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# Status report Geodetic Observatory Ny-Ålesund

POSITIONING DATA – FOR BENEFIT OF THE SOCIETY

## Staff, responsibilities

Status report

- Full manned
- 4 persons in 75% employments
- Carl Petter Nielsen, Station manager  
Geir Mathiassen, Operator  
Moritz Sieber, Operator  
Lars Karvonen, Operator (since 2th Feb.)
- When Carl Petter is on leave, Geir and Moritz alternate as Station manager
- The Observatory is subjected to the Section Geodetic Operations.  
Sectionmanager: Line Langkaas (point of contact, headquarter)
- Summer jobs: Lars Karvonens two sons, maintenance and odd jobs



# Operation, maintenance and other actions 2010

Status report

## ■ Operations

- VLBI measurements 80, 24 hour sessions  
76, 1 hour sessions
- SCG measurements continuously
- GNSS measurements continuously
- Tidegauge measurements continuously

## ■ Maintenance

- Maintenance 2 weeks in August
- Special maintenance this year: VLBI antenna, change breaks
- Ordinary maintenance work



# Operation, maintenance and other actions 2010

Status report

- Environmental initiative
  - Evaluate and perhaps carry out some actions in 2010
  
- Information actions
  - Implement information about our activities at the information centre in Ny-Ålesund
  - Renew information equipment at the observatory
  - Information board outside the Observatory building
  - New standard powerpoint presentation has been made
  - New information on [www.statkart.no](http://www.statkart.no)



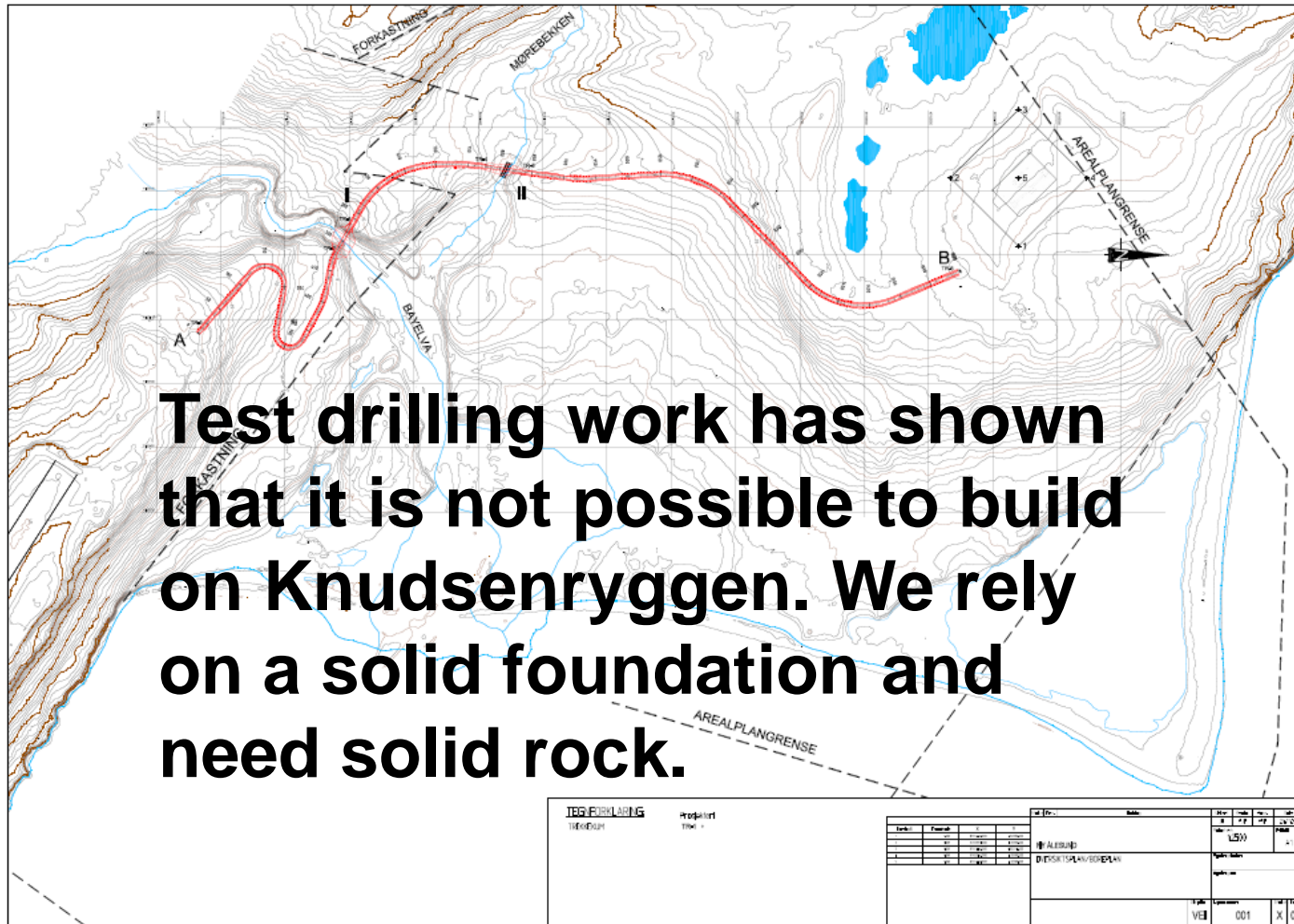


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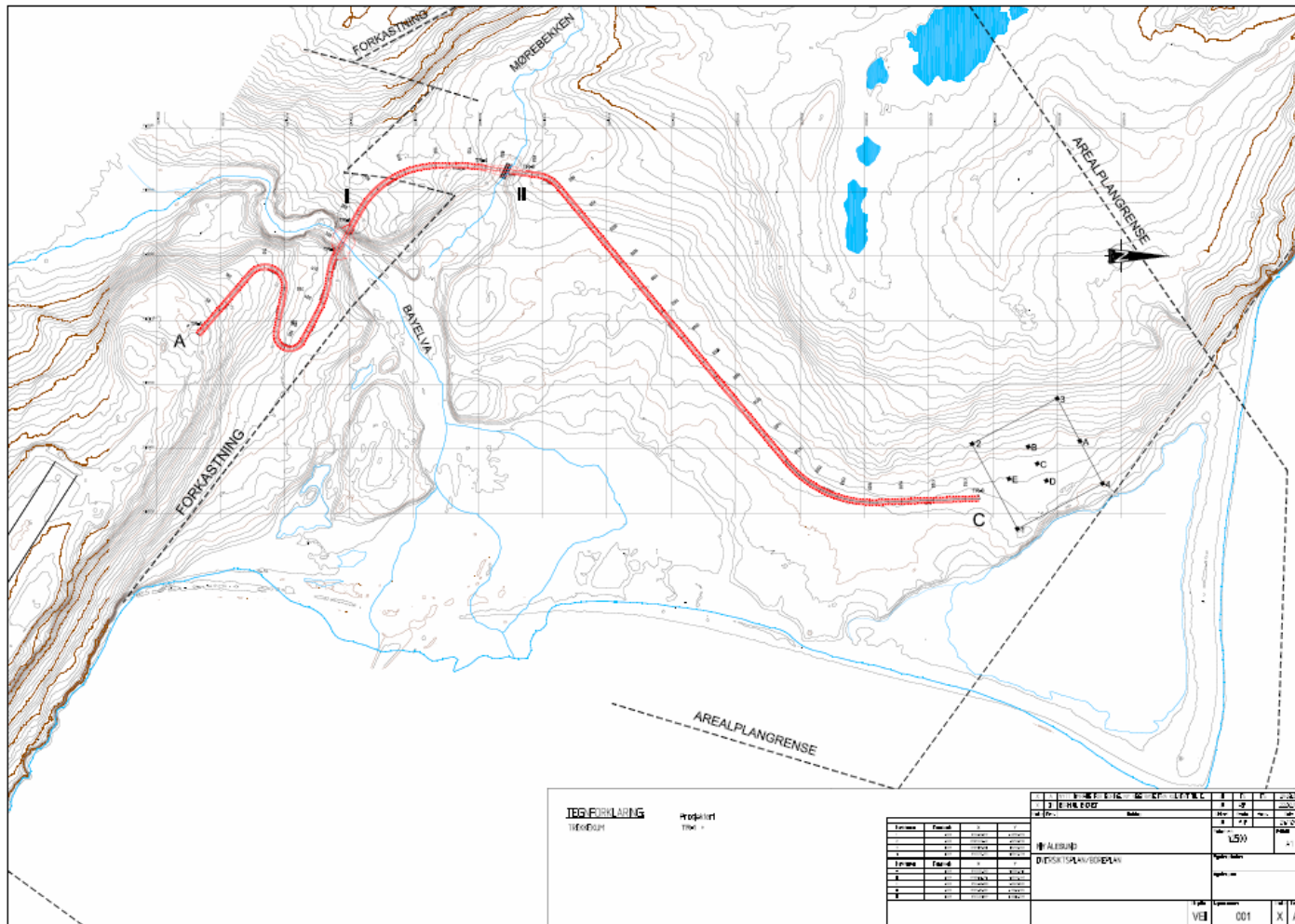
# VLBI2010 – renewal of the activities

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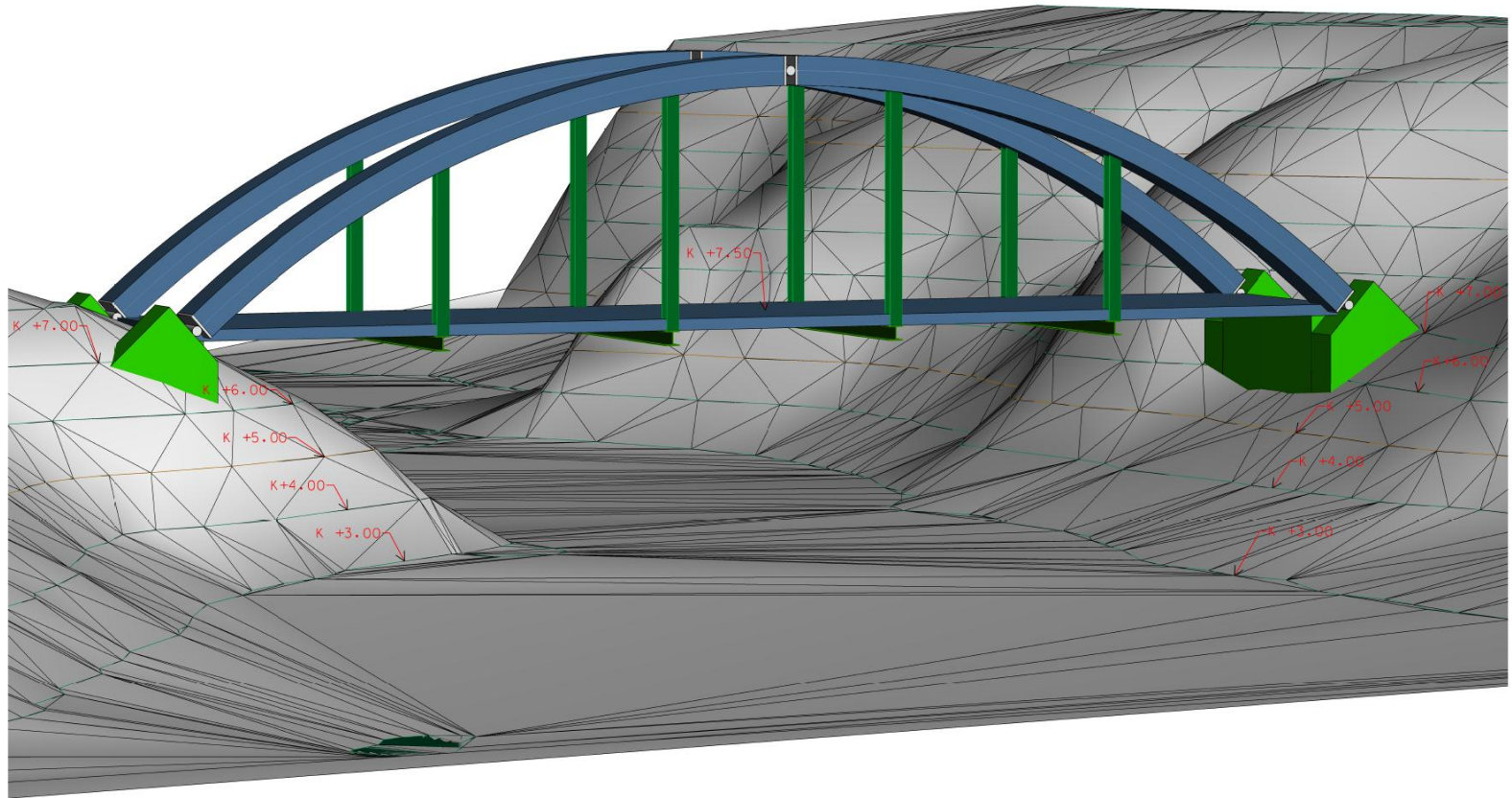
## The new area as shown in the last Nysmack meeting



# The new proposed area



## Bridge above the Baye river



## Prior notification: New geodetic observatory at Ny-Ålesund

VLBI 2010 – renewal of the activities

- Conclusion of a meeting with the Governor of Spitsbergen before Christmas 2009.
  - Due to local impact caused by new site and road, it is necessary to send a notification to the Governor
  - On the basis of this notification, the Governor will decide whether an environmental impact assessment (EIA) is required or not.
  
- The notification contains
  - Project description + proposal of what an EIA should include
  
- As decided in the last NYSMAC meeting in South Korea
  - We asked for input to this notification
  
- The notification has been submitted to the Governor



## An application was submitted to the ministry of environment December 2009.

- Total costs: approx. 200MNOK, or 25M€
- To help the conviction work we got letters of support from:
  - International VLBI services
  - Kingsbay
  - Nasa
  - Norwegian Space centre
  - NYSMAC
  - Norwegian Polar Institute
  - Norwegian Armed Forces Research Institute
  - Norwegian University of Life Sciences
  - The research council of Norway, SIOS



## The conviction work - Outreach

- What we have done so far:
  - Presentation for the Polar committee at the Norwegian Parliament
  - Presentation for the Arctic committee at the Norwegian Parliament
  - Article in Svalbardposten
  - Notice at NRK Troms & Finnmark website
  - Extraordinary meetings with our ministry (environment)
  - Information to other ministries.
- Future work:
  - Chronicle in Aftenposten?
  - Feature at NRK TV (20-30 minutes)?
  - Svalbard symposium?
  - Bringing the Chair of International VLBI services (IVS) – Harald Schuh to Ny-Ålesund.



## Challenges

- The fiber optic cable between Longyearbyen and Ny-Ålesund will not directly be financed by the ministry of environment (total estimated costs of 66MNOK or 8,2 M€)
- We will need to find other joint venture partners to establish the high speed data connection
  
- Allocation of money?  
We have gained a much wider understanding for the importance of our project now than last year. We do not yet know the outcome of the government negotiations for 2011.
- We will never give up! We have already started planning the conviction work for next year, thinking the worst scenario – financing in 2012.





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# Radio quiet conditions in Ny-Ålesund

POSITIONING DATA – FOR BENEFIT OF THE SOCIETY

## Radio silence

- The VLBI antenna in Ny-Ålesund receives weak radio signals from distant celestial objects. Other interference can destroy, in whole or in part for our measurements.
- Today we are measuring on the frequencies 2-2,4 GHz and 8-9GHz band
- The new antennas will use broadband 2-14 GHz in first generation, and 2-32GHz in next generation
- No other VLBI-sites have the same possibilities for radio silence. There is an advantage for VLBI to have one station without radio transmission influence. (like the Zeppelin station)



## Radio silence

- An EISCAT facility in New Ålesund would completely have destroyed our measurements. In such a case we could have closed down our activity completely.
- We must ensure that such an facility never will be established on site in Ny-Ålesund.



## Radio silence

- All kinds of radio transmission in the frequency areas that we are using will influence on the quality of our measurements.
- The best for us will be to keep the level of radio transmission as low as possible.
- For environmental reasons we also think that we all should struggle to keep Ny-Ålesund as a radio silent site.



## What have been pronounced about radio silence in Ny-Ålesund

Radio quiet conditions in Ny-Ålesund

- St.meld.nr.9 (1999-2000) states that radio silence is an important quality in Ny-Ålesund. Conditions are therefore well adapted for the use of passive radio listening.
- Innst.St.nr.196 (1999-2000) states that "Research that will destroy existing businesses or are in violation of relevant research strategic plans, should basically not be allowed in Ny-Ålesund"
- From the time that we established the current operating system, there exists an oral agreement between the Norwegian Space Centre and the Norwegian Mapping Authority that states that Longyearbyen is for active systems, while New Ålesund is for passive systems.
- NySmack also mentioned this in minutes from October 10th 1997



## Radio silence

- To prohibit active transmission systems such as Eiscat we will contact the Governor of Spitsbergen to start a process to formalize the existing oral agreement.
- We do not want to destroy possibilities for others by totally prohibiting radio transmissions, but we will have to ensure that we are able to operate and to keep up as a reference for other VLBI sites. This is a dilemma for us.
- We would like to propose that Nysmack creates a working group to examine the need for local radio transmission and how this can be solved in practice.





# Questions?

