Reconnect with Nature Shelter guidebook

EMPLOYEE FOUNDATION

Let's work it out together.

People, purpose and nature

Nature has always been an essential part of who we are. Long before organisations, technologies and modern ways of working, our relationship with the natural world shaped how we lived, moved and connected with one another. While much has changed, that fundamental connection remains. It continues to influence our wellbeing, our sense of purpose and our ability to feel at home in the world.

This book tells the story of an idea that grew from this understanding. An idea rooted in the belief that access to nature matters, and that creating simple, thoughtful spaces can help people reconnect with something deeply human. Through the Shelter Program and the Reconnect with Nature initiative, the Employee Foundation of the VKR Group supports projects that invite people outdoors, encourage community and offer space for reflection, learning and togetherness. Much of this work grew under the guidance of Michel Langrand, whose dedication as Chair of the Board from 2016–2026 shaped the path that brought us here. His visions and leadership created strong roots of the Reconnect with Nature program.

What makes this project truly special is not only the shelters themselves, but the people behind them. Colleagues from across countries, functions and backgrounds came together as volunteers to build something lasting for others to enjoy. In doing so, they created more than physical structures. They built relationships, shared experiences and strengthened a sense of belonging that reaches beyond the workplace.

The stories gathered here reflect the diversity of those experiences. They speak of craftsmanship and collaboration, of quiet moments and shared effort, of pride in contributing to something meaningful. They also remind us that reconnecting with nature does not require grand gestures. Sometimes it begins with a walk, a fire, a night under the trees or simply the willingness to step outside.

We are proud to support initiatives like this. They reflect our long standing commitment to social responsibility, employee engagement and the belief that strong companies are built in strong communities. We hope this booklet will inspire you to explore, to participate and to find your own ways of reconnecting with nature and with each other.

On behalf of the Employee Foundation, thank you to everyone who contributed their time, energy and passion to making this project a reality. Your efforts will be felt for many years to come.

With gratitude,

Lotte Kragelund
Executive Director
Employee Foundation of the VKR Group

Kristian Justesen
Chair of the Board
Employee Foundation of the VKR Group

Let's work it out together

Content

Nature calls

Among slender, rain-soaked beech trunks, a group of unusual wooden structures rise up from the golden autumn leaves. Someone jokingly called them "the heath hobbit's shelter."

The roofs slope like mountainsides, the peep-holes round like gaping eyes. The foundation screws are planted deep between the roots of the trees. The sturdy Douglas fir from which the buildings are constructed blushes in the soft light and invites the viewer closer. It is quiet here – and yet it is not. In the distance, the powerful bellowing of red deer can be heard. In a tree, some jays are in the middle of a family quarrel. Up towards the clouds, a formation of geese is heading towards the Wadden Sea, like a flock of creaking garden gates in search of a fence.

If you are lucky, you can also hear cranes, wolves and nightjars.

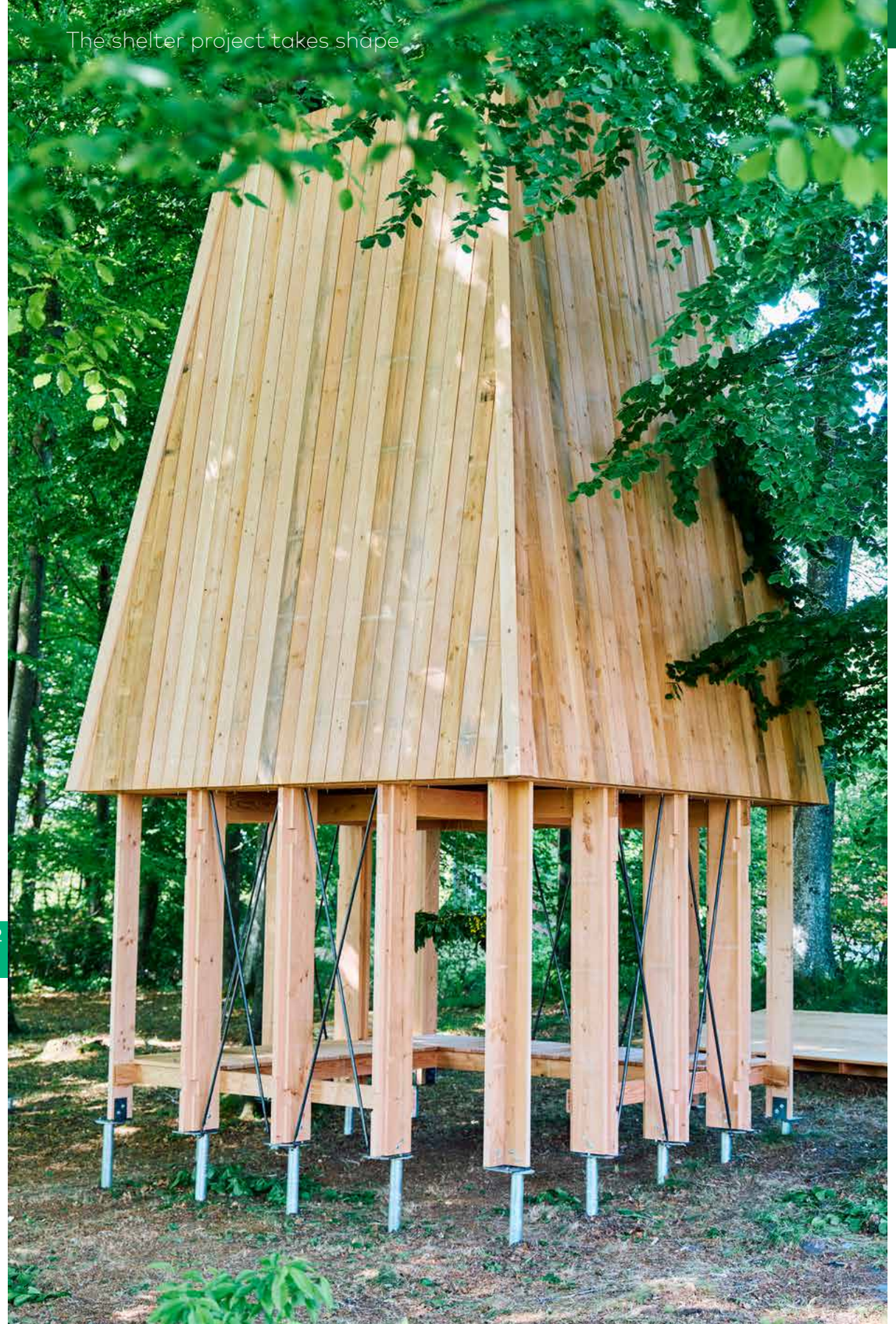
We are in Kronheden, a hilly area in West Jutland that was once plagued by sand drift from the inland dunes and was therefore planted with trees and marram grass. It is so far away from everything that feudal rule never reached here. The farmers who, against all odds, put a plough in the ground in these parts were all freeholders. The railway never came here either. The children had to walk an hour and a half to school through woods and heaths. Kronheden was so far out that the priest in the nearest village held "full moon services" here a few times a year so that the farmers and forest workers did not have to walk so far. Afterwards, they could find their way home in the moonlight.

Today, there are forests and heaths everywhere. And in the middle of it all lies the shelter village, like a gateway to this little world where the eye can reach all the way to the horizon without encountering anything but nature.

Guests in the shelter village

An 8th grade class from a nearby school has just been on a visit. Together with their teacher, they came by bike, lit a fire, huddled together, listened to music and went home again the next day. One of the pupils even brought his own make-up mirror. Before them, it was an Icelandic horse dealer and his family. While the children built bows, he lay down to sleep by the fire with some thick sheep wool from the shepherd's farm nearby. It had been a long time since he had slept so well. Another lone guest says that it had been a long time since he had experienced such deep darkness and that during the night he heard sounds he had never heard before.

Guests in the shelter village



The shelter project takes shape

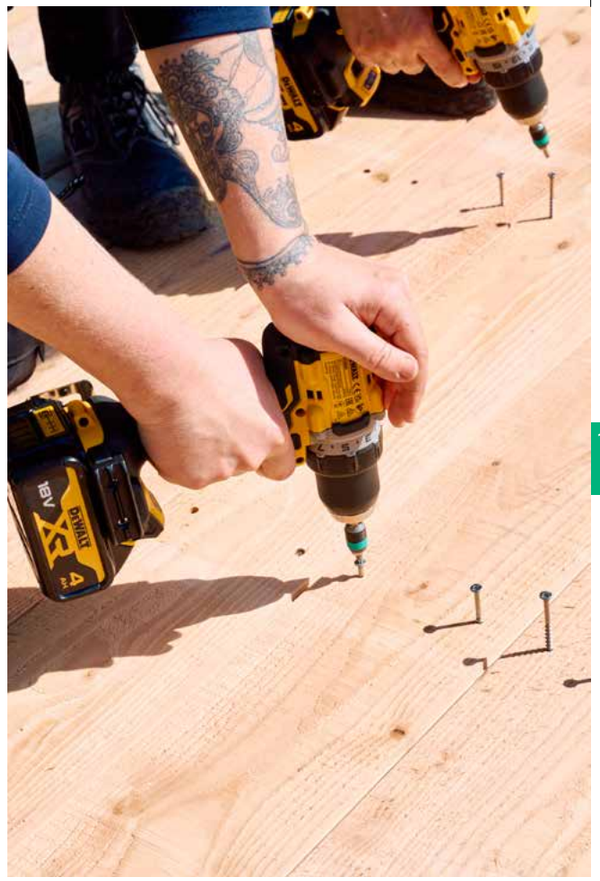
In the spring of 2025, there was a flurry of activity at Kronhede Nature Hostel & Camp School, with which the shelter village is closely associated. A fifty-year-old institution, it was modernised in 2024-2025 with support from the VKR Group Employee Fund as part of the Green Areas and Outdoor Life programme. During the project, the adjacent beech grove was designated as the location for a pilot project within the framework of the Employee Foundation's new initiative, the shelter programme "Reconnect with Nature".

Trucks unloaded stacks of timber. People flocked from near and far and were equipped with safety helmets, battery drills and trowels to work alongside professionals to build a whole small village of architect-designed shelters. West Jutlandic, German and Danish were spoken criss-cross, people nodded, shook their heads, discussed and corrected each other. Theory met reality. And when the large, heavy hat for the iconic campfire shelter was finally put in place between the logs by the local crane operator, there was a standing ovation in the dining hall. One of the architects was so moved that she shed a tear.

A new, special community had formed across people, countries and departments around spending their free time building something together that others could enjoy.

The result stood there, proving that they had succeeded.

The shelter project takes shape



Voices from the construction site

Franziska Prüfer: Creating something lasting

Franziska Prüfer, who works in VELUX's sales department in Hamburg, volunteered on both weekends when volunteers from VKR Group companies gathered in the forest to build a selection of a brand new series of shelters, developed by the Employee Fund in collaboration with Norrøn Architects. Later in the summer, she also returned to Kronheden with her family to show them the result.

"My main motivation for participating was the opportunity to create something lasting and valuable with my own hands. My daily work involves selling windows and serving customers, which I enjoy very much. But the shelter project gave me the opportunity to do something with my own hands, together with others, in the middle of a forest. Something that will be of value to others for many years to come, while also enriching my own life. I was so taken with it that I took my family back to Kronheden on holiday so they could see what I had been involved in and what a magical place Kronheden is, and they loved it just as much as I did," Franziska tells us on the phone from Hamburg.

Anders Smedegaard: Community and volunteering

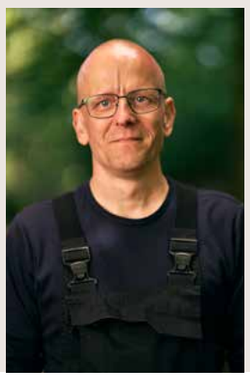
One of the volunteers from Denmark was Anders Smedegaard, who is an apprentice automation technician in the maintenance department at Gaasdal Bygningsindustri in Skjern. Anders has previously participated in the Employee Foundation's projects in Romania, and at Kronheden he was there both weekends and an extra weekend on top of that to finish the job.

"It was probably the only time in my life that I was allowed to help build shelters like these, so I wasn't going to miss it. And it's fun to do it with colleagues who come from all over the place. In these projects, there is room for everyone, from the director to the apprentice and the office girl from Germany who has never seen a screwdriver before. We all have to screw in screws and hammer in nails, and it's just great fun. It's a great experience to meet the others and discover that there are many of us with the same interest who want to do voluntary work," says Anders.

Silje Bystrup Lundsteen: Job satisfaction and pride

Silje Bystrup Lundsteen from VELUX A/S in Hørsholm took part. She works with processes and IT systems on a daily basis. "Somewhere between Franziska and Anders," she explains. Like Anders Smedegaard, she stayed until the last dowel had been hammered into the thick Douglas fir boards.

"It was a great experience to be part of. I was tired, sore all over and covered in bruises after a weekend with a hammer and screwdriver under the open sky. But at the same time, I was full of energy and extremely happy and proud of what I had helped to create together with other fun people. And I was relaxed because I hadn't used my brain and overworked and overthought everything, as I usually do in my day-to-day work. When I got back to the office and told them that I'd simply had the best weekend because I'd been screwing in screws, they didn't quite understand," says Silje, who lives in an apartment in Amagerbro in Copenhagen.



They all work in different places within the VKR Group's companies. They didn't know each other beforehand. They do now, thanks to the voluntary working community that thrives within the framework of the Employee Foundation. Across hierarchies, departments, cultures and salary brackets.

The importance of nature for humans

Henrik Øvlisen, programme manager for the Employee Foundation and the person who first came up with the idea for the shelter project, is out for a walk somewhere in North Zealand. He usually does this once a day. It doesn't have to be long walks, he explains. Just getting up from your desk and going outside to feel the wind on your face and the ground beneath your feet.

"It's something I've really rediscovered in recent years, working on the programme, which has given me extra opportunities to get out. It's really good for yo . Both physically and mentally. Following the cycle of the seasons in all kinds of weather just gives you an inner peace. It doesn't have to be the Camino. Even on short trips close to where I live, I've had amazing experiences that are different every time. I can't get enough of it. And that's what we're built for by nature. To move around outside, in nature. It's only in recent centuries that we've distanced ourselves from that. I'm not saying that we should all suddenly move back into the forest. But we should reconnect with what is good for us. Which is basically what our programme is all about," he says.

Réserve naturelle Natagora de la Prairie du Carpu et de la Grande Bruyère, Rixensart, Wallonia, Belgium

We used to live out there. All year round, all the time. During the day, we hunted in the forests and on the plains. When darkness fell, we gathered around the fire and took turns sitting on the edge. We sought shelter in caves from storms and other predators, with whom we fought a fierce battle for the top spot in the food chain. 1.2 million years ago, there were no more humans on the entire planet than live in a city like Herning today. Human activity was not yet decisive for the fate of the planet. Humans were just one animal among many others. But still a very special one. In 1919, Danish author and Nobel Prize winner Johannes V. Jensen (1873-1950) wrote in his novel "The Long Journey":

"Most animals lived in herds, and so did humans, but theirs were restless, jumping about, early and late; so that you could see the grass moving out on the plains and one or more figures jumping above and waving their limbs wildly then it was them, the trees at the edge of the forest moved as if a whirlwind was passing through it was them who were rampaging; they were also recognisable from afar by the grunting that came from them, there was always talking in the herd, without ceasing, many jaw sounds, smacking, sucking and chest tones, long rolling lectures, grunts and bickering, warning roars and squealing concerts from the young, whimpering and wailing, and occasionally a chorus of laughter, the peculiar whimpering of the human herd, which often meant that an injury had occurred, or that someone among them had relieved themselves of intestinal gas, in which case they laughed with both ends.

Where other animals had holes in the ground or nests in trees to retreat to, we had caves. It was here, in the protective semi-darkness, that we became what we are today. Cave paintings are clear evidence that modern humans were already modern tens of thousands of years ago. There was just so much it had not yet invented, so many puzzles it had not yet solved. But the knowledge was there. The urge to break barriers and explore horizons.

Chauvet caves in France replica

From the people who, around 30,000 years ago, decorated the Chauvet caves in France with images of mammoths, cave lions and rhinos, to today, where images are generated digitally by artificial intelligence, there are just over a thousand generations. That is no more than can fit in a sports hall in a Danish provincial town, such as Brædstrup Hallen not far from Østbirk. If we take the images in the Kateřinská caves in the Czech Republic, the distance shrinks to less than two hundred generations. In the same span of time, the wheel, written language, the printing press and all the other inventions that have shaped today's world came into being. Along the way, we moved out of caves and into permanent dwellings. If you take the number of inventions and their significance for the individual and weigh it against the number of generations and the speed at which it all happened, you may better understand why nature still runs so deep in many of us. After all, we have only just left it. Our limbs, sensory apparatus, organs and minds are designed by nature and still organised according to it. It was only yesterday that we hunted large animals on the plains, ploughed with horses and drove oxen, and there are still those who harness dogs to sleds and hunt with falcons. And yet we have suddenly left nature behind to live in ever-growing urban communities. Around half of the world's population of just over eight billion people live in cities today. This figure is expected to rise to 70 per cent over the next 25 years. And here, even deep underground in a parking garage or on the top floor of a skyscraper, we feel nature stirring within us, as in the dog Buck in Jack London's novel "The Call of the Wild". A longing for light from an open sky, dewdrops on leaves, luminescent lichen at night, belief in something.

It is this urge that French author Silvain Tesson gives in to in his book "On the Wandering Paths" (Sur le chemin noirs, 2016), in which he rises from his sickbed and, on unsteady legs, wanders diagonally across a France that, in his opinion, has lost touch with life itself, betrayed and changed by its own ingenuity.

"In my life as a city dweller, a malignant indoctrination took place: a clammy form of surveillance, a recruitment that one accepted out of laziness. The new technologies invaded my life in various areas, even though I defended myself against them. One must not be fooled; these were not just inventions intended to make life easier. They were simply replacing it. They did not offer a friendly range of inventions, but instead changed our presence on Earth. It was "naive to think that they could be used in a good way," wrote Italian philosopher Giorgio Agamben in a short manifesto of aversion. They reorganised the human psyche. They took it out on behaviour. They already controlled language, injecting their beta blockers into our thinking. These machines had a life of their own. To humanity, they appeared to be a revolution as important as the creation of our frontal lobe four million years ago. Did they improve the human race? Did they make us freer and more appealing? Had life become more amiable now that it passed through screens? It was not certain. It was even possible that we were losing control of our lives.

If this is the evil, then nature must be the cure.

At the forefront of our own time, Norwegian author Tomas Espedal moves out of his own misery by putting one foot in front of the other.

"I am destroying myself, a hard and serious work of ruin, drinking and falling apart, and suddenly I am happy. Why? Because the sunlight is grazing a traffic sign? I can't breathe and have to stop. I feel a warm and jubilant clarity in my body. My thoughts awaken and lose their weight; it is a very concrete experience, my thoughts become lighter, and I keep walking, lighter now... Slowly it dawns on me, you are happy because you are walking."

This brings us back to Henrik Øvlisen, who once a day gets up and goes for a walk in North Zealand to do something good for his body and mind. "It's so simple, yet it solves a complex task, which is to unconsciously bring one into contact with one's basic needs, which one may have ignored or numbed with something else in one's modern life. I think that's fantastic."

The shelter as a transition between civilisation and wilderness

This is where the idea for the Employee Foundation's shelters comes in.

A modern and newly designed series of shelters as halfway houses between civilisation and wilderness, or a modern version of the cave, where people can feel safe and at the same time use it as a stepping stone to everything outside. A shelter that sets out to be a sluice, a membrane, a transition between two worlds, both of which demand their rights. And which thus attempts to solve a task that in some ways resembles the task that Villum Kann Rasmussen solved in 1942 when he launched his groundbreaking VELUX skylight window, a name formed from the two Latin words ventus and lux, wind and light.

At that time, the aim was to make dark, unused attic spaces habitable by creating a roof window that could bring in daylight and air and make the space liveable without compromising on quality in relation to a facade window. Daylight, which the northerners in particular crave to such an extent during the winter months that some use artificial light to avoid falling into depression. In the first dwellings, light was just something that came in with the air through the air holes, whose main function was to regulate the draught to the fireplaces. The ancient Norse called these holes vindauga, from which the English word window derives. In megalithic structures from the Stone

The architects' vision

The groundbreaking skylight has been an inspiration and role model in the creative preparatory work for the shelters in the Employee Foundation's "Reconnect with Nature" programme, explains Marco Berenthz, architect and partner at Norrøn Architects. The skylight created access to spaces that had not previously been habitable. The shelters in the new series were to do the same, only in relation to nature, which for many is still a place they do not often set foot in.

In a presentation by Norrøn Architects, we read:

"For too long, there has been a growing separation between humans and nature and the fundamental understanding that we are nature. Nature provides us with food, energy, better health, air, light and much more, and now it is time to give back to nature, which is suffering because of us. By expanding our awareness of nature and the ecosystem we are part of, we may be inspired to contribute positively to the future of the planet. When we understand that we are cared for by nature, we are also likely to be inspired to care for nature in return. A shelter can protect us from nature, but it can also be a way to expose us to the elements of nature. It is a fixed framework from which you can experience the ever-changing nature of nature. This shelter aims to create a place where people live together and engage with nature, not just spend a night in nature as passive observers. Many people long to belong in nature again, and the shelter invites everyone to explore nature to rediscover and restore our connection to nature.

Marco Berenthz and Poul Høilund, architects and partners at Norrøn Architects

Marco Berenthz:

"Before we decided on the actual design, we tried to define the functions and archetypal experiences we imagined would be associated with the shelters. It was clear from the outset that the shelters should be able to offer more than just accommodation. They also had to attract people who were not born with a camping stove on their backs, and who were therefore not particularly accustomed to outdoor life, and provide them with a good and safe environment that would invite them deeper into nature. Cooking, socialising, solitude, contemplation, sensory experiences. These were some of the things we worked with. Based on these definitions, we created an architecture that signals that this is something special, but which is also in harmony with its surroundings.

Thus, the chimney-like tall fire shelters "The Chimney" are designed for socialising around the fire, cooking and eating. If you want to retreat with a good book or your own thoughts, the shelter on stilts, "Hide Out Tall," up among the branches of the trees is a good place to go. And if you are a whole school class on an outing, you can all sit around the long table in The Table, and so on.

"It was important to us that each shelter should be a tailor-made invitation into nature, arousing curiosity through a special experience, where each shelter functions as its own small intervention, but with a big effect," says Marco Berenthz.

The architect calls the shelters "small caskets". And that is what they look like, standing under the bare branches in Kronheden's beech forest with a thick carpet of golden autumn leaves spread out on the ground between them, waiting for spring. Under the sloping roofs, modern technology is combined with old craftsmanship in the form of CNC-manufactured parts in untreated wood, which are assembled with wooden dowels in the load-bearing structures.

The Shelter Cookbook – From idea to finished shelter

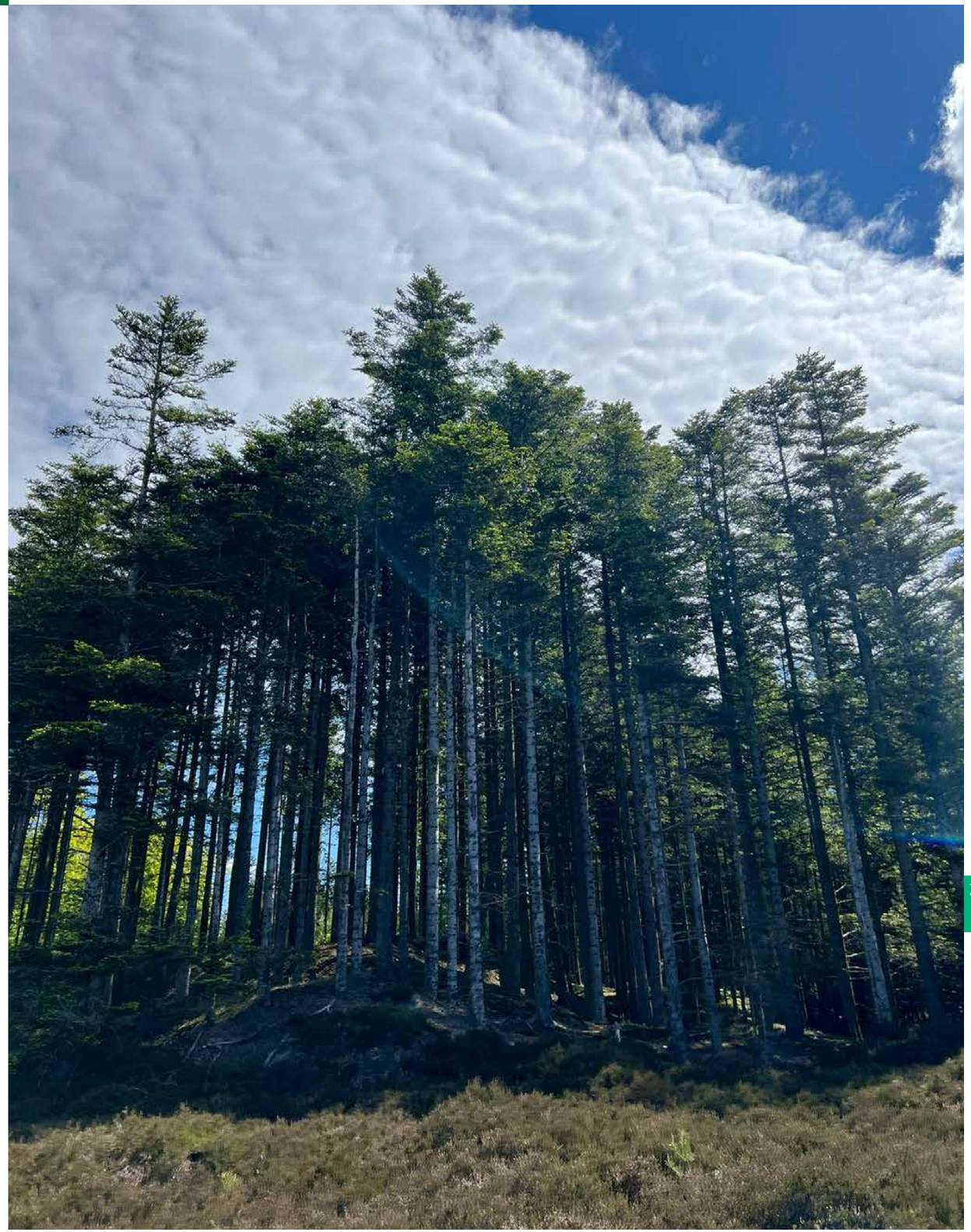
You can usually do more than you think. Just think of the English municipal treasurer, Alfred Wainwright, who in the early 1970s founded one of England's most popular hiking trails, "Alfred Wainwright's Coast to Coast", simply by walking it and describing it so that others would want to follow in his footsteps. It is estimated that around six thousand people walk the nearly three hundred kilometre route every year. For Wainwright, nature was a breathing space, a refuge he sought when the world became too bleak. Such as, for example, the period leading up to the outbreak of the Second World War.

"The newspaper headlines were printed in larger and larger and smaller and smaller type; they overwhelmed you, so that you read in a state of numbness... Words and phrases that had previously lingered in the back of your mind or had not been there at all suddenly became terribly present. We heard them, we read them, we repeated them until we were on the verge of madness. They frightened us. Fortifications, bomb-proof shelters, referendums, armament, gas purification teams, conscription, incendiary bombs, precautions..."

All things that a single person may find difficult to comprehend at once. Here, Wainwright inserts a new paragraph. And then it comes.

"I left Settle just after noon on Sunday, 24 September. Settle is the gateway to the hills."

He simply went for a walk. A very long one. It did not change the coming of war, but it did change his mental health.



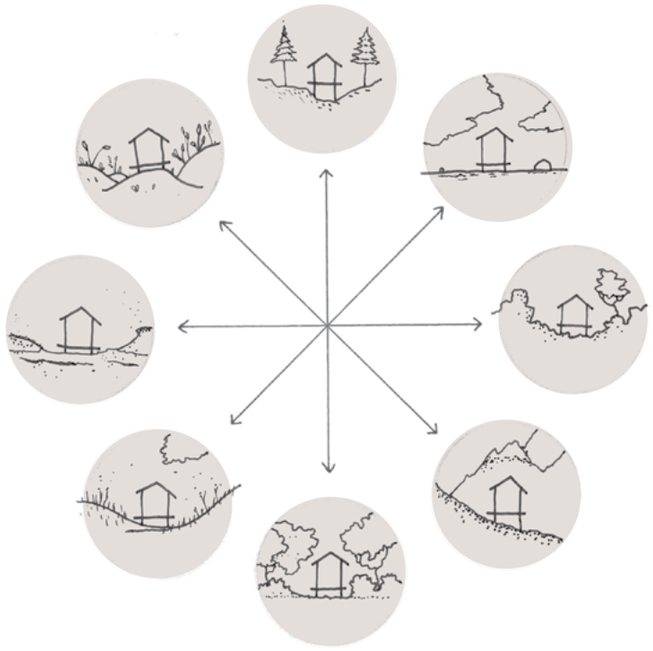
But what do you do if you and your colleagues want to set up one or perhaps several shelters somewhere in nature?

Developing and planning a shelter project often starts with a dream, or a concrete desire to create a place where people can meet in nature and experience a sense of community. The idea can arise spontaneously. It may be inspired by a beautiful area close to home or work. Or, as in the case of Kronheden, it may be part of a larger vision of connecting people with nature through longer hiking trails and nature experiences.

Regardless of the starting point, it is crucial that the project is based on a real need and a desire to make a difference – both for those who participate in the construction and for those who will later enjoy the shelter. Idea development often begins with an open brainstorming session, where all thoughts and possibilities are given space.

- Which locations would be suitable for a shelter?
- Which routes or natural areas lack facilities, and how could a new shelter help to enhance the experience of the area?

It is important to think broadly and not be limited by practical considerations in the initial phase. The aim here is to give free rein to your imagination and envision how the project can create value for employees, families and the local community. At the same time, it is a good idea to gather a group of committed people early on who c e different perspectives and skills. These could be colleagues, volunteers from other workplaces or people with a special interest in nature and outdoor life.



Once the idea begins to take shape, the process moves into a more concrete planning phase. At this stage, it is necessary to find out who owns the land where the shelter is to be located. Often it will be the local council or perhaps a national park. It may also be private landowners. It is crucial to initiate an early dialogue with the owner to clarify the possibilities and secure the necessary permits. The regulatory process can take time, and it is important to be prepared for the fact that the process may take several months or even years, depending on the scope and complexity of the project.

In parallel with the regulatory work, the project team should begin to flesh out the idea through sketches, maps and descriptions of the tasks to be performed. Visualisations – e.g. Google Maps excerpts or hand-drawn sketches – make it easier to communicate the scope and content of the project to the Employee Foundation, partners and authorities. This is also where you begin to consider what resources are available:

- What can be done on a voluntary basis, and what requires professional assistance?
- Does a gravel road need to be built, a forest cleared or more shelters constructed?
- What materials should be used, and where can they be obtained?

A GROWING COLLECTIVE

An important element of planning is the budget. It is necessary to get an overview of the expected expenses – both for materials, transport, any contractors and other costs. At the same time, you should assess how much of the work can be done by volunteers and where external help may be needed. Here, the Employee Fund can often contribute with advice and support, both financial and practical. When all the pieces are in place, an application is prepared, describing the project clearly and realistically. It is not essential to follow a specific template. The most important thing is to communicate the project's purpose, scope, timetable and expected effects in a way that makes it easy for the Foundation to assess the application.

The time frame for a shelter project can vary considerably. From the initial idea to the completion of the shelter, it can take anywhere from six months to several years. This depends, among other things, on how quickly permits can be obtained, whether wood needs to be dried or special materials procured, and how much of the work can be done by volunteers. It is important to have realistic expectations regarding the time required and to communicate this clearly to everyone involved. The fund prefers that projects be completed within four years of the grant being awarded. However, it understands that unforeseen circumstances may prolong the process.

However, a shelter project is not just about building a physical structure. It is equally important to consider how the shelter can be used and activated after construction. Already in the planning phase, consideration should be given to how the site can provide a setting for social events, team building, family outings or other activities that strengthen the community. It may be beneficial to form a group that takes responsibility for organising events and ensuring that the shelter is used actively – not only by those who built it, but also by others in the local community or perhaps even international volunteers.

Experience from previous projects in the Employee Foundation shows that cooperation and commitment are crucial to success. This applies both to putting together a strong project group and to working with authorities, foundations and other stakeholders. Traditions and working methods can vary, for example between municipal and voluntary projects, and it is important to be open to different ways of organising the work. The most important thing is that everyone involved feels a sense of ownership and commitment, and that the project is driven by shared enthusiasm and a desire to create something lasting and meaningful.

Developing ideas and planning shelter projects requires vision, patience and practical sense. It is about combining the dream of nature experiences and community with a realistic approach to the many practical and administrative tasks that need to be solved along the way.

The reward is not only a new shelter in the landscape, but also the experiences, relationships and lessons learned along the way – which can inspire new projects in the future.

Back in the shelter village at Kronheden, the year is coming to an end, but there are always new guests on the way. This weekend, it is a small family from Holstebro who have booked the large campfire shelter for a single night. "We would like to sleep in the shelter once a month all year round," they explain.

The sheep wool from the shepherd's farm just around the corner has already been spread out over the sleeping areas, and the fire is slowly getting going, while the couple's little daughter runs around among the leaves, squealing with delight.

"We have tried many different shelters in recent years. But we have never seen a campfire shelter like this before. Plenty of space, beautifully decorated, everything has been thought of. It will be a great stay."

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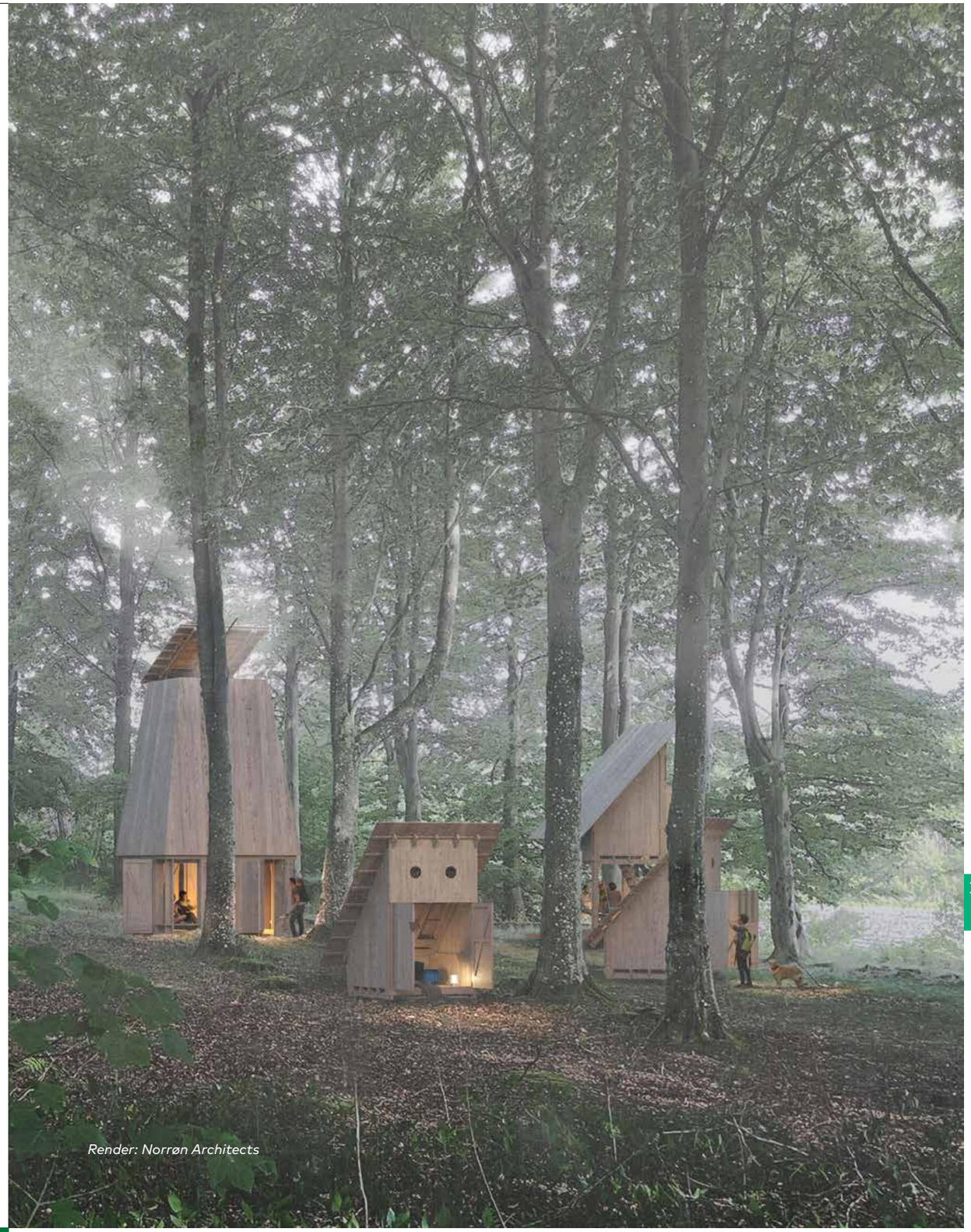
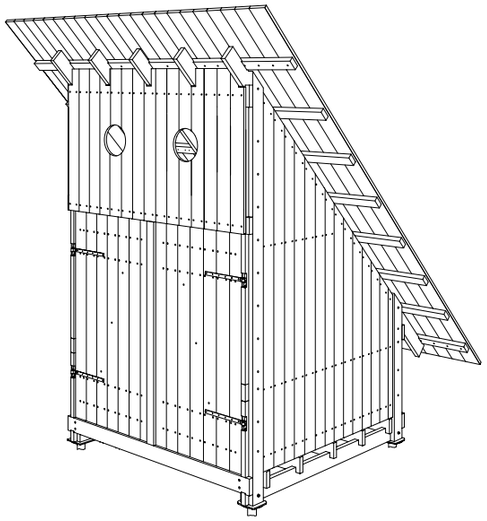


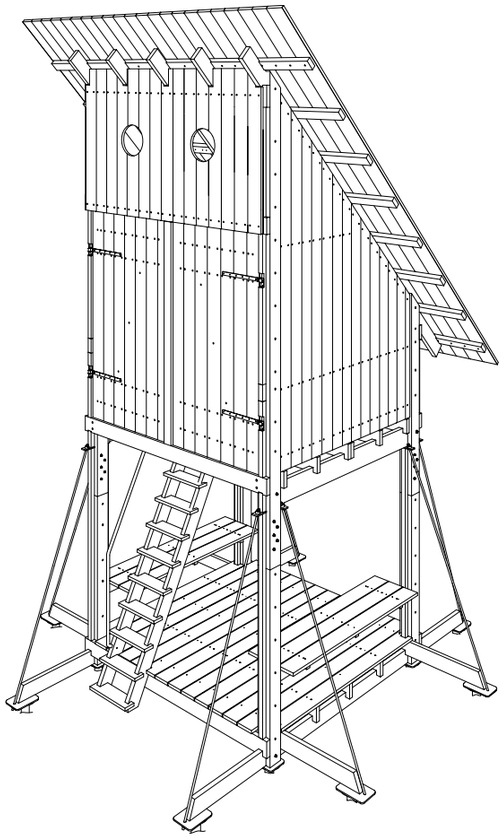
Render: Norrøn Architects

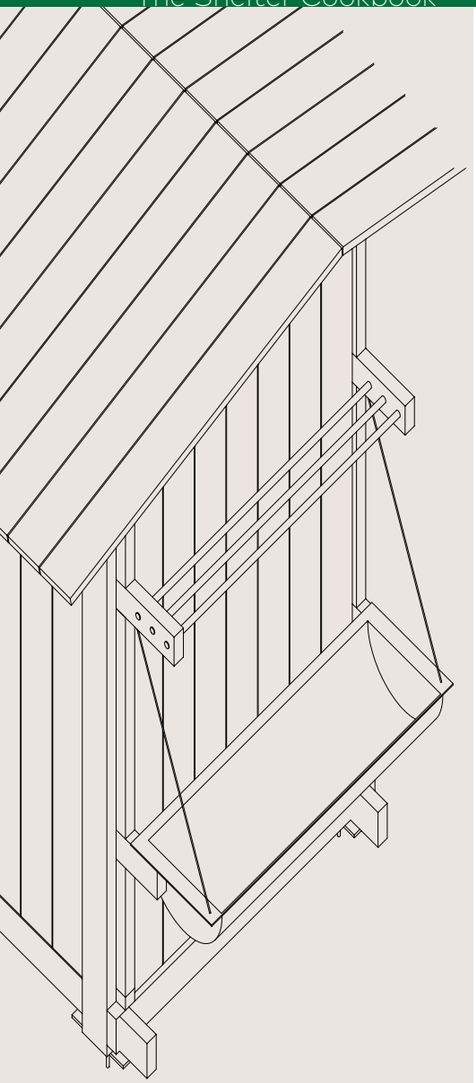
Shelter designs

Hideout low and tall

Main use:	SLEEPING
Other uses:	• Bird watching • Small picnic house • Tea pavilion • Meditation space
Dimensions:	width 4 m length 4 m height 6.6 m (tall) / 4.5 m (low)
Covered area:	6 m^2

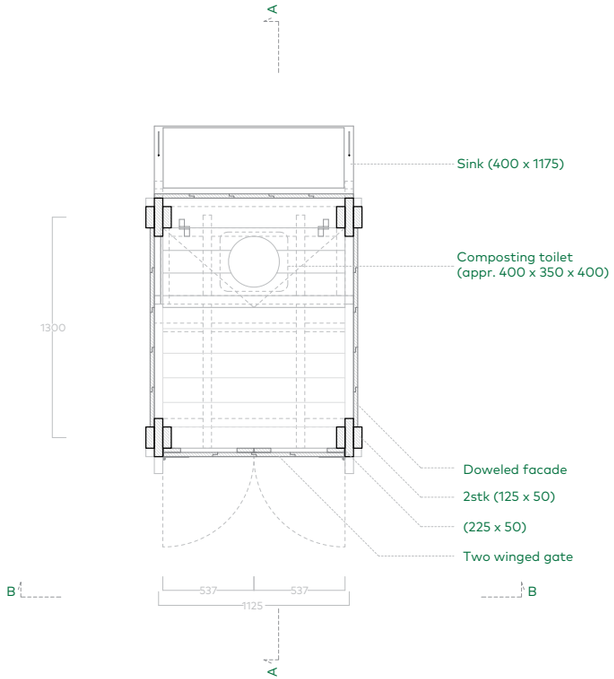


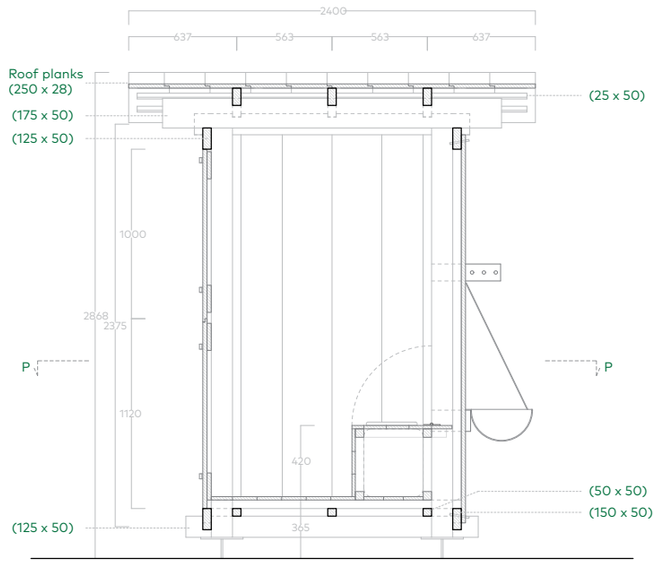


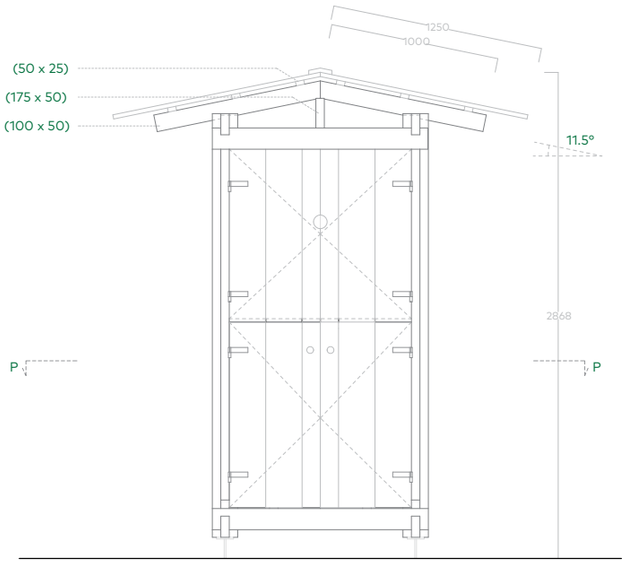


Fundamental

Main use:	SANITARY
Other uses:	• Shower • Sink • Toilet *Can be connected to plumbing otherwise compostable toilet*
Dimensions:	width 1.5 m length 1.5 m height 3 m
Covered area:	2 m²

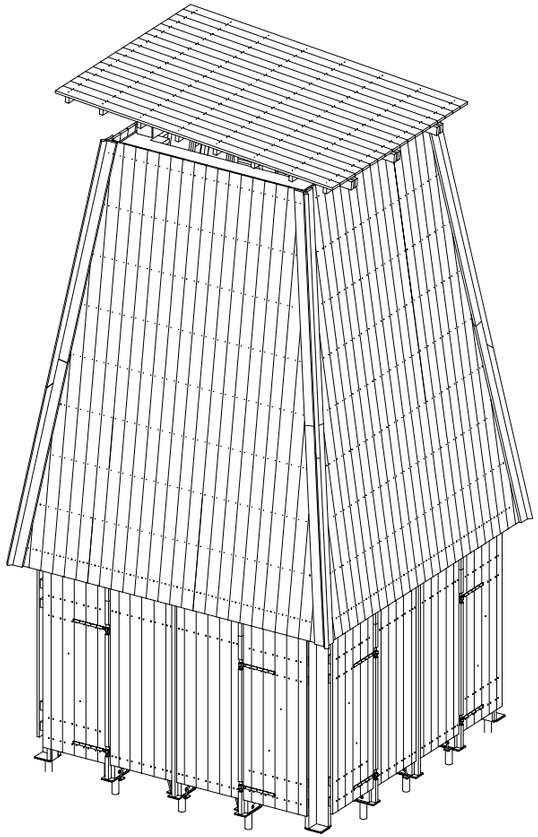


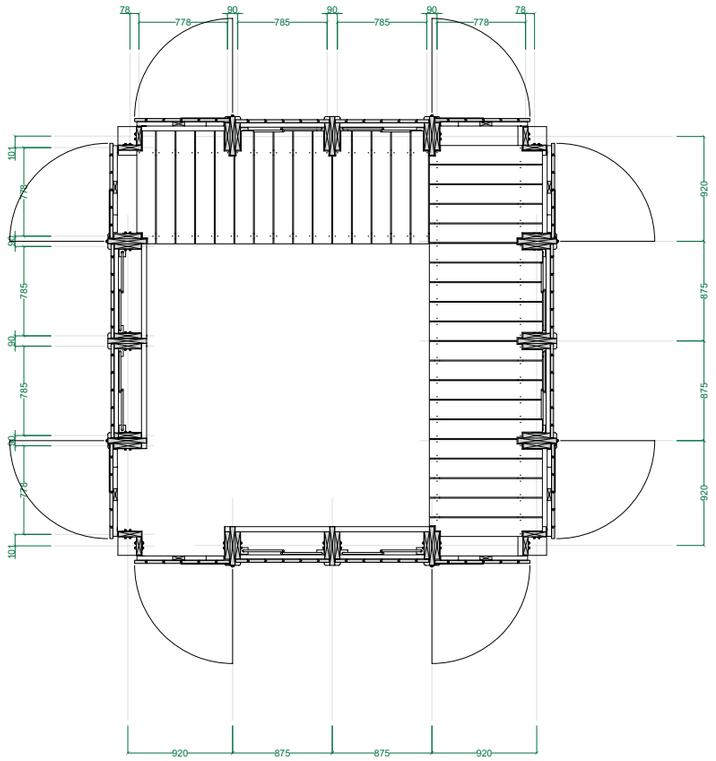


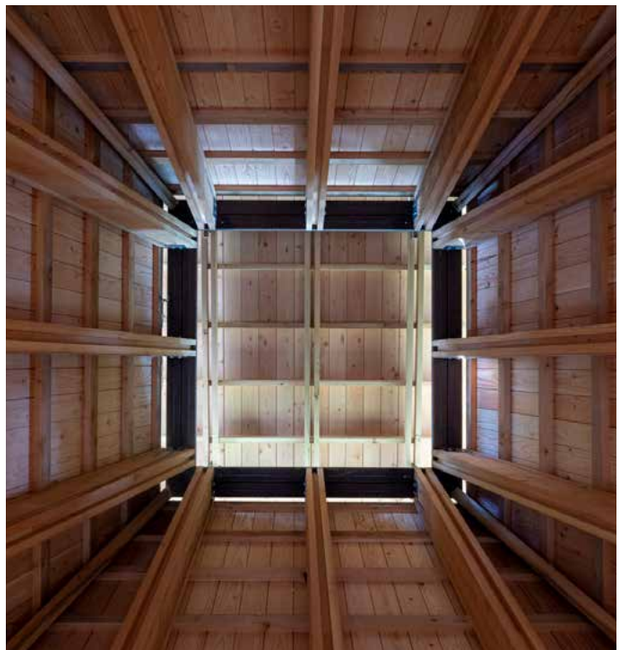


Chimney

Main use:	COOKING
Other uses:	• Making food over fire • Sleeping in a heated space during cold seasons • Storytelling events around the fire • Textile dying workshop *Approx. 4 people can sleep in the shelter*
Dimensions:	width 4 m length 4 m height 8 m
Covered area:	15 m²

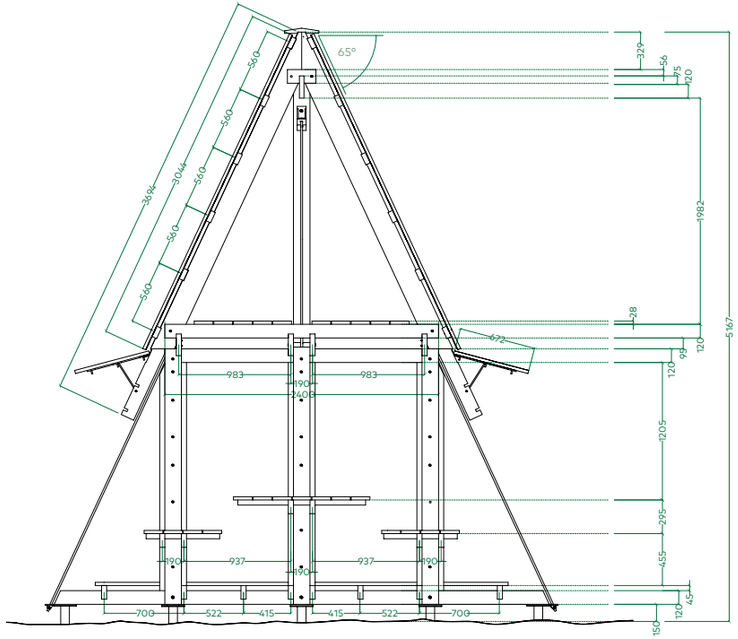


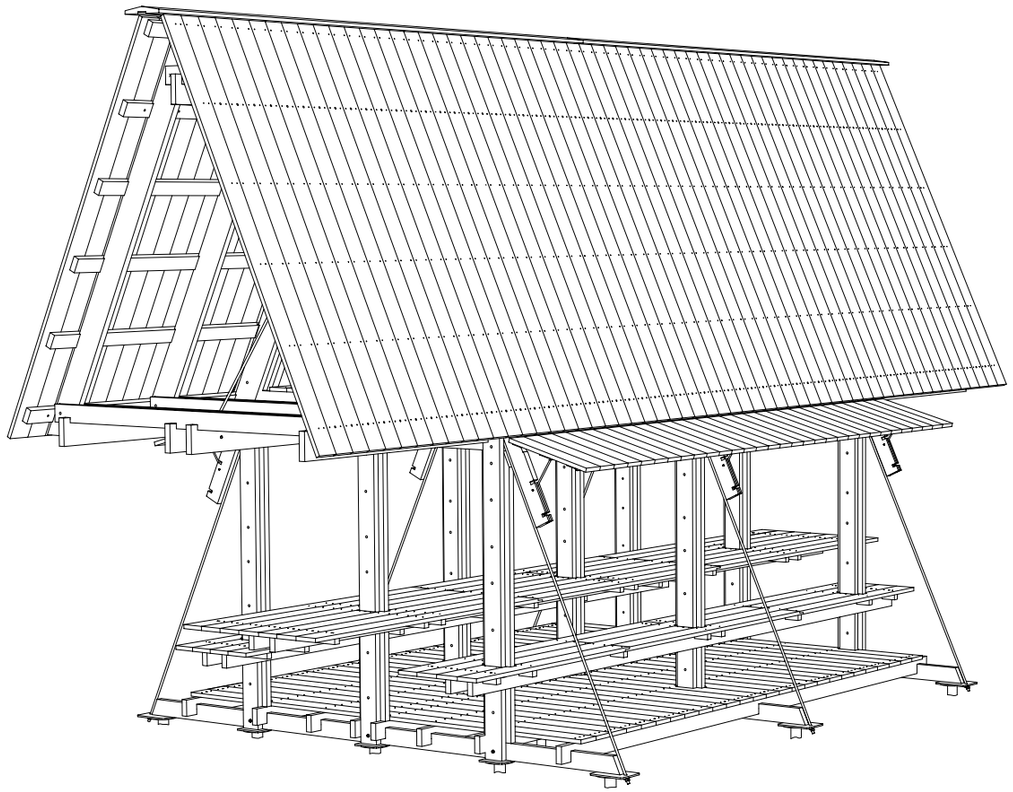




Table

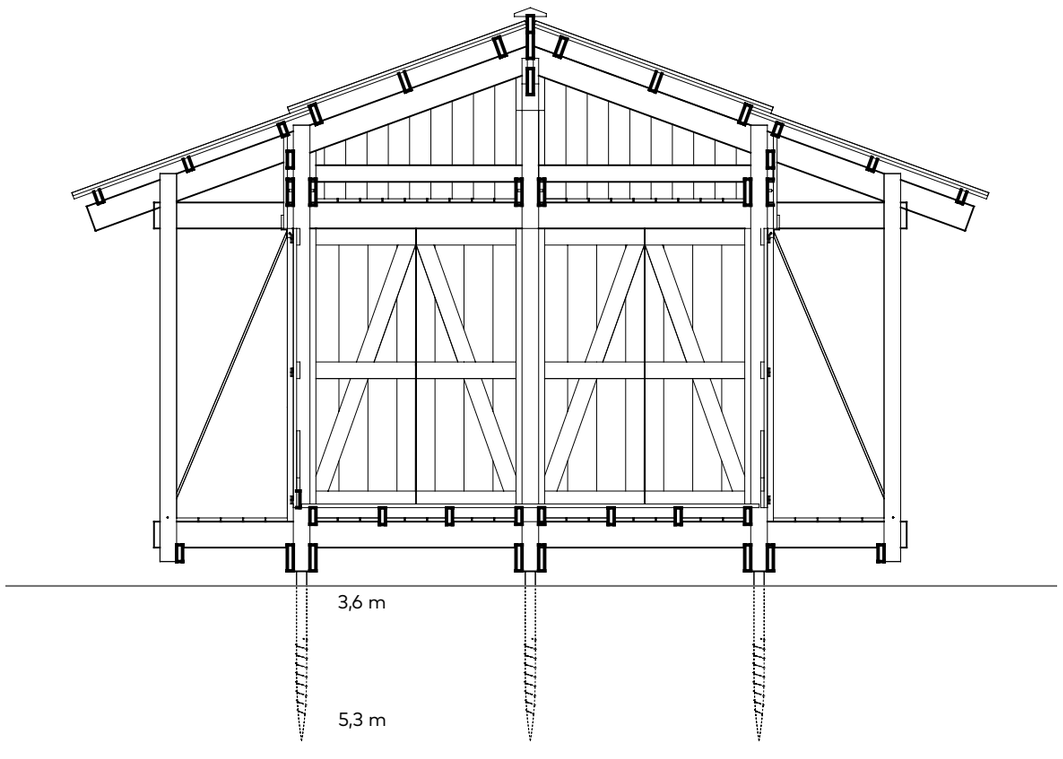
Main use:	EATING
Other uses:	• Resting point along a hike • Outdoor meeting room • Clean mushrooms and berries • Long table dinner
Dimensions:	width 4.5 m length 8.5 m height 5.5 m
Covered area:	38 m²

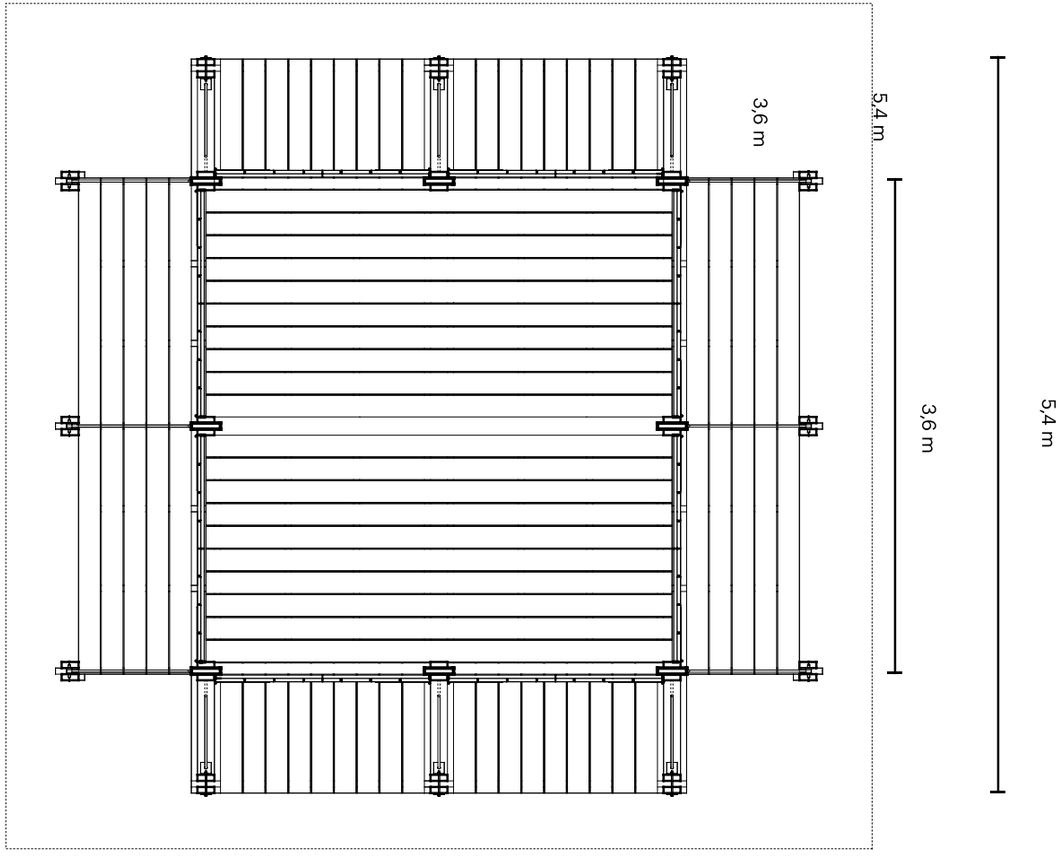




Hall

Main use:	LEARNING
Other uses:	• Equipment bank/ tool bank • Outdoor learning facility • Outdoor workshop space • Accommodation for larger groups • Nature kindergarten
Dimensions:	width 5.3 m length 5.4 m height 4.3 m
Covered area:	under roof 50 m² inside doors 20 m²





It begins with the good experience

A guide to for hosting volunteers at construction weekends

Preparing for the good experience

Online introduction meeting

Invite all volunteers to an optional online introduction meeting held outside regular working hours. Use the session to share insights about the project's purpose — connecting people with nature and showcasing solid timber construction with detailed joinery.

Send out drawings in advance

Share the construction drawings with volunteers before the event. This allows them to explore the final design, understand key steps in the building process, and arrive better prepared and more confident in their roles.

Name tags for everyone

Provide name tags for all volunteers to wear during the construction weekend. This helps everyone learn names quickly, encourages interaction, and prevents uncomfortable moments when names are forgotten or misheard.

Sizing teams right

Ensure construction teams are properly sized so no one feels overworked or unnecessary. Distribute experienced volunteers across teams. For small shelters (HIL, HIT, FUN), 4–6 people work well; larger ones (TAB, CHI, HAL) need 6–8.

During the good experience

Recreational side-activity

To ensure volunteers enjoy the event, offer optional recreational activities like a hike. It provides a welcome break from construction and a chance to explore and appreciate the beautiful natural surroundings of the project site.

"An army marches on its stomach"

Provide volunteers with nutritious meals, snacks, and beverages throughout the event. Good catering shows appreciation and keeps energy levels high — it's essentially the volunteers' "salary" and key to a positive experience.

Morning briefing

Begin the first day with a detailed morning briefing, covering the project's purpose, safety protocols, team introductions, element ID system, and team assignments. On subsequent days, start with shorter briefings to maintain structure and motivation.

End of day-gathering

Close each day by bringing everyone together to reflect, celebrate progress, and express gratitude to the volunteers. Include a shared meal, bonfire, or social activity — this strengthens community spirit and leaves everyone with a positive feeling.

Gear for the good experience

Saws, hammers, and screwdrivers

Ensure an ample supply of saws, hammers, and screwdrivers. Volunteers will be driving dowels and installing roof cladding and decking — missing tools can disrupt the flow and cause unnecessary delays or frustration on site.

Tool station

Set up a central tool station where volunteers can return unused tools and charge batteries. This keeps the work area organized, prevents tool loss, and ensures that essential equipment is always easy to locate and ready for use.

Printed drawings

Print at least one full set of drawings (main drawings and assembly guide) for each shelter to be built. Having physical copies on hand helps with orientation, facilitates quick reference, and makes it easy to jot down useful notes or on-site insights.

Introduce system for element-ID

Brief volunteers on the basic element naming system — e.g., 'HIL' for Hideout Low, 'BTM' for bottom, and 'DCK' for decking. This knowledge helps them work more independently, even if they don't learn the full system.

Ensure a safe experience

Helmet, safety shoes, gloves, and earplugs

All volunteers must be provided with safety shoes, helmets, gloves, and earplugs. Earplugs are especially important during dowel work, as hammering produces significant noise and will occur frequently throughout the construction process.

Local safety requirements

Follow all local safety regulations and apply common sense on site. For larger shelters (Table, Chimney, Hall), secure and stable scaffolding with railings is essential. No volunteer should feel unsafe or uncertain at any time.

First aid kit

A fully equipped first aid kit must be present and easily accessible on site at all times. Its exact location should be clearly announced during the initial morning briefing.

Person with a first aid course

At least two individuals with recent first aid training should always be present and ready to assist if needed. Their names and roles must be communicated clearly to all volunteers during the first morning briefing.

Learnings and experiences from pilot to future co-creation

Key learnings and reflections from the first pilot shelters, translating hands-on experiences into concrete insights for future projects. The aim is to move from experimentation to repeatable practice — ensuring better processes, smarter design decisions, and more efficient construction methods.

"One experiment is better than a thousand expert views"
Villum Kann Rasmussen

Learnings

Design
Temporary bracing of elements can be designed as part of the project (with temporary components including positioning dowels for precision) in pilot project #2.
Color coding of elements. Rough/fine side of production elements (suggestion from volunteer).

General production notes
Option: challenging and larger ele ments could be preassembled offsite. However, this goes against the principle of co-creation with a kit-of-parts. The suggestion was professionals assembling the trusses and volunteers attach the cladding – ensuring a "good experience").

Production – timber elements
5-axis CNC machine is required for accurate and slanted dowel positions. For simpler execution, smaller machines in production may be sufficient.
Lap joints should be executed at +1 mm (built-in tolerances).
Future-oriented solution with uniform dimensions for cladding boards (in relation to tongue-and-groove widths). Dimensions should be streamlined based on available material. The fewer dimensions, the better the project. A good example from the pilot project includes cladding boards and flooring having the same dimension.

Production – steel elements
See steel production drawings attached. These can be fabricated by a local steel manufacturer. Alternatively, steel elements can be reproduced by the pilot project's steel manufacturer and shipped.

Execution
Even surface is needed to assemble larger items. Positioning dowels, assembly dowels and little to no tolerances in the timber elements require a smooth and even surface to start assembling.
The use of trestles will easen the assembly of mid-size items (such as columns)
Extra wood scraps are neccessary for temporary joints, leveling elements and when using jack stands og wrench tightening.
Safety first. Fucus on safety by following local safety requirements. Always wear safety shoes and and helmet, especially when working in heights (scaffolding). Follow instructions by safety representative on site.

Element naming
In the design documentation every element has a unique name, but not every element is unique. This information is valuable during allocation and construction, where the unique name itself is less important. The naming given the elements is defined by the project. Identical elements share the same name.
From the model data, unique elements are identified as well as quantities (see example below). The names on the left are unique, while the names on the right are identical to the name directly above them on the left.
For example, the first three elements are unique as they appear on the left. The fourth element, TAB-PBTM-09, is not unique as it appears on the right. Instead, it is the same as TAB-PBTM-05, which is listed above on the left. In this case, two units of TAB-PBTM-05 have been created, and both are named TAB-PBTM-05.
The design drawings (assembly guides) have been updated to reflect this. It is equally important that the production data reflects that elements which should be identical actually are.

Example:
TAB-PCOL-01
TAB-PCOL-19
TAB-PBTM-05
TAB-PBTM-09
TAB-PCOL-03
TAB-PCOL-15

Learnings & recommendations
To ensure clarity and consistency, it is recommended implementing a systematic naming convention through both documentation and production stages. This will reduce the risk of misinterpretation, facilitate quality control, and ensure that identical elements are correctly identified across both design and construction. The updated design documents (assembly guides) reflect this change.

Material and waste
The order placed with the sawmill was based on an extraction from the 3D model showing the required materials. Adjustments were then made for known dimensional changes that had not been updated in the model. In addition, a planned allowance for waste was added:

- **Thickness:** 5 mm for planing
- **Width:** 10 mm for trimming for items up to 200 mm in width, and 15 mm for items above 200 mm in width
- **Length:** first rounded up to the nearest 100 mm, then an additional allowance of 100 mm for items up to 1 m, 200 mm for items between 1–2 m, and 300 mm for items above 2 m

The above is documented in the appendix spreadsheet.

Learnings & recommendations
The planned waste was not unreasonable, however, the following adjustments for the next project are suggested:

- **Thickness:** The 5 mm allowance for planing results in a waste of slightly more than 10%. In future projects this can be reduced to 4 mm, which would yield a material saving of just over 2%. For elements requiring planing on two sides (eg. the central part of the columns), the thickness in the model should then be reduced to 44 mm to maintain the 5 mm allowance for planing.
- **Width:** The 15 mm allowance for trimming should also apply to boards intended for flooring/cladding.

After the timber was ordered for pilot #1, a number of changes occurred which resulted in ordering approximately 1.2 m³ of additional material. Several elements were also produced from oversized raw timber.
For pilot #2 a far more accurate order can be placed. This would provide clarity on the actual waste — or more importantly, the actual material requirement. To achieve this, a new extraction from the model can be prepared.
In essence this represents a key strength of the project: the exact quantities required for a project is ordered, with a planned allowance for waste — no more, no less. From this, the correct amount of elements are produce precisely — no more, no less — and this is exactly what arrives on the construction site, with no waste generated onsite. The project has demonstrated strong capabilities in this type of work, particularly in handling model data extractions.

General observations & contractor notification

General observations
It's optional to prefabricate larger elements or sections (rafter frames or columns) off-site and let the volunteers be assembling the smaller sections and cladding. This, however, goes against the principles of co-creation.
Construction tolerances: Important measurements are noted in the drawing set in case two elements allow for movement tolerances. In general positioning dowels control the positioning of elements and work well to secure a safe, even and beautiful result.
Equipment and hand tools required on site include:

- Jacks
- Screw clamps (many)
- Pencils
- Extra bits, metal drill bit ø12, etc.
- Extension ladder
- Mobile scaffold, crane (depending on shelter type)
- Ratchet straps (ratchet + webbing)
- Oscillating multi-tool (Feincutter)
- Hand saws
- Hammers
- Circular miter saw.

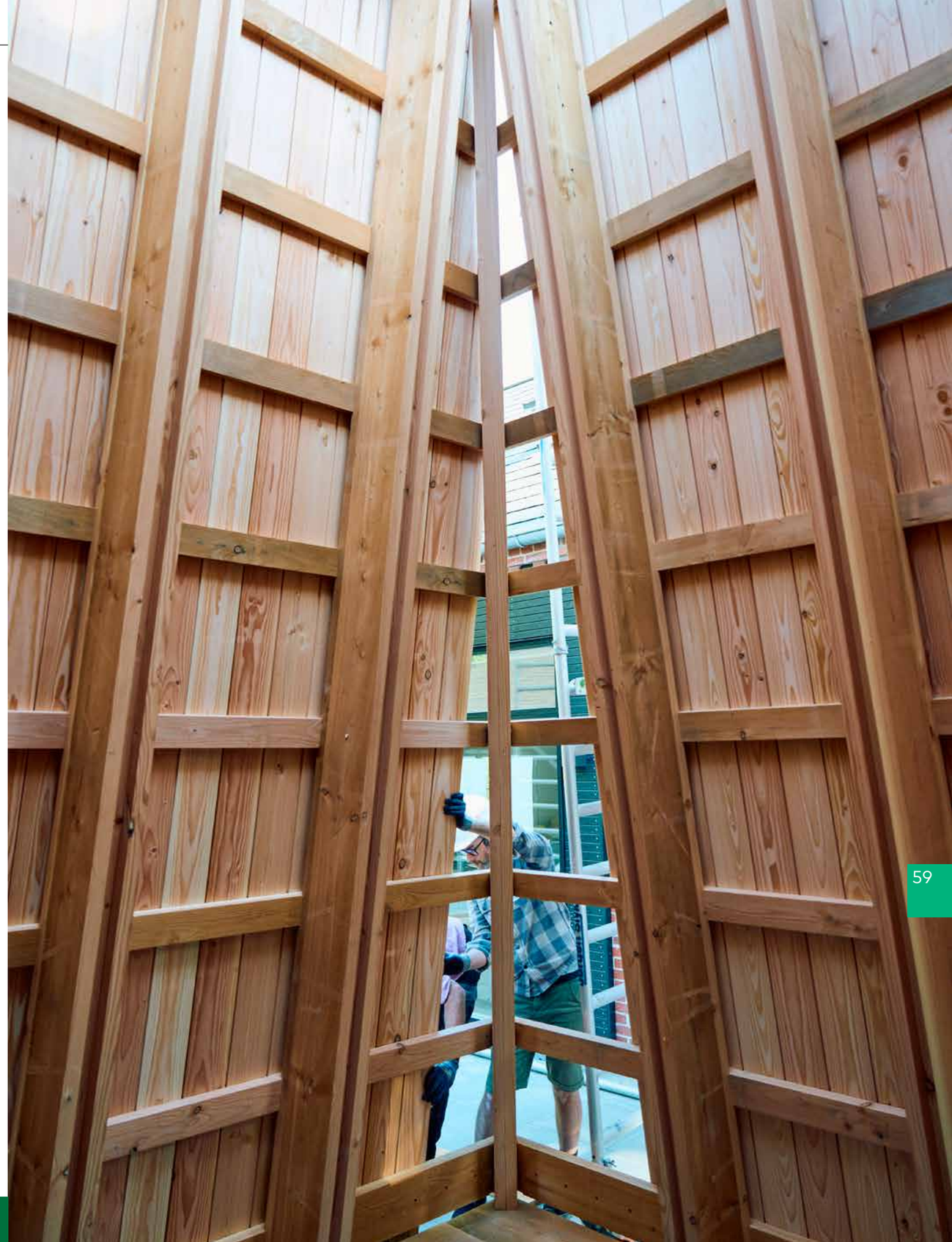
This could be assembled as a "kit" that is delivered on site by VKR to avoid purchasing several tools only required for the assembly of shelters. Alternatively rentals.
The sizes of the elements are generally manageable (except for crane lifts and large CHI elements). These can be handled by volunteers and work well.
Contractor/carpenter/production experience in working with zero tolerances is required for this type of construction work

Important disclaimer & contractor notification
The drawing set has been prepared to illustrate the design intent of the project. The main drawings, details, and assembly guides are intended as conceptual guidelines only and do not represent a final, construction-ready solution.
Due to variations in wood species, timber sourcing, local production facilities, material availability, and jurisdictional requirements, it is the responsibility of the local contractor, architect and/or structural engineer to verify, adapt, and approve the final design to ensure compliance with all local building codes, safety regulations, and construction standards.
The final design responsibility rests entirely with the local contractor. All assembly instructions shown are to be treated as guidance only; adjustments may be required depending on the materials, fastening methods, and standard dimensions available in the region.
The contractor/carpenter must review the drawings carefully and determine if optimizations, substitutions, or modifications are necessary to meet local requirements and material standards before proceeding with fabrication or installation.

***Note:** Local sourcing of the wood and metal components can be supplied from Denmark upon request.*

Lessons learned

An experiment is a learning process!
The project has has been both valuable and engaging, however, more time has been spent on fabrication and adjustments than initially anticipated. Various changes and updates were late implemented, which resulted in significant time being spent on local variations and obstacles that could add value elsewhere.
Such obstacles can be reduced or eliminated in future projects and overall pricing will remain sustainable for another series of shelters.
Costs can be reduced in a repeat project, as long as it is indeed a repetition. The project would then be able to rely fully on the accuracy of the data provided, without needing to spend additional time verifying and correcting it. At present, however, we are not yet at that stage, as the current scope still requires modifications and adjustments.
Regarding construction, we believe that the chosen approach is fundamentally correct. For a second round of shelters, it is realistic to complete the build using volunteers within two weekends. We now know the pressure points and the specific challenges that need to be addressed.
For a reduced project scope — limited to the HIL and FUN shelters — we believe the construction could be completed within a single weekend (with prior foundation works and site preparations).



CHIMNEY

Info

Type:	Unit	Quantity
Material:	m^3	11.23
Waste:	%	Ca. 10

Reflections

For future iterations of CHI, it is recommend to revising the base detail, tightening coordination between structural engineering and fabrication, and enhancing drawing clarity (naming, orientation, tolerances, and fastening details). This will reduce on-site challenges, adjustments, and ensure efficient volunteer-based construction.

Learnings

Construction Requirements
Scaffolding and crane are necessary for assembly due to the height and complexity of the structure.
Flat and stable ground conditions are required, as multiple work areas (top, lid, and base) should proceed simultaneously.
Temporary bracing and stabilization processes must be planned in advance, particularly for rafter erection. Clear instructions for safe sequencing (including scaffolding and PPE) should be followed during volunteer-based construction.
Tolerance Management and Foundations
Tolerances between footing brackets and screw foundations proved challenging, as final alignment is only known after all columns are positioned on screw foundations. Less tolerances for footings could absorb these tolerances.
Columns in foot brackets should be lifted 10–15 mm to allow sufficient space for bolting.
Alternative base beam solutions should be explored to better accommodate construction tolerances.

Joinery and Detailing
Some joinery details required excessive force to assemble. Lap joints and cutouts should be produced with an additional 1 mm tolerance to ease assembly.
In some cases, shorter screws or adjusted screw depths were required to avoid conflicts with steel straps and screw heads.
Wind braces should ideally be replaced with sharp-edged steel angle brackets as initially designed, as these require less on-site adaptation and reduce tool dependency, as well as removing conflicts between bracing and dowel positions during assembly (e.g. wind bracing and dowels in column joints).

Drawings and Documentation
Consistency in naming conventions between design drawings and production files must be ensured and has been updated (see learnings on Element Naming).
Critical dimensions and tolerances (e.g., 45 mm offsets, spacing tolerances, side tolerances) has been explicitly stated on updated drawing but should in future projects all follow the positioning dowel principle.
Screw lengths, dowel positions, and quantities must always be specified in coordination with a local structural engineer.
Orientation indicators (notes, dowel holes, and visual marks) has been added to drawings to prevent misplacement of beams and base plates.

Production and Fabrication Notes
Steel brackets and top beams can be redesigned to fit within the central column rather than being mounted externally, to avoid additional planing of visible surfaces (see learnings on Material and Waste)
Cladding fixings must not be driven too deep, especially on shallow roof slopes, to prevent water accumulation. Consider alternatives such as wooden dowels or wooden nails in exposed areas for longevity.

Steel elements

Type:	Quantity:
CHI Fundering Type 1	4
CHI Fundering Type 2	4
CHI Fundering Type 3	4
CHI Fundering Type 4	4
Topbeslag Trækstang T(1)	4
Topbeslag Trækstang T(2)	4
Trækstang	16

HIDE OUT LOW / TALL

Info HIL

Type:	Unit	Quantity
Material:	m^3	2.53
Waste:	%	10

Info HIT

Type:	Unit	Quantity
Material:	m^3	3.75
Waste:	%	10

Reflections HIL

Hideout Low is the smallest shelter (apart from FUN) and has has been the most straight forward construction during the pilot #1 project. Aside from the general notes stated in this document HIL requires only small future design iterations to be optimized.

Reflections HIT

Hideout Tall follows the logic of HIL and is a medium challenging shelter to assemble due to the height of the top part. It is required to assemble the entire top on a flatbed and crane into place to avoid too much scaffolding work.

General learnings HIL + HIT

Construction & Assembly Method Hideout Tall should be fully assembled on the ground and then craned into place to avoid working at height and reduce the need for scaffolding. Incorporating lifting hooks (øskner) into the design would simplify and secure the crane lifting process.
Both shelters require a flat, stable ground surface for efficient rafter assembly and erection.

Joinery & Detailing
In both HIT and HIL, deeper routings were required in column elements to allow space for wind bracing straps and screw heads.
Wind bracing should be replaced with sharp-edged steel angle brackets as initially designed, as these require less on-site adaptation and reduce tool dependency.
For HIT, top brackets for tension rods (type 1) require mirroring in two cases. Screw cutouts should be made from the backside.
Steel fabricator has been notified.

Drawings & Documentation
Assembly processes (particularly for rafter erection) has been described step-by-step in the documentation to support volunteer-based construction.
Wind bracing detailing is illustrated with clear drawings and notes in both shelters. For HIL, two door boards were produced with incorrect hole placement — drawings and production documentation must align.

Cladding & Roof Sequence
For HIL and HIT, side cladding must be installed before the roof, as sloped dowel holes make later roof installation difficult. This sequenc has been updated in the assembly guides.

Steel elements HIL

Type:	Quantity:
Fundering Type 3 (150mm)	8

Steel elements HIT

Type:	Quantity:
Fundering Type 1 + 2	8
Fundering Type 3	4
Topbeslag Type 1	4
Topbeslag Type 2	4

T ABLE

Info

Type:	Unit	Quantity
Material:	m^3	7.4
Waste:	%	10

Reflections

The Table was positioned slightly apart from the other shelters during the pilot, which proved effective as both team and materials were separated from the rest of the builds.

General learnings

Construction Process
The structure requires scaffolding in one storey, primarily for fall protection. Otherwise, the assembly sequence is straightforward and rational, with the construction itself serving as a safe working platform at height.

Design & Complexity
Although the build process is simple, the end result appears very refined. The many steel elements add architectural quality but also introduce greater complexity in replication.

Element Sizes
Most components are well-sized for volunteer handling. The Table requires no oversized prefabricated parts, as all elements are manageable by one or two volunteers and fit well together.

Steel elements

Type:	Quantity:
Fundering Type 1 + 2	6
Topbeslag Trækstang	6
Type 1	9
Fundering type 3 (125mm)	2
Trækstag Loft 1	2
Trækstag Loft 2	1
Trækstag Loft 3	4
Vindkryds	

FUNDAMENTALS

Info

Type:	Unit	Quantity
Material:	m^3	1.43
Waste:	%	10

Reflections

Fundamentals is the smallest and simplest of the shelters, functioning as a mulch toilet and sink. Despite its size, it is proportionally well resolved and carries a strong architectural presence through its subtle expression.

General learnings

Design & Quality
The steel detailing — particularly the sink and hangers — adds refinement and significantly elevates the perceived quality of the structure.

Construction
The build process was straightforward with very few issues. The only notable challenge was the double-door solution, which complicated installation. A redesign to single-hinge doors is recommended for future editions. Assembly sequencing should also specify that doors are mounted later in the process (step 10).

General Learning
Fundamentals demonstrates the value of simplicity and proportion. Even the smallest structure can achieve architectural richness when detailing and material refinement are prioritized. Its ease of construction makes it highly suitable for volunteer-based builds.

Steel elements

Type:	Quantity:
Fundering Type	4
Vask	1

Thank You

for your time, energy and heart

Notes

EMPLOYEE FOUNDATION

The Employee Foundation of the VKR Group – supporting people and communities since 1991

Since 1991, the Employee Foundation has supported VKR Group employees, their immediate family members, and local communities worldwide. With over 12,000 grants totaling more than €42 million, the Foundation has helped thousands of employees through personal distress, illness, and their children through education.

It also funds local non-profit community projects near VKR locations – over 3,200 to date – enhancing public spaces, nature, education, and sports. Special programs like Live a Dream, Reconnect with Nature, Reconnect with Human Nature and Senior Life Initiative promote well-being, volunteerism, and community engagement.

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The Employee Foundation

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