



EUROPEAN
NORWAY

17 LIVING
CITIES 2

COMPETITION
BRIEF

ØSTMARKA

COMPETITION FACTS

Prize money:

- 1st prize: 12 000 EUR
- 2nd prize: 6 000 EUR

Post competition immediate procedure:

- National workshop with the winners, runners-up and site representatives of Norwegian sites following the award ceremony
- Invited workshop on-site for winners

Commission

- Commission valued approx 400 000 NOK, with an option of an additional 500 000 NOK

Site representative:

- Trondheim municipality

Actors involved:

- Trondheim municipality

Team representative:

- Architect, urbanist, landscape architect

Expected skills:

- Multidisciplinary teams with strong skill sets in architecture, heritage, urban design, participatory design and mobility, ecological systems

Communication:

- Online publication and local exhibition

Jury

- 1st evaluation with site representatives

Investigate how a new nursing home and a scalable housing programme can be integrated on a highly sensitive site. How do we prioritise between the need for housing, care services and urban ecologies?

[CLICK HERE FOR A VIRTUAL TOUR OF ØSTMARKA](#)

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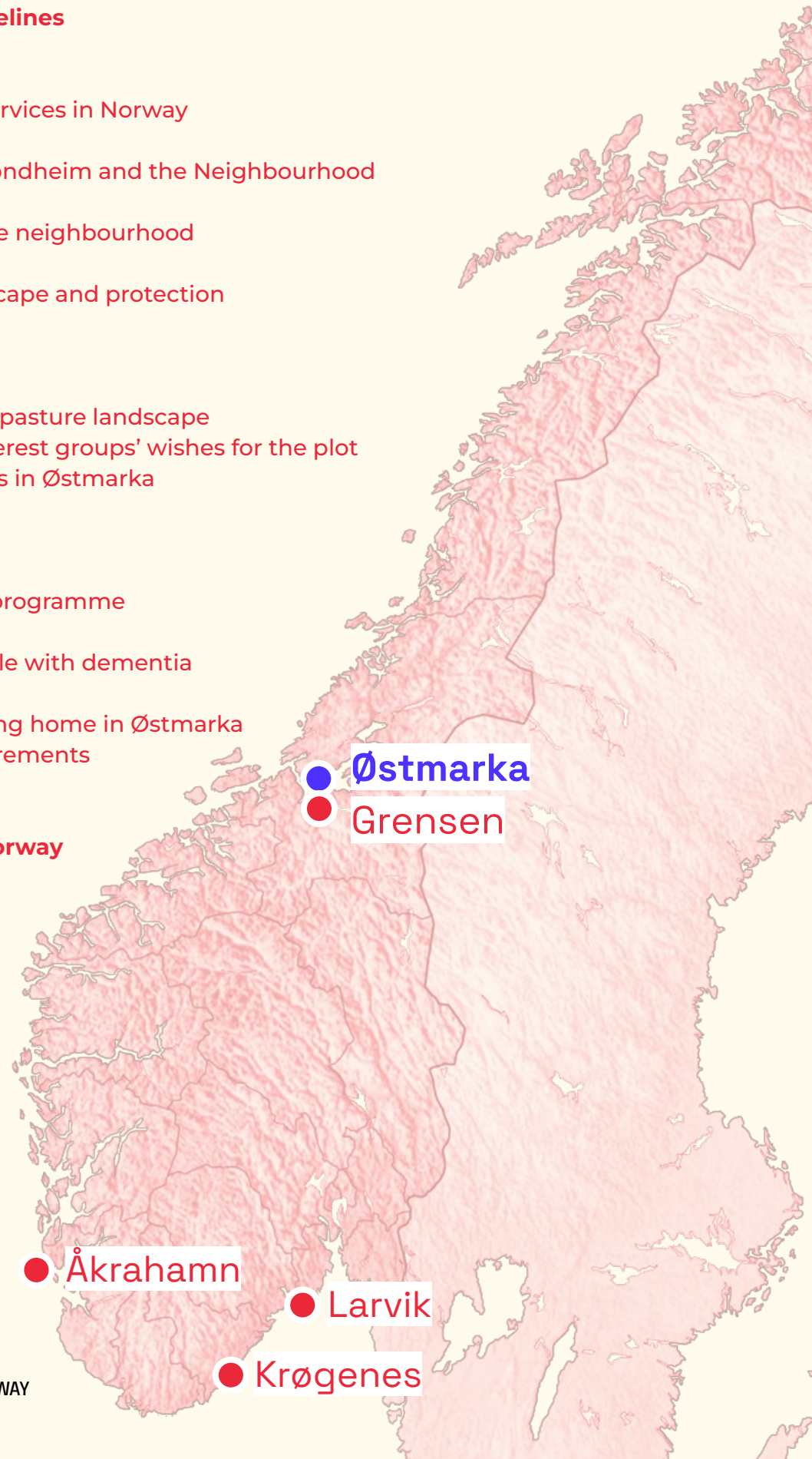
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European 17 - Care

"When you look at someone through rosy glasses, all the red flags just look like flags."

- From Netflix show Bojack Horseman

After a long era of technooptimistic industrialization, the rosy glasses have come off and the flags are everywhere. They are not just red, they are on fire.

As we face unprecedented challenges of climate change, social inequality, and ecological degradation, designing cities that are considerate for the entire biosphere has become an urgent necessity.

However, such a task is fraught with dilemmas. How do we prioritize our needs and desires? How do we balance economic sustainability with social and environmental justice?

Enter care: an approach that doesn't shy away from these challenges. Care is about acknowledging the intrinsic value of everything that surrounds us, from humans to non-humans, and recognizing that they all have the right to exist and flourish. It's not just about understanding, it's also about action. That everything is interconnected and that our actions, or inaction, have far-reaching consequences. Under the paradigm of Care, we can't shy away from taking decisions and acting.

In a culture that celebrates creation, speed and growth, maintenance is often overlooked. But without it, nothing can last. Care takes maintenance to the next level, infusing it with creativity and dedication. We actively care for our children, our gardens, our friends, and communities, and do so with the hope of seeing them flourish. When we apply this same level of care to the design of our cities, they too can become healing, evolving, and make positive contributions to the climate.

It's only by caring that architecture can become regenerative. It's about creating processes and places that give back more than they take, that enhance the well-being of all living beings, and that leave a positive legacy for future generations. Within the framework of care, sustainable solutions that are only "less bad than the alternative others," are not good enough.

Behind the five competitions that make up European 17 in Norway, are coalitions of dedicated people that care. Some of the sites ask for solutions that are almost impossible to fully "solve". It is an acknowledgment of the increasing complexity of urban planning, and that's why they look to European to find new approaches and solutions that lie in the marginal space between what is just, comfortable and safe for humans, and the ceiling of what the ecological and climatic systems of our planet can sustain.

The five Norwegian sites in European 17 have challenges that may be difficult to solve. That is precisely why the five cities choose to ask you, the young architects, landscape architects and urban planners to solve them. They trust that you will dare to care. Dare to take risks, choose to test out new solutions, and see the places as they are for what they can become in the future.

European Norway

INTRODUCTION

This task goes to the heart of the challenges intrinsic to the idea of sustainable development. A denser city requires more services and housing, putting pressure on existing green corridors and urban habitats. How do we prioritise, and how can sensitive and innovative architecture and programming not just mitigate the negative impacts but also create regenerative concepts for an equitable city for animals, plants as well as humans?

Lade, the peninsula on which the site is located, is an important and complex part of Trondheim city. It contains many listed buildings and historical sites dating back from Viking settlements to listed modernist architecture from the sixties. The area is known for its green landscape and rolling hills, much of which also has different categories of protected status. With Trondheim being one of the fastest growing cities of Norway, Lade has become a strategic area for densification, leading to an increased need for municipal services, especially care for the elderly. The Østmarka area already contains a range of different municipal and governmental services such as a school, kindergartens, assisted living facilities, and a psychiatric hospital. The municipality has acquired the site with the intention of building a nursing home. In addition they plan a commercial housing scheme on the same site. Østmarka has obvious cultural and natural values and the municipality wants to strengthen and make them more accessible.

Plans for development on the site have met resistance among neighbours. They fear the loss of precious natural and cultural environments, old trees and fertile soil. The forest functions as a green lung for the area, allowing deer to move freely and the rolling hills of the meadow landscape are home to insects and pollinators. Lade is unique in Trondheim for its soft interaction between wildlife and people and functions as an important recreational area. Also, a grassroots initiative has shown interest in acquiring the derelict old wooden houses on the site to establish a housing coop that could provide affordable housing through self-builder methods and collective practices.

Trondheim municipality is entering European 17 to receive ideas and concepts for how to reconcile the contested character of the site, and develop it in a holistic way that can address both the concerns of inhabitants and provide the care services the overall population needs.

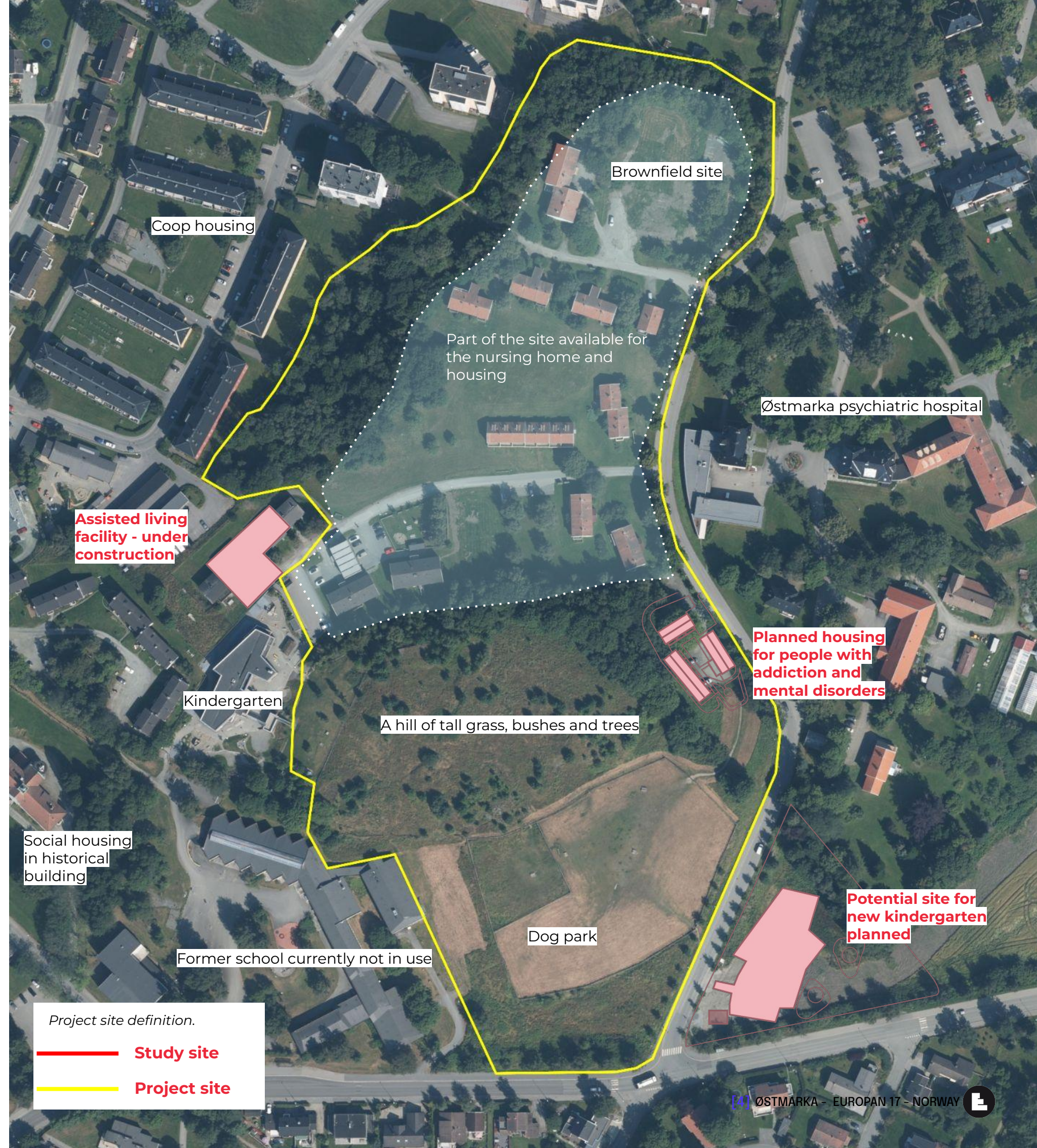


Map showing the Lade district in Trondheim, with the study site (in red) and project site (in yellow). (Map: European Norway)

COMPETITION ASSIGNMENT

1. A design concept for a nursing home with 60 - 70 units.
2. A design concept for a scalable housing programme that is sensitive and well adapted to the site.

Find innovative concepts that balance social sustainability with care for the ecological systems on the site.



COMPETITION GUIDELINES

The participants should visualise how the project can be implemented within the yellow boundaries of the project site. New buildings should be located within the white boundaries. The concept should be ambitious in caring for the existing ecological systems on site as well as having a low climatic footprint. Below is a set of questions the participants should actively engage with, but are free to challenge and adopt the approach that is best for their overall concept.

1. The nursing home

- The nursing home is an institution for people with special needs nearing the end of their lives. Most residents live with dementia and have special needs for safety and peace. Can the nursing home, with its sensitive user group, create synergies with the neighbourhood as well as the other care services in the area such as the psychiatric hospital and the kindergarten?
- How can the nursing home provide a meaningful home in the last phase in life?

2. The neighbourhood

- Show examples of a scalable housing programme with a maximum of 80 units situated within the white boundary.
- Can Østmarka become more accessible for other inhabitants on Lade?
- The wildlife corridor, meadows and trees on the site have important ecosystems that should be cared for.
- Ladestien is an important recreational path along the shoreline of Lade. It is important that this path is maintained as a connection to the neighbourhood.
- Kanonhaugen with its cultural landscape is the highest point on Lade and has unredeemed recreational qualities. It is also an important area for the local deer and pollinating insects. Can Kanonhaugen become positively integrated with the new neighbourhood and nursing home as well as more accessible to the inhabitants at Lade?
- The site has some listed buildings from the 1960s. Can they be transformed and integrated with the new programme?
- How can a new neighbourhood be integrated with the cultural landscape?
- Mobility: Prioritize sustainable and safe mobility for pedestrians and cyclists. Parking should be allocated to shared facilities and not be on the street.





Photo:

COMMISSION FOR THE WINNER(S)

Trondheim municipality will invite the winning team for a workshop on site in the spring 2024. The budget for the workshop (including fees, travel costs and other materials) is approximately 100 000 NOK.

Based on the results of the workshop, client and the winning team will negotiate a timeline and follow up commission valued at approximately 400.000 NOK (ex VAT) in 2024/25 for developing the proposal further. The exact content of the follow up contract will be negotiated with the team based on the character of the proposal, the particular skill of the team and evolving needs of the client.

Trondheim municipality retains the option to increase the commission's size and scope with another NOK 500.000 at a later stage.

01

Site Context

- Health and care services in Norway
- Lade and the neighbourhoods around the site
- Introduction to Trondheim and the neighbourhood
- Lade
- Care services in the neighbourhood
- Biodiversity
- The cultural landscape and protection

Health and care services in Norway: what are they and where is the development going?

In the period 2020-2040, the age group 80+ is expected to double. By the age of 85, there is a 50% chance that you will need comprehensive health and care services.

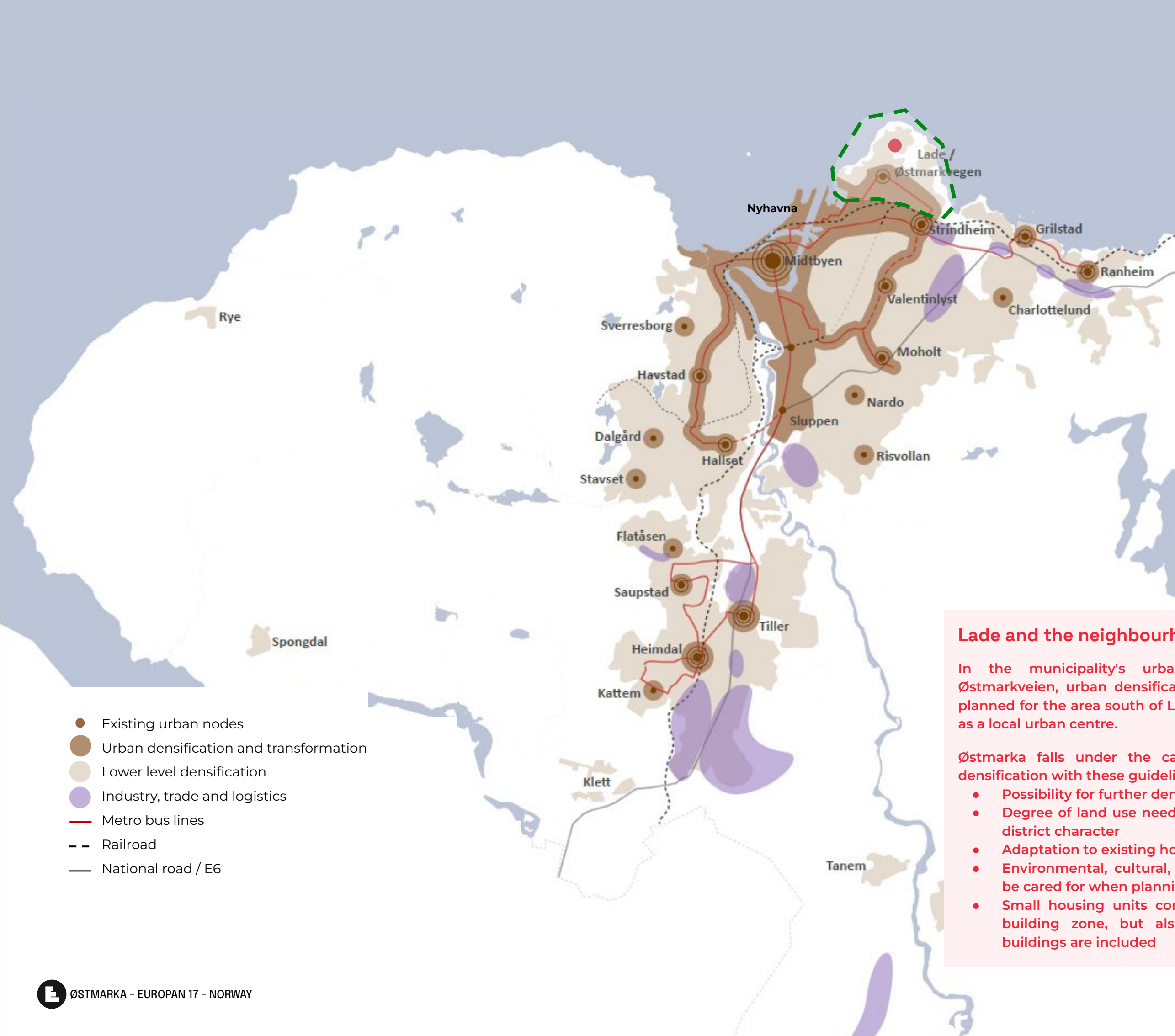
Health and care services in Norway have changed significantly in recent decades. Previously, the nursing home was a service for all elderly people with a need for assistance. With an aging population, new technology and an ever-increasing pressure on the healthcare system, nursing home services have become increasingly restricted to those most in need of care.

Home care services have grown and more people now receive assistance at home. Nursing homes have therefore gone from being a place with relatively healthy people who can

enjoy and benefit from joint activities and meeting places with others, to a home for people with significant cognitive and/or somatic challenges.

In the past 20 years, there have been successful efforts to mix other types of community services and social programmes such as neighbourhood cafés, hairdressers etc., but this model of mixed use is under pressure. The nursing home residents are too sick to utilise the services and the services do not attract today's healthy pensioners who are more likely to use the city as a meeting place.





Lade and the neighbourhoods around the site

In the municipality's urban development strategy Østmarkveien, urban densification and transformation is planned for the area south of Lade aiming to strengthen it as a local urban centre.

Østmarka falls under the category of lower intensity densification with these guidelines:

- Possibility for further densification in the future
- Degree of land use needs to be adapted to existing district character
- Adaptation to existing housing environment
- Environmental, cultural, and historical values must be cared for when planning new building projects
- Small housing units comprise a large part of the building zone, but also larger scale apartment buildings are included

Introduction to Trondheim and the neighbourhood



Trondheim has a population of 210,496 residents. The municipality is one of the fastest growing municipalities in Norway and has had a growth of 2,500 - 3,000 inhabitants each year since 2005. In 2021 the population growth was greater than in the capital Oslo which has nearly 700,000 inhabitants.

Like other growing cities around Europe, Trondheim also has an urban development strategy that centres around compact urban development focusing on densification. See the figure on the previous page.

This results in development pressure in areas with lower utilization and high housing potential. Lade has historically been categorised as such an area and with its proximity to the centre, has good preconditions for such urban densification.

In recent years, there has been large-scale development along the axis stretching south of Lade. This has resulted in the area around Haakon VII's gate developing the greatest offer and variety of functions, shops and activities.

However, the street is unfortunately characterised by a lack of human scale, with large distances and dependence on cars for movement. Development of larger housing projects has also spread north of Haakon VII's gate up the Lade peninsula.

In a participatory process initiated by the municipality last year, residents expressed great frustration at this development, which puts pressure on the distinctive landscape at Lade.





Lade

Lade is a peninsula located north of the city centre of Trondheim. It borders Trondheimsfjorden, an important waterway dating back to the Viking Age.

The European site is located in the centre of Lade with its highest point on Kanonhaugen. The site borders St. Olavs hospital department Østmarka (psychiatric hospital) to the east, an old high school no longer in use to the south, a kindergarten to the west and the Geological Survey of Norway to the north.

Ladestien is an important recreational hiking path running along the entire coastline accessing different programmes related to the sea.

Care services in the neighbourhood



Østmarka psychiatric hospital

Part of the specialist mental health service for adults in Trøndelag.



Viktoria family centre

A centre for parents and kids in Trøndelag providing support for families in a difficult situation. The centre's future location is uncertain, and in this assignment it is assumed that it will move out of the area



The sailors' home

Former home for retired sailors. Today, the building is used for social housing.



Tiriltoppen kindergarten

A local kindergarten
Photo: Kvadrat arkitekter



Assisted living facilities

A new building is being planned for this programme on the same site.



Ringve high school

Ringve high school is not in use for its original purpose, however there are plans to reestablish the facilities as a middle school in the near future. The school facility is currently rented out for several temporary activities.

Biodiversity

Without human influence, the area would be dominated by forest today. This would probably be a form of alkaline deciduous forest, perhaps with some conifers. This results in a relatively rich combination of species on the forest floor.

The project area has been affected by human activity for a long time and is today a distinct cultural landscape. Kanonhaugen, located on the south end of the project area, is a disused pasture which is now being regrown by bushes and trees. Consistent, but not intense human impact in the form of mowing or grazing have resulted in a greater diversity of plant species that are dependent on daylight.

Many of these species flower at different times during the growing season. As a result, pollinating insects will have access to food throughout spring, summer and partially autumn. This is crucial for insect life. Closure and overgrowth of such cultural pasture fields is one of many reasons why several insect species in Norway are under threat. There are still many plant species on Kanonhaugen that are linked to its former use as pasture. Maintenance that prevents overgrowth will be able to preserve this valuable cultural land.

Natural carbon storage on the plot

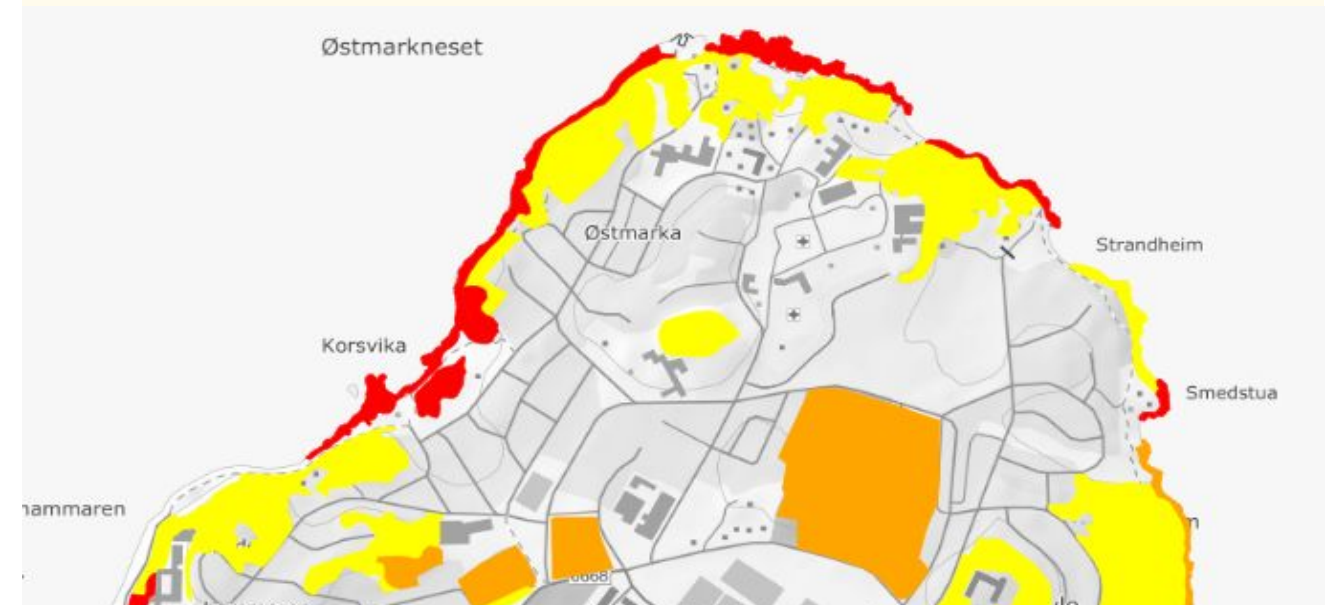
Carbon storage is calculated based on values from NiNA's thematic booklet "carbon storage in Norwegian ecosystems". Within the project area, there are two areas in particular that stand out as carbon storage:

The cultural pasture field on Kanonhaugen stores approximately 9.8 kg of carbon per square metre and has an area of 14,500 m². This makes up approximately 142 tonnes of carbon.

The forest that partially surrounds the construction zone stores approx. 15 kg of carbon per square metre in soil and approx. 4 kg per square metre in vegetation. The forest covers approximately 9,500 m² and stores approximately 180 tonnes of carbon.

The two areas store almost 325 tonnes of carbon, corresponding to around 1,200 tonnes of CO₂ equivalents. Both have a lower quality than they could have. The forest is heavily impacted by human activities. Dumped garden waste has introduced foreign plant species. In addition, the impacts of fertiliser can be seen clearly, particularly along the forest edge. This can have a negative effect on the plant life's carbon storage potential.

On "Kanonhaugen" there are registered nature types that are very important locally (yellow). Further there are registered deer on the site and in the green corridors that surround the plot.



There are green corridors both along the seafront and further into the Ladehalvøya towards the Østmarka area.

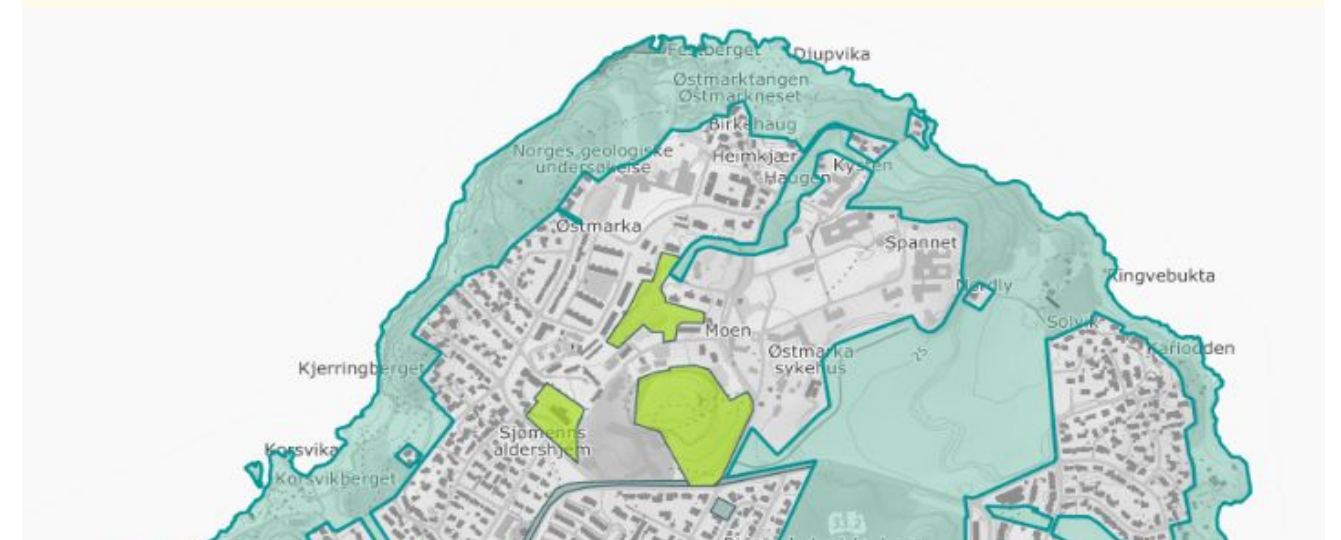


Photo: Thorleif Vincent Selberg

The cultural landscape and protection

By the Trondheim heritage authority:

Lade was a centre of power in the Viking Age, where the natural harbours were ideal for shipping and shipbuilding. The powerful Earls of Lade had their main seat at the Lade estate. Few physical traces of the Viking Age remain today, but Lade church from 1190 traces back to this period.

In the 18th century, it became common for rich families to run farms outside the city where they built magnificent mansions with beautiful gardens and avenues. The farms functioned as summer and holiday resorts, but there was also significant food production linked to the surrounding land. The most important manor houses in the area are Lade farm, Ringve farm, Leangen farm and Devle farm. Today, the manor house landscape at Lade is considered a cultural landscape of national importance and it is critical that the manor houses' position is not weakened.

Østmarka Hospital was established in 1919. The hospital facility is well adapted to the manor house landscape with its elegant buildings in neoclassical style, spread out in a park-like environment. Hospital operations have continued until today and several buildings have been added over the years.

During World War II, the hospital was requisitioned by the Nazis. There are many traces of the German occupation at Lade. They built large bunker facilities along the coast and cannon positions on "Kanonhaugen". A facility for the laying of mines was also built on Østmarkneset and an airport was built.

The post-war period has had a major impact on how Lade looks today. A great amount of homes were built during this period, including several high-rise buildings such as Harry Borthens vei 9, 11 and 13. Important modernist institutional buildings were also erected, such as Ringve High School and NGU Geological Survey of Norway on Leiv Erikssons vei 39.

Lade's green character has been kept over the years and the waterfront in particular is an important recreational area for the entire city.

Within the project area there are a number of staff homes built between 1956 and 1963 which have been associated with hospital operations. The homes are important as a storytelling element linked to Østmarka Hospital, but are less important as individual objects.

In the north-east corner of the project area is a listed concrete office building from 1956. The building is characteristic of its period, but not particularly unique within its typology. The cultural heritage office will allow for it to be demolished if it is well justified.



Photo: Sjømannshjemmet, "Retired sailors' home."

02

Project site

- The site
- Biodiversity in the pasture landscape
- Residents' and interest groups' wishes for the plot
- Housing typologies in Østmarka
- Kanonhaugen



The site

The building plot at Østmarka will secure land for a nursing home with approximately 60-70 places. On the remaining area the municipality wants a densification of housing for the city's residents.

The plot of approx. 7,4 hectares is spacious enough to cover the municipality's needs. It is centrally located in the district, while at the same time being situated in scenic surroundings in a valuable cultural landscape.

The protected hospital area of Østmarka psychiatric hospital is the nearest neighbour to the east, and to the west the nearest neighbours are the Retired Sailors' Home and former Ringve school, both having antiquarian value. These properties are particularly important and must be considered carefully in future developments for the area.

The area is a popular hiking spot and is closely connected to the well-travelled hiking trail Ladestien, which follows the fjord around Ladehalvøya. The proximity to the fjord is therefore also significant and this connection must be taken into account in the proposal.



Biodiversity

Biodiversity on the site itself primarily consists of the typical species associated with lawns (marigold, dandelion, white clover, yarrow). The lawn in the middle of the project area is a hotspot for pasture fungus. 15 different species have been identified and 4 of these are red-listed. The pasture fungus have had good living conditions as a result of conscious management of the area. If possible, the area with pasture fungi should be preserved and maintained so that this red-listed species can survive.

In parts of the meadow directly west of Østmarkveien 28L, there are a number of flowering plants that you would not otherwise find, such as harebells and lady's bedstraw. This area is probably mowed infrequently and late in the growing season.

Since the area has been characterised by human activity for a long time, the species found on the site today are adapted to an open field and grazing landscape. Part of the pasture landscape has been developed with housing and other service functions and the trees have grown.



Historic aerial photo from around 1970 of Kanonhaugen and Ringve high school shows that the area was characterised by agricultural and pasture landscapes

Residents' and interest groups' wishes for the plot

Trondheim municipality has carried out a participatory process as preparation for the European contest. Its aim was to improve understanding of the area and its key values and qualities, assess the local community's view of the area and their wishes for the future. Residents, interest groups, external stakeholders, institutions bordering the site (Tiriltoppen Kindergarten, Viktoria Family Centre, St. Olav's Hospital) and different fields in the municipality have been involved in various participatory activities such as workshops, site inspections, meetings and brainstorming.

External stakeholders such as neighbours and interest groups, have expressed frustration over the increasing development of Lade. The development puts pressure on the distinctive landscape and values in the area. Several have advocated a halt to all development north of Lade allé. This has been expressed in various newspaper articles and reports in the local media. There is also an initiative that proposes using existing housing (former employee housing for the hospital) as an alternative form of housing.

Let Lade be the "balm for the soul" place it already is for many. Both for people and animals.

We want to establish an inexpensive and price-regulated experimental area that utilises the already existing building mass in Østmarka.

We want to take care of the green space for growing food and to be able to arrange various social activities for the entire local community.

Do not build homes on Østmarka. Let it be a green lung with clean air for everyone.

We want a separate comprehensive plan for Ladehalvøya. Østmarkneset is becoming an ecologically isolated island.

We want the area to be a research area for urban ecology with housing, studios, cultural arenas and sustainable, local food production.



Trekronen
high-rise apartment
buildings

10 floors

Old office building not in
use, demolition planned

1950
BTA 485 m²
2 floors

Brownfield site

10 floors

1960
BTA 485 m²
2 floors

1960
BTA 500 m²
2 floors

1960
BTA 275 m²
2 floors

Small housing
in poor condition

1960
BTA 1031 m²
3 floors

1960
BTA 616 m²
3 floors

Østmarka
District Psychiatric Centre

Small housing
to be preserved

1960
BTA 488 m²
2 floors

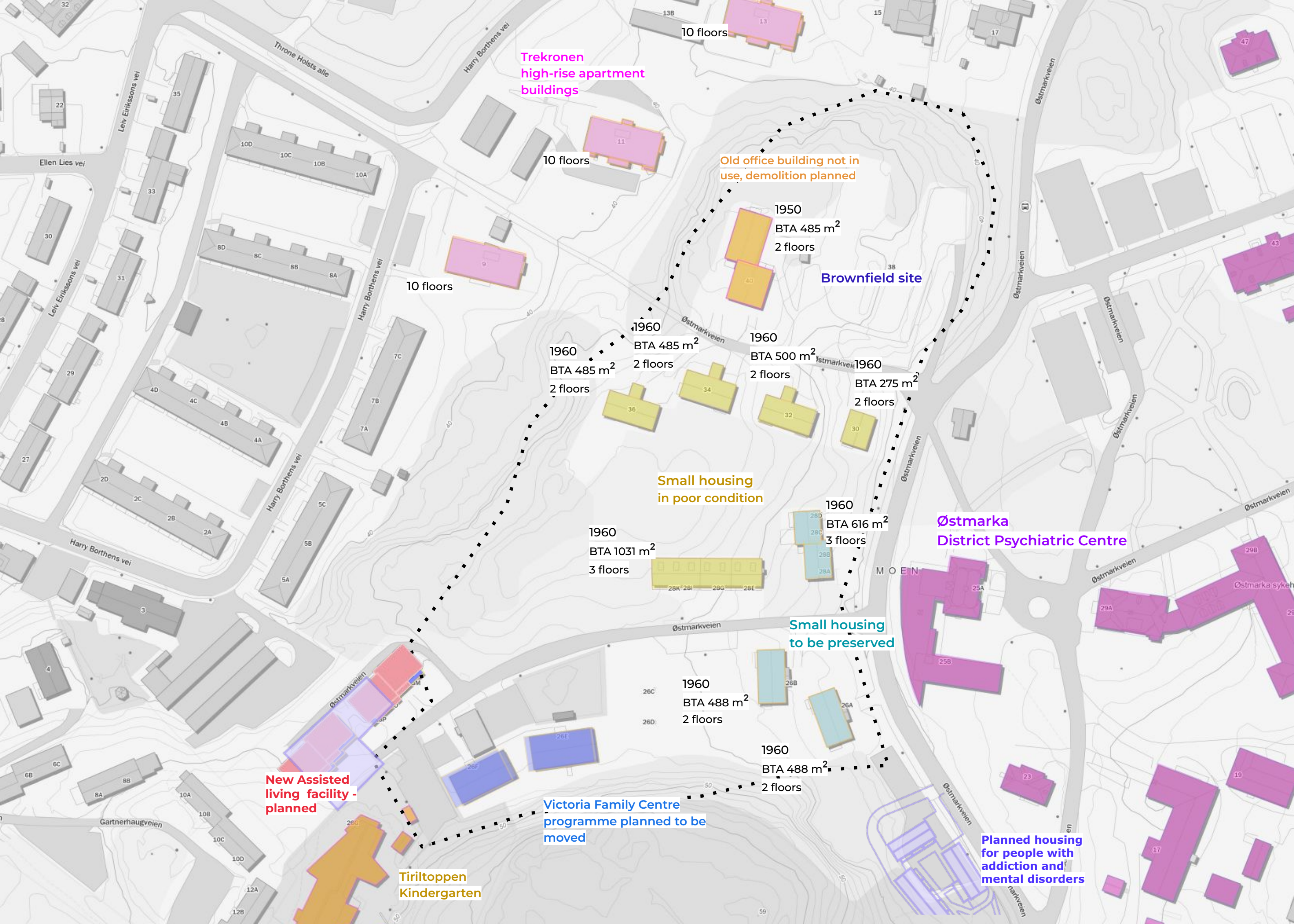
1960
BTA 488 m²
2 floors

New Assisted
living facility -
planned

Victoria Family Centre
programme planned to be
moved

Tiriltoppen
Kindergarten

Planned housing
for people with
addiction and
mental disorders



Housing typologies in Østmarka



Quadruplex housing

Housing with historical value from the 1960s.



Row houses

Employee housing with historical value from the 1960s.



Trekronen high-rise housing



Coop housing



Duplex housing

Housing with historical value from before 1985.



Historical housing

Housing with historical value from the 1960s.

Kanonhaugen

Within the broader project area is a hill overlooking the Trondheimsfjord. Kanonhaugen is currently divided in two with a dog park in the south which is planned to be moved to another location on Lade and a meadow in the north. Kanonhaugen has traces of cannon positions that the Germans set up during the war. The area has great untapped potential as a recreational area, but is underused due to poor accessibility. The meadow landscape has become a preferred place for deer to calve in the spring. In order to support the existing ecosystems of Kanonhaugen, it is important to keep the area as open as possible and plan for management to avoid overly dense vegetation.

Grass and herbs should be removed once a year so that the soil does not become too rich in nutrients for the flowering plants. The area can handle some usage from people. The forest and especially the trees should be preserved as a hiding place, habitat and corridor for wildlife. If possible, the area with pasture fungi should be preserved and maintained so that this red-listed species can survive.



03

Programme and needs

- Scalable housing programme
- The nursing home
- The needs of people with dementia
- Room programme
- Studies for a nursing home in Østmarka
- Typical areal requirements



Scalable housing programme

Housing programme at Østmarka

The aim of Norwegian housing policy is for everyone to live well and safely. Norway has long traditions of freehold ownership in Norway, where three out of four households own their own home.

The home and its surroundings can both contribute to and hinder participation in society. Good planning with urban spaces and meeting places is therefore important to create activities, experiences, community and participation, to prevent social isolation.

Østmarka today is an area surrounded by many institutions and the establishment of a nursing home on the site will reinforce this impression. The municipality wants to break down the institutional character by making arrangements for private housing that will contribute to a vibrant local community throughout the day.

Trondheim municipality participates in the World Health Organization's network for cities and communities, which works to facilitate society for older residents. Age-friendly local development is about creating a physical environment that enables the elderly to be active participants in society for as long as possible, even on the day their health begins to decline.

Although it is called age-friendly local development, it is not only about measures aimed at the elderly. Both research and practical experience show that what is good for the elderly is usually good for everyone. Through high-quality architecture and planning, we can help develop well-functioning local communities and residential areas, stimulate physical activity and a more health-promoting environment.

Housing typology

The municipality wants to facilitate a varied housing typology with a combination of apartments and terraced houses or small houses. Elements of single-family houses may be applicable. A minimum of 40% of the homes should have three-bedrooms or more. This is to stimulate a diverse group of residents in the area.

It is desirable that community solutions are proposed, such as shared social rooms, rooms for exercise, guest apartments, outdoor spaces, mobility hubs, etc. in connection with the homes. The community solutions should be adaptable with regard to function and design. A mixture of newly built homes as well as refurbishment of existing, historically listed homes for continued use as homes is welcomed.

Scalability

Arrangements should be made for up to 80 housing units. The area is special and there are many considerations that must be weighed against each other before a development can be decided upon. For that reason, it is desirable to outline a housing programme with up to 80 units that can be scaled down with simple measures.

Heights

In the proposal for the new municipal plan, the plot is included in the consideration zone "Lystgårdslandskapet på Lade" where new buildings cannot exceed two storeys in height. There is also a separate provision in the proposal which states that no high-rise buildings shall be placed on the Lade Peninsula.

Since the municipal plan has not been approved, this must be considered as indicative. There are currently three high-rise buildings of 10 storeys directly north-west of the site. The municipality wants to explore whether it might be gentler on the environment to establish parts of the housing programme in high-rise buildings rather than in a more dispersed development.

Protection

There are eight residential buildings on the site that are in major need of upgrading. These buildings are important as storytelling elements. The four residential buildings along Østmarkveien north-south axis have been designated as the most important to preserve by antiquarian authorities in the municipality. The others might be restored or moved/reused as building materials within the project site.



The nursing home

Currently, between 80-90 % of residents in nursing homes have dementia and over 90% of residents with dementia will experience behavioural challenges as part of the course of the disease. It is therefore particularly important that both inside and outside environments facilitate residents with these major behavioural challenges. The residents live on average 1 ½ - 2 years in the nursing home before they die. It is important that the nursing home has a good framework to be able to provide a dignified place to live at the end of life.

Concept A on site



Concept B on site



Concept A

Plan 2

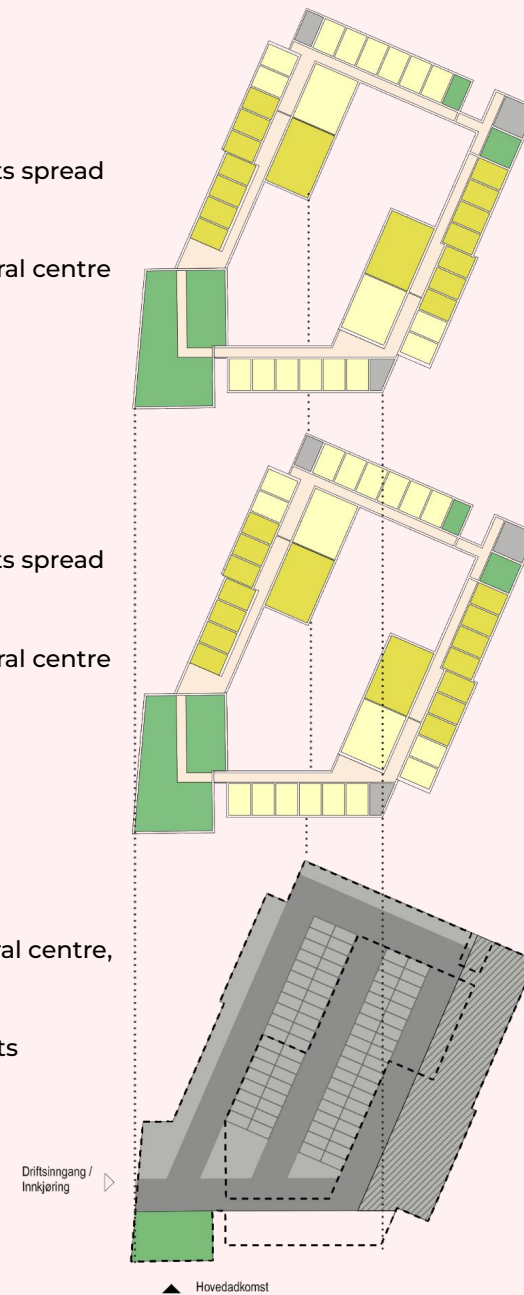
- 30 nursing home units spread over 4 departments
- Administration, cultural centre

Plan 1

- 30 nursing home units spread over 4 departments
- Administration, cultural centre

Plan basement

- Main entrance (cultural centre, administration)
- Around 70 parking lots
- Operation area



Concept B

Plan 3

- 24 nursing home units spread over 3 departments
- Administration, cultural centre

Plan 1 and 2

- 24 nursing home units spread over 3 departments
- Administration, cultural centre

Plan basement

- Main entrance (cultural centre)
- Around 68 parking lots
- Operation area and wardrobes



Feasibility study of a nursing home on Østmarka

The municipality has conducted a feasibility study resulting in two nursing home typologies for the site. **These are only meant as examples for the European competition. The competitors are encouraged to challenge and improve the established concepts.**

CONCEPT A The nursing home is organised in a two-storey building around an inner courtyard / garden.

The proposal shows 60 residential units, 30 per floor. Common functions are put in their own wing, integrated into the building structure. Because of the terrain, the main entrance is put on a plinth floor where the main entrance and foyer is placed with good accessibility.

CONCEPT B The nursing home is organised in three storeys with wings for each department. There is a central connection between the wings. The outdoor area is divided into several smaller spaces on the ground floor and roof gardens. The proposal is showing 72 units (24 in each floor). Common functions are placed in their own wing in the west. Because of the terrain, the main entrance is put on a plinth floor where the main entrance and foyer is placed.

Room programme

A typical nursing home in Trondheim municipality can accommodate 72-96 residents with their own unit. It is usually organised into smaller residential groups and departments. It is desirable to have groups of 6-8 units as well as common areas such as a kitchen and living room. A department can consist of three residential groups. This will ensure good and efficient operation.

The residents have their own private rooms which they can furnish themselves. The service areas are often separated from the residential groups so that the residents have as little staff traffic and technical equipment and functions in their private space as possible. The service area must function with communication areas into the residential groups.

A nursing home with 72 units will have approximately 90 employees. There will be around 24 people on a rotating basis working in the departments at all times, as well as in mercantile and administrative resources.

The nursing home must have good orientability for all user groups and it must be clear and easy to find your way both outside and inside of the building. The internal routes and connections must be functional, with clear distinctions between private areas, common areas and service areas.

Arrangements must be made for informal social zones for meeting other residents and visitors. Such zones can be advantageously placed along a walking route, as this can contribute to increased physical activity for residents.

The nursing home must not only function well for the residents. Arrangements must also be made to provide space for relatives and a good working environment for employees.

A nursing home usually consists of a nursing home department, administration, activity and culture centre and an operations department.

A COMPLETE ROOM AND FUNCTION PROGRAMME CAN BE FOUND IN THE SITE FOLDER.

Room programme key points:

- 60 -70 nursing home units
- Residential groups of 6 - 8 home units
- 90 employees
- 24 people in rotation

The needs of people with dementia

Safety

A clear and safe environment supports initiative and independence and makes it easy to orientate yourself. Unnecessary anxiety and stressful behaviour can thus be prevented.

Atmosphere

Pleasant surroundings have a positive effect on us and can promote functional ability, behaviour, and the ability to self-regulate in situations. Recognition of surroundings lends identity and security to everyday life.

Clear physical surroundings

Simple and predictable surroundings promote the ability and initiative to orientate on your own. It is important to have items that are recognizable and associated with memories and that the placement of these elements is well thought out so that they can strengthen orientation skills.

Colours and contrasts

Consistent use of colours and contrasts makes it easier to perceive the surroundings correctly and orientate to them.

Good contrasts can be achieved by using colours with different degrees of saturation so that building parts such as doors and lifts stand out in relation to colours on the walls and floor. It gives a sense of safety to be able to perceive the framework of the room.

Marking and signage

Consistent, simple and clear labeling makes the surroundings easier to access and more predictable. It is important to take into account eyesight and readability.

Consideration of hearing and noise

People with dementia/cognitive impairment have a reduced ability to sort impressions and may have problems interpreting these.

Their tolerance threshold is often low and many can easily experience stress and confusion. Therefore, it is important to reduce impressions and limit noise through well considered acoustics. Great emphasis must be placed on the acoustic environment.

Consideration of vision and lighting

Sufficient and correct lighting supports orientation skills, helps to understand what is going on and helps to perceive the time of day. Older people need more light than younger people.

Strong light stimulates and weak light makes us relax, for example towards the evening. Reflective glass surfaces and worktops should be avoided as this can be confusing for people with dementia/cognitive impairment and the visually impaired.

Typical area requirements for the nursing home department

Department	Room type	Number of rooms	Netto m2	Sum total
Common areas for patients	Common kitchen / dining	9	45	405
	Common living room	9	45	405
	HC/WC	3	5	15
	Residential unit	66	25	1650
	Residential unit reinforced, robust	6	25	150
	Bathroom/WC	72	7	468
	Workplaces	3	30	90
	Conversation rooms	3	10	30
	Medicine room	3	14	42
	Medicine storage	3	6	18
	Waste room	3	10	30
	Cleaning room, technical aids	3	10	30
	Storage room bed sheets, towels	9	5	45
	Storage room bedding	3	7	21
	Storage room tech. equipment	3	15	45
	Laundry room for patient clothing	3	15	45
	WC	9	3	27
	Niche in corridor for hand washing in front of WC (Employee)	9	1	9
Sum nursing home department				3525
Sum per resident				49

Typical area requirements for Administration / wardrobe

Department	Room type	Number of rooms	Netto m2	Sum total
Administration nursing home	Office landscape administration	1	40	40
	Office	1	12	12
	Quiet room	2	5	10
	Copy / printer, props	1	10	10
	Office landscape, other professional personnel	1	26	26
	Storage room	1	10	10
	Meeting room	1	45	45
	Meeting room	2	15	30
	Dining	1	45	45
	HC/WC	1	5	5
Sum administration				233
Wardrobe employee	Wardrobe/HCWC	1	200	200
	Room for handling laundry	1	30	30
Sum wardrobe				230
Sum administration / wardrobe				463
Sum per resident				6

Typical area requirements for Building operation

Department	Room type	Number of rooms	Netto m2	Sum total
	Goods receipt	1	30	30
	Room for placing food trolleys	1	15	15
	Room for laundry	1	15	15
	Room for garbage vacuum system	1	40	40
	Room for special waste/hazardous waste	1	5	5
	Storage for paper press / paper waste	1	10	10
	Main storage consumables	1	30	30
	Main storage technical aids	1	40	40
	Common storage (residents)	1	40	40
	Furniture and equipment (nursing homes)	1	50	50
	Common storage spare equipment (nursing home)	1	40	40
	Storage outdoor equipment / furniture (nursing home)	1	30	30
	Small workshop (operation)	1	20	20
	Room for operating equipment	1	10	10
	Cleaning centre	1	18	18
	Cleaning room	1	3	3
	Various technical rooms			
Total building operations				416
Minimum requirement for outdoor area				1795

Typical area requirements for Activity- and culture centre

Department	Room type	Antal rom	Netto m2	Sum total
Main entrance	Lobby	1	50	50
	Wardrobe (visitors) district cafe, meeting room/hall	1	20	20
	HCWC	2	5	10
Assembly room	Assembly room/meeting room/room for exercise	1	190	190
	Storage	1	30	30
Hairdresser/foot care	Hairdresser	1	20	20
	Foot care	1	15	15
Sum				335

In addition to the areas mentioned above, it is common practice to establish spaces for common functions that can be used by the city's residents. Previous, attempts have been made to establish a neighborhood café and activities for other seniors with little success. These offers are primarily aimed at healthy seniors. However, experience shows that they do not associate themselves with residents of nursing homes, and therefore, such offers seem unattractive. **Competition participants are encouraged to come up with new proposals for spaces and functions that can make the nursing home an active part of the surroundings for all.**

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