

**ORGANISATION EUROPEENNE POUR LA RECHERCHE NUCLEAIRE  
EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH**

Laboratoire Européen pour la Physique des Particules  
European Laboratory for Particle Physics

# INSTITUTE

## OVERALL HEALTH AND SAFETY PLAN

### INSTALLATION OF THE SUPPORT STRUCTURE FOR THE LHCb OUTER TRACKING SYSTEM

**INSTITUTE: PHYSIKALISCHES INSTITUT  
UNIVERSITÄT HEIDELBERG**

Address: Philosophenweg 12, 69120 Heidelberg, Germany

Tel: 06221/549336

Fax: 06221/475733

Email: [Bachmann@physi.uni-heidelberg.de](mailto:Bachmann@physi.uni-heidelberg.de)

Starting date of the operation:

**PLEASE NOTE THAT A COPY OF THIS DOCUMENT MUST BE KEPT ON SITE**

Company /Institute

Written by: Sebastian Bachmann

Drawn up on: 22.3.2006

Sent on:

Received by the Co-ordinators TS/HDO on

## UPDATES

[illegible]

## **A - THE GENERAL PRESENTATION AND GENERAL ORGANISATION OF THE SITE**

**Institute:** Physikalisches Institut, Universität Heidelberg  
**Profession:**

### **DESCRIPTION OF THE OPERATION TO BE CARRIED OUT**

**INSTALLATION OF THE SUPPORT STRUCTURE FOR THE LHCb OUTER TRACKING SYSTEM**

#### **Period of execution**

Start Date: 27.3.2006

Completion Date: 30.5.2006

#### **Effective**

Average:

Maximum:

## **1 - SITE ADMINISTRATION**

Site address: CERN CH – 1211 Geneva 23

Access to the site by point 8

All personnel should use the PM elevator to access the underground areas.

**The Declaration Date For The Start Of The Work:**

Authorisation to start work given on: 00/00/00

## 2- THE ORGANISATION FOR THE APPLICATION OF THE OVERALL HEALTH AND SAFETY PLAN

	Recipient of the overall safety plan	Tel.	Fax	
<b>Company Structure</b>				
Technical Coordinator for the Institute: Sebastian Bachmann..... His Role: Physicist	X	0041-22-767-5826		
CERN Works Engineer for the Institute  Henk Schuiljenburg Role and means of carrying out his function Engineer	X	0041-22-767-6309		
Site Manager CERN work supervisor for the Institute: Sebastian Bachmann	X	0041-22-767-5826		
Manager responsible for security or CERN GLIMOS for the Institute	-			
Assistance, in coordination and in charge of actions in relation to safety problems				

## 3- PERSONS CONCERNED BY THE OVERALL HEALTH AND SAFETY PROTECTION PLAN

Intervenants	Name	Address	Tel.	Fax	Email
<b>Safety coordination CERN (TS/HDO)</b>	Jean Weber Emmanuel Paulat John Etheridge	CERN Bat 112-4-C27 1211 Geneve 23	00-41-22-767-1384 00-41-76-487-4649 00-41-22-767-3262 00-41-76-487-3870 00-41-22-767-9936 00-41-76-487-4647	00-41-22-767-9104	<a href="mailto:Jean.Weber@cern.ch">Jean.Weber@cern.ch</a> <a href="mailto:Emmanuel.Paulat@cern.ch">Emmanuel.Paulat@cern.ch</a> <a href="mailto:John.Etheridge@cern.ch">John.Etheridge@cern.ch</a>
<b>MAITRE D'OEUVRE CERN</b>	Chef de group CERN or representative	CERN 1211 Geneva 23			
<b>INSPECTION DU TRAVAIL</b> (HSE work inspectorate)	Madam A. Grandjean.	16,Place de la Grenouillère 01012 BOURG EN BRESSE Cedex	04-74-45-91-39	04-74-45-33-52	
<b>CRAM</b> (Regional health insurance authority)	Monsieur J.P. Magnin	35,rue Maurice Flandin 69003	04-72-91-96-96	04-72-91-97-09	
<b>O.P.P.B.T.P.</b> (Office of health and safety in the building and public works trade)	Monsieur B. Gavand	2, Place Gailleton 69002 Lyon	04-78-37-36-02	04-78-37-69-23	
<b>DEAL</b> (Site Inspectorate)	Monsieur J. C. Dutruel	5, rue David Dufour CH-1205 Geneva	022-327-40-70-	022-328-75-52	

<b>OCRIT (HSE Work Inspectorate)</b>	Monsieur J. Malleret	23, rue Ferdinand Holder C. P. 3974 1211 Geneva	022-319-28-50	022-735-45-18	
<b>SUVA</b>	Monsieur R. Parvex	158, Route d'Aire Case Postale 79 CH-1219	022-796-01-03	022-796-01-03	
<b>Médecine du travail (Work Doctor)</b>	Monsieur R. Strobel	CERN- Labo II Site de Preveessin BP 52 01631 CERN CEDEX	00-41-22-767-5356	00-41-22-767-7610	

**PLEASE NOTE A COPY OF THE PPSPS MUST BE SENT TO THE ABOVE STATUTORY BODIES**

## COMPANY AND EMPLOYEE INFORMATION

Name/Surname	Qualification / Institute	Certificates of Competence & Authorisation	Name of person with competent First Aid Skills	Special Medical Surveillance
Bachmann, Sebastian	Physicist, Univ. of Heidelberg			
Schuiljenberg, Henk	Engineer, Nikhef			
Rummel, Christian	Technician, Univ. of Heidelberg			
Rabenecker, Simon	Technician, Univ. of Heidelberg			
Stumpf, Kevin	Technician, Univ. of Heidelberg			
Fieser, Thomas	Technician, Univ. of Heidelberg			
Ziegler, Ralf	Technician, Univ. of Heidelberg			
Arink, Ruud	Technician, Nikhef			
Band, Hans	Technician, Nikhef			
Berbee, Edward	Technician, Nikhef			
Ceelle, Loek	Technician, Nikhef			
Pellegrino, Antonio	Physicist, Nikhef			
Van Petten, Oscar	Technician, Nikhef			
Spelt, Jan	Engineer, Nikhef			
Tuning, Niels	Physicist, Nikhef			
Haas, Tanja	Physicist, Univ. of Heidelberg			
Knopf, Jan	Physicist, Univ. of Heidelberg			
Deissenroth, Marc	Physicist, Univ. of Heidelberg			
Albrecht, Johannes	Physicist, Univ. of Heidelberg			

Blouw, Johan	Physicist, Univ. of Heidelberg			
Wiedner, Dirk	Physicist, Univ. of Heidelberg			
Uwer, Ulrich	Physicist, Univ. of Heidelberg			
Corajod, Bernard	Technician, CERN		yes	
Fournier, Cedric	Technician, CERN		yes	
Chadaj, Bernard	Technician, CERN	Permission to work in height		
Decreuse, Gerard	Technician, CERN	Permission to work in height		

## 5- SUB CONTRACTORS (THIS PAGE DOES NOT CONCERN THE WORK PACKAGE CONTRACTORS OR INSTITUTES WHO CARRY OUT THE WORK THEMSELVES)

Job	Company Name	Address	Responsible	Tel Fax Email	Start and Finish dates	Issues date of the Special Health and Safety Protection Plan	Co-activity

## 6- SITE HEALTH AND SAFETY ORGANISATION

### Health and Safety documents that must be kept on site:

- \*Staff Register:
- \*Register containing the observation made by Work Inspectorate and the remedial action taken
- \*A register containing the visits made by preventive organisations
- \*A register containing the visits made by organisations in charge of technical controls
- \*A copy of the certificate that states the employee is competent and medically fit
- \*An up to date copy of the Special Safety and Health Protection Plan

### Site signs and markings:

Site signs and markings are under CERN responsibility  
See the document issued at the end of the special LEP Access briefing



## Method of communication

From internal CERN Telephones: Dial 112

## From red Telephones: Direct

From a French portable telephone: Dial 00-41-22-767-444

Please us 00-41 from any Swiss Phone

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**Ever working team must have one occupational First Aider**

Number of Occupational First Aider: 1

Name: Bernard Corajod

Means of identification:

## 7.4. What to do in the event of an accident

### Instructions

#### **Protection**

Make sure there is no further danger: Protect yourself

If necessary stop the risk at source: Switch of the electricity, put out the fire...

Call the CERN Fire and Rescue Service

#### **First Aider**

Call the occupational First Aider

#### **Non-serious accidents**

The injured person shall be treated by one of the first aiders present on the work site

#### **Serious accidents**

The occupational first aiders will administrate whatever treatment they can, at the same time calling the CERN Fire and Rescue Service

#### **Message to be given (clarity, brevity, and dispatch)**

Here is the Physikalische Institut Heidelberg                      Sector... Site Preveessin (F) Point 8

Nature of accident:                      Collision, Falling from height, and burns

Number of injured

Condition of the injured party or parties

## 7.5. Qualified Personnel

Name:

Surname:

Qualification:

Professional Training

## 1.1 - Method Statement

Site: Point 8..... Work to be carried out: Installation of support structure of LHCb OT Trade:..... Person Responsible Sebastian Bachmann	Form N° Written by Sebastian Bachmann.
Work to be carried out  <b>WORK 1</b>	<p>Transport of support structure from surface – SX 8 to UX85.          Relevant technical drawings are attached to the document.          Support structure consists of</p> <ol style="list-style-type: none"> <li>1. Aluminium tables (Figure 1) consisting of              2 pieces, each made of approx. 350kg              Envelope = 3500 x 1700 x 900 mm<sup>3</sup>              (see also LHS-120.dxf)              3 pieces, each weighting approx. 350kg:              Envelope = 2500 x 800 x 600 mm<sup>3</sup>              (see also LHS-130.dxf)              3 pieces, each weighting approx. 350kg:              Envelope = 2500 x 800 x 600 mm<sup>3</sup>              (see also LHS-140.dxf)              3 pieces, each weighting approx. 350kg:              Envelope = 2350 x 800 x 600 mm<sup>3</sup>              (see also LHS-150.dxf)              3 pieces, each weighting approx. 350kg:              Envelope = 4300 x 800 x 600 mm<sup>3</sup>              (see also LHS-160.dxf)</li> <li>2. 2-feet Pillars (Figure 2):              1 piece weighing: approx. 750kg;              Envelope = 8000 x 1500 x 400 mm<sup>3</sup></li> <li>3. 4-feet Pillars (Figure 2):              2 pieces, each weighting: approx. 1500kg;              Envelope = 8000 x 1500 x 1500 mm<sup>3</sup></li> <li>4. Bridge (Figure 2):              Total weight: 10 t; Envelope = 18000 x 2200 x 1600 mm<sup>3</sup>              Details for the fixation points for the bridge are given in figure 3.              The handling of the bridge during the transport from SX8 to UX85 is described in detail in the documents bridge_handling1.pdf, bridge_handling2.pdf and bridge_handling3.pdf attached to this document.              (For 2., 3., and 4. see also 05.200.69.0001.dwg)</li> </ol> <p>For handling of the materials are available</p> <ol style="list-style-type: none"> <li>1. Pont roulant available at SX8 (80 tons)</li> <li>2. Ponts roulants available at UX85 (2x40 tons)</li> <li>3. Movable platform (100 tons)</li> <li>4.</li> </ol>
Risks	1.) General risks of handling heavy loads. 2.) Risk of materials to fall off during transportation with crane from

	SX8 to UX85
Preventive Actions  Measures to be taken	Mark off the zone, Prevent co-activities during transport of support structure from SX8 to UX85.
Personnel in charge of the realisation	Employees from the Physikalische Institut/Heidelberg and Nikhef/Amsterdam + Operators DBS for ponts roulants and movable platform.
Materials to be used	<ol style="list-style-type: none"> <li>1. Pont roulant available at SX8 (80 tons)</li> <li>2. Ponts roulants available at UX85 (2x40 tons)</li> <li>3. Movable platform (100 tons)</li> </ol>

## 1.2 - Method Statement

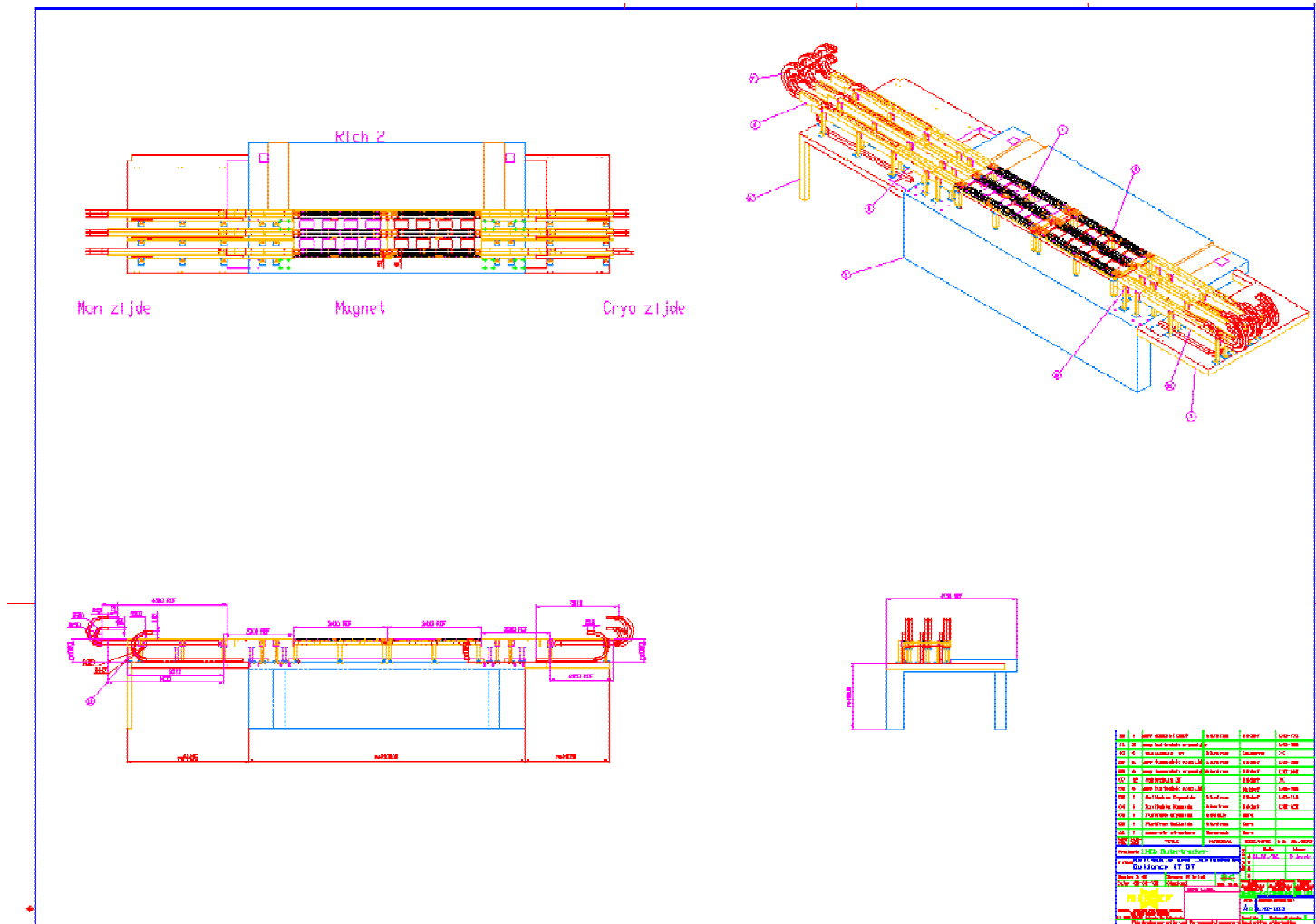
Site: Point 8..... Work to be carried out: Installation of support structure of LHCb OT Trade:..... Person Responsible Sebastian Bachmann		Form N° Written by Sebastian Bachmann.
Work to be carried out  <b>WORK 2</b>	Installation of aluminium tables on concrete bunker. Figure 4 shows the position of the beton support in the LHCb experiment and the aluminium table in its final position. The table will be brought into its final position using the pont roulant and fixed by means of screws.	
Risks	1.) General risks of handling heavy loads.	
Preventive Actions  Measures to be taken	Mark off the zone.	
Personnel in charge of the realisation	Employees from the Physikalische Institut/Heidelberg and Nikhef/Amsterdam + Operators DBS for ponts roulants and movable platform.	
Materials to be used	Ponts roulants available at UX85 (2x40 tons) Movable platform (100 tons)	

## 1.3 - Method Statement

Site: Point 8..... Work to be carried out: Installation of support structure of LHCb OT Trade:..... Person Responsible Sebastian Bachmann		Form N° Written by Sebastian Bachmann.
Work to be carried out  <b>WORK 3</b>	Erection of pillars to support OT bridge: Figure 5 shows the pillars in the final position. They are brought into their final position using the ponts roulant and are fixed by means of bolts.	
Risks	1.) General risks of handling heavy loads. 2.) General risks of working in height.	
Preventive Actions  Measures to be taken	Mark off the zone.	
Personnel in charge of the realisation	Employees from the Physikalische Institut/Heidelberg and Nikhef/Amsterdam + Operators DBS for ponts roulants and movable platform.	
Materials to be used	Ponts roulants available at UX85 (2x40 tons) Movable platform (100 tons)	

## 1.4 - Method Statement

Site: Point 8..... Work to be carried out: Installation of support structure of LHCb OT Trade:..... Person Responsible Sebastian Bachmann		Form N° Written by Sebastian Bachmann.
Work to be carried out  <b>WORK 4</b>	Installation of OT bridge: Figure 6 shows the bridge in its final position. They are brought into their final position by the ponts roulant and are connected to the pillars by means of bolts. The fixation points for the crane are shown in Figure 3. The connection between the OT bridge and the pillars is done by means of bolts as shown in figure 3.	
Risks	1.) General risks of handling heavy loads. 2.) General risks of working in height.	
Preventive Actions  Measures to be taken	Mark off the zone.	
Personnel in charge of the realisation	Employees from the Physikalische Institut/Heidelberg and Nikhef/Amsterdam + Operators DBS for ponts roulants and movable platform.	
Materials to be used	Ponts roulants available at UX85 (2x40 tons). Movable platform (100 tons).	



**Figure 1** Aluminium table, see also (LHS-100.dxf, LHS-120.dxf, LHS-130.dxf, LHS-140.dxf, LHS-150.dxf, LHS-160.dxf)



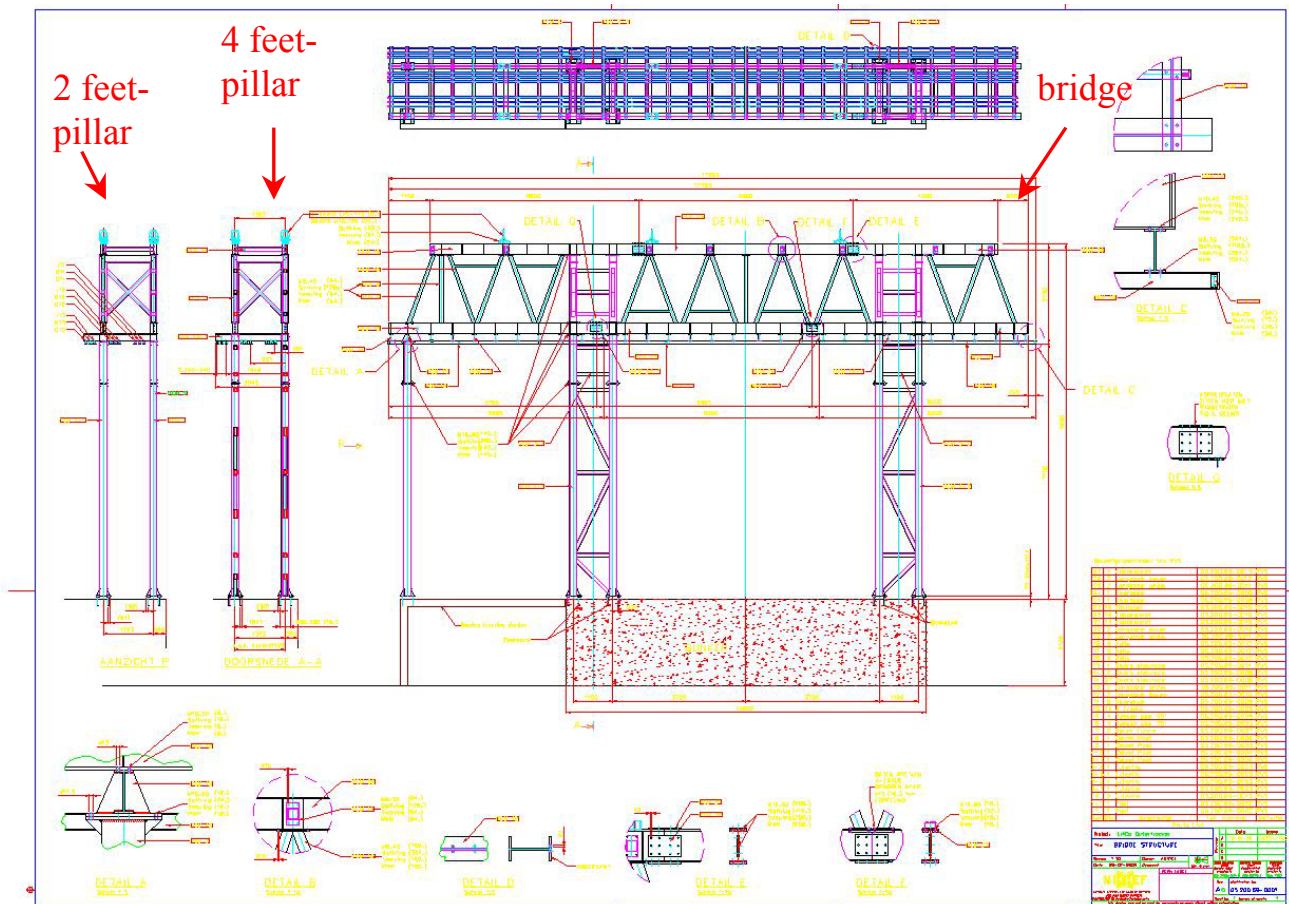


Figure 2 Bridge and pillars, see also drawing 05.200.69.0001.dwg

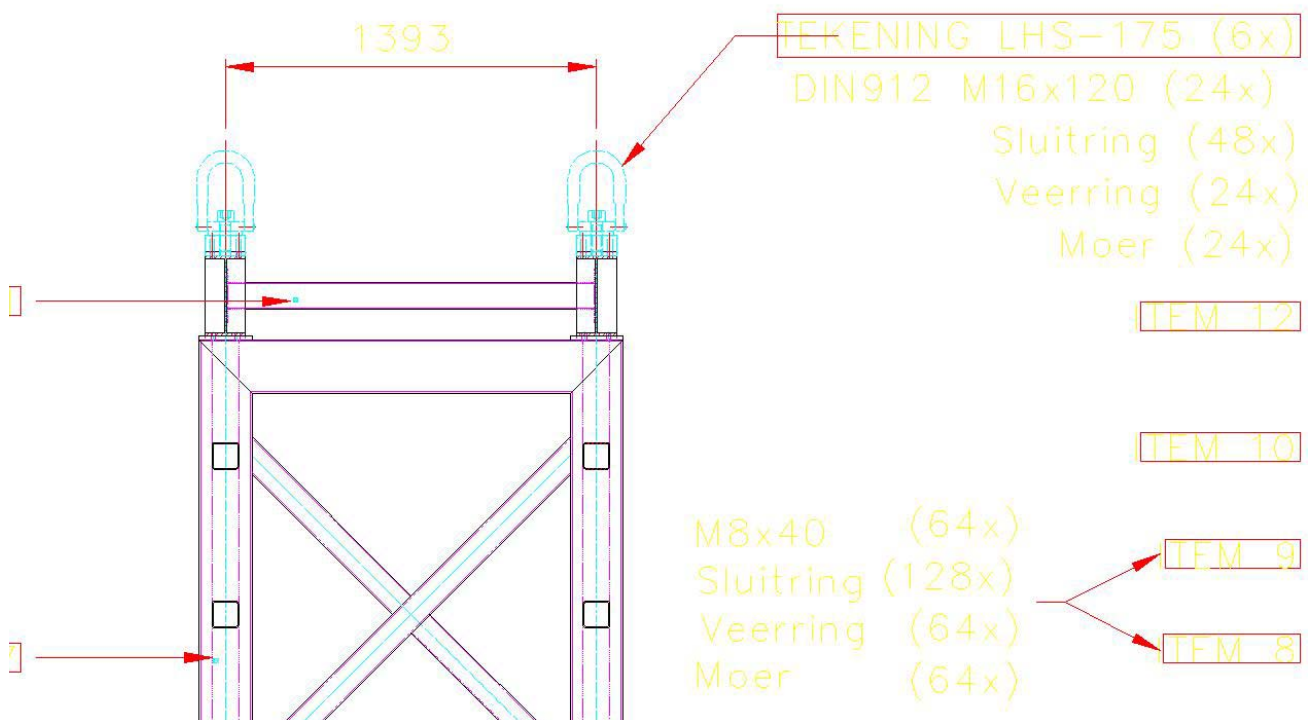
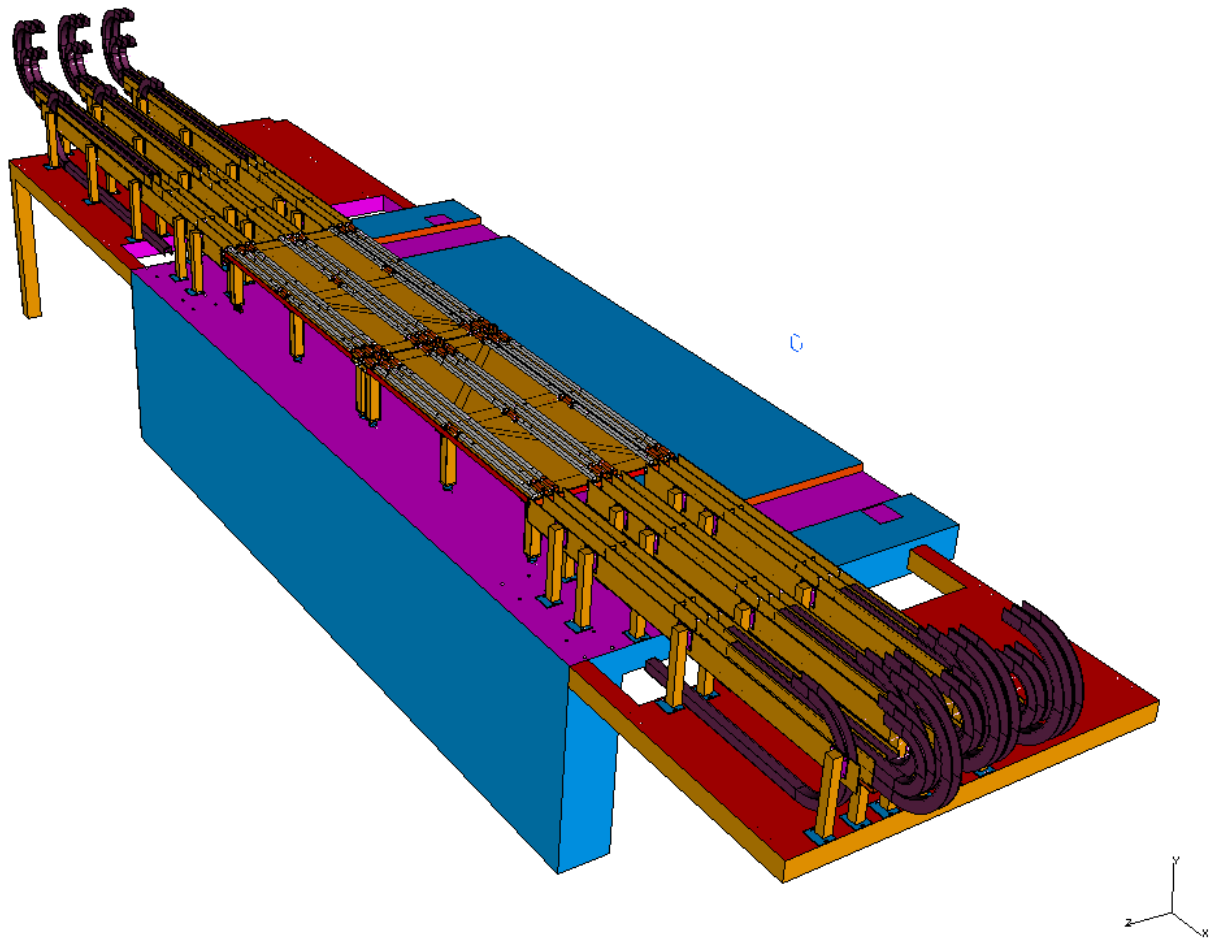
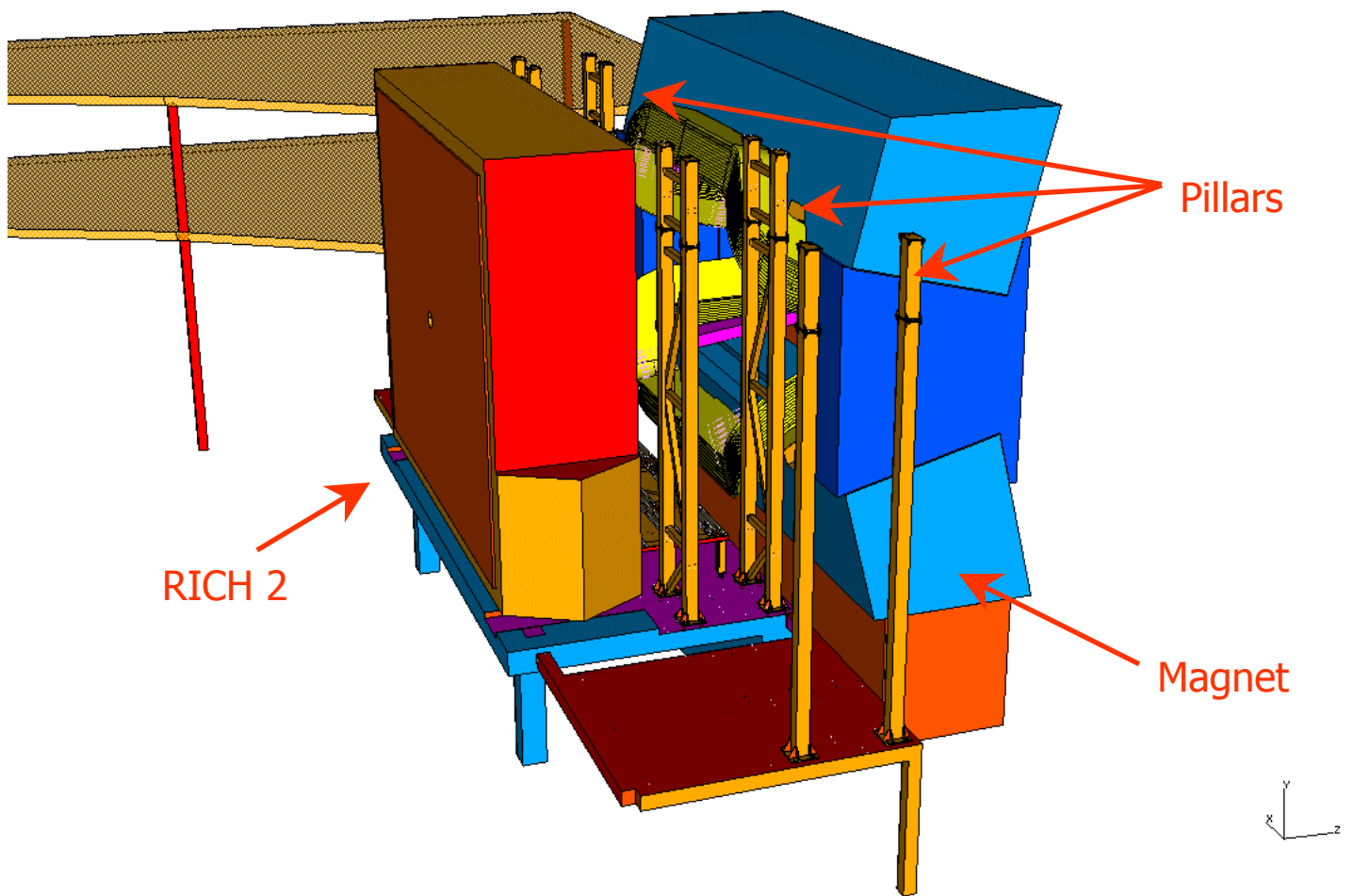


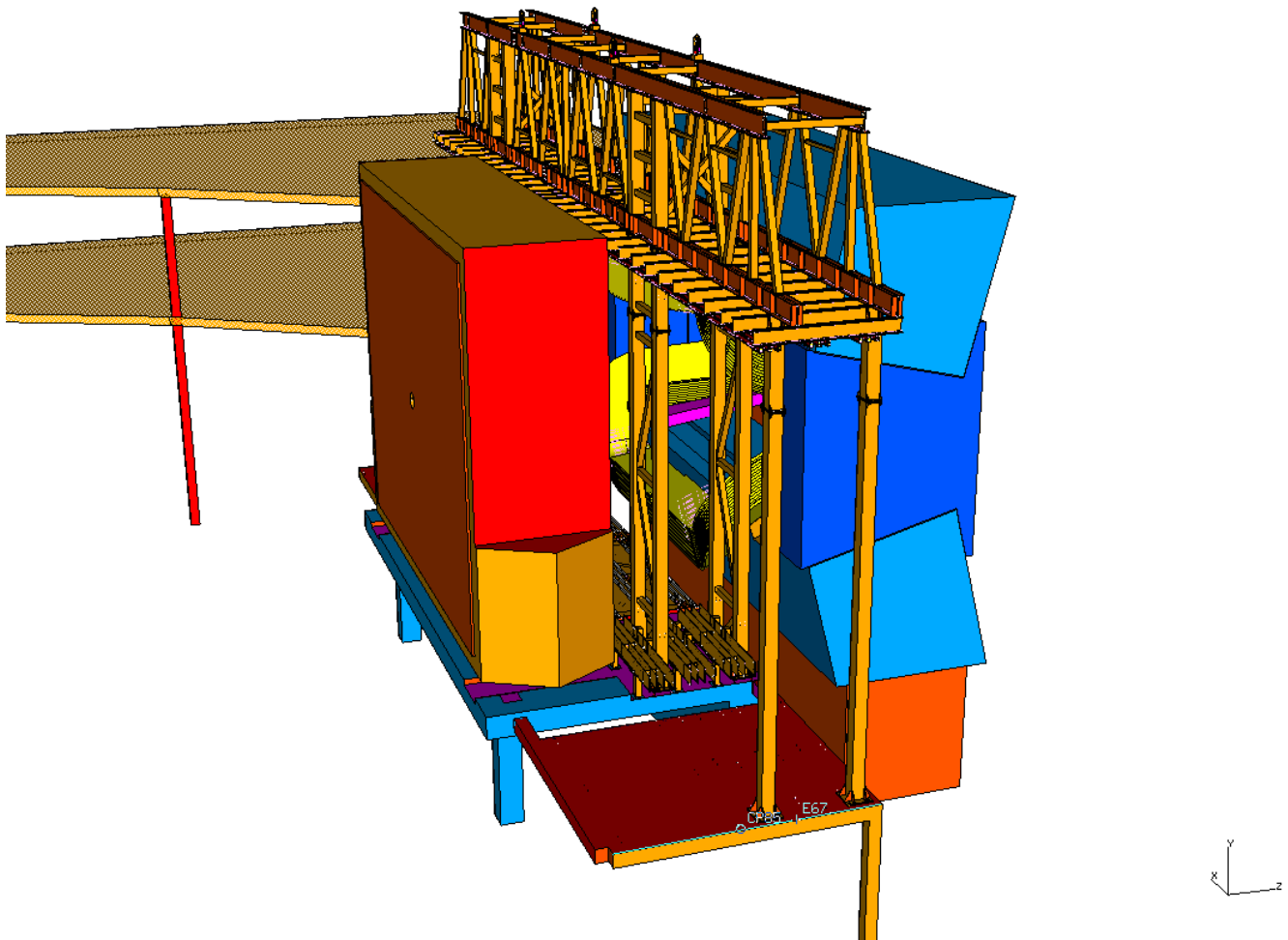
Figure 3 Fixation points for transport of bridge (in total 6x2 points for the entire bridge).



**Figure 4** Aluminium table on beton support



**Figure 5** Pillars in the final position



**Figure 6** Aluminium table, bridge and pillars in the final position.