DIPLOMA PROGRAM

ON THE HEIGHTS

PAA VIDDERNE

ABSTRACT

The goal of our pre-diploma was to examine the infrastructure around Nordlandsbanen, how it functions today, and its potential to become an integrated part of a tourist adventure in Nordlands vast nature.

As the pre-diploma focused on infrastructure in regards to Nordlandsbanen and hiking trails in Nordland we found maps of different kinds to be an important tool to our investigation. As a result of this our pre-diploma became a collection of texts, maps, and pictures.

The first part of our pre-diploma was a collection of research about Nordland. To acquire an understanding of the elements that make up Nordland we collected general knowledge of different aspects such as its history, nature, and demography. In the second part of the pre-diploma the focus was to locate an area of interest in Nordland and do further research on this.

The objective of our pre-diploma was to suggest a method to link the infrastructure of Nordlandsbanen with nature experiences in Nordland. We defined these links as architectural interventions that enable using trains as a means of transportation to visit the national parks. We divided the travel into three stages, all with different needs, to create a coherent experience.

The first stage is at a train station, the second is on the borders to a national park, and the third is inside a national park. Each stage should offer a basic set of services based on the needs that one might have at that stage of travel. The aim is that by dividing the travel experience into stages the traveller will have the possibility to recuperate or prepare for the next stage of travel, which will make the travel a coherent experience. This does not mean to facilitate any possible need that one might have at any given point during travel, but it means to establish a network of basic infrastructures that creates a safe foundation from which to embark on a trip.

As Nordlandsbanen stretches for over 700 km, we decided to focus on a few train stops where we can realise these principles to create a coherent experience. The principles can be applied to other places along Nordlandsbanen at a later point.

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Based on these four criterias we chose three stations to be our focal point of investigation:

The first criteria was that the station should be located close to one of the nine national parks in Nordland

The second criteria was that within a 5 km radius from the train station one should be able to reach a trail that takes you inside a national park.

Criteria number three was that one of two regional trains stopped at the station in addition to the long distance train.

The final criteria was the possibility to connect different stations to each other through existing trails, creating a larger network of trails and stations.

Three stations along Saltfjellet-Svartisen national park fulfil these criterias: Røkland, Lønsdal and Dunderland. They are stations in smaller rural areas along Nordlandsbanen. Røkland and Lønsdal both lie in Saltdal, while Dunderland is the northernmost stop in Rana.

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The architectural program of our diploma is to further develop the existing network of
infrastructure already found at, or close to, the chosen train stations and the National Park. This infrastructure will focus on the relationship between the railway and the national park. We have divided the travel from the station to the national park into three stages.

These three stages of travel should offer a minimum of different services to create a level of flexibility and predictability when planning your travel by train and by foot.

Stage one: At train station
- Possibility to wait on the next train inside
- Possibility to use the restroom
- Possibility to refill water bottle
- Possibility to shower and refresh
- Possibility to spend the night
- Possibility to clean clothes and equipment

Stage two: Entering National Park
- Possibility to access shelter
- Possibility to spend the night
- Possibility to make simple meals

Stage three: Hiking in National Park
- Possibility to access shelter
- Possibility to spend the night
- Possibility to make simple meals

These are the basic needs of each travel stage - however this does not mean that there is a need to establish new structures at each of the three stages, at every stop of Nordlandsbanen. In several places these services are already available.

After examining the infrastructures and services available in connection to the three stations Røkland, Lønsdal and Dunderland, we have concluded on some services that are lacking to meet the basic needs at each stage of travel. Our first station, Røkland, is lacking basic services at the train station, however it has the possibility to access shelter close to the entry of the national park and there are several cabins in that area of the national park.

At Lønsdal station the basic needs are covered in close proximity to the station, but the distance from the train station to the first cabin in the National park is long and a shelter at the entrance of the park is needed.

Dunderland has a station building that includes a waiting room and toilets, it lacks the possibility to stay overnight, but this is possible to arrange in the already existing structure. There are also cabins on the border to the national park that are open to the public. Within the national park it is a long hike from the border to the first DNT cabin, so a cabin is necessary.

Based on the information we gathered, we concluded on three sites. The sites are each linked to different travel stages and stations. The first site will be at Røkland train station, the second close to the border of the national park, reached by following the trail from Lønsdal. And the third will be along the trail from Dunderland to within the national park, where another cabin used to stand, before it burned down.

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At the three different sites we have defined a set of basic services that our structures have to contain. The first one at Røkland is a train station with accommodations. The program includes a waiting room, toilets, wardrobes, and a place to clean equipment and clothes. Accommodations to spend the night should also be available.

At the second site along the trail from Lønsdal we will design a shelter. The building will provide shelter from the weather outside that changes fast in the area. It should contain a heating source, a small kitchen, and beds. There is no electricity or water installed, so the building will need proximity to running water, and the possibility to have an open fireplace or another source of light and warmth.

At the third site in the national park, two stone foundations lie in the sloping terrain. They are the remains of the burnt down DNT cabin, Gila. We will build a new shelter here to replace the one that burned down. It should contain a heating source, a small kitchen and beds. Again there is no electricity or water, but the site is close to the river Tespa and there are several small creeks coming down from the mountains. Again a solution for a lightsource is necessary.

Every sight and its particular needs will be individually considered and program might be added or taken away as seen necessary.

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SITES

Our first site is close to the train station at Røkland. This is stage one of the trip. Here we chose the plot in the south of the existing parking lot in relation to the train station. The area is 15 500 km and contains a grocery store, a gas station, and a local diner. There is also a large area for parking that is used by both commuters and trailer drivers.

The second site is on the border to the national park around 9 km from Lønsdal stasjon. It lies along a river on a mountain plateau. everal tall mountains surround you and there are mile-long views towards both the south, north, and west. The area is stony with mostly lichen and moss growing. The plot is exposed to a lot of weather and wind.

Our third site is within the national park along the trail from Dunderland. There used to be a cabin at this place, Gila Fjellstue, but it burned down in the 1960s. There has been a wish to rebuild it, but the reindeer husbandry in the area are afraid that it will disturb the animals that reside here. The site lies in the sloping hills of the valley, Tespa, with the river at the bottom of the valley. At the site it grows willows and small mountain birches.

STRATEGY/ WORKING METHOD

We will continue mapping our selected areas to acquire more knowledge about factors such as vegetation, weather conditions and accessibility. When designing our project we will try to create a shared identity for our buildings, to emphasise the connection between the different interventions at the different sites.

Our working method will largely be based on drawings and room studies in 3D models. We will create large scale maps to show the connection between the sites and Nordlandsbanen. Then we will create the drawings of our projects in relevant scales, and end up in a small scale detail drawing. Our aim is to create a project that spans between the large scale maps and the small scale detail drawings from each project.

DELIVERED MATERIAL

Maps showing the overall infrastructural network in a large scale
Maps showing smaller areas and different aspects that will be relevant to our project
Situation plans and sections
Plans and sections of our architectural structures
Detail drawings
Illustrations
Models in 1:500

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WORKPLAN

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ABSTRACT

ON THE HEIGHTS

Norwegian nature, cultural heritage, and national identity have a profound bond. Stemming from romantic nationalism in the 1800s, European countries began to search for and celebrate the nation and its language, history, and cultural character as an ideal for artistic expression.

The Norwegian national identity was to be found in the countryside. Here, a cultural uniqueness had remained while the cultural development in the urban areas had been stagnant because of the 400 year long union with Denmark. The mode of life in the countryside and aesthetic of untouched nature became symbols of the Norwegian national soul.[02]

Derived from this fascination of nature, friluftsliv became a deeply ingrained part of Norwegian culture.[03] Friluftsliv can be roughly translated into "out-doors life", and entails spending time in, hiking, and experiencing nature. The term is said to originate from the poem "Paa vidderne" (1859) by Henrik Ibsen.[04]

I den øde Sæterstue
Al min rige Fangst jeg sanker;
Der er Krak og der er Grue,
Friluftsliv for mine Tanker.[05]

- Henrik Ibsen

Shelter in the saeter cabin,
Hole for fire and stool for brooding,
Self with self - a tyst to blab in,
Snowshoes - ne`er a lout intruding!

- William Norman Guthrie

In our Pre-Diploma, we devised a strategy which applied Nordlandsbanen as a means of transportation for inland tourism. Nordlandsbanen is a 726 km long train ride, going from Trondheim in the south, to Bodø in the North.[06] In connection to the stations, there are several hiking trails which lead into the highlands.

We limited our focus to an area in and around Saltdalen - Svartisen National Park. Here, we found the most extensive and intricate network of connections between hiking trails and train stops. The network does, however, have several missing pieces, which, if realised, would make hiking to and from the train stops more accessible. Based on the criterias from our pre-diploma, we found three sites where new projects could be built to further develop the network. [07]The three sites are placed in the different stages of travel that we decided on during our pre-diploma. Site A is at a train stop, site B is on the border to the national park, and site C lies within the national park.

02 Norsk friluftsliv, "Forskning - mangfold og inkludering i friluftslivet". 20.01.21. https://norskfriluftsliv.no/forskning-mangfold-og-inkludering-i-friluftslivet/
03 Smith, "What is 'friluftsliv'? How an idea of outdoor living could help us this winter". National Geographic. 11.09.21. https://www.nationalgeographic.com/travel/article/how-norways-friluftsliv-could-help-us-through-a-coronavirus-winter
04 Waaler, "Friluftsliv". Store norske leksikon. 09.03.21. https://snl.no/friluftsliv
05 Ibsen, "Paa vidderne". Universitet i Oslo. n.d. https://www.ibsen.uio.no/DIKT_Diktht%7CDiftPaaVidderne.xhtml?modus=enkeltdikt
06 Bane Nor, "Nordlandsbanen". n.d. https://www.banenor.no/reisende/Banene/Nordlandsbanen/
07 Diploma program, p. 3

One of the hiking trails in the national park is the historic trail, Telegrafruta. The trail originates from a telegraph line which was built during the 1860s to connect Lofoten to the large cities in the south of Norway. The harsh climate of the mountains required much maintenance, and several cabins were built for the workers to live in while constructing and repairing the line. These cabins still remain in the national park. Together with the remains of thousands of telegraph posts, they make up the historic hiking trail.

The first buildings to be erected in connection to Telegrafruta were two primitive stone cabins that were to provide shelter for the workers who worked on building the telegraph posts. They were built with stone found on site, and have a traditional dry stone double stacked wall construction.
Our ambition is for the three projects to relate to each other and to the existing structures of the network, thus creating an identity for the network as a whole. For this reason, we have chosen stone as the constructive material for our projects. By adopting this specific feature the new projects would connect the historic route with the remaining hiking trails and the train route.

The program will vary from the different sites. At site A there will be a train station and sleeping accomodations for 20 people. The train station should include an indoor waiting room for commuters, as this is lacking today. It should also have lounge areas for the hikers, as well as toilets, showers, and a laundry room, and a small office and a toilet for the station employees. The sleeping accommodation will have small rooms containing a toilet, a large sink for cleaning equipment, and a large entrance to store luggage. The building with the sleeping accommodations will also have a small shared kitchen.

The two sites in the highlands have a similar program based on the same needs. None of the sites have water or electricity installed and will need proximity to running water. At site B we will build two small identical shelters. They each contain 4 beds, a simple kitchen and a heating source. In a small outhouse there will be a toilet and storage space. Site C will have the same program, but divided into two small sleeping annexes and one shared space building. The sleeping annexes have four beds each, a small stove for heating and storage space for luggage. The shared space building is one open space that includes a simple kitchen with a dining table fit for eight people and a small living room. There is a stove for effective heating, and an open fireplace to create light as well as heat. A small outhouse includes the toilet and storage space.

Considering the different nature of the programs, the sites, and the logistics of building with stone, the projects do not have a similar architecture. In the highlands one cannot use large machines for heavy lifting, which means that the stone elements cannot become too large for people to lift, while on site A it is possible for the construction to consist of larger stone elements. The construction materials for Site B and C have to be brought in by helicopter or snow mobiles.

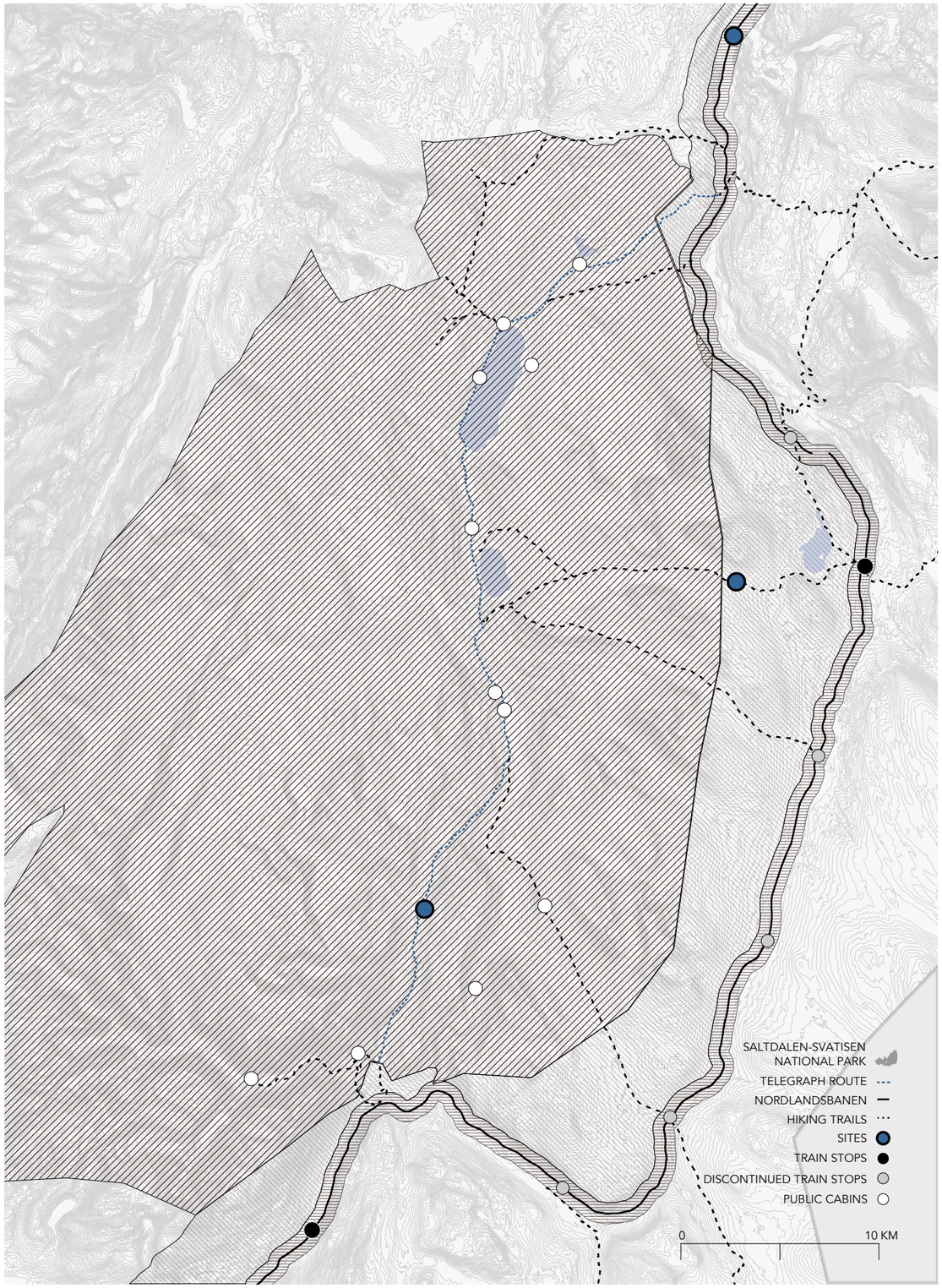
To build in stone has been challenging as people in the professional environment of architecture have limited knowledge of stone as a construction material. Some of the difficulties lie in the unpredictability of the material in regards to cracks and hidden weaknesses in the material. This makes it hard to predict how the material will behave when put under stress. With this in mind, we have chosen a traditional construction method for the shelters. The method is based on a dry stacking of stones, which means that there is no mortar used. To achieve a level of comfort in the shelters we have modified this traditional dry stacking and added insulation and wind barriers. This led to several challenges in regards to the stability of the wall. To solve these problems we designed a set of innovative solutions after discussing them with Engineer and Stone Mason Espen Marthinsen.

At the train station the construction consists of stone columns and a stone core. The columns are unconventional in that they are more slender than ordinary stone columns. This is made possible by threading a steel rod through several stones and then tensioning the rod by tightening nuts on each end, which results in a post-tensioned stone column.

An aim for our diploma was to be able to work with the project both in large scale maps as well as in detailed drawings. In this way we were able to connect Nordlandsbanen to the national parks, while at the same time being specific in our architecture. We used maps to identify existing cabins, the network of hiking trails, discontinued train stations, and surrounding mountains. During the development of the project, the scale became smaller, starting with maps with a 1:2 000 000 scale and finishing with drawings with a 1:20 scale. This has been an important aspect of our diploma, as we have considered in detail how one could build at the different sites. Several elements of our architecture are based on the information found in the maps, which again impacts the details we made. As a result of us deciding to build in stone to create a common identity with the existing trail, Telegrafruta, the construction methods at the different sites varies, which becomes apparent in the details.[08]

Our project is an example of how one could develop the existing network of infrastructure already found at, or close to, a train station and a national park. As Nordlandsbanen is more than 700 km long and there are 16 national parks in Trøndelag and Nordland, we imagine that the idea of developing similar infrastructure can be applied to other places along the trails. We believe that to upgrade and further facilitate the existing infrastructure to meet the desired increase in visitors of the national parks is less damaging for the preservation areas than to just leave it be. Today's development in Norway of large areas with cabins is one of the larger threats towards nature and species diversity.[09] Cabins are often built and equipped as a house, with water, electricity, and highly technological solutions. Our shelters are antidotal to this development. They are a nod to simpler times and democratise nature by facilitating for a larger number of people to experience nature.

08 Nymoen, Haanæs, On the Heights, 2020, p. 123
09 Christensen, "Hyttebygging truer naturen i Norge". Naturvernforbundet. 21.02.19.
https://naturvernforbundet.no/uttalelser-fra-styrende-organer/hyttebygging-truer-naturen-i-norge-article38933-2128.html



ON THE HEIGHTS

Norwegian nature, cultural heritage, and national identity have a profound bond. Stemming from romantic nationalism in the 1800s, European countries began to establish national parks to safeguard their landscapes, history, and cultural legacy as an ideal for artistic expression.

The Norwegian national identity was to be found in the countryside. Here, a culture was preserved that was untouched by the modernity and influence of the Danish-Swedish dominant because of the 400 year long union with Denmark. The mode of life in the countryside and traditions of Norway became the foundation of the feeling of an national soul.

Derived from this fascination of nature, friluftliv became a deeply ingrained part of Norwegian culture. Friluftliv can be roughly translated into "outdoorlife", and an- other word for it is "ut-og-inn-leven" (out-and-in-living). It is hard to want to originate from this place. The colonist (1859) by Hans Gude:

"I Min alle Dødstimer
Skal Min Sjæl i Norge vandre
Det er her de vil bo mig
Det er her de vil begrave
Henrik Sean

"Thorne in all my earlier calm,
Thy land shall be my bound for bounding,
Self self self, a spot to abide in,
Self self self, a spot to be buried in
Henrik Ibsen Gudrun

In our Pre-Diploma, we derived a strategy which applied Nordfestivalparen as a means to explore the Norwegian national identity through the lens of the Nordic festival culture. Leg from Trondheim in the south, to Bodø in the North, in connection to the sections, we found a lot of interesting places, and we decided to explore further.

We limited our focus to an area in and around Saltdalen - Svartisen National Park. Here, we found the most extensive and intricate network of connections between the mountains, the fjords, and the sea. We also found a lot of interesting places, which, if created, would make hiking to and from the tain stops more accessible. We found that the area around Saltdalen had a lot of potential for more tourism, which could be but is further develop-ite towards. The three sites we present in the diffe- rent stages of travel that we decided on during our pre-diploma. Site A is at a tran- sition point at the end the Saltdal to the national park, and site C is deep into the national park.

One of the hiking trails in the national park is the historic trail, Snøgalthas. The trail was established in the 1800s and was used by people living in the mountain vallei- ys. The large cities in the south of Norway. The trail is formed of the mountain ness- ing, and it is a cultural heritage site. The people would spend the summer months cultivating and repairing the hay. These cabins still remain in the national park. To- day, there are remains of thousands of Snøgalpe cabins, they take up the historic hiking trail.

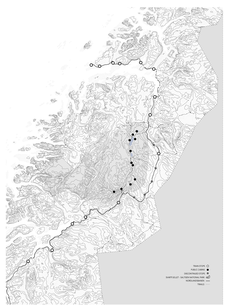
The first buildings to be erected in connection to Snøgalthas were two primitive cabins, one for the people and one for the animals. The cabins were made from local snøgalt pines. They were built with stone foundi- ations, and have a traditional dry-stone wall around them.

Our ambition is for the three projects to relate to each other and to the existing stru- ctures of the restaurant, thus creating an identity for the network as a whole. For the first project, we chose to relate to the existing structures at Svartisen Restaurant. Hav- ing the specific feature the new projects would connect the historic route with the restaurant, we found important.

The program will vary from the different sites. At site A there will be a non-seaso- nal sleeping accommodations for 20 people. The tran-station should include an infor- mation desk, a ticket office, a small shop, a cafeteria, a lounge area, a small exhibition area for the hikers, as well as toilets, showers, and a laundry room, and a small office and a locker for the station employees. The sleeping accommodation will have small kitchenettes and a lounge area. The sleeping accommodations will be heated and ventilated. The building with the sleeping accommodations will also have a small snøgalthas.

The two sites in the highlands have a similar program based on the same needs. Both sites will have a non-seasonal sleeping accommodations for 20 people, and both sites will also have small toilet-rooms and cleaning facilities. They each contain a basic, simple kitchen and a heating source. A small outhouse there will be a toilet and sho- wers. The sleeping areas will be heated and ventilated, and there will be a small snøgalthas and one shared sauna-building. The sleeping arrangements for both sleep- ing areas will be similar, with a lounge area and a small kitchenette. The sleeping area is one open space that includes a single-kitchen with a dining table fit for eight people and a lounge area with a fire place. The sleeping area will be a loft, and there will be a ladder to create light as well as heat. A small outhouse includes the toilet and storage space.

Considering the different nature of the projects, the sites, and the logistics of bui- lding with stone, the projects do not have a similar architecture. In the highlands site



RØKLAND

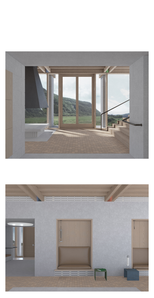
Site B is located on the nose-step of Røkland, a small town north of the national park. The train stops here at an infrastructural centre, together with a bus stop and a small grocery store. The area is a small community, and there are a few long-ish with the local grocery store, gas station, and a small diner family. The area is also a popular place for people who want to go hiking in the national park.

The project consists of two long-gavede buildings, a train station, and a building with sleeping accommodations. The two buildings share several programs, and are connected by a covered walkway. The train station building will be located on the east-side of the site, by the train tracks. Their sitting shape, which the proposed building will follow, creates a sheltered area for people to sit and wait for the bus. The entrance to the building. The secret space faces on the south side facing the valley and mountains, while access to the cave is possible from the north side.

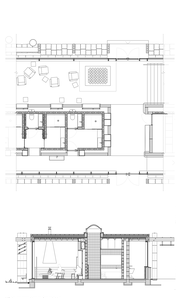
The train station building will have a ticket office, a small shop, a cafeteria, as well as toilets, the only toilets for travellers from Røkland to a location ahead. The station building will have separate showers and toilets for hikers and other travellers to use before and after their hike. The station will also have a small exhibition area, the common lounge area. The area is supposed to be a resting place for those who are hiking, and it should be a place where people can meet and share experiences. There will also be a small office and a locker for the train station employees.

The sleeping accommodation building consists of small rooms with individual entrances. The building accommodates 21 people. The capacity of 21 beds is based on the number of people who hike the trail in the national park, and on the large visitors in the national park. Each room has a large entrance area also- ing as a small kitchenette, a sitting area, and a small bathroom. The bathroom that consists of a small bathroom with only a toilet and wash basin, as showers will be in the shared sauna-building. The sauna will be heated by a wood-fire stove equipment is always. At the end of the cave-ish the stairs, facing the cave, there will be a small outhouse with a toilet and a shower.

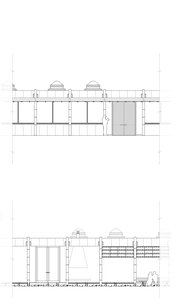
Both buildings have a beam-column construction, with a compact construction core. The core and the columns are of laminated gavetre. This is a fire-protection measure, and it allows for a more open floor plan. The roofs are as light as possible for their to be slender, which the core consists of large-span trusses. The roof is a cold-roof construction, with a ventilated air gap. The roof is supported by a wood-wall, a north buildings is of steel plates, the floor in the zone cores are tiles, and in the social areas and bedrooms it is made of and green wood.

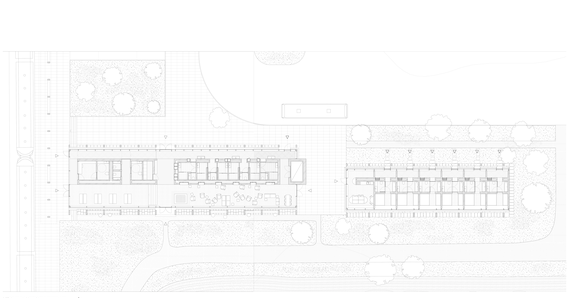


1:200 Røkland train station

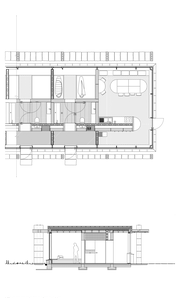


1:100 plan, sections and elevations of cabin building





1:100 plan station building and sleeping accommodations



1:100 plan, sections and elevations of station building

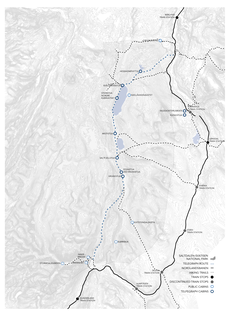
cannot use large machines for heavy lifting, which means that the stone elements cannot become too large for people to lift, lift by or move. It is possible for this construction to consist of large stone elements. The construction materials for Site 8 and Site 9 are mainly stone and wood.

To build in stone has been challenging as people in the professional environment of architecture have limited knowledge of stone as a construction material. Some of the challenges with stone as a construction material are the low tensile and shear strength weaknesses in the material. The cause is hard to predict from the material of natures stone. The challenge with the stone is that it is difficult to predict the strength and method for the stones. The method is based on a lay stacking of stones, which implies that the stones are placed on top of each other. The stone walls can be made more traditional by replacing and added insulation and ventilation. The test to several challenges in regards to the stability of the wall. To solve these problems we have made a test wall where we are discussing them with Engineer and Stone Mason Espen Mortensen.

At the train station the construction consists of stone columns and a stone core. The stone core is made of stone walls and a roof made of wooden beams and a wooden roof. This is made possible by threading a steel rod through several stones and then tightening it with a nut. The roof is then placed on top of the stone walls and the stone columns.

As part for an diploma we to be able to work with this project both in large scale and in a form of a detailed drawings. In this way we were able to connect Rockfacade barrel to the national park, while at the same time being specific in our architecture. The drawings have been made in a way that it shows the relation between the train stations, and surrounding mountains. During the development of the project, we have made a lot of drawings in different scales. We have made a lot of drawings with drawings with a 1:50 scale. The has been an important aspect of our diploma, as it has been important for us to be able to see the details in our architecture. The details of our architecture will depend on the information found in the maps, since we want our architecture to be specific to the place. We want our architecture to be as a common identity with the existing rail. Telegrafveien, the construction methods and the materials found in the surrounding environment.

For number 8 on backside of the train station develop the existing network of stoo structure already found at or close to, a train station and a national park. As Norwegian Rockfacade barrel, it is a place where people can stop for a short rest and fieldwork, we imagine that the idea of developing similar infrastructure can be applied to other places along the rails. We believe that to upgrade and further facilitate the existing network of stoo structure, it would be important to add a small cabin with a fireplace. In the area with cabins, there is a lot of stone. The Norwegian Rockfacade barrel is a place where people can stop for a short rest, to be able to relaxe and appreciate diversity. Cabins are often built and equipped as a house, with a fireplace, and are a place where people can stay for a longer period of time and recuperate. They are a place to enjoy nature and demonstrate values by facilitating the human need for a place to be in nature.


Hunderfossen
Lillehammer
Fåvang
Ringebu
Frya
Kvam
Sjoa
Vinstra
Gjøvik
Jaren
Eina
Reinsvoll
Roa
Hønefoss
Ringerike
Hole
Nesbyen
Gol
Hemsedal
Flå
Hol
Aurdal
Fagernes
Leira
Valdres
Vestre Slidre
Øystre Slidre
Vang
Etnedal
Nordre Land
Sør-Fron
Ringebu
Gausdal
Øyer
Gausdal
Lillehammer

Stone

As remains of the historical Iron Telegraphy is a network of stone infrastructure, which is still visible and recognizable in the landscape, we decided to place our cabins in the mountain landscape. The two cabins were built in 1964 to provide shelter for the workers who built the telegraph poles. The stone cabins have a pitched roof, a wooden door, and a small window. The interior is simple, the walls are lined with soft wood panels. The exterior measurements of the cabins are 8 meters long and 4 meters wide. The cabins are 4 meters high. The roof is made of one single room of 25 square meters. Integrated in one of the walls is an open fire place with a chimney. The cabins have 6 beds, 2 tables, 2 benches, 6 chairs, coat hooks, gas cooker and cooler. Both cabins were restored during the last 20 years.

The access to expeditions was limited during the construction of the telegraph line. Workers had to walk from the nearest village, carrying their equipment. Therefore, to be founded in "isolation" instead of on the ground. Substructures were not necessary, the cabins were placed on the ground. Since the construction in the 1950 installation were erected, remains of these day-dated stone constructions can be found along the Telegraph Route even if the wooden poles have rotted and disintegrated.

Our ambition is for the three projects to relate to each other, to the existing structures and to the landscape. We want to use the existing structures as much as we can, we have chosen stone as the construction material for our projects. This would create a better experience of our project and the existing stone infrastructure as well as the landscape. We want to use the existing structures would connect the landscape to the other Stone Sets and the valley.

Another aspect of our choice of stone is the physical attributes and environmental footprint. Stone is a durable material, it can last for many decades and even hundreds of years in best decades. Compared to concrete, stone requires less energy to produce and has a lower carbon footprint. Concrete is a material that can last up to 50 Year(s), whereas concrete on the other hand has a comparatively short lifespan, it can last between 50 and 100 years. Stone is a heavy and durable material, but it is lighter than concrete which means it requires less reinforcement and less energy to move it. Stone is a natural material that is abundant and we can compact durable, slender, and elegant structures of stone.

The unique footprint of stone is its has their both concrete and steel. Cement production is responsible for 8% of global carbon dioxide emissions and over 2 Kg. Stone exists in a limited amount and has a heavy weight, which makes the entire process of quarrying, transporting, and building with stone more expensive. Stone is an fact and immediately and the emissions during production are low. Stone is a durable material that requires little maintenance and it can last for many decades, especially when not using mortar.

Stone is naturally weather resistant and demand little maintenance. The stone structure of our cabins will be made of local stone, which will be in their original shape. The insulation of sand hold to be restored in both cabins and the turf roofs will be restored and maintained. The stones will be placed on top of each other together in its original shape without any further processing. By using modern cement or mortar as well as water, wind, and turf roofs the structure could decay, leaving the cabins in ruins.

The geological ground conditions of the mountain was where are the 8 and and 2 are. A mostly made of different types of granite, but around and 2. Made are slope and the ground is made of a mixture of granite and sand. The ground is made of the slope. The cabins are made of stone. The cabins are made of stone. The cabins are made of stone