresund tunnel.

6.2 Charges

6.2.1 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 www.bane.dk

6.2.2 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 Swedish Transport Administration's railway network statement www.Swedish Transport Administration.se

6.2.3 Quality charges

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 travelled on Swedish territory 23.6km - 29.1km.

Danish part

On the Danish state track sections, a form of quality charge "performance scheme" has been introduced. The Danish Government has exempted Øresundsbro Konsortiet from this system and has exempted Øresundsbro Konsortiet from entering into quality charge agreements. This is because it does not add anything. 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.

6.2.4 Charges for extra services

Charges for the services Øresundsbro 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 Track works plan (BAP) Track works book
4. Load profiles
5. Catenary system and alignment. R5G00/R5G-2840
6. Radio system R5G00/R5G-2841
7. Interlocking system and ATC R5G00/R5G-2842
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 seen from Sibbarp: Rolf Sundqvist

Safety organisation in relation to rail safety

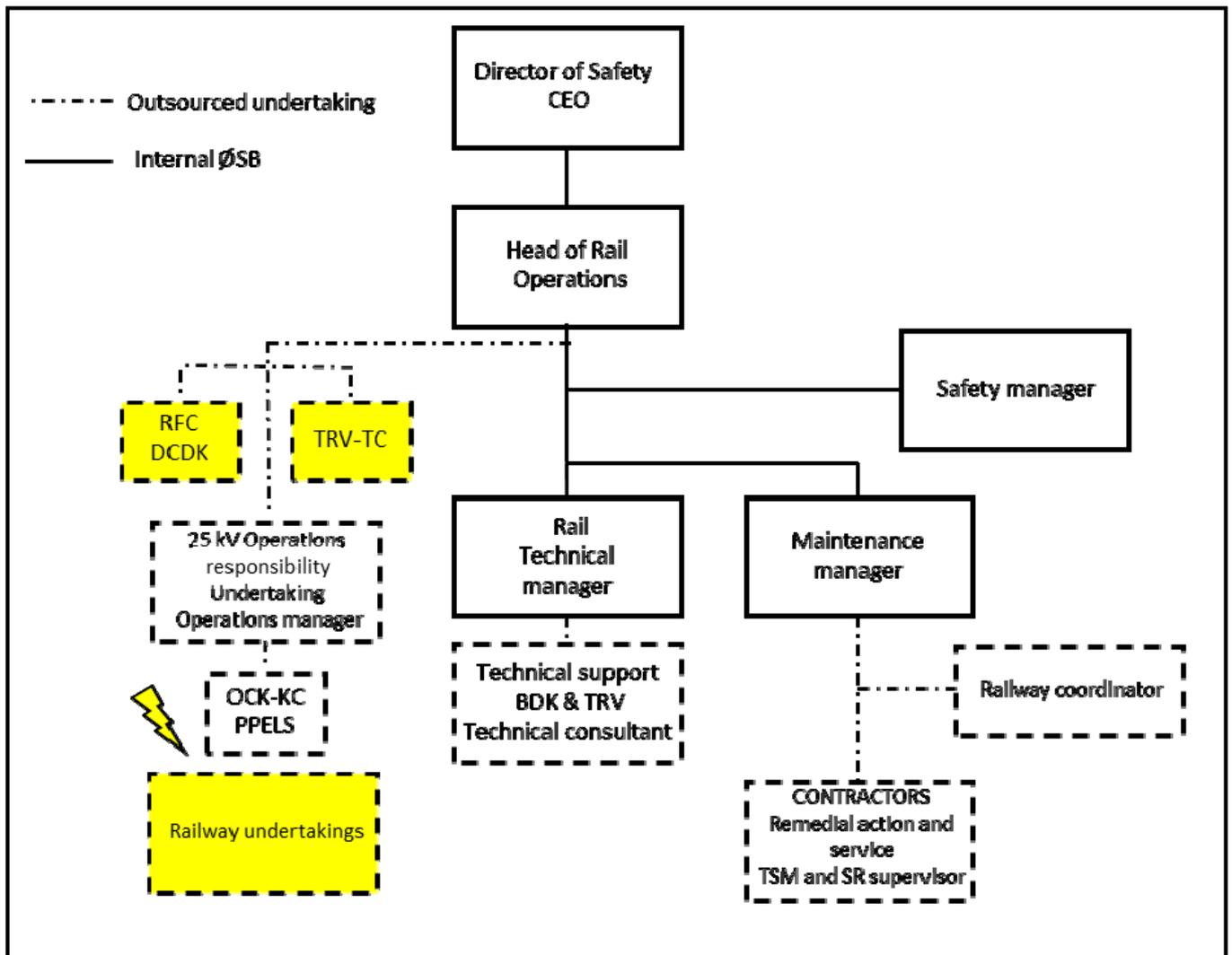


Figure: Safety organisation in relation to rail safety

Responsibility co-ordination within Øresundsbro Konsortiet

Responsibility	Performance-related responsibility	Coordination & control responsibilities	Overall responsibility, such as approval of changes and exemptions
1 Who has overall responsibility for safety in the company?	SL	CJ	VD
2 Who is responsible for ensuring that personnel with safety duties meet the training requirements?	TA + UL	SL	CJ
3 Who is responsible for traffic management?	*	SL	CJ
4 Who is responsible for ensuring that the necessary rules, standards and guidelines, etc. of importance to safety are in place?	SL+TA	CJ	CJ
5 Who is responsible for ensuring compliance with the safety regulations?	CJ + UL	SL	CJ
6 Who is responsible for the systematic and statistical oversight of safety-related events?	SL	CJ	CJ
7 Who is responsible for ensuring that only safety-approved rolling stock is used?	**	UL	CJ
8 Who is responsible for the safety maintenance of the rolling stock used by the railway infrastructure manager?	□	□	□
9 Who is responsible for ensuring that only safety approved subsystems are used in the railway infrastructure?	TA+UL	SL	CJ
10 Who is responsible for the safety-related maintenance of the railway infrastructure?	TA	SL-UL	CJ
11 Who is responsible for ensuring the existence of written agreements with suppliers with regard to duties with safety-related content?	CJ+UL	SL-TA	CJ
12 Who is responsible 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 Who is responsible for the investigation and follow-up of safety-related events?	SL	CJ	CJ
14 Who is responsible 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 200
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: Øresundsbro Konsortiet
 VD: Chief Executive (CEO)
 TRV: Swedish Transport Administration
 LOC: Lernacken Operation Centre
 BDK: Banedanmark
 CJ: Head of Railway Operations

Appendix 3.1

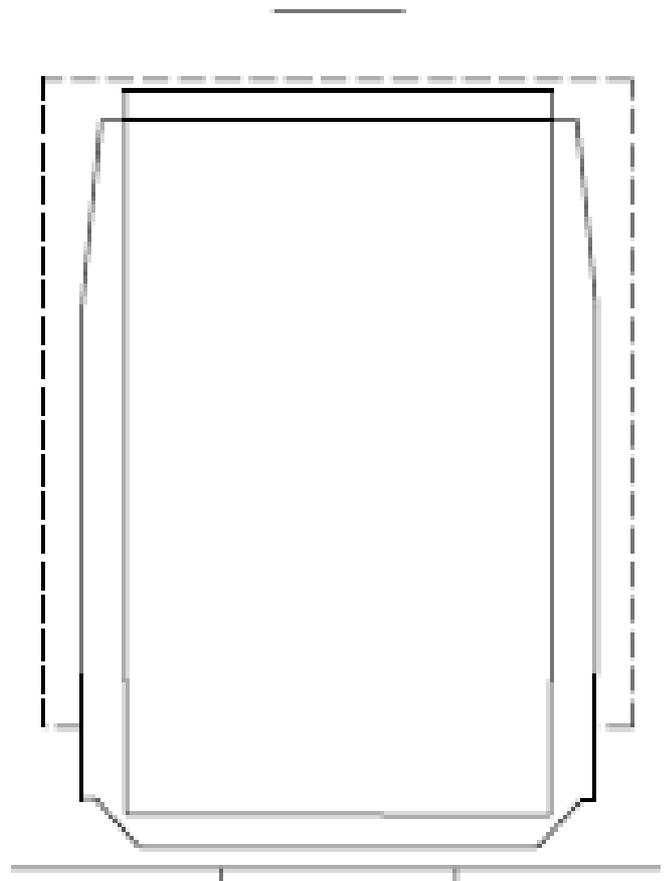
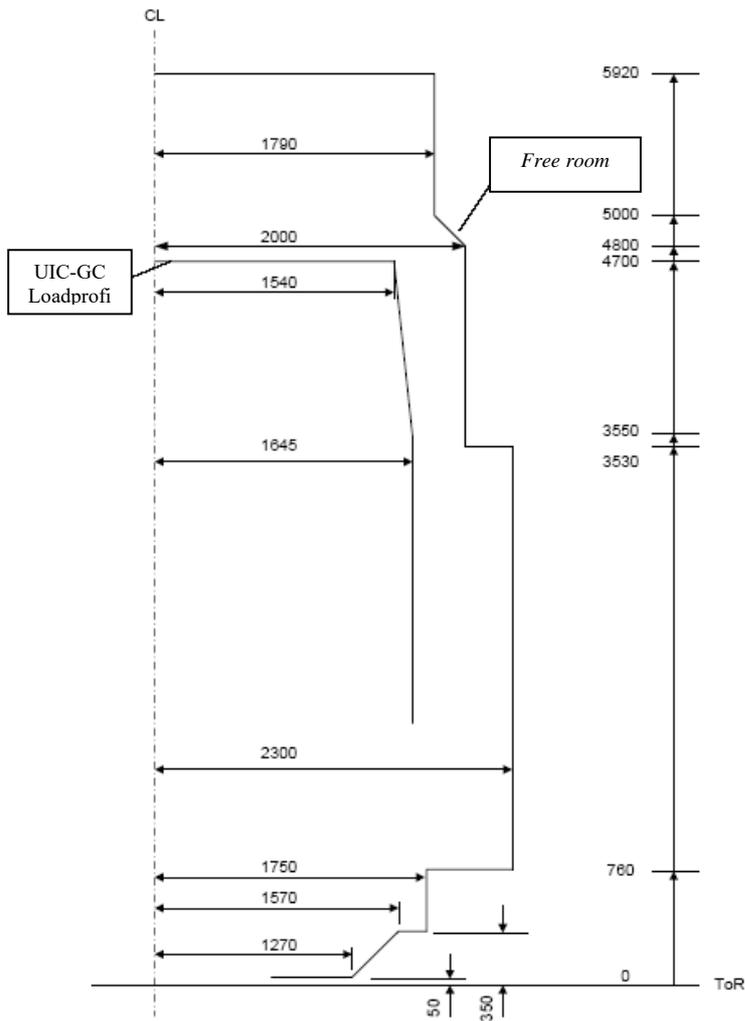
Timetable for train plan work (overview)

*Timetable for train plan work 2020 (2019-12-15 – 2020-12-12) ØSB section 4.3.1.

- 2019-04-09: Date of application for access services, internationally and nationally.
- 2019-06-11 - 14: RNE timetable technology conference.
- 2019-07-01: 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>)
- 2019-07-02 -2019-08-02: Comment and coordination period for the international border crossing times.
- 2019-08-19: Notification of approved border crossing times.
- 2019-09-20: Draft train plan/timetable 2020 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>)
- 2019-10-22: First day of ad-hoc application train plan 2020
- 2019-12-15: Timetable 2020 applies (traffic start).

Appendix 4 4

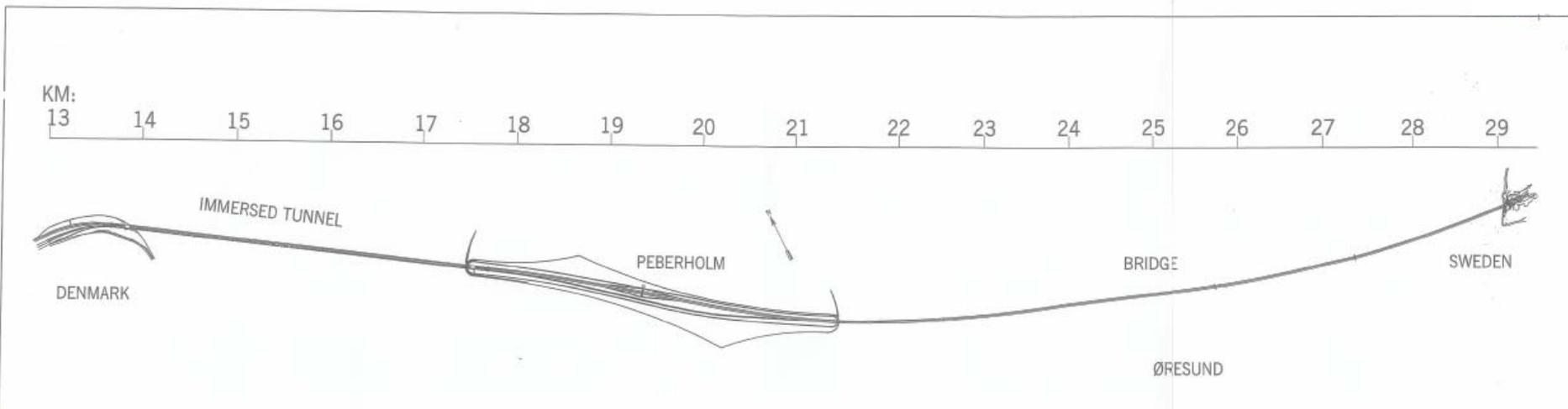
Measurements of loading profiles that can be allowed on the Øresund link 12,854-29,795 km both tracks as well as all transversals.



UIC load profile GC = "Gabarit C", where "gabarit" is the load profile in French.

UIC GC = 3.15 m x 4.65 m, top slightly smaller, top width 2.91 m, static dimensions.

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



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

THE ØRESUND LINK

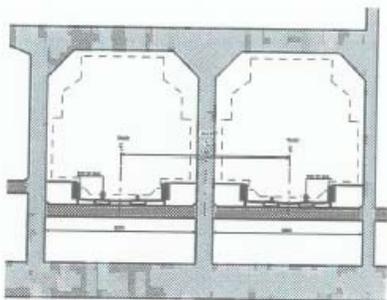
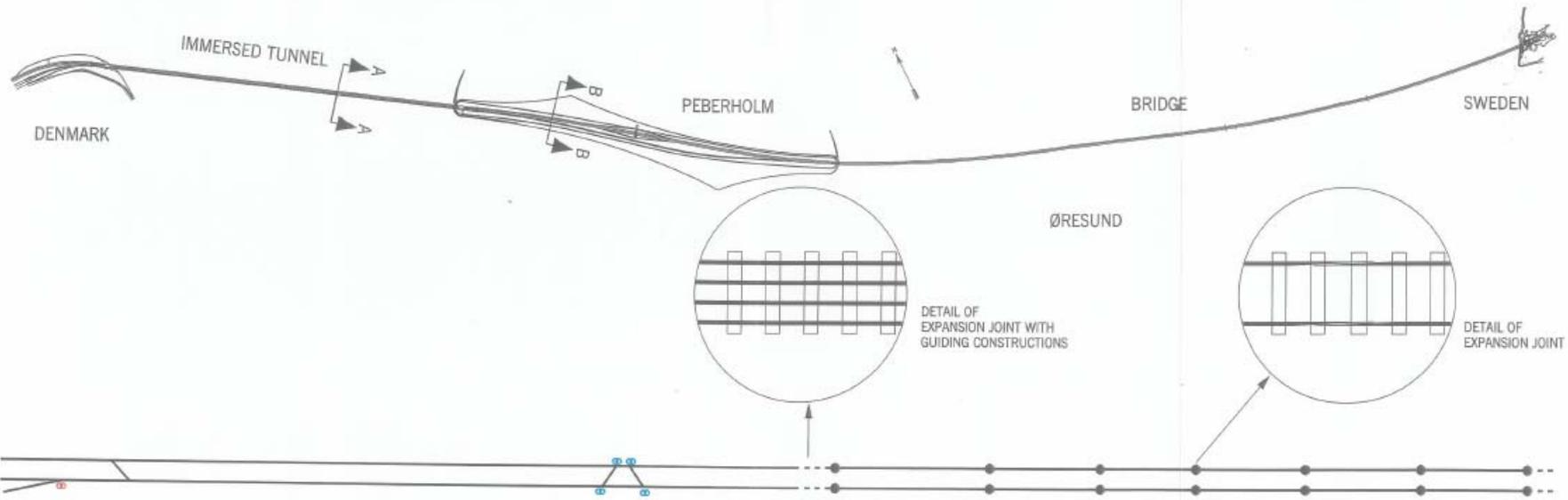


 ØRESUND
 KONSORTIET

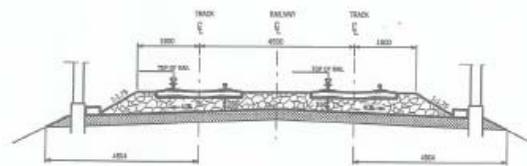
Title
 RADIO SYSTEM
 R5G00 / R5G - 2841

Bilag 6

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



A - A



B - B

LEGEND:

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

GENERAL NOTES:

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

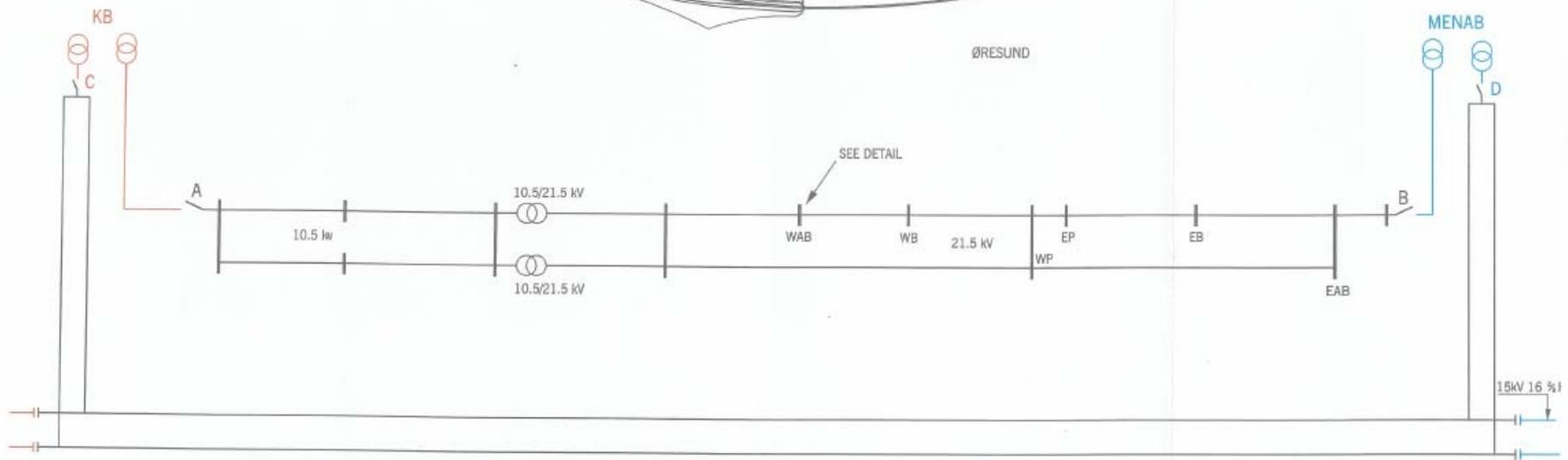
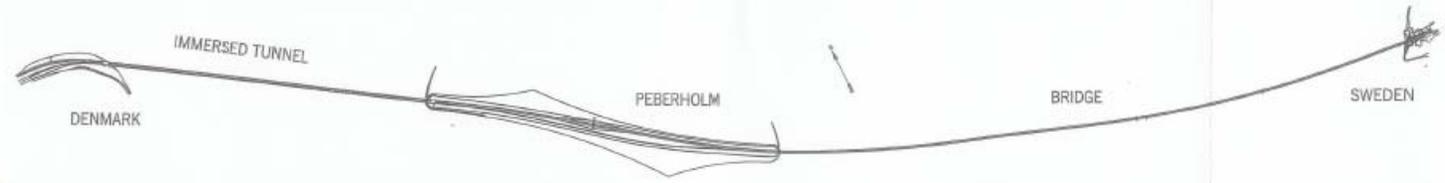
THE ØRESUND LINK



Title

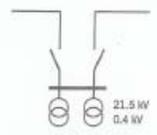
TRACK SYSTEM AND POINT HEATING
R5G00 / R5G - 2843

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



TÅRNBY NEUTRAL SECTION 25 kV 50Hz RAILWAY CATENARY SYSTEM LÆRNACKEN NEUTRAL SECTION

DETAIL OF HV EQUIPMENT



NO'S OF TRANSFORMERS MAY VARY

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 SEPARAT 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

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

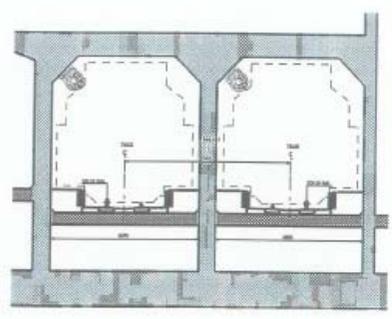
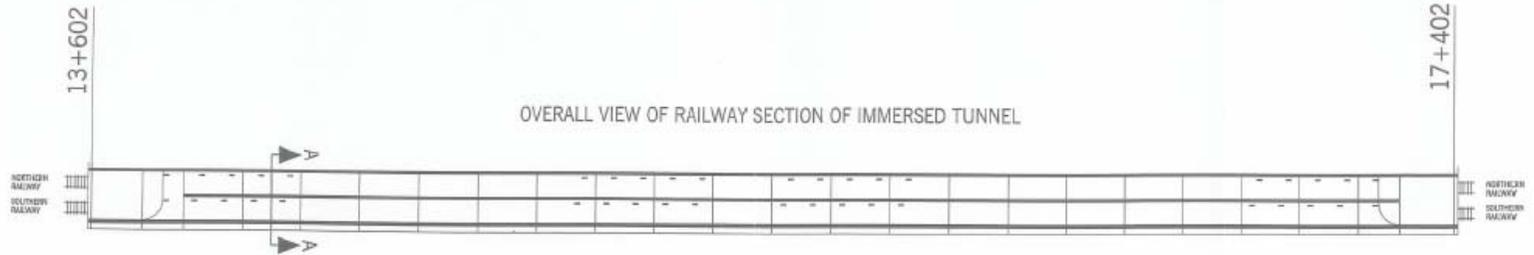
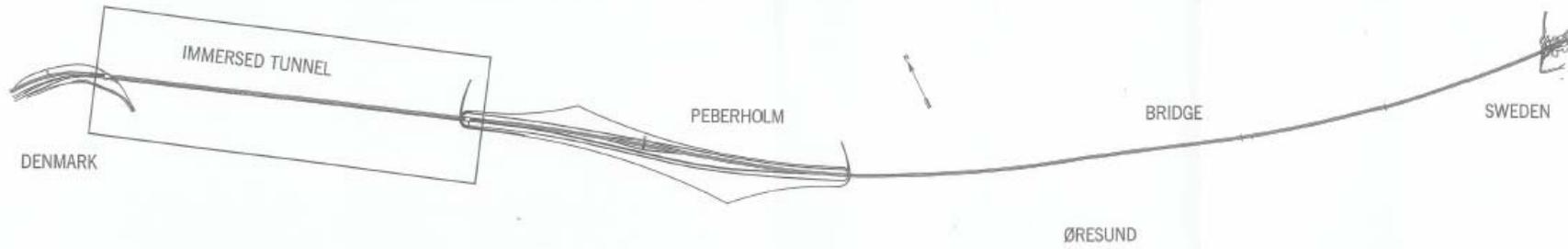
THE ØRESUND LIN



HIGH VOLTAGE SYSTEM
 R5G00 / R5G - 2844

Bilag 9

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



A - A

LEGEND:

— AXIAL FAN

GENERAL NOTES:

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

THE ØRESUND LIN



TITEL
TUNNEL VENTILATION SYSTEM
R5G00 / R5G - 2845

Bilaga 10

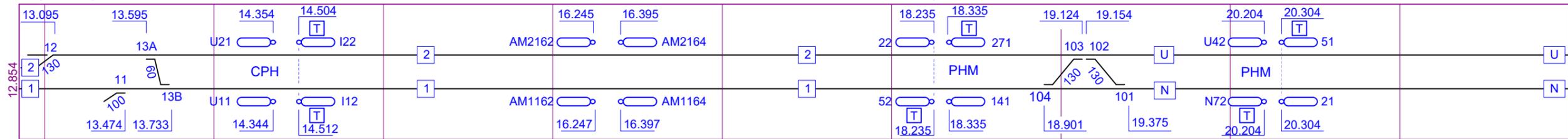
Km/h Speed profile

Km/h

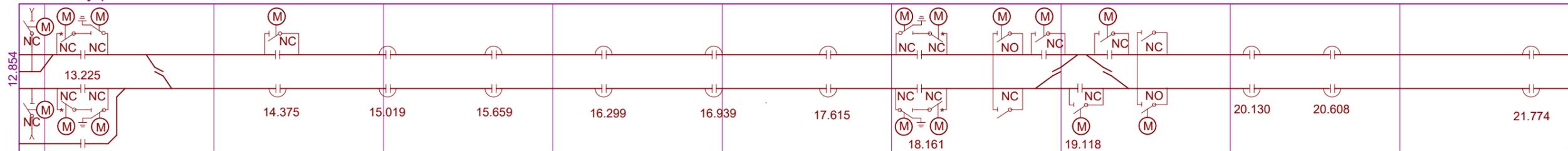


Danish / Swedish system border

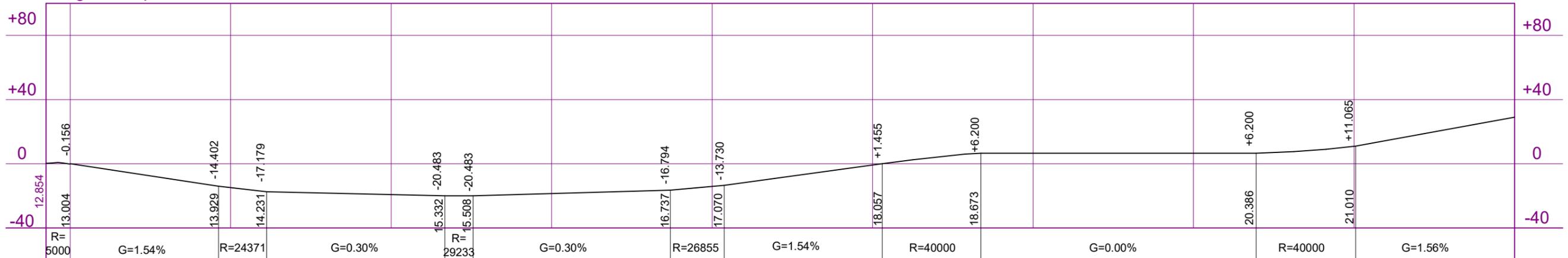
Signalling plan



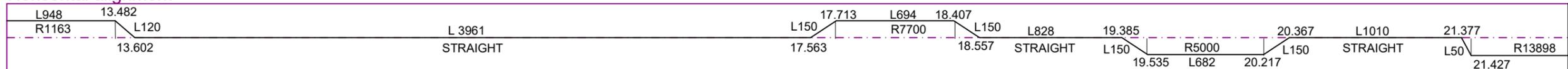
Catenary plan



Longitudinal profile



Horizontal alignment



The drawing is only illustrative and may not be used for construction or maintenance.

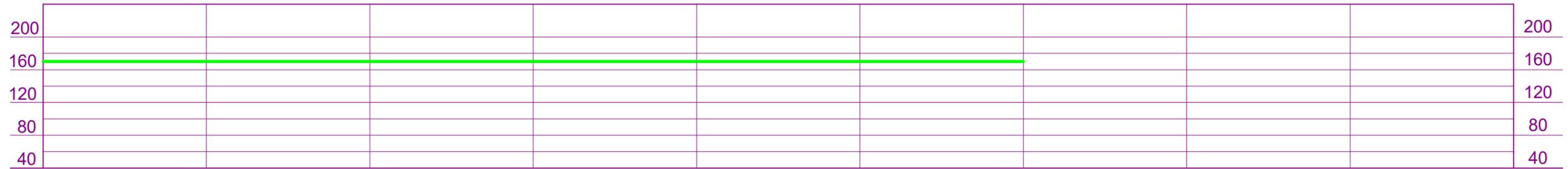
Ver.	Uppgjord	Kontrollerad	Godkänd	Datum
B	LaE		RSu	2003-03-14
1	LaE		RSu	2008-10-08
3	LaE		RSu	2009-06-14

Scale
length 1:25000
height 1:2500



Register of Infrastructure Kastrup - Lernacken
Appendix 11, Line overview, Page 1(3)

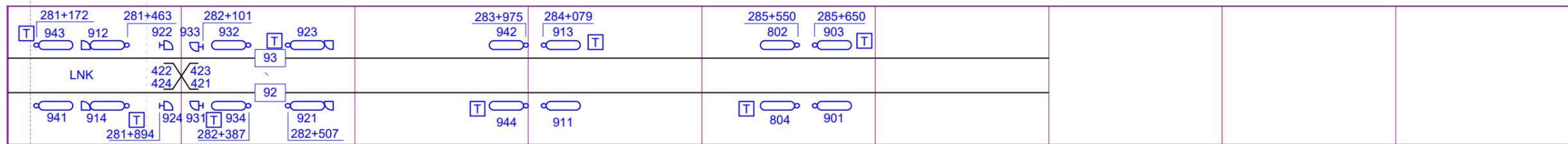
Km/h Speed profile



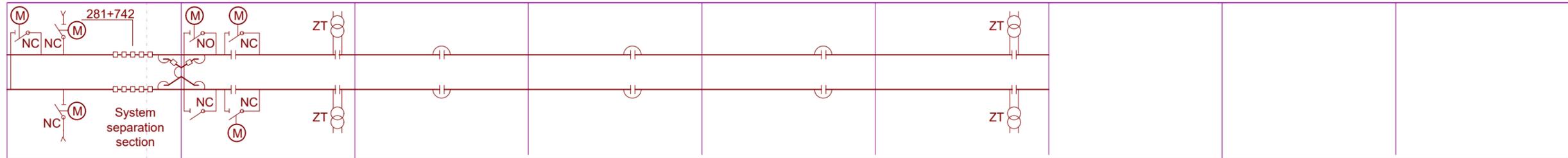
29.000 282+000 283+000 284+000 285+000 286+000 287+000

Border between Infrastructure owners 281+810
 Connection
 (U) 29.137,5=281+152,295 (93)

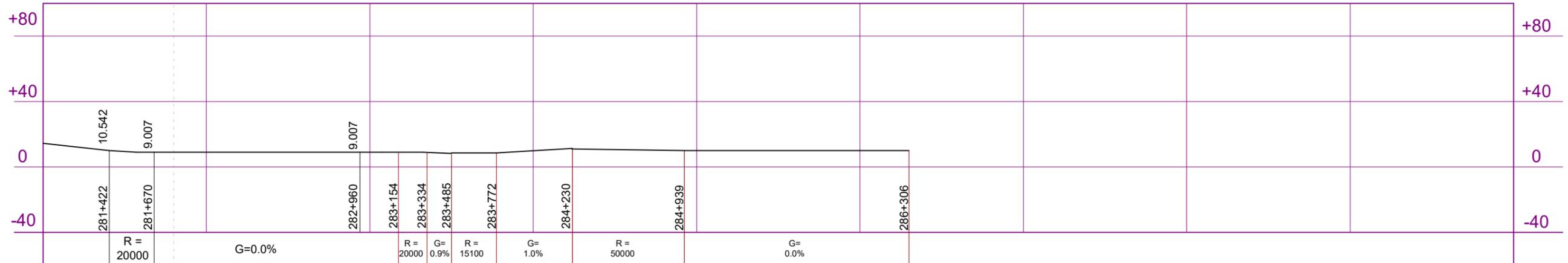
Signalling plan



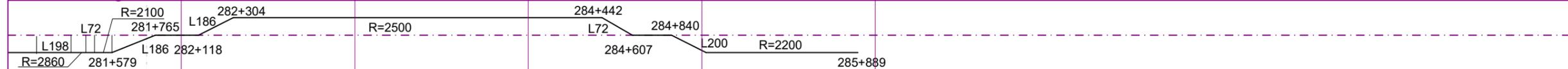
Catenary plan



Longitudinal profile



Horizontal alignment



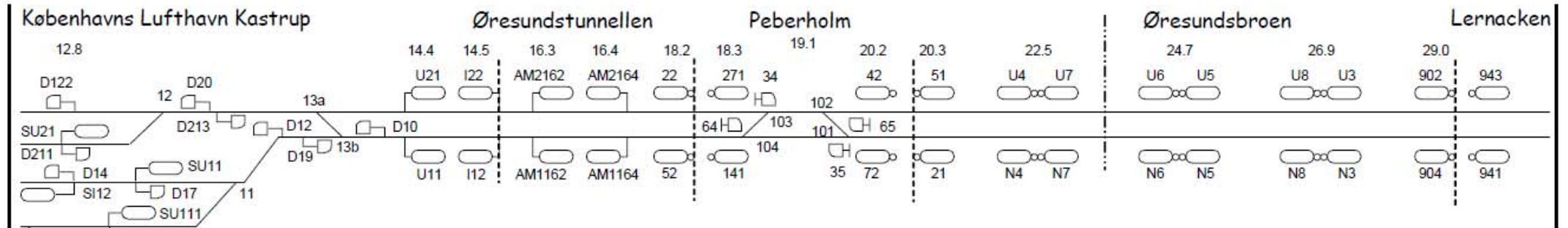
The drawing is only illustrative and may not be used for construction or maintenance.

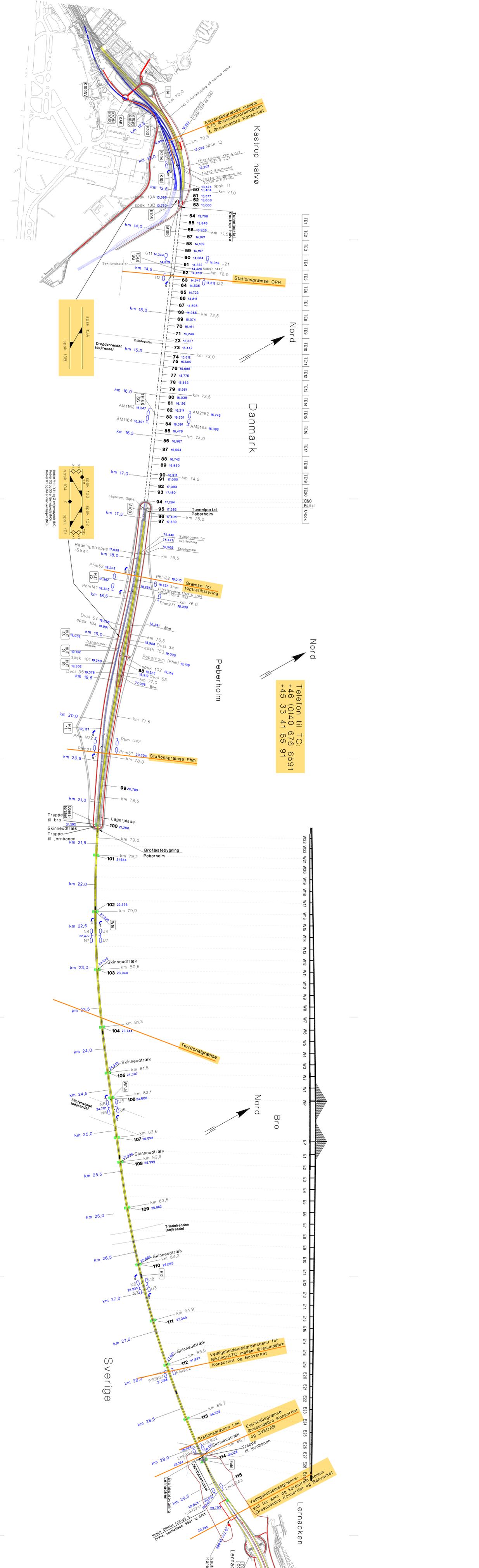
Ver.	Uppgjord	Kontrollerad	Godkänd	Datum
B	LaE		RSu	2003-03-14
1	LaE			2008-10-08
3	LaE		RSu	2009-06-14

Scale
 length 1:25000
 height 1:2500



Overview track plan Coast to Coast





Telefon til TC:
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 +45 33 41 65 91

ØRESUND BRØN

HANSEN & HENNEBERG

Regulerende Ingeniører A/S

THE ØRESUND LINK

Øresund Kyst-Kyst Anlæg
 Oversigtstegning 1:50.000

Dato	2002-06-13	Tegning nr.	5532-100	Revisión	1
Tegnet	USA	Udført	MJB	Kontrolleret	NIS
Dato	2002-06-13	Tegning nr.	5532-100	Revisión	1

Symboler:

- 50-99 Demr.
- 100-115 Trapper
- 116-125 Motorvej
- 126-135 Jernbanevej
- 136-145 Signal, jernbane
- 146-155 Signal, jernbane (Løst)
- 156-165 km 00000
- 166-175 km 00000
- 176-185 km 00000
- 186-195 km 00000
- 196-205 km 00000
- 206-215 km 00000
- 216-225 km 00000
- 226-235 km 00000
- 236-245 km 00000
- 246-255 km 00000
- 256-265 km 00000
- 266-275 km 00000
- 276-285 km 00000
- 286-295 km 00000
- 296-305 km 00000
- 306-315 km 00000
- 316-325 km 00000
- 326-335 km 00000
- 336-345 km 00000
- 346-355 km 00000
- 356-365 km 00000
- 366-375 km 00000
- 376-385 km 00000
- 386-395 km 00000
- 396-405 km 00000
- 406-415 km 00000
- 416-425 km 00000
- 426-435 km 00000
- 436-445 km 00000
- 446-455 km 00000
- 456-465 km 00000
- 466-475 km 00000
- 476-485 km 00000
- 486-495 km 00000
- 496-505 km 00000
- 506-515 km 00000
- 516-525 km 00000
- 526-535 km 00000
- 536-545 km 00000
- 546-555 km 00000
- 556-565 km 00000
- 566-575 km 00000
- 576-585 km 00000
- 586-595 km 00000
- 596-605 km 00000
- 606-615 km 00000
- 616-625 km 00000
- 626-635 km 00000
- 636-645 km 00000
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- 676-685 km 00000
- 686-695 km 00000
- 696-705 km 00000
- 706-715 km 00000
- 716-725 km 00000
- 726-735 km 00000
- 736-745 km 00000
- 746-755 km 00000
- 756-765 km 00000
- 766-775 km 00000
- 776-785 km 00000
- 786-795 km 00000
- 796-805 km 00000
- 806-815 km 00000
- 816-825 km 00000
- 826-835 km 00000
- 836-845 km 00000
- 846-855 km 00000
- 856-865 km 00000
- 866-875 km 00000
- 876-885 km 00000
- 886-895 km 00000
- 896-905 km 00000
- 906-915 km 00000
- 916-925 km 00000
- 926-935 km 00000
- 936-945 km 00000
- 946-955 km 00000
- 956-965 km 00000
- 966-975 km 00000
- 976-985 km 00000
- 986-995 km 00000
- 996-1005 km 00000

Tegningen må kun anvendes som
 autoriseret afleveringsmateriale til
 projekter og projekteringer for hver
 enkelt kontrakt. Præcise oplysninger for hver
 kontraktområde fås fra detaljtegningerne

Rev.	1	Beskrivelse	REU	Udført	MJB	Kontrolleret	NIS	Godkendt	07.03.2005
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