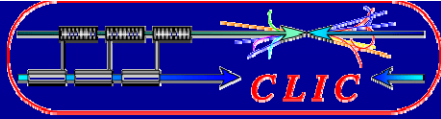


CLIC-ILC Collaboration Webex 19 September 2008

Report on Collaboration for CFS works

J.Osborne, C.Hauviller (CERN) / V.Kuchler (FNAL)



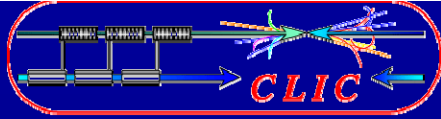
Mandate for CFS presented at Collaboration Meeting of 13th May 2008 for CFS Works :

The following working groups already exist :

- The Conventional Facilities and Siting ‘CFS Team’ for ILC
- ‘Civil Engineering and Services’ CES for CLIC, based at CERN

These groups work independently on the civil engineering and services side of both projects.

However, it has been agreed that resources permitting, both groups will work together on areas of mutual interest for both projects, with participation from both sides at relevant meetings.



CLIC / ILC Collaboration Mandate for CFS Works

- The following working groups already exist :
- ‘Civil Engineering and Services’ for CLIC, based at CERN
- The ‘CFS Team’ for ILC

These groups work independently on the civil engineering and services side of both projects.

However, it has been agreed that resources permitting, both groups will work together on areas of mutual interest for both projects, including :

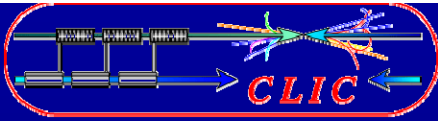
- Civil Engineering Studies
 - Optimisation of Tunnel and Shaft diameters, distance between shafts (linked to safety)
 - **Overall layout of the machine and interaction region infrastructure**
 - Shallow site v Deep Tunnel Option
 - Single Tunnel v Double Tunnel
 - **Safety issues such as emergency egress**
 - Environmental issues

Etc.

- Other Infrastructure
 - **Cooling Water**
 - Power Distribution
 - **Air Handling**
 - **Transport Issues**
 - Radiation simulations / shielding ?

Etc.

- The progress of these working groups on areas of mutual interest will be reported at the ILC-GDE and CLIC Collaboration Meetings working towards CLIC CDR and ILC TDP Phase I in 2010.



CLIC Civil Engineering and Services (CES) WG

First monthly CES meeting held on 14th May

INDICO Integrated Digital Conference login

Home > Projects > CLIC > CLIC Civil Engineering and Services Wkg LOCAL: Europe/Zurich

CLIC Civil Engineering and Services Wkg (Managers: Osborne, J.)

Events in this category: (more options) ?

Month	Date	Event	Participants
December 2008	10	#8 - CLIC-CES Wkg	3
November 2008	12	#7 - CLIC-CES Wkg	3
October 2008	08	#6 - CLIC-CES Wkg	3
September 2008	10	#5 - CLIC-CES Wkg	3
August 2008	13	#4 - CLIC-CES Wkg	3
July 2008	09	#3 - CLIC-CES Wkg	3
June 2008	11	#2 - CLIC-CES Wkg	3
May 2008	14	#1 - CLIC-CES Wkg	3

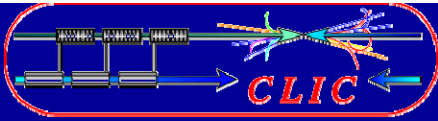
Tools

- ◀ Browse Categories
- ▶ Events Overview
- ▶ Calendar
- ▶ Site Map
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Add Event

- ▶ Lecture
- ▶ Meeting
- ▶ Conference

Meetings have been 2nd Wednesday of the month. Is this ok for 2009 ?



CLIC Civil Engineering and Services (CES) WG

Meeting have been held monthly with CLIC & ILC participation

#2 - CLIC-CES Wkg

Wednesday 11 June 2008
from 14:30 to 17:45 Europe/Zurich
at CERN (54-2-033)
chaired by: **John Andrew Osborne (CERN)**

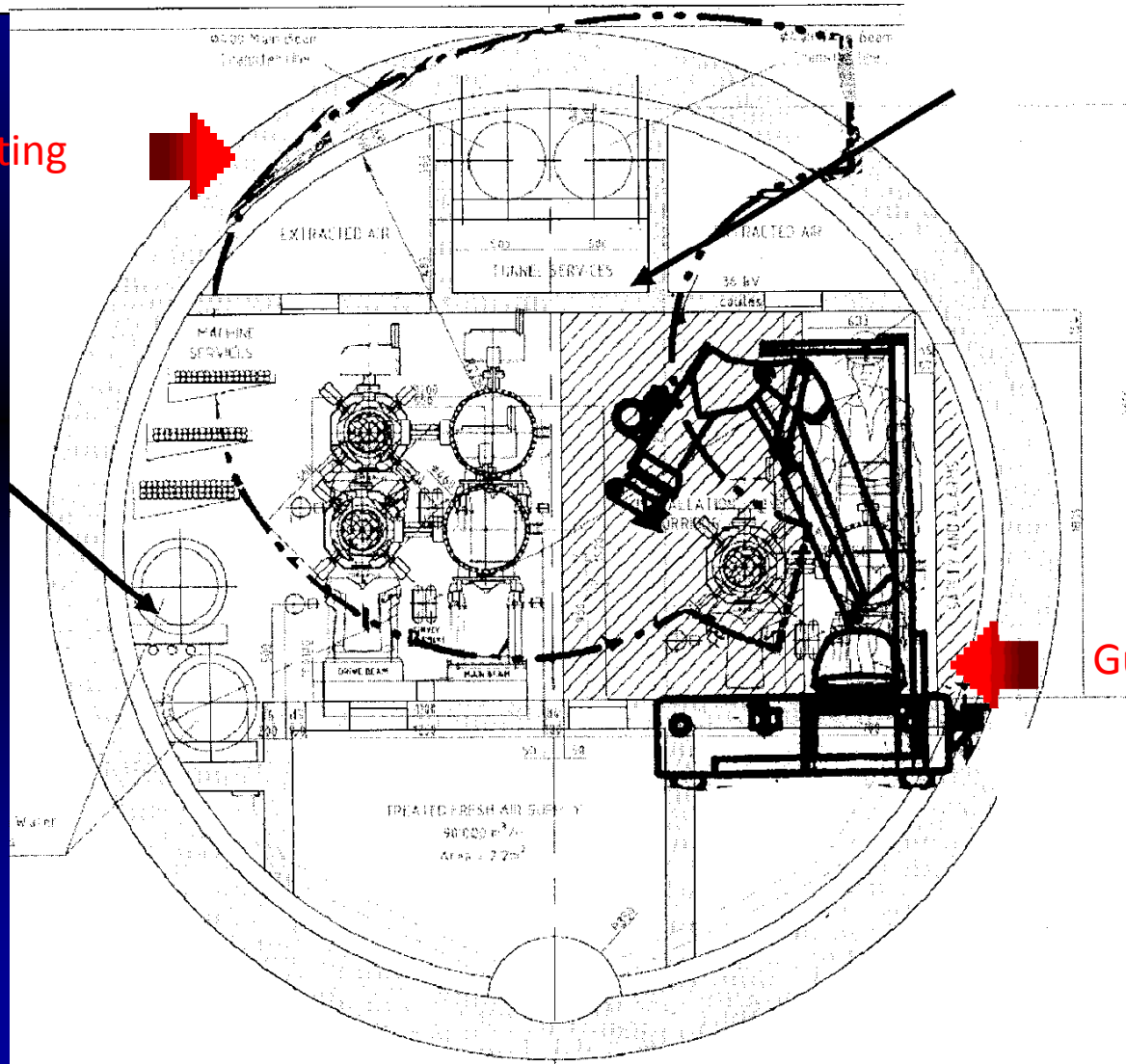
[Wednesday 11 June 2008](#) | [top](#)↑

Wednesday 11 June 2008

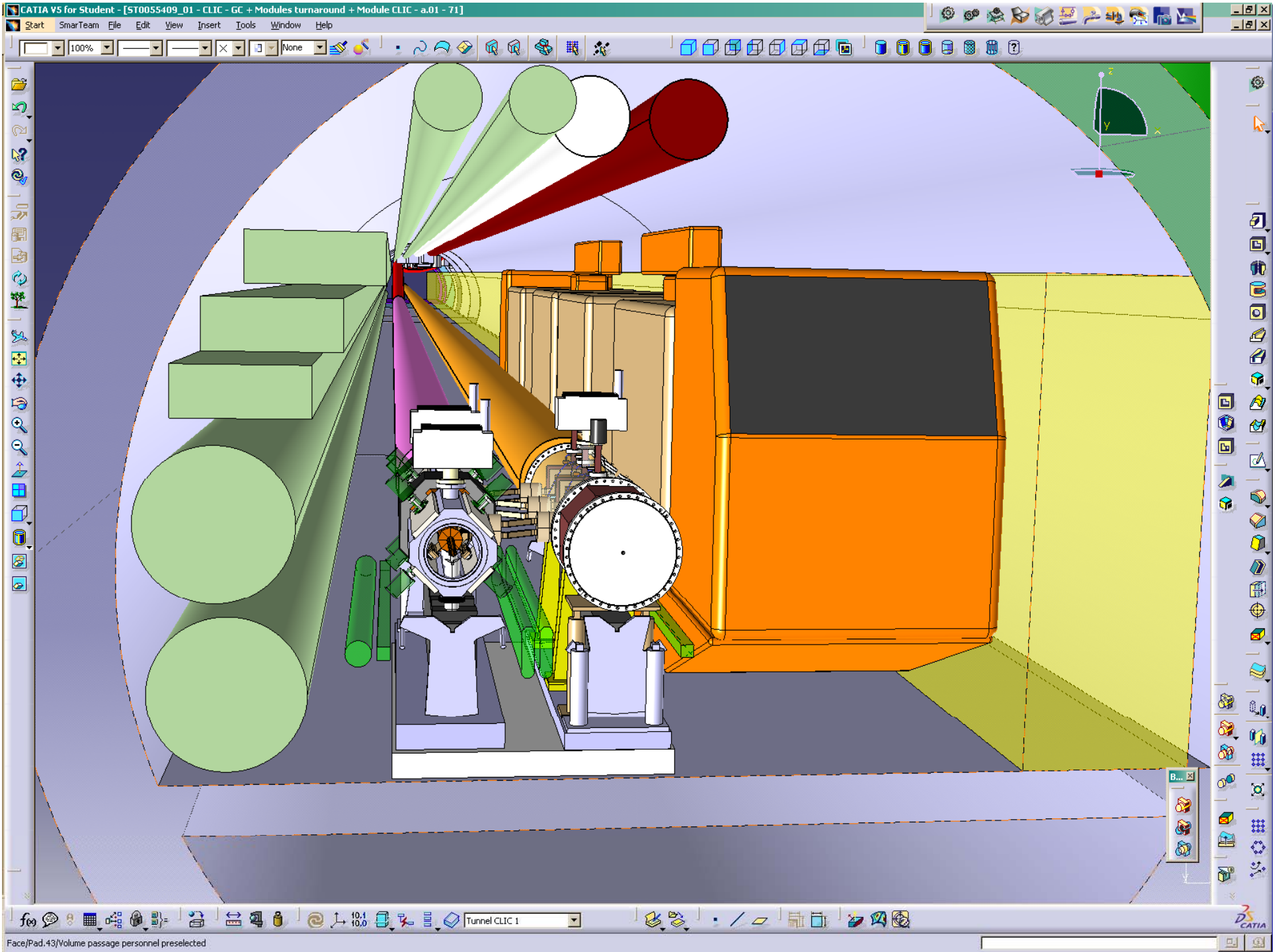
14:30	Approval of Minutes of Previous meeting (10)	
14:40	Project Breakdown Structure for CES (15))	John Andrew Osborne (CERN)
14:55	Turnaround Studies (20))	Antoine Kosmicki (CERN)
15:15	Tunnel transport (15))	Keith Kershaw (CERN)
15:30	CLIC-ILC Collaboration (15))	John Andrew Osborne (CERN)
15:45	Next Meeting Wed 9 July (05)	

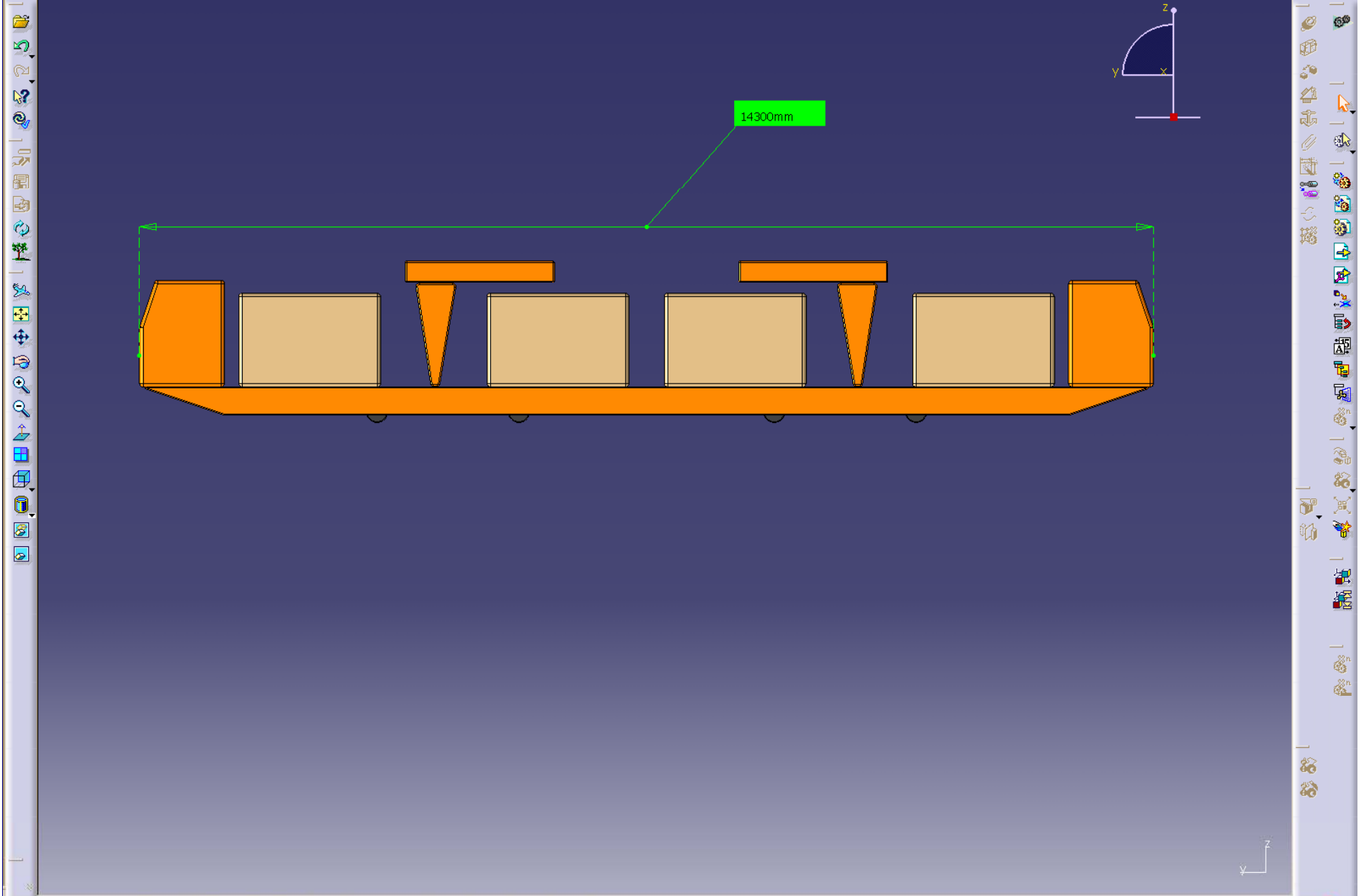
HERA TRAM in CLIC Tunnel

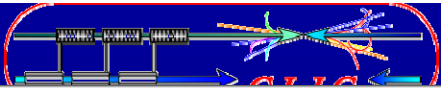
Arm operating zone



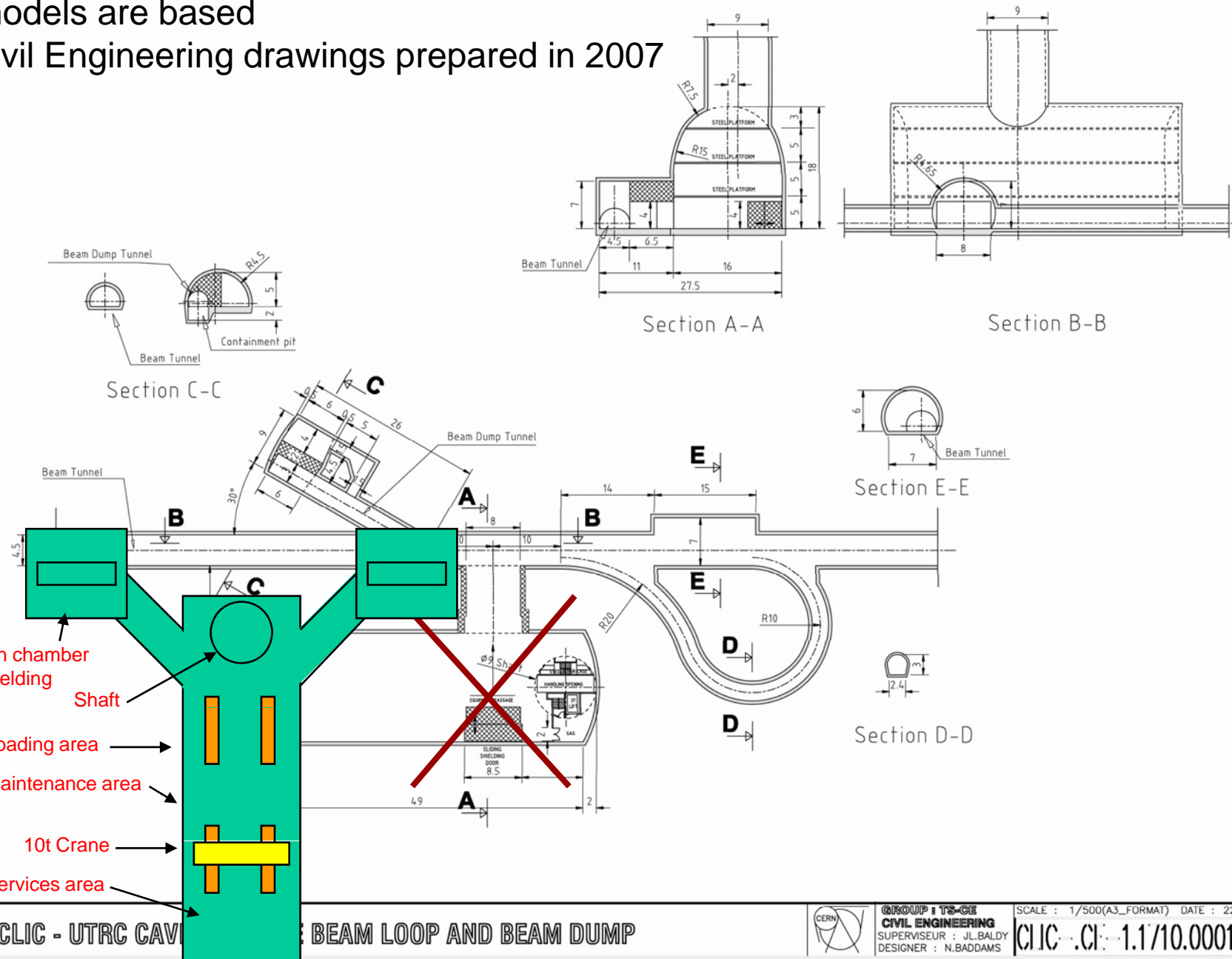
Guide rail/anchor







3D models are based on Civil Engineering drawings prepared in 2007



- Junction chamber with shielding
- Shaft
- Loading area
- Maintenance area
- 10t Crane
- Services area

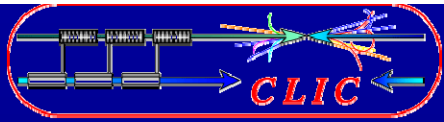
CLIC - UTRC CAVITY BEAM LOOP AND BEAM DUMP



GROUP : TS-CE
 CIVIL ENGINEERING
 SUPERVISEUR : JL.BALDY
 DESIGNER : N.BADDAMS

SCALE : 1/500(A3_FORMAT) DATE : 22_MAY_2007

CLIC.CI.1.1/10.0001 | 3 | A

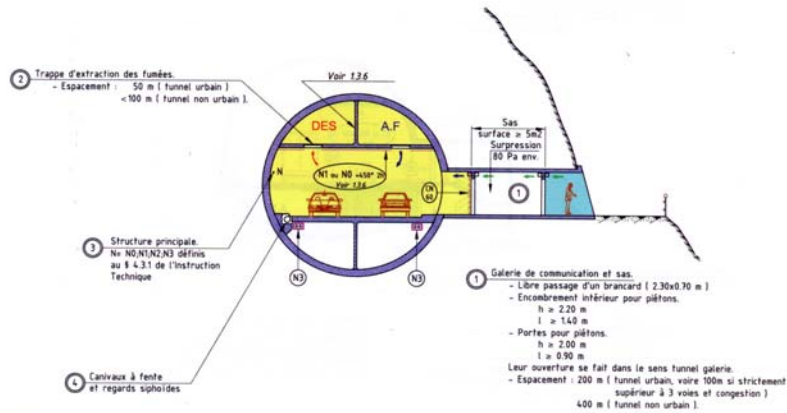


Tunnel Ventilation Systems

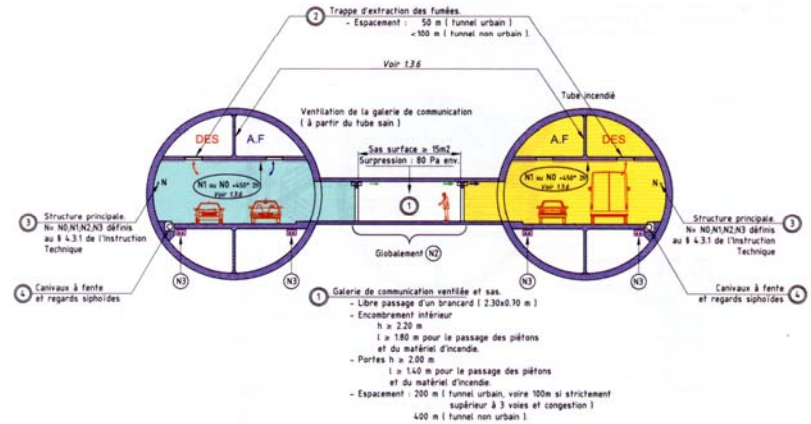


1.4.2 - Méthode tunnelier, types T

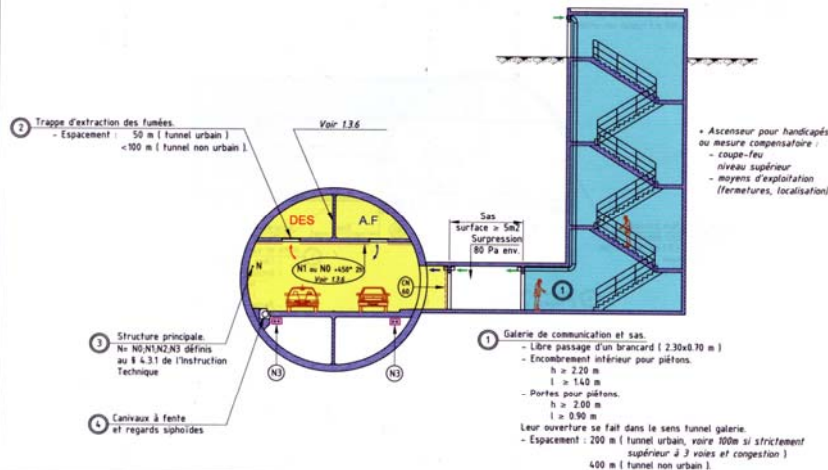
EVACUATION DIRECTEMENT VERS L'EXTERIEUR DU TUNNEL BIDIRECTIONNEL (CHEMINEMENT HORIZONTAL) Type "T1a"



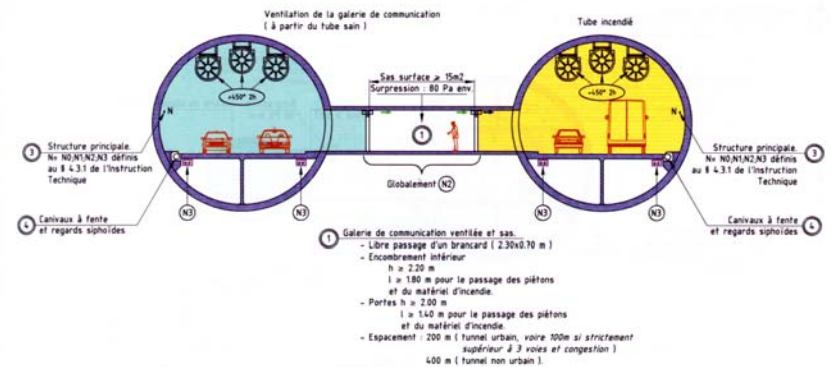
BITUBE – EVACUATION DANS LE DEUXIEME TUBE Type "T2a" – Ventilation transversale



EVACUATION DIRECTEMENT VERS L'EXTERIEUR DU TUNNEL BIDIRECTIONNEL (CHEMINEMENT VERTICAL) Type "T1b"



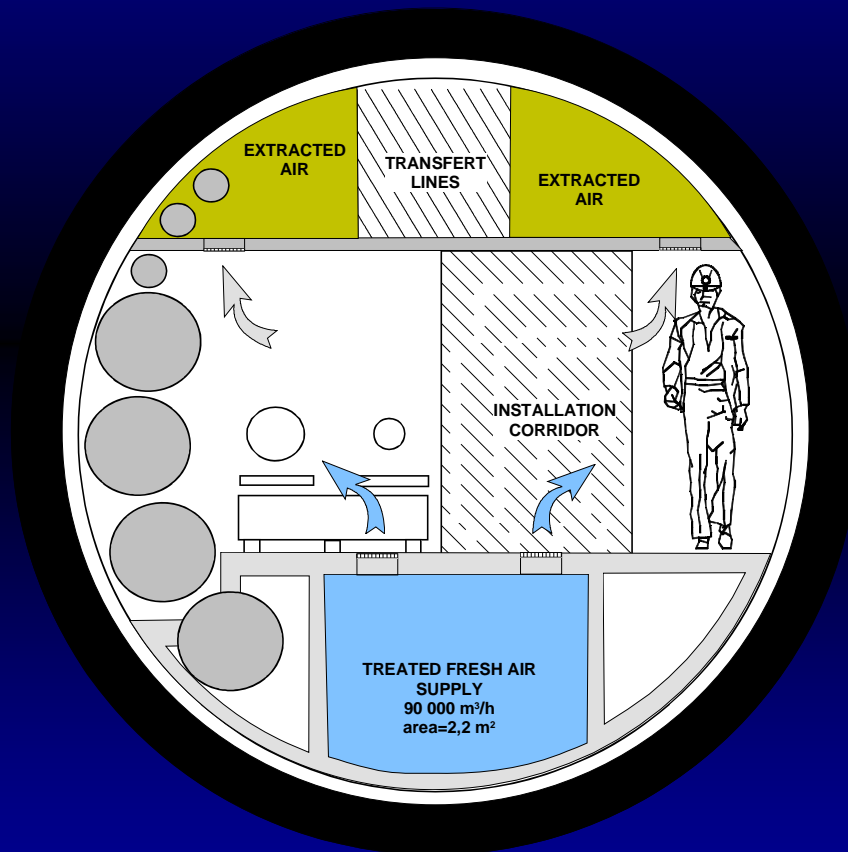
BITUBE – EVACUATION DANS LE DEUXIEME TUBE Type "T2b" – Ventilation longitudinale



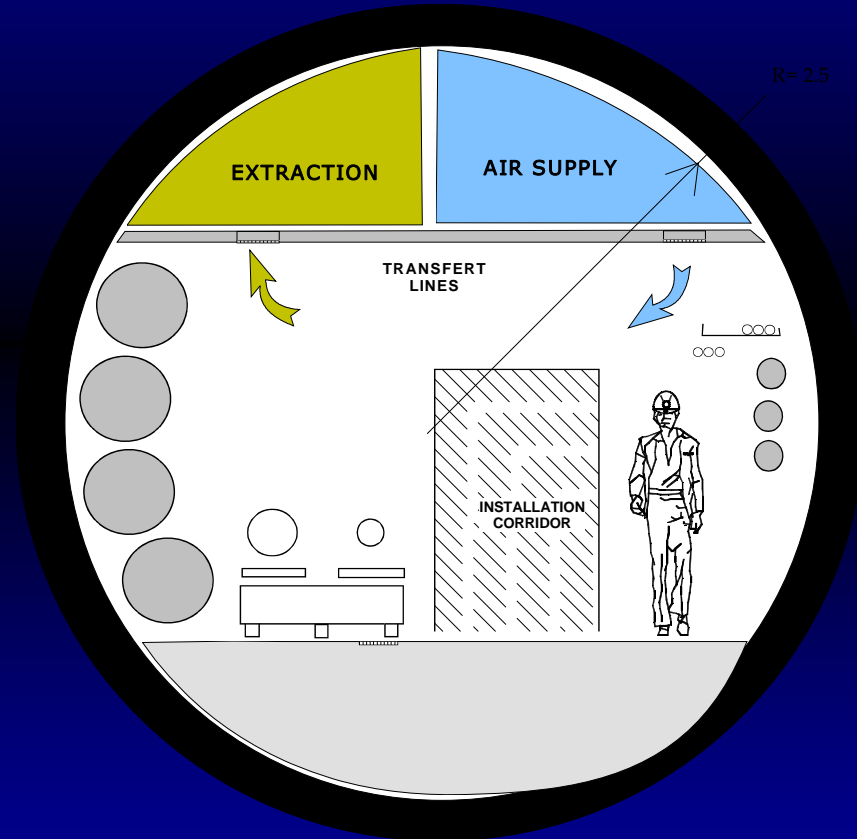
Extracted courtesy of 'French Tunnelling Association : AFTES : Tunnels routiers : résistance au feu Jan 2008'



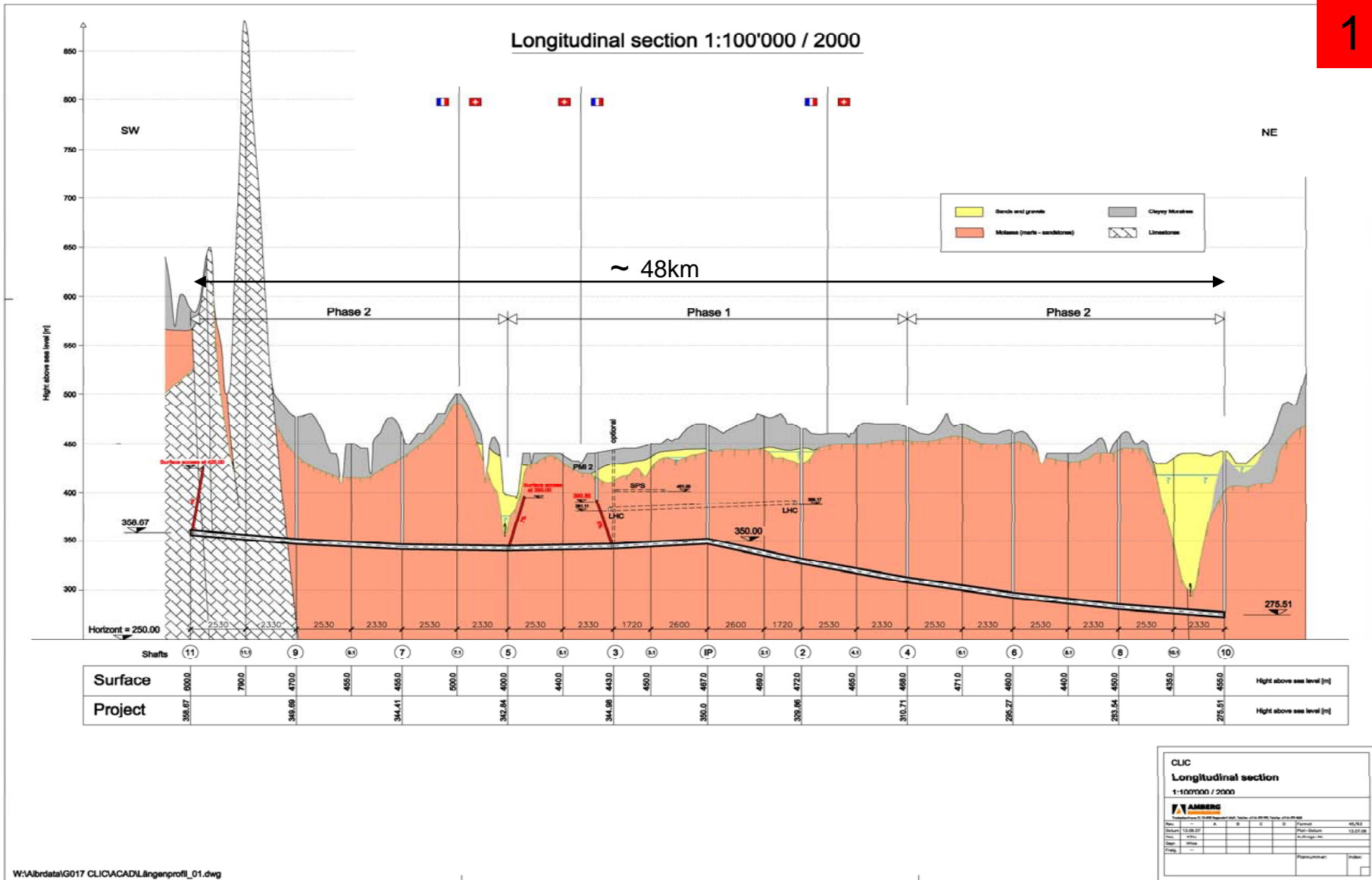
Tunnel section principles



Underfloor system

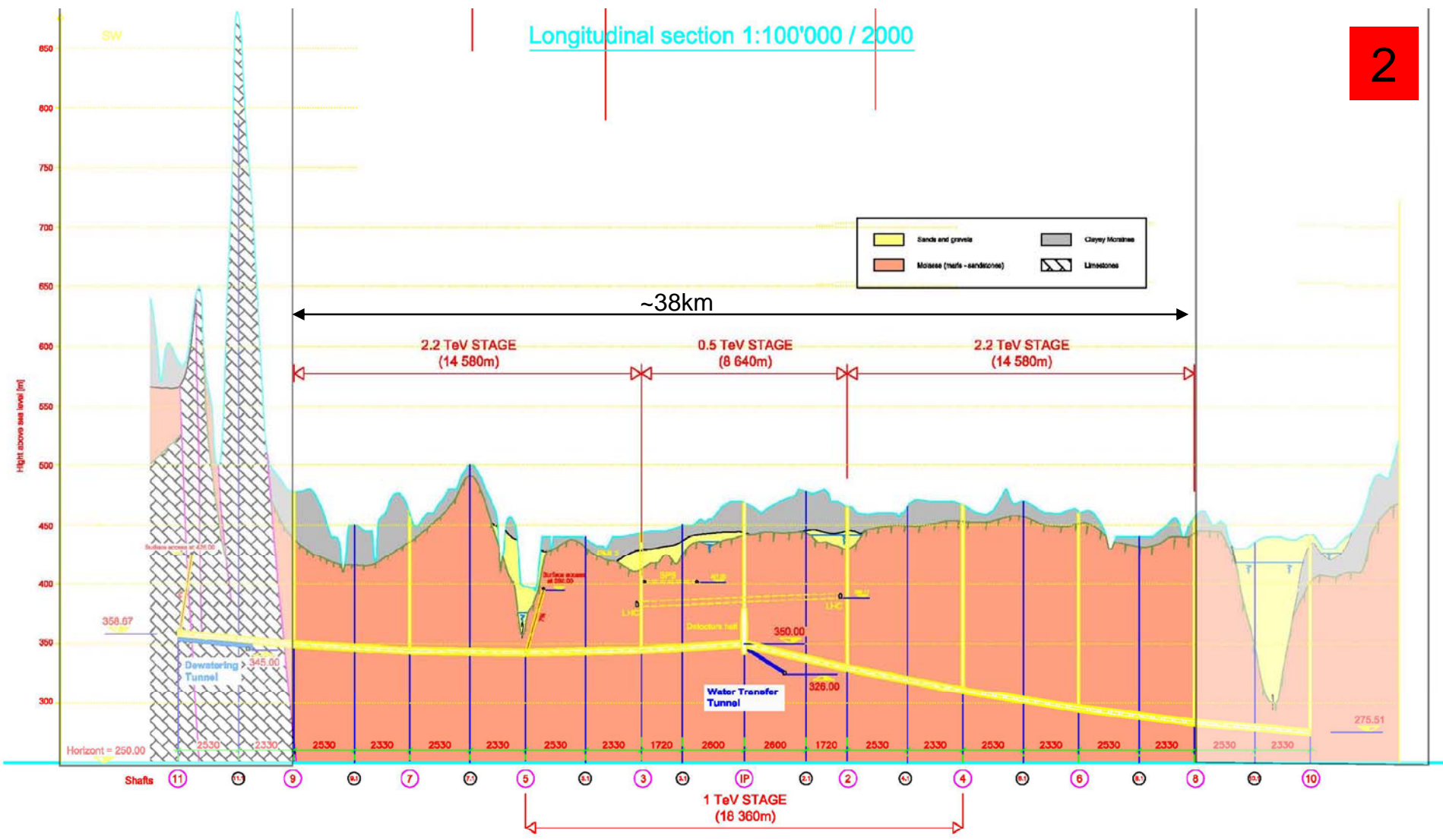


Tunnel crown system



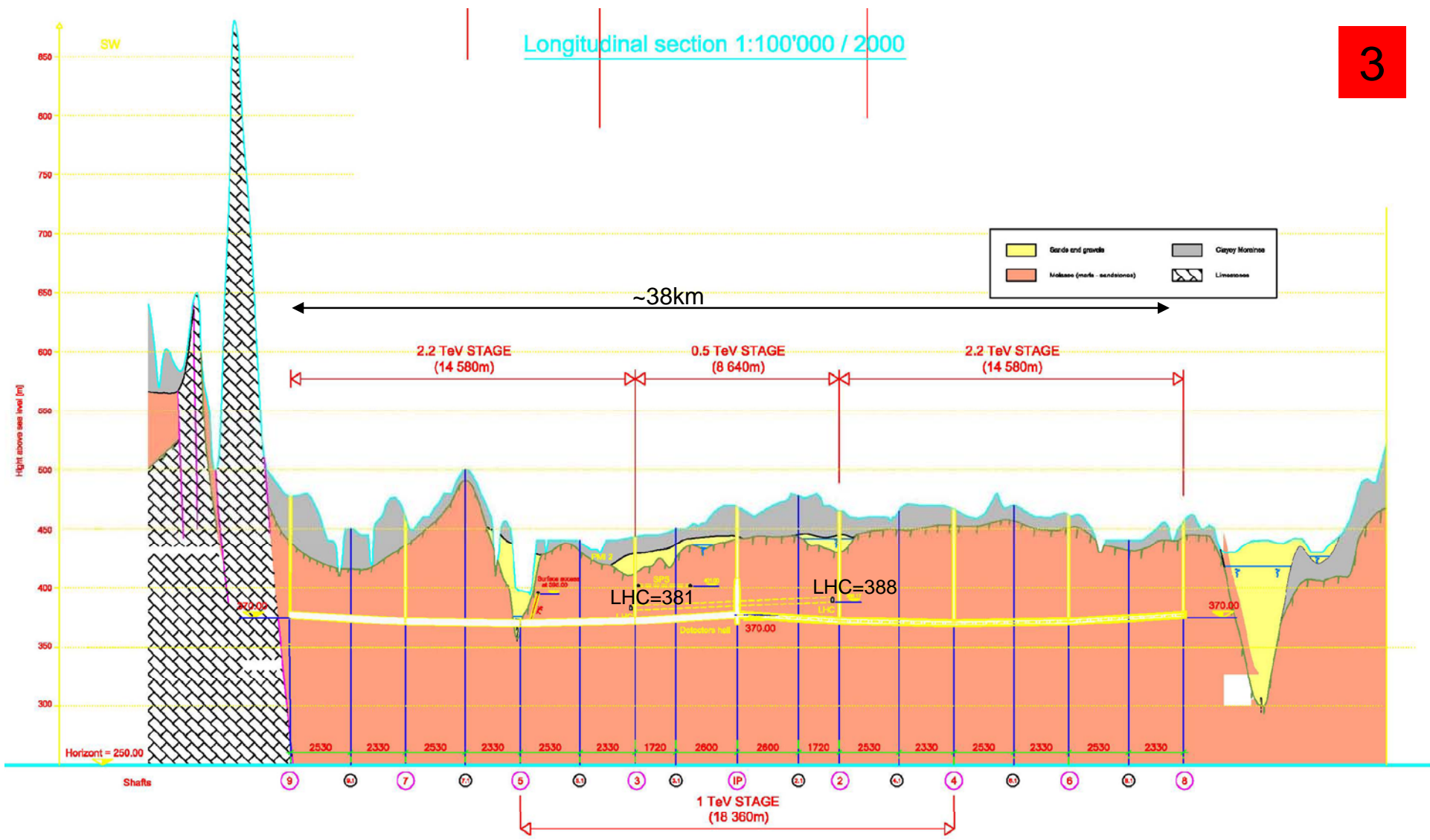
'Baseline' Long Section

Longitudinal section 1:100'000 / 2000



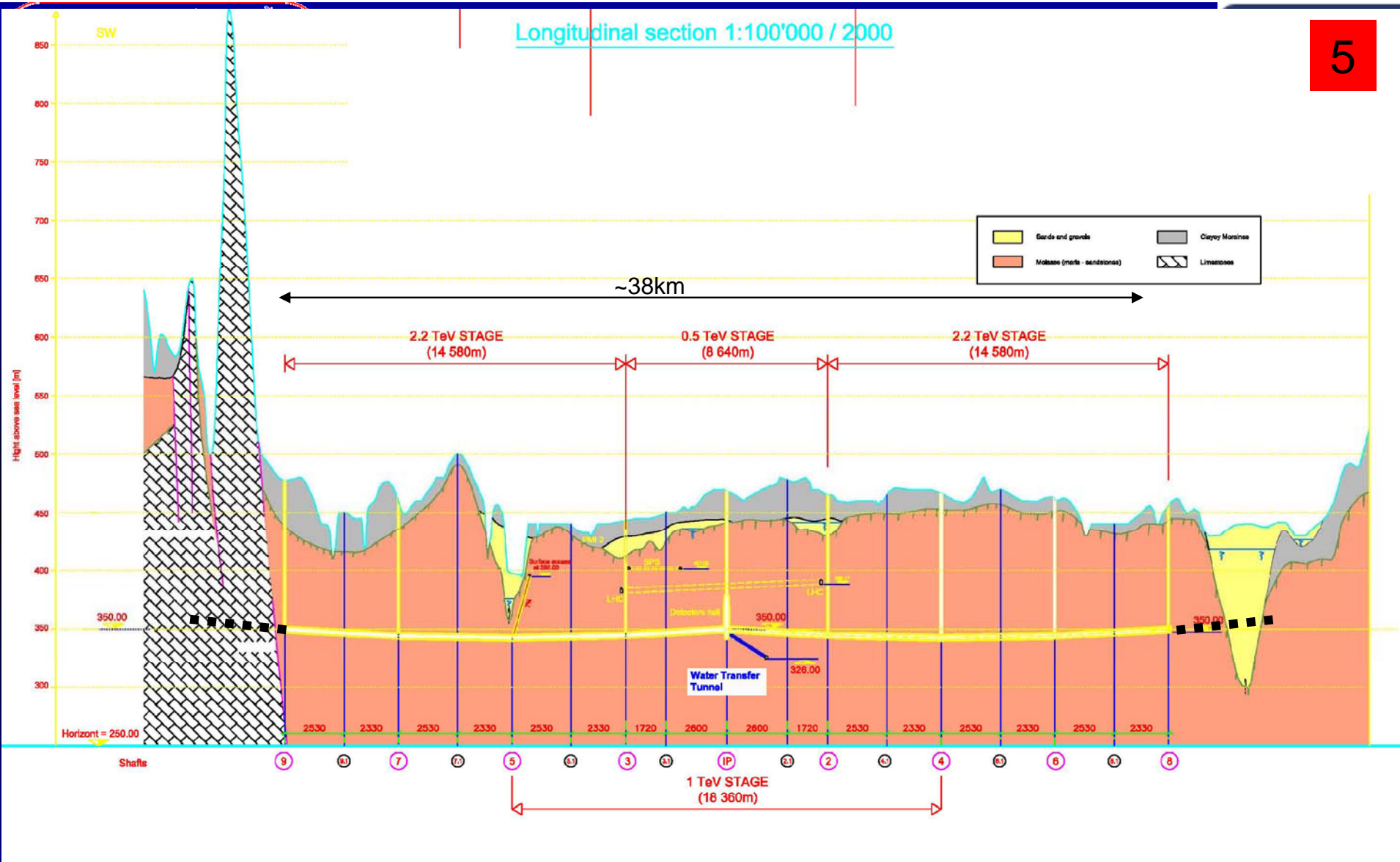
Shortened Option to avoid Limestone & Gland

Longitudinal section 1:100'000 / 2000

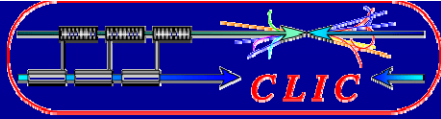


Reduced Depth, thro' Allondon Valley (same level as ILC)

Longitudinal section 1:100'000 / 2000

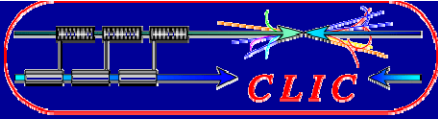


Reduced depth, below Allondon (WITH Possibility to extend thro' Gland?)



EU FP7

- FP7 funding from ILC received in CERN Technical Support (TS) Dept. over the summer 08
- CES meetings with work on CLIC/ILC common topics started in May 08
- Funding is approximately equivalent to 1FTE for TS input over three years
- TS resources have been concentrated on LHC start-up this year, so slower than hoped for progress on collaboration issues
- Resources now becoming available for ILC under FP7 funding

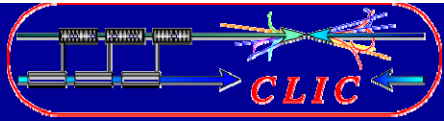


ILC FP7 : Work Package 5 : ILC siting in Europe

CERN Technical Support (TS) Department Input

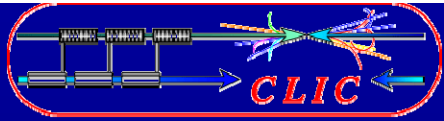
		Approx.
General Co-ordination	J.Osborne / C.Hauviller	10%
Civil Engineering	J.Osborne	25%
Civil Engineering Draughtsman	N.Baddams / A.Kosmicki	15%
Cooling & Ventilation	J.Inigo Golfin / C.Martel	20%
Horizontal transport	K.Kershaw	15%
Vertical Handling	I.Ruehl	5%
Safety Advice	F.Corsanego / S.Weisz	10%
		100%

*No input from Electrical Group available at the moment



Some TS Objectives

- Civil engineering :
 - Assist in studies for possible new ILC sites (Dubna, Desy)
 - Draw up plans for new RF cluster design ?
 - Assist in shallow site studies v RDR deep tunnel
- Transport – to study ILC installation methods
- Ventilation – to develop RDR design for ventilation scheme
- Safety – to draw up a common document for underground safety rules that should be applied to CLIC & ILC
- Another possibility that has not been developed further for the moment is assisting in radiation simulation studies, including environmental impact



TS Input Summary

- Technical specialists becoming available for ILC work for specific study areas.

However this is not quite what is stated in the Framework Document. Is this ok ?

- In what particular areas would ILC management like CERN to help with and what are the priorities ?
- Long term goals to be better defined at CLIC08 in October and LCWS08 in November.