



**Cultural heritage preservation  
and universal design  
– a process tool**



Trondheim Public Library has been located in “the old town hall” since 1933. In 1988, the new library was built as an annex to the old buildings, which became listed during the planning period. The old, restored buildings have been successfully integrated to form an important asset in the library complex. The access from the south is via an outdoor ramp and continues inside via a bridge over the ruins of St Olav’s Church, which was built in the 12<sup>th</sup> century. The Arnstein Arneberg firm of architects was responsible for restoring the old town hall and integrating it into the new library in 1988.

The picture on the front page shows the southern access to Trondheim Public Library

Photo: Trondheim Municipality

# Preface

In 2005, Norway's Ministry of the Environment challenged 16 municipalities to become pilot municipalities for universal design through the measure called BU31 *Universell utforming som kommunal strategi (Universal Design as a Municipal Strategy)*, which was included in the Government's action plan to ensure increased accessibility through universal design 2005-2009. The work in the pilot municipalities has been an important contribution to the incorporation of universal design in the municipal planning and implementation work. This work is referred to in report T-1472 *Universell utforming som kommunal strategi (Universal Design as a Municipal Strategy)*, the Ministry of the Environment 2008. [www.universell-utforming.miljo.no/artikkel.shtml?id=961](http://www.universell-utforming.miljo.no/artikkel.shtml?id=961)

Through their participation in these efforts, the pilot municipalities have demonstrated the need for more in-depth work on various issues. For this reason, several sub-projects have been carried out, and separate reports have been prepared on these. (Referred to in T-1472, pages 60-61.) The fifth sub-project is called *Kulturminnevern og universell utforming (Cultural heritage preservation and universal design)*. The sub-projects were carried out by project/editorial groups made up of participants from the municipalities within the framework of their participation in the pilot municipality measure. The secretariat work was supported by the Ministry of the Environment and some national bodies have provided further practical and economic assistance.

*Cultural heritage preservation and universal design* is based on the pilot municipalities need for more guidance on how universal design can be implemented when preserving cultural heritage. The current legislation and political guidelines mean that everyone, including people with disabilities, expects to be able to experience archaeological and architectural monuments and sites and cultural environments (cultural heritage) in an equal manner. The municipality's challenges are to contribute to this through its responsibility for compliance with the Planning and Building Act in the interaction between the owner and cultural heritage authorities.

The report is intended to inspire and guide the process towards good solutions. Each archaeological and architectural monument and site, and each situation may be different. It is therefore important to arrive at local solutions and agreements. This process tool deals with the legislation's assumptions and the scope of human disabilities that must be taken into account. The tool then states recommendations for dealing with applications related to building work, cultural heritage preservation and participation. It refers to a wide range of finished examples as well as to auxiliary tools. The report is limited to the built environment, but the systematics may be used on corresponding challenges.

*The work was initiated by the pilot municipalities for universal design - Risør, Ullensaker and Trondheim - in 2008. The secretariat was located in Trondheim municipality, with advisor Solveig Dale as the head of the project group. Elisabeth Kahrs of Bergersen Arkitekter AS was hired as the secretary. The project group also consisted of:*

*Ola H Fjeldheim, cultural heritage advisor, Ullensaker municipality, Gunnar Houen, the head of the Cultural Heritage Management Office in Trondheim municipality, Arild Mathisen and Heidi Rødven, both from Risør municipality's Building Application Unit, and Arve J Nilsen, advisor to the Cultural Heritage Management Office of Bergen municipality. The National Resource Centre for Participation and Accessibility for Persons with Disabilities in Norway (the Delta Centre), represented by advisor Karen Kjeldsberg Pihl Gunleiksrud, played an active role and cultural heritage authorities in the Østfold and Sør-Trøndelag county councils were also contacted along the way.*

*An early project proposal was sent to a number of bodies asking for their comments and the following replied: the Delta Centre, Society for the Preservation of Norwegian Ancient Monuments, Norwegian Association of the Hard of Hearing, Norwegian Association of the Blind and Partially Sighted (NABP), Norwegian Association of Disabled (NAD), Norwegian Heritage, Test Municipalities for universal design, Directorate for Cultural Heritage, Norwegian State Council on Equality for Disabled People and the Directorate of Public Construction and Property (Statsbygg).*

*In addition to the Ministry of the Environment, the Norwegian State Housing Bank and Trondheim municipality have provided assistance in this work. The Delta Centre has paid for the publication of the process tool.*

The Ministry of the Environment would like to thank the participating pilot municipalities and other bodies for their work. Particular thanks go to Trondheim municipality, which undertook the secretariat responsibilities and has been a driving force in the project.

The Ministry of the Environment 2010

Einar Lund  
Senior Advisor



*View of the Archbishop's Palace in Trondheim  
Photo: Eggen Arkitekter as*

# Contents

1. Cultural heritage preservation and universal design	7
2. The legislation	11
3. Explanation of concepts	17
4. Different types of disabilities	21
5. Phases of the work	29
Phase 1 – Mapping	33
Phase 2 – Discussions and Proposals	43
Phase 3 – The Application	53
Phase 4 – Implementation	57
Phase 5 – Evaluation	59
6. Examples	61
6.1. Eidsvoll Manor	63
6.2. Nordnes school in Bergen	66
6.3. Permanenten - The West Norway Museum of Decorative Art, Bergen	69
6.4. Valkendorf gate (street), Bergen	73
6.5. Borgund Stave Church, Lærdal	76
6.6. Risør pharmacy	78
6.7. Risør Tourist Office	81
6.8. Risør Trekta	83
6.9. Risør Strandgaten street/inner harbour	87
6.10. Borgarsyssel Museum, Sarpsborg	91
6.11. Time Church	93
6.12. Nidaros Cathedral	97
6.13. Vår Frue Church, Trondheim	99
6.14. Ilen Church, Trondheim	103
6.15. The Falstad Centre	106
6.16. The Norwegian Crown Regalia Exhibition – The Archbishop's Palace	109
7. Links and literature	115



*Original access solutions are part of the value base and must be valuable foundations for new measures and any plans to make changes. Hanshus, Sør Trøndelag. Photo: Bergesen Arkitekter as*

# 1. Cultural heritage preservation and universal design

Many environments have a strong awareness of the value and importance of cultural heritage. Most people want valuable archaeological and architectural monuments and sites, environments, landscapes and other traces of our remote and recent past to be well preserved for future generations. There is widespread acceptance of the fact that the monuments and sites which have been preserved throughout Norway are very important to the environment and society and should be accessible to as many people as possible. Accessibility to such monuments and sites is about awareness, knowledge, aesthetics, creativity and balance. The “Cultural heritage preservation and universal design – a process tool” project wants to help start a multidisciplinary thought process surrounding the issue of cultural heritage preservation and universal design.

## **Equal opportunities**

Equality is an important value in our society. People with various disabilities are to have the same opportunity to participate as others. This has been made clear through the new Anti-Discrimination and Accessibility Act which entered into force in January 2009. The purpose of the Act is to promote equality and ensure equal opportunities for social participation for everyone regardless of disabilities. It aims to help dismantle disabling barriers and prevent new ones from being created.

Universal design is a strategy for creating a society where everyone can take part in an equal manner. The new Norwegian Planning and Building Act includes universal design in its statement of legislative purpose.

## **People’s experience of the monument or site**

The cultural heritage authorities have from the start made efforts to ensure that monuments and sites are accessible to the public. Nevertheless, making arrangements so that everyone has access has not been a focus issue in the cultural heritage work. Greater attention must be paid to universal design in this field too. Everyone should have an equal opportunity to experience cultural heritage.

Man-made monuments and sites very often originated at a time when universal design was a completely foreign idea. Monuments and sites may also have a distinctive nature and special value linked to physical properties which in themselves prevent accessibility.

Based on this, we have a two-part challenge: one is to reduce various types of discriminatory impediments so that our cultural heritage can be experienced and used by as many people as possible; and the other is to prevent measures intended to improve accessibility from leading to the disappearance of irreplaceable cultural heritage values.

## Opportunities

Archaeological and architectural monuments and sites vary in kind and their suitability for universal design varies. It will be impossible to remove all the impediments from all monuments and sites. However, most monuments and sites are such that it may be possible to improve their accessibility.

In some places, the design and nature of the monument or site is such that universal design can easily be achieved, while in others it may require a lot of skill, creativity and funding to achieve this. In some places, it will be impossible to combine preservation and universal design. It is important to improve people's knowledge about why universal design is necessary and what it entails. At the same time, it is important to improve the expertise in the preservation of cultural heritage.

When accessibility is restricted, alternative solutions must be examined or developed. In this work, it is important that both opportunities for and restrictions on accessibility are mapped and that the monument's or site's value and tolerance limits are clarified.

Often, better accessibility will lead to the monument/site or cultural environment increasing in value and having a greater chance of survival over time. The challenges involved in combining good cultural heritage preservation with good accessibility can be demanding. Not only laws and regulations but also respect for equal opportunities for everyone mean that these challenges must be addressed properly. Often, good, permanent solutions need to mature, and targeted work must be carried out to find solutions that are really good and as permanent as possible. Attitudes, ways of thinking and technical solutions are developing rapidly. It is crucial to have a dialogue between the various professional areas and a willingness to compromise.



*The steep hillside and high foundations create major accessibility challenges for persons with impaired mobility.*

*It may be possible to arrange for greater accessibility for those who have impaired vision or hearing.*

*Photo of Otternes, photographer Thor Andresen, Aurland*



*The objective of the dialogue between cultural heritage preservation and universal design is to achieve good results that safeguard aesthetic values and enable the cultural heritage site to be used by all groups. Photo from the Archbishop's Palace in Trondheim.  
Photo: Trondheim municipality*

## **Goal**

This process tool wants to help make opportunities clear and reduce the potential for conflicts between cultural heritage preservation and universal design. The aim is to make it easier to conduct the assessments on which any consideration of cultural heritage measures must be based. The tool may support the work of finding functional and aesthetically good universal design solutions that also safeguard and strengthen the cultural heritage.

Each monument or site is unique and it is rarely possible to use standardised solutions.

The tool therefore places emphasis on the process of finding the areas in which the monument or site can fully or partially accommodate universal design.

Dialogue and compromise are extremely important in this work.

The target group for the process tool are developers, owners, advisors, public administrators at all levels and user organisations.

There is a desire for the process tool to be turned into a more formal guide in this area.

The process tool is restricted to man-made environments, but its systematics can also be applied to corresponding challenges linked to all types of monuments/sites, environments and landscapes. The tool may also be useful for the protection of vessels. The tool does not apply to the process surrounding the preparation of municipal plans, zoning regulation or detailed regulations. We nonetheless wish to underline the importance of cultural heritage preservation and universal design being safeguarded at the various planning levels.



*Entrance to the Royal Residence in Trondheim  
Photo: Trondheim municipality*

## 2. The legislation

The cultural heritage sites and universal design issue is affected by several laws. Here, we include the most relevant ones and briefly explain what they comprise. The Norwegian Cultural Heritage Act and Anti-Discrimination and Accessibility Act are special Acts and thus on the whole take precedence over general Acts.

### The Cultural Heritage Act

[www.lovdاتا.no/all/nl-19780609-050.html](http://www.lovdاتا.no/all/nl-19780609-050.html)

The Cultural Heritage Act is an Act that takes precedence over general Acts and aims to ensure that our archaeological and architectural monuments and sites are well protected, and in practice it applies to the demolition of or major changes to structures and facilities built before 1850 and to protected structures and facilities. Any decision made pursuant to another Act that has an effect on protected monuments or sites must be assessed in relation to section 1 of the Cultural Heritage Act and may be overturned.

#### Section 1. The purpose of the Act

Archaeological and architectural monuments and sites and cultural environments, in all their variety and detail, are to be protected both as part of our cultural heritage and identity and as an element in the overall environment and resource management.

It is a national responsibility to safeguard these resources as scientific source material and as an enduring basis for the experience of present and future generations and for their self-awareness, enjoyment and activities.

The intention of this Act must also be taken into account in any decision taken pursuant to another Act that may affect the cultural heritage.



*Thresholds often pose a challenge. In some places, it will be impossible to combine step-free access with protection considerations. Photo: Bergersen Arkitekter as/ Trondheim municipality/ Ullensaker municipality*

## **The Anti-Discrimination and Accessibility Act**

Act relating to a prohibition against discrimination on the basis of disability  
[www.lovddata.no/all/hl-20080620-042.html](http://www.lovddata.no/all/hl-20080620-042.html)

This Act means that enterprises located in protected buildings and buildings worthy of preservation have a duty to try to find ways of making their premises fit for use by as many people as possible. When optimal accommodation requirements cannot be implemented due to considerations of protection, safety/security or finance, the Act allows for special solutions. If the authorities do not see any opportunity to grant an exemption and the Ombud requires full accessibility to an important public enterprise intended for the general public, the ultimate consequence may be that the enterprise must move. In practice, however, a good, constructive solution will usually be found.

The principle should be that the enterprise has a duty to try to adapt the building and to map the opportunities for these. This provides a basis for the correct weighing up of what is achievable and a possible basis for an exemption application.

There will undoubtedly be cases in which there are conflicting interests. This process tool may help to establish a good dialogue that can handle these conflicting views constructively. In the case of conflict, different authorities will often need to find compromises. The Ministry of Local Government and Regional Development has issued a circular regarding this.

The Equality and Anti-Discrimination Ombud deals with complaints about a lack of accessibility, [www.ldo.no](http://www.ldo.no)

### Section 1. Legislative purpose

*The purpose of the Act is to promote equality and ensure equal opportunities for and rights to social participation for all persons regardless of disabilities and to prevent discrimination on the basis of disability.*

*The Act shall help to dismantle disabling barriers created by society and to prevent new ones from being created.*

### Section 9. Obligation to ensure general accommodation (universal design)

*Public undertakings are to make active, targeted efforts to promote universal design within the undertaking. The same applies to private undertakings that offer goods or services to the general public.*



*There is little difference in height at the Rasmus Meyer Art Museum in Bergen. Access to this building has been resolved in a way that is aesthetically pleasing and functional and does not reduce the building's cultural heritage value. Photo: Bergen municipality*

*Public and private undertakings that offer goods or services to the general public are obliged to ensure the universal design of the undertaking's normal function provided this does not entail an undue burden for the undertaking. When assessing whether the design or accommodation entails an undue burden, particular importance shall be attached to the effect of the accommodation on the dismantling of disabling barriers, whether the normal function of the undertaking is of a public nature, the necessary costs associated with the accommodation, the undertaking's resources, safety considerations and cultural heritage considerations.*

Section 10. Universal design of buildings, facilities, etc

*The requirements regarding universal design stated in or pursuant to the Planning and Building Act apply to buildings, facilities and outdoor areas.*

## Røros Town Hall. An example of a complaint about the lack of access to a public enterprise.

This case concerns a public building which is supposed to be accessible to the public and which must also be able to accommodate various regular users (politicians, etc). The protected building is a two-storey timber structure with a high basement floor in parts, and both the main floors are used in a way which means they should be accessible to people with disabilities.

The case documents show that the establishment of an exterior ramp was discussed in 2000 when the town hall was being altered. This measure was not implemented at that time.

On 20 February 2009, the Norwegian Association of Disabled lodged a discrimination complaint with the Equality and Anti-Discrimination Ombud. This complaint pointed out that there was no step-free access to the ground floor and that the first floor would still be inaccessible even if a ramp allowing access to the ground floor was built. In the complaint, the Norwegian Association of Disabled asked the Equality and Anti-Discrimination Ombud to consider ordering the municipality to find more suitable premises.

Four days later, the Equality and Anti-Discrimination Ombud contacted Røros municipality, asking it to report on the accessibility of both floors. The Ombud also asked whether the municipality had considered moving some of its operations to more suitable premises. Røros municipality answered the Equality and Anti-Discrimination Ombud just under a month later, pointing out, among other things, that the part of its operations which was most intended for the general public had already moved out and that the municipality found ad-hoc solutions if visits from persons with special needs were notified in advance. It was also pointed out that the town hall is a centrally located building in Røros, which is a World Heritage Site, and that large investments in schools and care services had to be made before an investment in a new administration building.

On 23 March 2009, the Equality and Anti-Discrimination Ombud sent a letter to the municipality pointing out the duty to provide documentation, including of whether it can be proven that the building is protected, of whether solutions have been discussed with the Directorate for Cultural Heritage and of whether the municipality has at all investigated thoroughly enough how accessibility can be ensured. After



while, the municipality sent the Ombud documentation that the building was protected. The last available document in the case is a letter to the municipality from the Equality and Anti-Discrimination Ombud dated 14 May 2009, stating that the Ombud is looking forward to a meeting with the County Conservation Officer. Information provided by the county council in May 2010 indicates that this problem has still not been resolved.

*Røros Town Hall  
Photo: Trondheim municipality*

## Planning and Building Act

[www.lovddata.no/all/nl-20080627-071.html](http://www.lovddata.no/all/nl-20080627-071.html)



Around around buildings often rises over the years. Here, this has facilitated access.

Veiberggården Jessheim.

Photo: Ullensaker municipality

The Planning and Building Act affects the issue of cultural heritage preservation and universal design. This Act was revised in 2008 and all the references here are to the prevailing Act.

According to the Planning and Building Act 2008, protection may be ensured by regulations being stipulated for zones requiring special consideration at zoning plan level. These regulations govern how monuments and sites can be dealt with and possibly changed.

The Planning and Building Act's planning part places emphasis on participation in the planning process (section 5-1). The Act also states that master plans are to safeguard zones requiring special consideration that protect the natural environment and cultural environment and also take universal design into consideration (sections 11-7 and 11-8). Since master plans are to be continued in more detailed plans (sections 12-6 and 12-7), it is important that regulations for zones requiring special consideration, universal design and user participation are all complied with at an over-arching level.

It is important to note that, if an older zoning plan has not been replaced by a new one, it is this plan's provisions that apply. The Planning and Building Act 1985 allowed protection according to section 25-6 to be regulated as a special area.

The Planning and Building Act's building part states the measures for which an application must be submitted and the requirements applicable to the measures.

Section 1-1. The purpose of the Act

*The Act shall promote sustainable development in the best interests of individuals, society and future generations.*

*Planning pursuant to this Act shall facilitate the coordination of central government, regional and municipal functions and provide a basis for administrative decisions regarding the use and conservation of resources.*

*The processing of building applications pursuant to this Act shall ensure that projects are carried out in compliance with statutes, regulations and planning decisions.*

*Individual projects shall be carried out in a proper manner.*

*Planning and administrative decisions shall ensure transparency, predictability and public participation for all affected interests and authorities. There shall be emphasis on long-term solutions, and environmental and social impacts shall be described.*

*The principle of universal design shall be taken into account in planning and in requirements relating to individual building projects. The same applies to due regard for the environment in which children and youth grow up and the aesthetic design of the surroundings.*

## The Working Environment Act

[www.lovddata.no/](http://www.lovddata.no/)

Section 4-1 of the Act deals with the general requirements as to the working environment, and item 4 states the following: "Passageways, sanitary facilities, work equipment, etc shall to the extent possible and reasonable be designed and arranged so that employees with disabilities can work at the undertaking."

Section 1-1. The purpose of the Act

The purpose of the Act is:

- a) to secure a working environment that provides a basis for a healthy and meaningful working situation, that affords full safety from harmful physical and mental influences and that has a standard of welfare at all times consistent with the level of technological and social development of society,
- b) to ensure sound conditions of employment and equality of treatment at work,
- c) to facilitate adaptations of the individual employee's working situation in relation to his or her capabilities and circumstances of life,
- d) to provide a basis whereby the employer and the employees of undertakings may themselves safeguard and develop their working environment in cooperation with the employers' and employees' organisations and with the requisite guidance and supervision of the public authorities,
- e) to foster inclusive working conditions.

Many monuments and sites function as a workplace. In this context, it is also important to find the correct balance between accommodation measures and cultural heritage preservation.



*In older parts of town, conditions often lead to restricted accessibility. A ramp in front of each building is rarely a good aesthetic solution.*

*Photo: Trondheim Municipality*

# 3. Explanation of concepts

## Listed

An object (a building, a part of a building, a facility, etc) or an environment may be listed (protected) pursuant to the Cultural Heritage Act. This means that the object or environment is of importance to the nation's cultural history.

The fact that an object or environment is protected means that those parts of the object/environment which are subject to special protection regulations are to be preserved, maintained and basically not changed. A lawful change may only be made if the cultural heritage authority (i.e. the Directorate for Cultural Heritage or a party it authorises) grants exemption from the regulations and permission.

All buildings, facilities, environments or remains of these which date back to before 1537 are automatically protected by law in their entirety.

In addition, buildings built between 1537 and 1650 which are still standing are automatically protected by law. Buildings and facilities built after 1537/1650 may be protected according to a special administrative decision or, if the Norwegian state is the owner, according to a statutory instrument. Entire environments may also be protected.

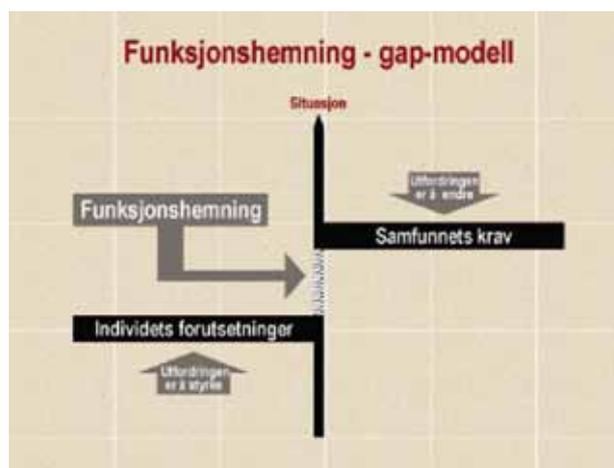
All churches built before 1850 and especially valuable church buildings built after 1850 are on the Directorate for Cultural Heritage's list of churches particularly worthy of preservation. Churches built after 1850 are basically not covered by the Cultural Heritage Act's provisions, but measures must nonetheless be considered in relation to the Act.

In addition, plans for the demolition of or major change to any building built before 1850 must be submitted to the cultural heritage authority before the measure is implemented. (Refer to sections 8 and 15 of the Cultural Heritage Act)

## Functional restriction

A functional restriction arises when there is a gap between the individual's capabilities and the design or functional demands of the environment.

Source: White Paper no. 40, 2002-2003



## **Cultural environment**

A cultural environment is an area where an archaeological or architectural monument or site forms part of a larger entity or context.

(Section 2 of the Cultural Heritage Act)

## **Cultural heritage**

*Cultural heritage* is to be understood in this report as 'archaeological and architectural monuments and sites and cultural environments'. They are all traces of human activity in our physical environment, including places associated with historical events, beliefs and traditions". (Section 2 of the Cultural Heritage Act)

## **Disability**

The loss of or damage to a bodily part or one of the body's functions. This includes impaired mobility, vision or hearing, a reduced cognitive function or various functional impairments due to allergies or cardiopulmonary diseases. A functional impairment is counted as being synonymous with a disability.

## **Regulated as worthy of preservation**

Valuable cultural heritage may be safeguarded through municipal plans and zoning plans. According to the former Planning and Building Act (Planning and Building Act 1985), this took place by regulations stipulating protection and associated provisions. These apply when the zoning plan has not been replaced by a new one.

## **Regulated as zones requiring special consideration with guidelines**

Valuable cultural heritage may be safeguarded through municipal plans and zoning plans. This is done by "zones requiring special consideration" and associated guidelines being established (Planning and Building Act 2008). The guidelines stated in the regulations govern how the monument or site may be dealt with and possibly altered. When preparing a zoning plan/detailed plan, special protection provisions relating to purpose may be stated.

## **Accessibility**

A property of the physical design of buildings, means of transport and outdoor areas that ensures people have access to and can use them, preferably without external help. (NS 11001-1:2009)

## Accessibility versus universal design

Universal design is a strategy for achieving an equal society. Accessibility is a property of the physical design which ensures that people with disabilities can access and use the object. While accessibility for persons with disabilities may be achieved through specially adapted solutions, universal design presumes that the main solution will accommodate everyone.

## Universal design

"Universal design is the design of products and environments to be usable by all people, to the greatest extent possible, without any need for accommodation or specialised design".

(Topic Report, Clarification of Concepts, Norwegian Ministry of the Environment 2007.)

" By universal design is meant designing or accommodating the main solution as regards the physical conditions so that the normal functions of the enterprise can be used by as many people as possible." (Anti-Discrimination and Accessibility Act 2009)

## Worthy of protection/preservation

A collective term used by many to describe valuable archaeological and architectural monuments and sites that are not necessarily protected by law. Many municipalities have cultural heritage plans/documentation or lists that include buildings, environments and facilities in this category.



*At Hovin Church, which is protected and was built in 1695, the ground has been raised at the entrance to the side aisle. This has been done using modern materials that nonetheless fit in with the surrounding environment.  
Photo: Ullensaker municipality*



*Storhamarlåven Museum, Hamar  
Photo: Jiri Havran*

## 4. Different types of disabilities

A lot of the population will have disabilities for shorter or longer periods. These people are prevented from participating, or restricted in their participation, in society due to unnecessary physical impediments in the environment.

It is therefore necessary to take various user groups' needs into consideration when making archaeological and architectural monuments and sites accessible. Many people have impaired vision, mobility, hearing or orientation skills, or a reduced tolerance for substances in the environment. Taking user groups' needs into account when adapting archaeological and architectural monuments and sites means that the surroundings are more functional for everyone.



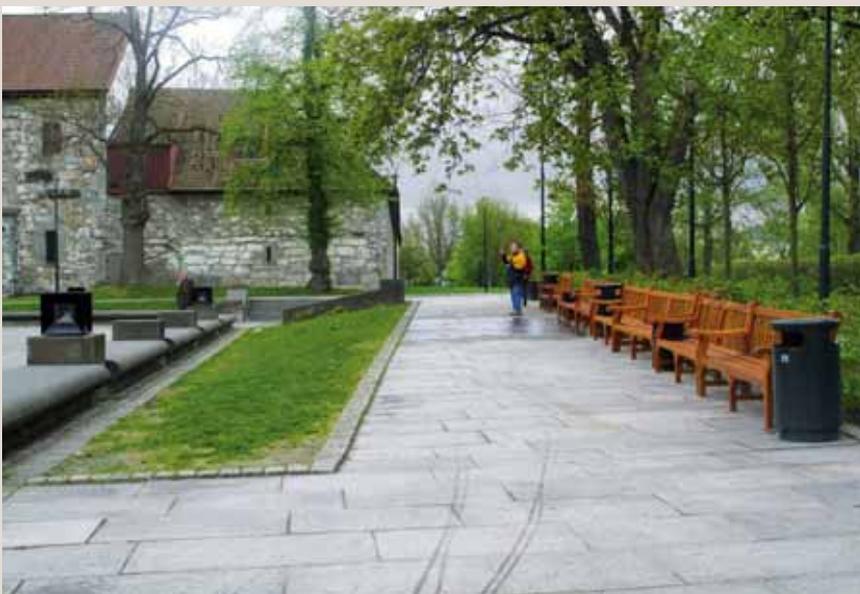
*A good example of an addition. This measure can also be easily reversed. Handrails are to be found on the steps at the opposite end of the ramp. Example from Barcelona. Photo: Trondheim municipality*

## Impaired mobility

A lot of the population may for various reasons have impaired mobility. People with impaired mobility may find it difficult to balance and have less stamina. Some may have less energy and a reduced ability to coordinate movements and may only be able to move within a limited scope. Some may be helped by technical aids, such as manual wheelchairs, electrical wheelchairs or walking aids such as a walking frame, walking stick or crutches. Others also need the help of an assistant.

Important universal design elements for impaired mobility:

- Short distance from the car park or bus stop/station to the main entrance
- Parking spaces marked for the use of those with impaired mobility
- Benches along walkways. The benches must be outside the walking area.
- Equal access, or an equal alternative access
- Step-free access
- Opportunity to reach and get around inside the building using technical aids
- A lift to all floors
- Handrails on stairs and ramps
- Doors that open easily
- Toilet adapted for wheelchair users



*Benches at the entrance to and close to archaeological and architectural monuments and sites are important. Nidaros Cathedral Trondheim  
Photo: Trondheim municipality*

## Impaired hearing

A lot of the population has impaired hearing. Impaired hearing is often due to old age or illness or a result of an injury caused by too much noise. Impaired hearing may also be congenital.

In order to understand speech and avoid stress and confusion, there must be good acoustic conditions and as little background noise as possible. Often, sight will compensate for impaired hearing. Good lighting will be an important factor to allow people with impaired hearing to lip-read so they understand what is being said. A person imparting information verbally must be aware of where he/she is standing in relation to lighting. In addition, an audio induction (hearing) loop will be a good aid for hearing speech and music. The audio induction loop should be connected to a microphone system and the area covered should be marked using a pictogram/symbol for an audio induction loop. A lot of people with impaired hearing use a hearing aid. When using an audio induction loop, users of hearing aids will be able to put their hearing aid on T (the symbol for an audio induction loop) and then hear clearly that spoken into the microphone. The person will not be disturbed by sounds around him or her.



*Pictogram for an audio induction loop*

Important universal design elements for those with impaired hearing:

- Take acoustic conditions into account. It is important to reduce the reverberation time in large open rooms and stairwells.
- Install an audio induction loop at counters. Have a sign with an audio induction loop pictogram.
- Have technical aids to transfer sound. These may be an audio induction loop in large indoor rooms or outdoor spaces, a wireless FM system or IR system.
- Have signs using the pictogram/symbol for an audio induction loop in the area covered by the audio induction loop.
- There is a need for good lighting so that the person can lip-read. Prevent the sun from shining in the person's eyes in such a situation.
- Written and visual information.
- Fire alarms must be both seen and heard. Vibration under mattresses/pillows in beds should be considered in overnight accommodation sites. The vibration is to be triggered by the fire alarm.

## Impaired vision

It is normal for people's vision to generally deteriorate as they grow older. In addition, a lot of the population have impaired vision due to illness or injury. Impaired vision may also be congenital. Impaired vision can vary from total blindness to various degrees of impaired vision. Those with impaired vision will find it difficult to see contours in the environment. They will be extra sensitive to reflections and dazzling light and dependent on good lighting and contrasts in order to move around in the environment.

Persons who suffer from impaired vision often find that their other senses—such as the ability to hear, smell and feel – are strengthened to compensate for this. The acoustic environment becomes important for compensating for the loss of vision. Different acoustic conditions will help to allow those with impaired vision to find their way. The choice of different flooring will also be able to tell people where they are and possibly make them aware of danger. Examples of this are tactile areas at the top and bottom of stairs. The use of handrails that are continuous from the top to the bottom of a set of stairs will be a good natural lead line for a person with impaired vision.



*Contrast marks on glass areas are always important for preventing collisions with structures. Such marks must also be considered for protecting the cultural-history qualities of the building's facade.*

*Photo: Trondheim municipality*

Important universal design elements for those with impaired vision:

- Good contrasts, for example between a column and its background colour, between writing and its background colour, between doors and walls, etc.
- Good lighting. Avoid sun in the eyes and shiny surfaces as this results in dazzling light and reflections.
- Written, verbal and tactile information
- Well-lit signs
- Legible writing
- Tactile models
- Open gangways
- The use of materials with different structures
- Handrails on stairs
- Good acoustic conditions
- Simple and consistent furnishing of the surroundings



*Existing buildings may have qualities that meet some universal design requirements. Here is an example of a natural lead line in Nidaros Cathedral. There is a good contrast in the existing marble floor.  
Photo: Trondheim municipality*



*For persons with impaired vision, it may be necessary to think about alternative ways of imparting information. For example, the Archbishop's Palace museum in Trondheim uses models that the public can touch. Photo: Trondheim municipality*

## **Impaired orientation ability**

A large number of people have difficulty in finding their way around in public environments for various reasons. This may be due to impaired vision or hearing or to cognitive failure and is often made up of various forms of disabilities.

In connection with cognitive failure, it can be difficult to concentrate and go in the intended direction. It can be difficult for such people to understand the structure of their surroundings. It is therefore important to organise rooms, exhibitions and outdoor areas in a simple, intuitive way so that it is easy for people to find their way around the physical environment. Such measures will also be good solutions for most people.

Among other things, there is a need for clear, comprehensible signs using pictograms/symbols, the deliberate organisation of furniture, fittings and equipment in a way that helps to create natural walkways through a room, the deliberate planning of rooms in relation to each other, and a simple, logical structure for exhibitions. It is also important to plan the lighting. Good lighting that takes impaired orientation ability into account can help people to find their way around the monument or site. The acoustic environment will also be an important factor in helping people to find their way. Different reverberation times may be recognisable and help people to find their way.



*Signs using pictograms can be read irrespective of language. These are the pictograms for impaired mobility, impaired vision, an audio induction loop and reduced tolerance for substances in the environment (asthma/allergies)*

Important universal design elements for impaired orientation ability:

- Simple and intuitive to find the reception desk
- Use of colour codes in the environment
- Plenty of signs in the environment using pictograms/symbols
- Simple, intuitive and brief information
- Text supplemented by drawings/symbols/illustrations
- The deliberate use of lighting as a method of orientation
- Contrasts in the environment which make doors, columns, furniture, etc visible
- Systematic, logical and consistent exhibition structure
- No obstacles in the walkways to various activities



*The information sign in the cultural environment at Raknehaugen. This sign is low level, located alongside a gravel road and can be read by people sitting or standing.  
Photo: Ullensaker municipality*

## Reduced tolerance for substances in the environment

Very many people react to various substances in the environment. The number of people with asthma/allergies is increasing sharply. A good indoor environment with high-quality ventilation is important to this user group. The entrance must be smoke-free and the plants both inside and outside must be allergy-friendly. When adapting the environment, materials that do not emit possibly allergenic gases should be chosen. Please also remember that this user group may find it very difficult to cope with strong perfumes.

Important universal design elements for a reduced tolerance for substances in the environment:

- Smoke-free entrance
- Allergy-friendly plants must be chosen when planting new plants outdoors and buying plants for indoors
- Allergy-friendly materials must be chosen when adapting the environment
- Materials which are easy to clean must be chosen
- Good air quality with high-quality ventilation
- Few horizontal surfaces that gather a lot of dust indoors. Use of closed cupboards.



*The choice of trees and plants is of great importance to those who are allergic.  
Photo: Trondheim municipality*

# 5. Phases of the work

## How to get started

No cultural heritage sites are the same. They are in part designed differently and in part affected differently by history. Different building methods, varying usage and wear and tear over time give each monument/site or environment its own special, integrated value. These variations make it impossible to present a fixed template for how to carry out accommodation measures that safeguard the cultural heritage value.

## Implementation process divided into phases

In order to achieve a good process for cultural heritage preservation and universal design, it is advisable to conduct a thorough mapping and hold a multidisciplinary discussion meeting before preparing detailed plans. We suggest an implementation process divided into the following phases, and will discuss the individual phases in separate chapters.

Phase 1 Mapping

Phase 2 Discussions and proposals

Phase 3 Application

Phase 4 Implementation

Phase 5 Evaluation



*The new main entrance to the Gunnerus Building in Trondheim is located in the courtyard so that there can be step-free access. The original entrance was from the street. Bergersen Arkitekter as 2002  
Photo: Trondheim municipality*

## **Dialogue**

Establishing a good dialogue is crucial to a good process. The dialogue requires humility and respect for each other's professional areas. The parties to the dialogue should try to put the reality into words, i.e. be as specific as possible in their approach. The dialogue should be based on mutual trust and a belief that it is possible to achieve good solutions, but should also be open to the fact that, in some situations, it will be difficult or impossible to combine cultural heritage preservation with universal design.

## **The developer is responsible for the process**

Public enterprises, as well as private enterprises aimed at the general public, must make active, targeted efforts to promote universal design. Often, a party other than the enterprise is the owner of the building. The developer is the party that submits or signs the notification/application concerning the measure. Usually, this is either the enterprise that rents the building or the owner of the building.

It is the developer that must make sure to map opportunities and restrictions through dialogue with the owner, enterprise, authorities and designer/planner.

## **Various bodies must cooperate**

The tool places emphasis on the process and on the importance of dialogue and cooperation between the developer, authorities and various interest groups. The extent of this mapping and the number of people who should be involved in the process must be adapted to the scope and importance of the measure. Minutes should be taken of all meetings.

Relevant participants in the collaboration may be:

- The Directorate for Cultural Heritage
- The county council cultural heritage administration
- The Cultural Heritage Management Office or a corresponding municipal cultural heritage administration
- The Council for People with Disabilities and organisations representing the interests of those with disabilities
- The enterprise
- The developer
- An occupational therapist
- The designer/planner
- The person dealing with the building application

It will be up to the individual municipality to establish its own routines for this type of cooperation. It may be beneficial for small municipalities to cooperate in order to utilise their expertise.

## **The Directorate for Cultural Heritage**

The Directorate for Cultural Heritage is responsible for administering cultural heritage and for the implementation of the state cultural heritage policy. Specifically, this means that it is when work is going to be carried out on buildings and environments that are protected by law, or churches and properties that are on the Directorate's list of buildings that are protected, that the Directorate for Cultural Heritage is a relevant participant. The Directorate for Cultural Heritage may delegate its authority further within the various cultural heritage administration areas.

## **County council cultural heritage administration**

The county councils are the regional authority for archaeological and architectural monuments and sites and are responsible for parts of the Cultural Heritage Act. The county council deals with applications for exemptions from the Cultural Heritage Act and must also be notified of any plans to demolish or make significant changes to buildings or facilities erected prior to 1850.

## **Municipal cultural heritage administration (the Cultural Heritage Management Office, cultural heritage advisor, etc)**

The extent of the municipalities' cultural heritage expertise varies. Large municipalities' tasks and authority may be equivalent to those of the county councils. All municipalities have an internal advisory function linked to the administration of the Planning and Building Act. Some municipalities do not have their own advisors and cooperate with other municipalities.

## **The Municipal Council for Persons with Disabilities**

It is a statutory requirement that each municipality must have a municipal council for persons with disabilities or share one with a neighbouring municipality. There are also county councils for persons with disabilities.

## **Organisations representing the interests of persons with disabilities**

Even though the municipalities must have a council for persons with disabilities, there may also be a need to give various organisations with unique empirical expertise in their area (vision, hearing, mobility and allergies) an opportunity to help arrive at good solutions.

## **Developer**

A generic term for the individual, institution, organisation or enterprise on whose behalf the measure is being carried out (formerly the client). To the extent that the developer is also the owner of or rights holder to the measure, the developer is in the final instance responsible for the measure being carried out or implemented in accordance with the Act, regulations, plans, rules or other requirements of the authorities stipulated in the decision granting approval. The developer otherwise has no direct liability, since each individual responsible undertaking with which the developer forges links will be fully liable for its part of the measure.

## **Enterprise**

An enterprise or undertaking is a designation of a legal entity or an organisation that produces goods or services.

## **Occupational therapist**

Occupational therapists try to enable people to use or develop their own abilities and functions so that they can master everyday tasks. Occupational therapists also arrange physical surroundings so as to allow greater participation in activities for everyone.

### **Designer/planner**

An architect, engineer or someone else with knowledge of design and buildings that the developer hires to carry out a task.

### **Person in charge of the building application**

Represents the municipal building authority in relation to the developer.

### **Responsible applicant**

When it has been decided to implement a measure for which approval must be sought in accordance with the Planning and Building Act, the developer must hire an undertaking that can be the responsible applicant.

The responsible applicant is to coordinate the building application.



*When it has been chosen to establish a step-free access somewhere other than at the main entrance, the entrances should be perceived to be equal. That did not happen here because the front facade was regarded as being especially important.*

*Photo: Ullensaker municipality.*



# Phase 1 – Mapping

**The mapping work should lead to specific descriptions of the opportunities and challenges. The adaptation and accessibility goals should be made as clear as possible. The value of the cultural heritage and how these monuments and sites can be used and experienced should be specifically stated. The concepts used in the various professional fields should be clarified and if necessary defined. High-quality work during this phase is important and provides a basis for good processes and a positive result.**

The mapping tools safeguard the mapping of buildings and adjacent outdoor areas. Emphasis must be placed on communicating the value of the cultural heritage when mapping archaeological and architectural monuments and sites. In order to communicate the value to as many people as possible, it is crucial to use several information channels that stimulate different senses. This will result in greater opportunities for as many people as possible to experience the cultural heritage. These channels include tactile writing, oral information, tactile models, videos and personal guides.

Before starting to assess possible measures, both the cultural heritage's overall value and status and the need for universal design must be mapped. This will make the opportunities, needs and any points of conflict clear.

## **Goal of phase 1:**

Clarify cultural heritage value and universal design

- Make all the involved parties aware of the culture heritage's value and of universal design and the opportunities and restrictions these entail.

During this phase, it is relevant to map the following:

- The situation and restrictions on use
- The cultural heritage values and qualities associated with the site
- The current situation with regard to universal design
- Zoning and statutory conditions
- Usage practice and usage needs.

## **Relevant partners:**

- Developers
- Designers/planners
- The cultural heritage preservation authorities or cultural heritage experts
- The Council for Persons with Disabilities and organisations representing the interests of persons with disabilities
- Occupational therapists

All the parties should conduct a joint inspection.



*Hanshus, a protected old country courtyard at Midtre Gauldal in Sør Trøndelag county, is not universally designed. The courtyard is easily accessible from a nearby car park but the individual buildings are not very easily accessible. It will be difficult to improve the accessibility of several of the buildings without coming into serious conflict with the cultural heritage values. People can be informed about the traditional storehouse and smoke house by hearing stories in the courtyard and seeing pictures in one of the buildings that can probably be made accessible in the future.  
Photo: Bergersen Arkitekter/Trondheim municipality*

## Mapping cultural heritage values

The Cultural Heritage Act defines cultural heritage as

"...all traces of human activity in our physical environment...".

This is a broad definition which makes it necessary to have a thorough mapping and clear description of the values of each monument or site. We must discover the monument's or site's integrity value/overall value: the unique mix of use, development, changes and life that has characterised the cultural heritage from the start and up to the present day. As many as possible of these traces and values must be preserved so that they can continue to be seen, experienced, used and interpreted.

The mapping and valuation of monuments and sites must be conducted by experts in this field. In this work, emphasis is to be placed on the following values and questions:

### Type of cultural heritage

Does the building have a public function and/or a clear importance to society?

What type of monument or site is this and what seem to be its key values?

How possible is it for different people to experience this?

### Knowledge value

What is the knowledge value of the cultural heritage?

Knowledge value means that the monument or site may today or in the future provide us with valuable historical knowledge. This knowledge may be about social factors, technology, events or something else that may help us to understand or acknowledge our history and development. We could say that the cultural heritage is a history book, a bearer of history and stories. Although the opportunity to obtain knowledge from an old house increases as technology improves, we perceive the knowledge values as being properties of the object. These include:

- The building's historical value
- The workmanship's historical value
- The architecture's/style's historical value
- Context and environment
- Authenticity (in the sense of the degree of genuineness and originality of its style, form, use of materials and workmanship)
- Scarceness and representativeness

### Experience value

What experience value does the cultural heritage have?

Monuments and sites can give us various experiences. These are more linked to what takes place inside the head of the person seeing and feeling – the values are subjective. They may appear to be inexplicable, beautiful and special, and they may appeal to our imagination, sense of wonder or aesthetic sense. Knowledge of the monument or site increases the experience value. Values that belong here are:

- Identity-creating value
- Environment-creating value
- Symbolic value
- Artistic and architectural value

## **Utility value**

What is the cultural heritage's utility value?

Often, a monument/site/cultural environment has a utility value, perhaps as a home, city space, museum, storehouse, travel destination, or as an area for events, for imparting historical values, as the basis for experiences, etc. This value is also often linked to its technical state and to whether it can be used and is functional. Preservation instead of replacing parts of or whole buildings will also almost always be good environmental protection. In other words, the environmental aspect is also part of the utility value.

## **Overarching values**

What overarching value does the cultural heritage have?

Authenticity is often used in connection with archaeological and architectural monuments and sites. (See under knowledge value). But the concept also includes how the monument or site has managed to impart its significance and importance over time even though it has been affected and changed by weather, wind and people – various usages and "the passage of time".

Integrity: this unique connection between usage, development, changes and life that has characterised the cultural heritage right from the start and up to our time has left traces that form the monument's or site's value: its integrity. This must be protected so that irreplaceable values and properties are not lost but instead retain their importance in the future.

- Authenticity
- Integrity

## **Legal status**

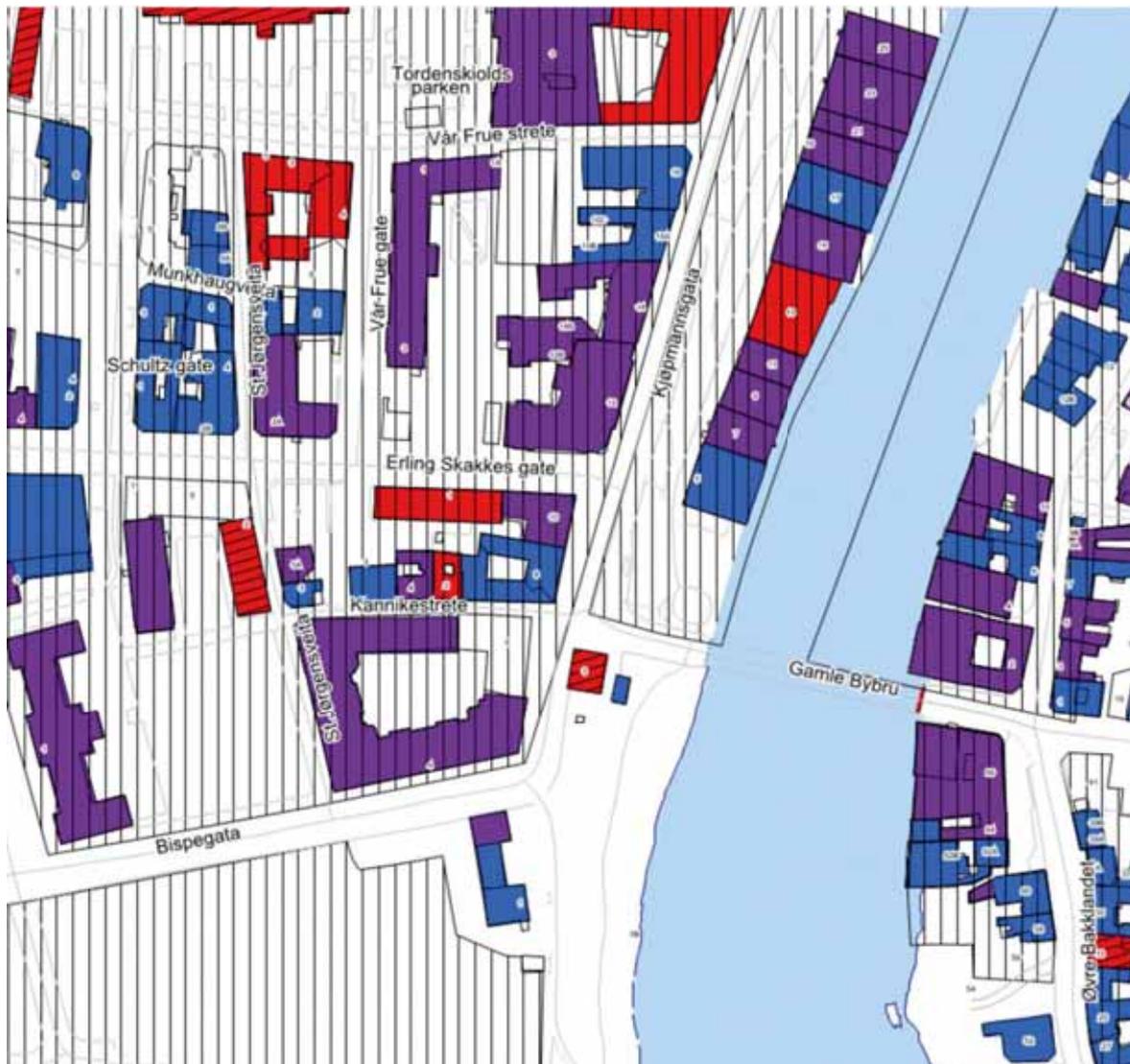
What is the legal status of the cultural heritage?

As early as possible in the mapping phase, the legal status of the cultural heritage must be clarified. If it is listed, there will be a protection order. This must include an assessment of its value and frameworks for the changes that may be permitted.

If the monument or site is protected by zoning provisions or provisions concerning zones requiring special consideration, these provisions will govern what is permitted. Protection assessments may also have been carried out during municipal reviews, such as in cultural heritage preservation plans or suchlike.

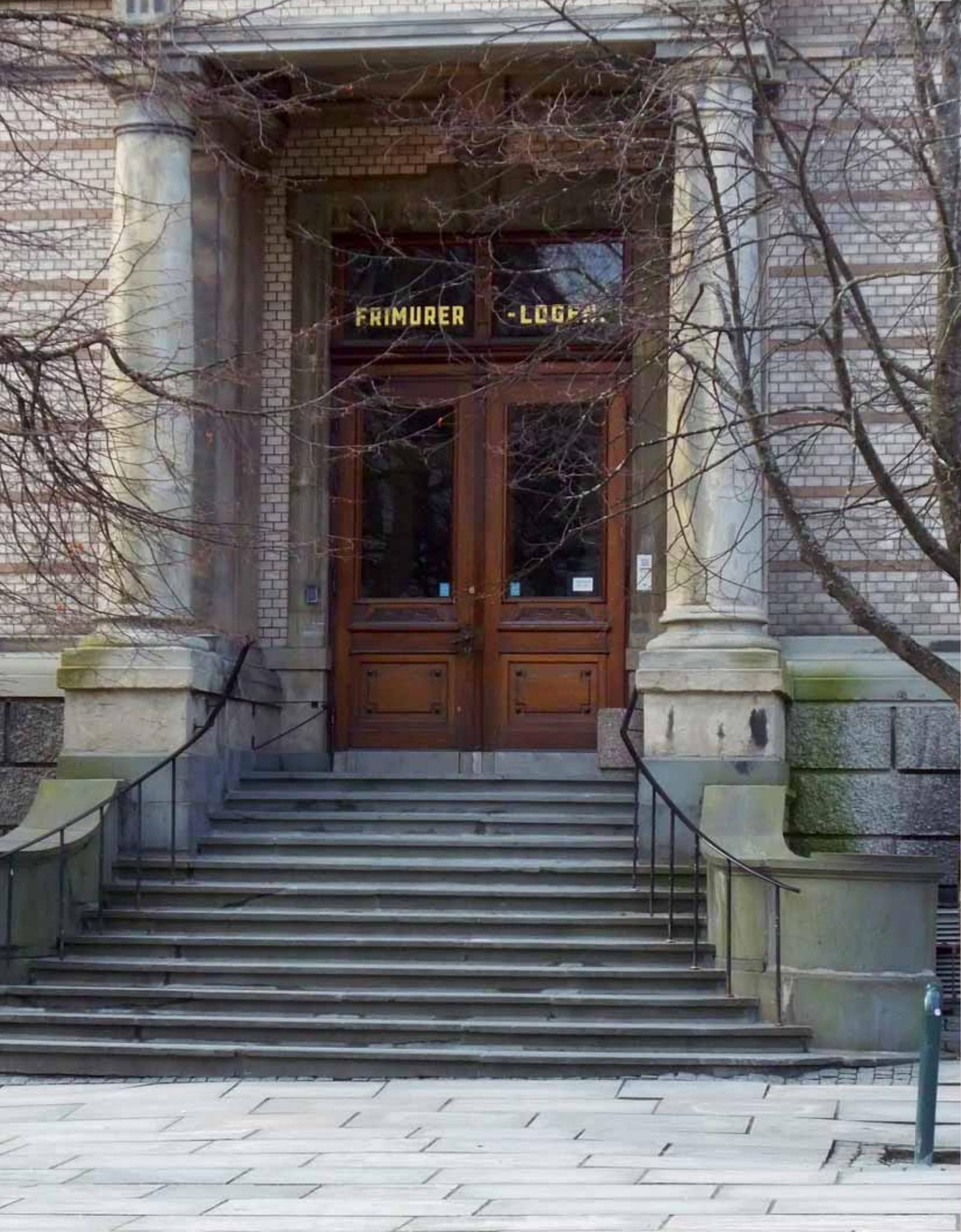
The protection afforded by the Cultural Heritage Act is stated in the following sections:

- section 4 Automatically protected (must be officially registered)
- section 15,19, 20 Protected following a protection order
- section 22 Protected by administrative procedure
- section 25 Subject to a temporary protection order
- NB!: churches built after 1850 that are on the Directorate for Cultural Heritage's list and applications concerning buildings erected before 1850 must be assessed and dealt with in line with the Cultural Heritage Act's intentions.



- B: High cultural heritage value
- C: Cultural heritage value
- B: Protected

*Some municipalities have a register of archaeological and architectural monuments and sites. The monuments and sites are registered in different ways. Some municipalities have cultural heritage preservation plans, while others have lists or registrations on maps. Here is an extract of Trondheim municipality's map showing buildings that are worthy of preservation or protected by law in Trondheim city centre.*



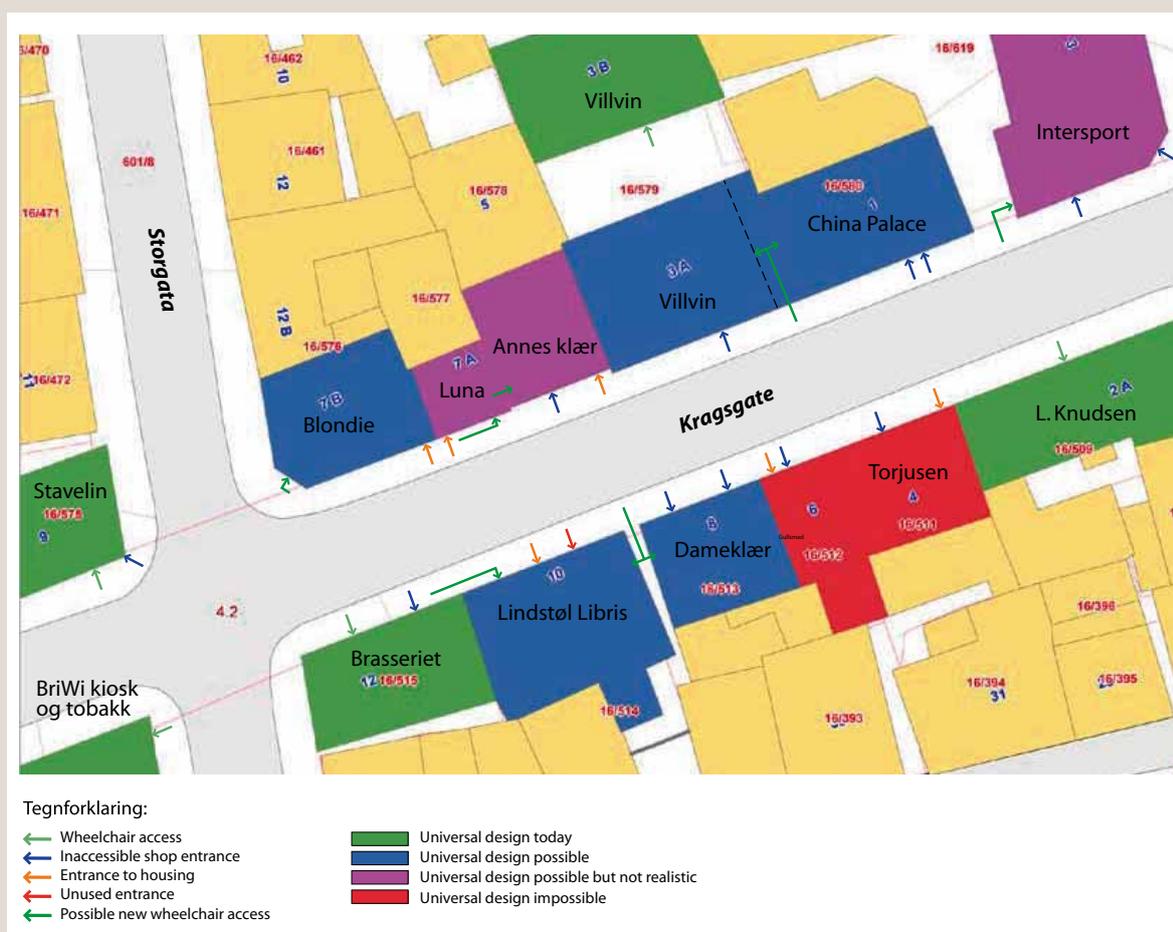
## Mapping of universal design

Universal design must be mapped parallel to this. Universal design is a planning and design strategy to achieve an inclusive society in which everyone is equal and can participate. What are the opportunities in and around the monument or site as it is designed today? What are the opportunities and challenges and where, if anywhere, are there obvious conflicts between the protection considerations and the opportunities for universal design. Here it is important to think about the target group for the monument or site and the extent to which the monument or site is used for activities aimed at the general public.

Universal design is easier to achieve in new buildings. In existing monuments and sites, the result will often have to be the best possible accessibility in relation to the location's possibilities.

The mapping work may be carried out in several ways. We have included some examples here.

The information in chapter 4 on various disabilities will be important knowledge in the mapping work relating to universal design.



*Overall mapping of access opportunities in Risør town centre, prepared by Asplan Viak as.*

The mapping work can be based on Norway's Directorate of Public Construction and Property's (Statsbygg's) web-based mapping tool entitled "buildings for everyone". <http://www.byggforalle.no> This is a standardised mapping tool for universal design.

The screenshot shows the 'Bygg for alle' website interface. At the top left is the logo 'BYGG FOR ALLE'. A navigation bar contains links for 'Forside', 'Hjelp', 'Om Bygg for alle', and 'In English'. Below this is a breadcrumb trail: 'Forside > > Sek. > > Søkresultater > Høgskulen i Volda - Hovedbygning'. The main content area displays 'Valgt funksjonshemning: Alle' and the title 'Høgskulen i Volda - Hovedbygning'. The address is 'Skjervavegen 22, 6100, VOLDA'. The building name is 'PÅBYGG KAARSTADHUSET-HOVEDBYGG'. A description states: 'Kaarstadbygget er delt i forskjellige byggetrinn, som henger sammen i kjeller og 1. etasje. Hovedinngangen er trinnfri og har dører med automatisk døråpner. Fra inngangsparti kommer en direkte til vrangleareal med tilkomst til byggets funksjoner. Bygget inneholder resepsjon, klasserom, møterom, grupperom, kantine, auditorier og kontorer. Det er installert 2 heiser. Bygget har 1 HC-toalett og 2 HC-parkeringsplasser.' To the right are five small images showing different parts of the building. Below them is a link: '> Trykk på bildene for større versjon'. A URL is provided: 'http://www.hivolda.no/index.php?ID=13284&lang=nyn'. At the bottom, there is a list of 'Besøksmål' (Auditorium Gamle festsal 204 2. etg., Biologisal 302 3. etg., Elevkantine kjeller, Espedisjon Studentadministrasjon 1. etg., Fysikk auditorium 306 3. etg., Grupperom 106 1. etg., HC-parkering, HC-toalett 280 2. etg., Heimkunnskap kjeller, Kontor 278 2. etg.) and a 'Type' list (Sal eller auditorium, Rom, Matsal eller kantine, Resepsjon, Sal eller auditorium, Rom, Parkeringsplass, Bad og toalett, Rom, Rom). The footer includes contact information: 'Kontakt: byggforalle@statsbygg.no', 'Utviklet av: Statsbygg i samarbeid med Know IT Objectnet AS', and the 'universell utforming' logo.

Extract from the "buildings for everyone" mapping tool. This tool contains a registration module which is to be used to register building data in order to map the building's accessibility. The module is free of charge and free to use. You can download it by sending an email to [byggforalle@statsbygg.no](mailto:byggforalle@statsbygg.no) and asking for log-in information.

Trondheim municipality's public buildings planning tool and its associated checklist may be a possible mapping tool.  
[www.trondheim.municipality.no/universellutforming](http://www.trondheim.municipality.no/universellutforming)



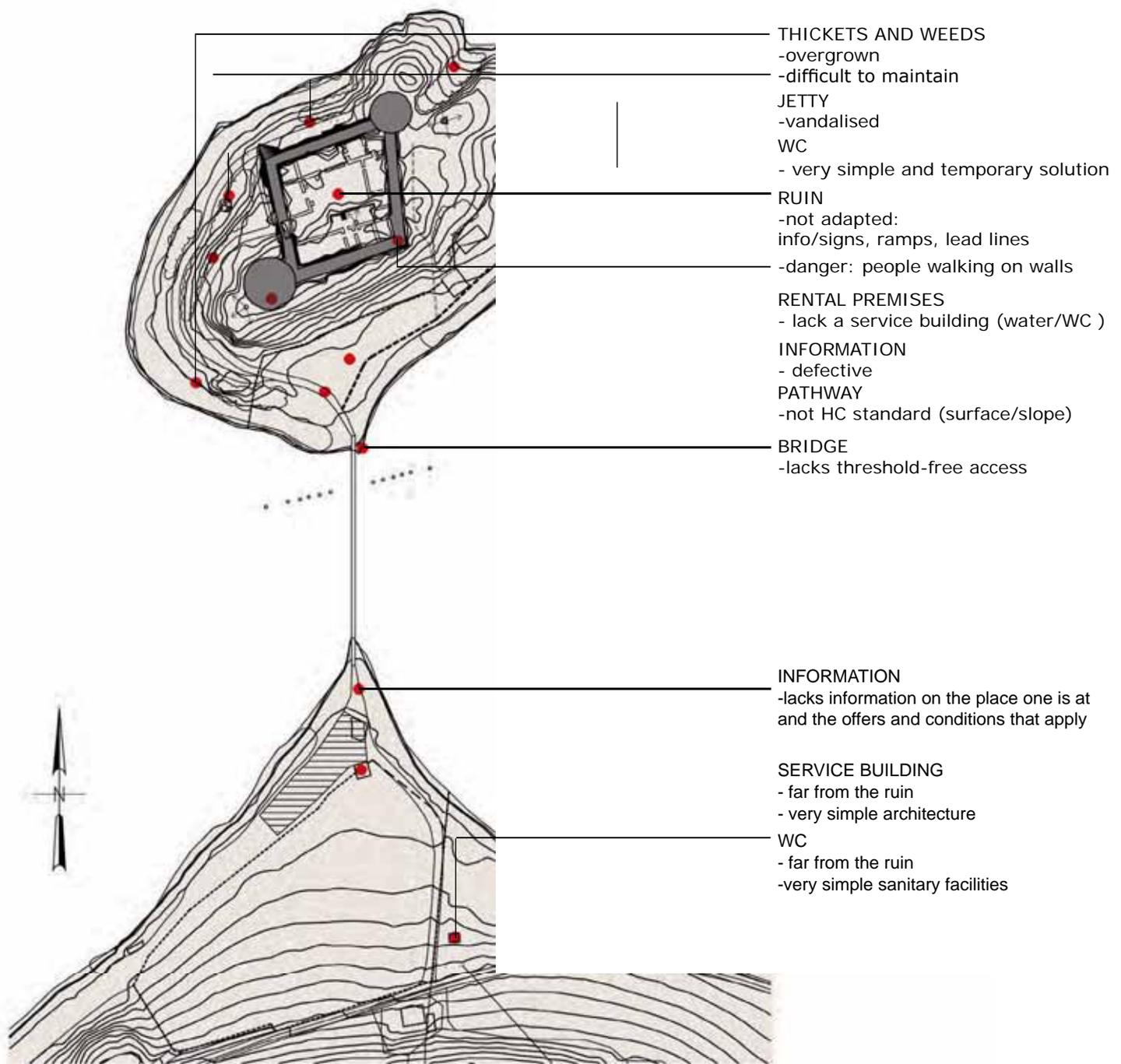
## CHECK

Checklist 19:01 PAGE 1  
 Version: 01.10.2009

<b>Project:</b>	
<b>Name:</b>	<b>Date:</b>
<b>Address:</b>	<b>Signature:</b>

Items to check	Level stated in the guidance to the Technical Building Regulations (TEK)	Recommended additional level
<b>11:01 Access to the building</b>		
Layout		
Gradient/resting level/benches		
Width		
Differences in levels/edges/kerbstones		
Lead lines		
Surfaces		
Marking/lighting		
Plants		
<b>11:02 Parking</b>		
Location		
Number		
Size		
Slope		
Marking/lighting		
Parking and garage building (multi-storey car park)		
<b>12:01 Main entrance/ communication route</b>		
Layout/size		
Main entrance		
Area in front of the main entrance		
Porch/windbreaker		
Location of lifts/stairs		
Finding one's way in the building		
Place to leave electric wheelchairs		
Corridors		
Differences in levels/downward path		

Extract from the checklist in Trondheim municipality's planning tool – the universal design of public buildings. Using this checklist, the building may be mapped in relation to the levels stated in the guide to the technical regulations issued pursuant to the Planning and Building Act (TEK). The right-hand column may be used for comments.



*An example of a brief mapping of universal design.  
 Registration of an outline project, Steinvikholmen, carried out by Løvetanna  
 Landskap AS in 2009.*

# Phase 2 – Discussions and Proposals

**Several cultural heritage objects can be made accessible to everyone, and protection considerations can be taken into account at the same time, by the necessary installations and measures being carried out as well thought through, enriching and readable additions.**

**In this way, the changes may be a positive part of the future experiences of the cultural heritage because they do not destroy the values and traces which make the monument or site valuable today.**

After the mapping comes the time for considering possible solutions. At an early stage, it is an advantage not to be tied to one proposal but instead to consider many possible solutions. Several participants in this process increase the chances of arriving at good solutions. Meeting in a multidisciplinary group to discuss the project's opportunities and restrictions is crucial to a good result that all the affected parties can be satisfied with.

The work on the applications also starts during this phase. This applies to everything affected by the Planning and Building Act, as well as the Cultural Heritage Act where relevant. In relation to the municipality, a discussion meeting can preferably be combined with an advance meeting.

## **Common understanding of the concepts**

Before the meeting, the developer should distribute mapping materials and draft solutions to all the participants so that everyone has a shared basis for the discussions. In the same way, it is important to have a common understanding of the concepts when discussing opportunities. Good outlines of ideas can be a beneficial tool, as can examples of other monuments and sites. These will help to make discussions more specific and targeted but must nonetheless not be so final that any disagreements between the various interests are cemented. It is a good idea to examine several alternative solutions.

## **Goal of phase 2:**

- Prepare proposed solutions based on the mapping and ideas of those involved.

During this phase, it is relevant to do the following:

- The developer must ensure that outlines are prepared as a basis for discussions
- Hold a multidisciplinary discussion meeting at which proposed measures and physical and regulation-related opportunities and restrictions are presented and discussed
- Process the draft solutions
- Hold clarifying meetings and possibly an advance meeting at which the assumptions for the further process are discussed. Plans (pursuant to the Planning and Building Act) may be presented to the cultural heritage authority at an advance meeting before the final planning work.

**Relevant partners:**

- Developer
- Designer/planner
- Person dealing with the building application
- Protection authorities or cultural heritage experts
- The council for persons with disabilities and organisations representing the interests of persons with disabilities.
- Occupational therapist

**Changes in and near to the cultural heritage**

In all work with/on cultural heritage, the focus should be on the monument's or site's vulnerability. This fundamental attitude will in many cases be important when determining a good and correct limit for the interventions that can be tolerated.

All measures that aim to combine the protection of a cultural heritage object with improving the accessibility in and to the cultural heritage should apply prevailing antiquarian principles to measures and interventions in and changes to such monuments or sites. As many changes as possible should at the same time and in a careful manner comply with universal design principles. In order to arrive at good solutions, a compromise between universal design and the safeguarding of the cultural heritage value will be necessary. The various principles that summarise this are as follows:

- Comprehensive view
- Addition
- Enriching
- Usefulness and functionality
- Contrast/adaptation
- Design/visual expression
- Sustainable
- Readability
- Reversible

The seven universal design principles are as follows:

- Equal opportunities to use
- Flexible use
- Simple and intuitive to use
- Comprehensible information
- Tolerance for errors
- Little physical effort
- Size and space for access and use

(ref: The Center for Universal Design, North Carolina State University, USA, Mace 1985)

### **Comprehensive view**

Both in a single monument or site and in a larger environment, it is important that new measures are considered as a whole. Such comprehensive views allow nuances in which parts of a cultural environment may be adapted while unique objects or details can, if necessary, be protected. Integrated planning also provides a better opportunity for coming up with alternative solutions to ensure accessibility, especially if the whole facility cannot be made accessible to everyone.



*The visitors' centre at Nidaros Cathedral, Trondheim. Eggen Arkitekter as 2006  
Photo: Eggen Arkitekter as*

## Addition

Each change should be an addition. In that way, historical traces and materials can be preserved and the changes are readable.



*The Hanseatic Hotel is in the protected Finnegården building in Bergen. An open, modern glass lift was installed in a space between the buildings. This work was carried out in accordance with the protection requirements.*

*The lift's transparent, simple form preserves and enriches the area's overall history-teller expression.*

*Photo: The Hanseatic Hotel (Det Hanseatiske Hotell)*

## Enriching

All measures and changes should be prepared especially for the individual monument or site and add to or increase its values. By this is meant not only the value of the monument or site in itself but also the monument's or site's value as a place that is accessible to everyone.



*A poetic addition to the Centre de L'illustration Tomi Unger, Strasbourg. Photo: Centre de L'illustration*

## Usefulness and functionality

The monument or site must in so far as possible allow everyone the same opportunity to experience value and cultural history. Where possible, physical obstacles should be removed to ensure flexible use. Using various information channels can stimulate different senses. The monument or site should in so far as possible allow people equal opportunities to use it.



*A ramp at the main entrance of the Norwegian parliament (Stortinget) in Oslo. Photo: Trondheim municipality*



*The Veiberggården building in Jessheim. Access to the ATM is ensured via a low ramp that makes use of the difference in height in the ground around the building. Photo: Ullensaker municipality*

### **Contrast/adaptation**

Two opposite effects may be aimed for: a contrast means that what is new is to appear new and stand out as such; an adaptation means that the new part is to be discretely designed to be subordinate to the old part. The design and use of materials are important tools.



*A new lift in Ilen Church in Trondheim, designed as an adaptation to the existing interior. Photo: Eggen Arkitekter as*

### **Design/visual expression**

The change should be well thought through and specially designed so that it is an aesthetically and functionally enriching addition. The quality and values of that which was there before the measure should still be clear and readable.



*Steps/ramp, Barcelona.  
Photo: Trondheim municipality*

## Sustainable

The change and/or addition must be such that it does not weaken the monument or site over time. Technically, this means that the solutions and materials chosen must be such that they do not lead to damage in the short or long term, or to the values being diminished or disappearing altogether.



*Vår Frue Church, Trondheim. Photo: Trondheim municipality*

## Readability

It should be possible to understand that the changes have been made in our time. Archaeological and architectural monuments and sites are historical documents and it must be possible to see what the different eras have contributed.



*A new lift in Bergen. It is clear that the lift is a new element from a different era to that of the building it serves.  
Photo: Trondheim municipality*

## Reversible

It is to be considered carrying out the intervention or change so that it is possible to reverse the change and achieve the state which existed before the intervention. If anything has to be removed, it must be marked, documented and stored so that it can be returned to its former location.



*Ramp, Barcelona. The ramp is designed so that it can be dismantled without damaging the building.*

*Photo: Trondheim municipality*

## Imparting information as an alternative to real experience

In those parts of the monument or site which it proves impossible to adapt without destroying irreplaceable cultural heritage values, alternative ways of imparting information should be found.



*Visitors' centre at Borgund Stave Church, Lærdal (Askim/Lantto Arkitekter as 2005). See the collection of examples. Photo: Jiri Havran*

## Product development

As part of the discussions and proposals phase, the product development aspect is also to be considered. Current technology may invite creative new ideas for solutions to many of the challenges faced. Product development is time-consuming and expensive but it is likely that solutions of general interest will gradually be available.



*Sweden's State Property Council develops new products that can be used to improve the accessibility of buildings without making major physical changes. Here is an example of a stair lift. The illustration is taken from "accessibility to cultural heritage". Report by the Nordic Association (Foreningen Norden).*



*An example of a lift integrated into the floor in Denmark. The illustration is taken from the "accessibility to cultural heritage" report by the Nordic Association (Foreningen Norden).*

*The seven universal design principles are explained as follows:*

### **Equal opportunities for use**

*The design is to be usable by and accessible to persons with various levels of ability.*

### **Flexible usage**

*The design is to serve a wide range of individual preferences and abilities.*

### **Simple and intuitive to use**

*The design must be easy to understand irrespective of the user's experience, knowledge, language skills or level of concentration.*

### **Comprehensible information**

*The design is to communicate the necessary information to the user in an efficient manner, irrespective of circumstances relating to the surroundings or the user's sensory abilities.*

### **Tolerance for error**

*The design is to minimise dangers and injuries that may have negative consequences and minimise unintentional acts.*

### **Low level of physical effort**

*It must be possible to use the design efficiently and comfortably with a minimum of difficulty.*

### **Size and space for access and use**

*An expedient size and space must enable access, reach, operation and usage, irrespective of the user's body size, body position or mobility.*



*The Art Park (Kunstparken) in Risør.  
Photo: Trondheim municipality*

# Phase 3 – The Application

**An accurate, brief application, with good drawings, will result in a tidy, quick process. If there is any doubt about the procedure relating to or content of the application, the municipality and/or cultural heritage authority should be contacted in advance. These same authorities should also be contacted if there is any doubt about whether or not an application must be submitted for the measure.**

## Goal phase 3:

- Prepare an application regarding a measure that describes both the overall cultural environment and how details are safeguarded in improvement measures to ensure universal design.
- Clarify the need for exemption applications.

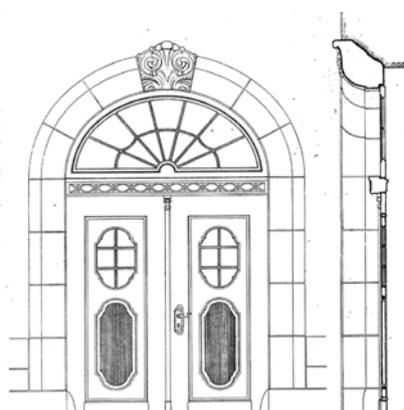
During this phase, it is relevant to carry out the following:

- The detailed design/planning of solutions
- Apply for permission for a measure
- If relevant, obtain a written statement/report from the cultural heritage authority
- If the proposal relates to monuments and sites that are protected, an exemption from section 15a of the Cultural Heritage Act must be applied for before the measure may be implemented
- Clarify with the relevant authorities whether an exemption from the Planning and Building Act or Working Environment Act must be applied for
- State the reasons for the choice of solutions

## Relevant players:

- Cultural heritage authorities
- The person dealing with the building application
- The Norwegian Labour Inspection Authority
- Politicians if necessary

In the case of changes made to buildings/facilities, the developer undertakes to ensure in advance that the measure does not contravene the Planning and Building Act, Cultural Heritage Act or other legislation.



*Good, accurate drawings are important when planning new solutions. Illustration from Andreas Bugge's book entitled Husbyggingslære (Housebuilding), 1920.*

## **Measures for which an application must be submitted**

The measures for which an application must be submitted pursuant to the Planning and Building Act are stipulated in section 20-1 of the Act and include:

- the erection, building of an addition or extension to or underpinning or location of buildings, structures or facilities
- significant changes or repairs, changes to the facade or usage, a significant expansion of or change to previous operations, or demolition.

Regarding measures for which an application must be submitted, it is a requirement that there is an undertaking with the right to accept responsibility for the work (approved by the municipality), with the exception of for measures pursuant to section 20-2 which can be carried out by the owner.

Measures that do not require an application are stated in section 20-3 and include minor measures in existing buildings and minor measures outdoors.

Other relevant parts of the Planning and Building Act in this context are:

Section 29-1 The design of the measure

Section 29-2 Visual qualities

Section 29-3 Requirements as to universal design and justifiability

Section 31-1 The safeguarding of cultural value in work on existing buildings

Section 31-4 Order concerning documentation and repairs (existing buildings)

If the measure is covered by the Cultural Heritage Act, the state and county council authorities must be given an opportunity to state their views before the matter is dealt with and the measure implemented.

It is also important to obtain the views of the municipal Council for People with Disabilities.

The Cultural Heritage Act applies to all measures relating to protected buildings and facilities, irrespective of the size of the measure, and an exemption from this Act must always be applied for. Most applications for exemption from the Cultural Heritage Act are to be sent to the county council. Applications regarding state buildings are to be sent to the Directorate for Cultural Heritage. The protection order states where applications are to be sent.

## **Opportunities to apply for exemption**

In some cases, there will be a need to apply for an exemption. Relevant exemption applications may relate to:

### **An exemption from requirements stipulated in the Planning and Building Act, based on the cultural heritage value**

Section 19-2 of the Planning and Building Act. An exemption decision

The municipality may allow a permanent or temporary exemption from provisions stipulated in or pursuant to this Act. Conditions for the exemption may be stipulated.

No exemption may be granted if the considerations behind the provision from which an exemption is granted, or the considerations stated in the Act's statement of legislative purpose, are significantly disregarded. In addition, the advantages of granting an exemption must be clearly greater than the disadvantages, following an overall assessment. Regarding an exemption from the Act and the regulations issued pursuant to it, special emphasis is to be placed on the exemption's effects on health, environment, safety and accessibility.

## **Cultural Heritage Act relating to a protected building in accordance with section 15a.**

Section 15a of the Cultural Heritage Act. Exemption.

The Ministry may in special cases grant exemption from a protection order and protection provisions for measures which will not have any significant impact on the protected monument or site.

In the application phase, it is important to state sufficient details regarding solutions and the use of materials. An application relating to changes to an archaeological or historical monument or site should state the solution's specific details and the consequences of these. There must be strict requirements as to the drawing materials which are to form the basis for a start-up permit.



*It can be difficult to improve the accessibility of some buildings. An important property of this little storehouse is that it has been raised from the ground, something which is linked to its original function as a place to store food. Here, this was challenging because the owner applied for permission to use it as a hairdressing salon.*

*Photo: Ullensaker municipality*



*Sola Ruin Church. Photo: Jiri Havran*

# Phase 4 – Implementation

**During the implementation phase, it is crucial that all those involved are well informed about the protected monument's or site's values, the goals for the desired changes and the permits that have been granted. If there is any deviation from a given permit, an application to amend the permit must be submitted before the measure is implemented. An amendment also requires the protection authorities to deal with the matter once more.**

Good preparatory work and planning does not help much if mistakes are made during the implementation phase. Adaptations that do not function may cause more harm than good. Protected monuments and sites are non-renewable resources and damage often leads to a permanent loss of value. In order to both succeed in universal design and avoid damage to a protected monument or site, the planning process must be extensive and clearly understood by all the players. A start-up meeting should be held at which the goals and details are reviewed with all the players.

## **Understanding about the implementation**

The contractor that is to implement the measure must be given a good understanding of both the goal of the measure and the protected monument's or site's irreplaceable value. This is intended to ensure that unexpected issues which arise during the building process are handled professionally. The goal is to prevent unsuccessful attempts at universal design and unnecessary demolition or removal of important historical material. The responsible applicant is liable for distributing approved drawings and permits to all the players. At the same time, the responsible contractor is liable for giving notice of any deviations from approved solutions so that it can be considered whether or not an amendment to the application has to be submitted.



*Kjøpmannsgata 37, which is being converted from a warehouse to an office building. The building is on the jetty next to the River Nidelva in Trondheim.*

*Photo: Bergersen Arkitekter as*

## **Goal phase 4:**

- Carry out the measure in accordance with the permit which has been granted

Good advice:

- The offer/tender documents must be clear about cultural heritage preservation and universal design
- Details are to be approved by the cultural heritage authority
- Use craftsmen/contractors with a good basic knowledge and experience of similar projects
- Hold a start-up meeting with all the craftsmen and suppliers
- Regular follow-up of the planner/contractor
- Contact with users along the way
- Contact with cultural heritage expertise along the way

## **Relevant players:**

- The developer
- The designer/planner
- The contractor
- The municipal Council for Persons with Disabilities and organisations representing persons with disabilities
- An occupational therapist

The conditions on which the approval of the measure is based must be complied with. The municipality should inspect the work to ensure it has been carried out correctly before issuing a certificate of completion.

If the measure is not carried out according to plan, an order to redo the work may be issued. Changes to protected monuments and sites in excess of those which have been approved may have consequences. A breach of the Cultural Heritage Act is punishable as an environmental crime.

## **Legal factors**

It is important to use well prepared contracts/contractual documents for the work which is to be carried out. Because protected monuments and sites are especially vulnerable to damage, it is important to specify in a contract that which is to be protected from damage and how this is to be done. The contract should also stipulate the amount of compensation which is to be paid if damage does arise.

# Phase 5 – Evaluation

**The evaluation of the result is important experience for later projects. The evaluation results should be in writing and systemised. They should be used actively by the building authorities, protection authorities and user organisations that are often involved in this type of measure.**

Projects of this kind should be evaluated. This is important for being able to assess whether or not the measure has been successful and for being able to utilise the experience in later projects. The learning value of this to the various participants will lead to better, more efficient processes and solutions. User groups, bodies interested in protection, the manager/owner and municipality should all take part in an evaluation. The evaluation should be conducted at a time when there is some experience of using the monument or site, but not too long after the measure has been implemented. A survey should be conducted before the evaluation. In building cases, for example, this may be linked to the one-year guarantee survey, when several players nonetheless meet and inspect the measure. The evaluation results should be gathered in a written document.



*Hotel Gildevangen in Trondheim was given a new step-free entrance when an annex was built and renovation work was carried out. The new entrance is located in the alley between the existing and new buildings. The entrance is on the left, under the footbridge. The original entrance facing the street, in the picture on the right, is no longer in use.*

*Madsø Sveen Arkitekter as 2009. Photo: Trondheim municipality*

### **Goal phase 5:**

Evaluate the measures carried out in relation to universal design and the preservation of cultural heritage in order to benefit from these in later projects.

Several factors should be evaluated:

Process

- Has the process been good?
- Have all the interested parties' views been heard?
- Has the process been efficient?

Result

- Is the finished result the same as that outlined in the plans?
- Does it function as intended?
- Have cultural heritage values been safeguarded?

### **Relevant players:**

- Building authorities
- Cultural heritage experts
- User expertise
- The municipal or county Council for Persons with Disabilities and organisations representing the interests of persons with disabilities
- Owners/developers
- Planners and contractors

The building authorities are advised to be responsible for the evaluation.



*A new ramp leading to the Sundt Building at Torvallmenningen Square in Bergen. The building is protected. Photo: Trondheim municipality*

# 6 Examples

It is often impossible to achieve universal design in all areas. When changes are to be made to existing protected monuments and sites/environments, the goal must be to find a balance between universal design and protection. This chapter contains examples of protected monuments/sites and environments where measures have been implemented. These measures do not incorporate full universal design but they show the issues that had to be considered and the measures that were implemented. The name of the party presenting and evaluating the example will be stated for each example. The presentations contain subjective opinions.

The examples include a brief statement of the needs, process and finished result. The examples are intended for use as inspiration, not as a solution, since each architectural monument and site/environment is unique. The examples do not necessarily show ideal solutions, but they may be used as the basis for discussions. Other examples are also referred to in the overview above links.

- 6.1. Eidsvoll Manor
- 6.2. Nordnes school, Bergen
- 6.3. The West Norway Museum of Decorative Art, Bergen
- 6.4. Valkendorf gate (street), Bergen
- 6.5. Borgund Stave Church
- 6.6. Risør pharmacy
- 6.7. Risør tourist office
- 6.8. Risør Trekta
- 6.9. Risør Strandgaten/inner harbour
- 6.10. Borgarsyssel Museum
- 6.11. Time Church
- 6.12. Nidaros Cathedral, Trondheim
- 6.13. Vår Frue Church, Trondheim
- 6.14. Ilen Church, Trondheim
- 6.15. The Falstad Centre, Levanger
- 6.16. The Norwegian Crown Regalia Exhibition, Trondheim



## 6.1. Eidsvoll Manor

The presentation and evaluation are by the Delta Centre.  
Photo: The Delta Centre



*The main entrance to Eidsvoll Manor. Due to differences in height and the symmetric architecture, it is difficult to achieve a step-free access that safeguards the cultural heritage value.*

### **THE CULTURAL HERITAGE VALUE:**

This building is not protected but it is considered to be very worthy of preservation. Eidsvoll Manor was originally the home of a factory owner and was built in 1770. Carsten Anker converted into a detached house in around 1800. Its external and internal layout has been well preserved, but most of the original interior is gone. The house was placed at the disposal of the *Rikssamlingen* (National Assembly) in 1814, and the Norwegian constitution was signed in the assembly room on the first floor.

Eidsvoll Manor and its two pavilions and garden are to be restored for the 200th anniversary in 2014.

### **CURRENT USAGE AND THE REASON FOR THE DESIRE FOR CHANGE:**

In connection with the 200<sup>th</sup> anniversary of the Norwegian Constitution in 2014, the Ministry of Culture wishes to return the main building to the way it may have looked in 1814. In addition, the pavilions are to be restored and the park is to be upgraded.

The letter granting the assignment to the Directorate of Public Construction and Property (Statsbygg) states that the main building and pavilions are to be preserved and restored. The restoration work is to be carried out in accordance with cultural heritage principles. The public access to the main building is to be improved and the public areas in the main building are to be universally designed in so far as possible.



*The original exit to the garden on the building's south side is used as an entrance for wheelchair users and by many other visitors. Wheelchair users must have a companion with them.*

The guidelines for the measure state that a lift to the first floor is to be considered in order to allow as many people as possible a chance to experience the most important rooms as they were in 1814. The installation of an audio induction loop is also to be considered.

The Wergeland Building, a visitors' centre just north of Eidsvoll Manor, was erected in 2005. It contains a café, information and ticket desk, toilets and a permanent exhibition. The building is easily accessible by persons with impaired mobility and the exhibition can be made available to persons with impaired vision. No audio induction loop has been installed.

The idea of building a visitors' centre is a good one and provides an opportunity to make some of the history-telling even more accessible in a way that does not harm the facility. The main attraction here will always be Eidsvoll Manor and the *Rikssalen* on the first floor where the constitution was signed, so a visitors' centre does not solve the problem of access to the *Rikssalen*.

By having guided tours through Eidsvoll Manor for all visitors, Eidsvoll 1814 manages to cope well with a lot of the challenges relating to persons with impaired vision and cognitive abilities.



*The ticket office and souvenir shop are located in one of the pavilions. Due to the symmetrical architecture, it is not desirable to implement accommodation measures in only one of the pavilions. The pavilion's interior, with its high thresholds, low ceilings and narrow doors, makes universal design very difficult. Tickets may also be bought in the Wergeland Building.*



*The Wergeland Building, a visitors' centre, is located next to Eidsvoll Manor. It is easily accessible by everyone. Unfortunately, there is a great difference in height between the buildings. Attempts have been made to resolve this by having a winding pathway in the grounds.*

## **PROCESS:**

The results of a pre-project carried out by the Directorate of Public Construction and Property (Statsbygg) have been sent to the Ministry of Culture and Statsbygg is waiting for a letter stipulating the assignment in the next phase.

In the pre-project, the Directorate of Public Construction and Property (Statsbygg) and the Directorate for Cultural Heritage state they are in favour of having a lift in the main building so that as many people as possible may access the first floor. Cultural heritage experts have not agreed to make the pavilion accessible to wheelchair users. Electric lights will not be installed in the main building, but a mobile sound system will make conditions better for persons with impaired hearing.

Meetings and on-site surveys have been held with representatives of the Norwegian Federation of Organisations of Disabled People (FFO) and the Norwegian Association of Disabled.

The further process involving detailed drawings and a final decision on the measures to be carried out has not started.

## 6.2. Nordnes school in Bergen

The presentation and evaluation are by: Arve J Nilsen, Bergen municipality

### **CULTURAL HERITAGE VALUE:**

- Built in 1903 in a historical (neo-empire and neo-renaissance) style. The architect was Th. Bjørnstad.
- This is a stucco building with bricks framing the decorative elements.
- The school is a visible, magnificent and beautiful building located beside Frederiksberg fortress (1666/67) at the entrance to Nordnes Park (1888/98). It is thus an important part of Nordnes's historical, experience-related and visual profile.
- It is today a primary school (220 pupils in the 1st to 7th grades) and has around 25 pupils with disabilities, divided into groups.
- The building still has its original qualities (style, colour and use of materials), but with aesthetic and functional additions to its exterior and in the schoolyard that reinforces the building's integrated expression. It is a representative and typical expression of the use of classical, dignified and "refined" styles in schools and education institutions built at that time.



*The original door was three steps above ground level and led into a hallway with more steps up to the first floor that was used. By raising the door (and making the window above it smaller), a main entrance that led directly into the area that could be used was obtained.*

*The facade became slightly less dignified but the new ramp compensated for this.*

*Photo: Bergen municipality*



*The main entrance with a beautiful and enriching ramp (Svein Rønning and Bergen municipality 1994/95). The area in front has been made accessible in line with the space's opportunities. The main door is visible and inviting and has been raised around 60cm up from the schoolyard, allowing direct access to the ground floor.*

*Photo: Bergen municipality*



*The ramp is a playful and non-discriminatory (although a bit narrow in the bends) entrance and is also a good place for play. The railings would be more user-friendly if they had a bar to hold onto. The floor mosaic, with its organic pictures, changes colour and brilliance in different lights and weathers. The steps are not marked.*

*Photo: Svein Rønning*

### **THE CURRENT USE AND REASON FOR THE DESIRE FOR CHANGE:**

The main entrance, with its typical monumental stairs, excluded many people. Especially pupils at the special school had to use a secondary entrance. There was a great need for change. A ramp was built - drawn and designed by Bergen municipality's architect office and the artist Svein Rønning in 1994/95. It swings around on both sides of the stairs. The floor of the ramp is a beautiful mosaic and the side walls and handrails are specially designed. The brick of the side walls matches the facade's brick elements. The access to the ramp is made clear by the use of different stone in the ground. The gradient is adapted to the width of the schoolyard and is reasonably gentle.

The measure was intended to have a "play apparatus function" for everyone in the schoolyard as well as creating a non-discriminating main entrance.

### **PROCESS:**

Bergen municipality (owner) and the school (management and users) took the initiative and participated in the process together with the mason and artist right up to the finished result. The artist, Svein Rønning, had the main responsibility for the ramp's design and aesthetic qualities.

The local residents' association and the "Healthier City" project submitted their ideas. The cultural heritage authority and others approved the proposal.

### **THE PROCESSING OF THE APPLICATION:**

The municipality governed the project and arranged for the necessary permit for the measure.

**THE APPLICATION AND IMPLEMENTATION DATES:**

The work was carried out relatively quickly.

**THE IMPLEMENTATION OF THE MEASURE:**

The intention was for the school's pupils to be involved in the work with the artist. The requirements and standards for such measures were not formulated clearly enough so that (in this case) the beautiful railings were designed in a way that was nice but not entirely functional.

The project was carried out using KAJA funds.

The mason and KAJA employees did the work in cooperation with the artist and owner.

**EVALUATION OF THE IMPLEMENTED MEASURE:**

The measure functions as a beautiful and enriching addition to the valuable and well preserved main facade.

The door was raised around 60cm in order to "remove" the interior staircase and thus created direct access to the ground floor.

The cultural heritage authorities, user organisations and developer/municipality think the result is good.

From a functional perspective, current standards are stricter than those which applied in 1994/95, and the result could today have been a bit better with regard to the width of the bends and the railing's handrails.

## 6.3. Permanenten - The West Norway Museum of Decorative Art, Bergen

The presentation and evaluation are by: Arve J. Nilsen, Bergen Municipality



*Part of the original main facade. The original entrance with stairs leading up from each side and three monumental doors.*



*Part of the main facade after the main entrance was changed to ground level (1990). The landing has been maintained and the stairway has been changed. The ground level is slightly lower.*

### **CULTURAL HERITAGE VALUE:**

The "Permanenten" building is Bergen's former cultural palace. "The Permanent Exhibition Building" was completed in 1896 and used by the Fisheries Museum, the Trade and Industry Association, the Art Industry Museum, Bergen Art Association and Bergen Picture Gallery.

The architect, Henry Bucher, who won an architecture competition for this (1891), gave the building a dignified, magnificent facade in accordance with the era's use of classical, in this case renaissance and baroque, style and form. The facade is made of natural stone and brick.

Two large granite stairs led up to a solid landing made of natural stone in front of three huge entrance doors, and underlined the architect's intention of creating a dignified and monumental entrance and facade.

In modification work in around 1990, the main entrance was moved down to ground level; the new main door was moved to under the landing and given a discrete and "adapted" expression. The stairways were changed without the facade's monumental character being reduced. The building is protected pursuant to section 25.6 of the Planning and Building Act.

## **THE CURRENT USE AND REASON FOR THE DESIRE FOR CHANGE:**

The measure (1990) led to easier access. Access is now straight into an open reception area where there is a lift up to the exhibition premises and offices. However, the new entrance is also perceived to be obscure and anonymous. The new main door is difficult to open for visitors with reduced strength or impaired mobility.

In the museum area and exhibitions, work has been carried out to improve the opportunities and accessibility for people with disabilities; an audio induction loop, steps have been marked, information is written in large, visible letters, and there is a "brochure" of the layout in a raised format.

New design of the entrance:

With the new entrance, the museum wants to further improve accessibility and safety and make this part of the facade lighter and more attractive to both the museum's visitors and passers-by.

The museum wanted to maintain the facade's monumental and historical expression.

## **PROCESS**

The museum has had plans for this measure on its agenda for a long time. The management of the museum, the universal design coordinator and the information department took the initiative to carry out this upgrade in cooperation with the building's owner, Bergen municipality. The Link Signature firm of architects was responsible for the project.

The universal design coordinator attended project meetings and contributed ideas during the planning process. The work was completed in the spring of 2010.



*The main facade after the latest change of the main entrance.  
Photo: Bergen municipality*



*Part of the main facade with changes made to the main entrance – better lighting, glass doors with a photo-cell mechanism and information boards adapted to suit those who are vision impaired.  
Photo: Bergen municipality*

### **THE PROCESSING OF THE APPLICATION:**

The building owner, represented by the architect, submitted the project outline to the cultural heritage authorities. An application was submitted to the Building Application Department, which passed it to Bergen's Cultural Heritage Department, the Cultural Heritage Management Office, for its advice and a statement.

The Cultural Heritage Management Office recommended the measure. The measure was approved by the Building Application Department.

### **THE IMPLEMENTATION OF THE MEASURE:**

The measure was carried out with the participation of the museum's universal design coordinator. She maintained close contact with the municipality's Council for Persons with Disabilities.

The use of glass (strengthened 45mm) and a lit information board behind this will make it difficult for those with impaired vision to read, and attempts were made to resolve this in a good way.

### **EVALUATION OF THE MEASURE:**

Users with various disabilities are already pleased with the planned changes. The glass area could have been marked more clearly. The Cultural Heritage Management Office, which recommended the measure, sees that the actual changes do not destroy the cultural heritage value of the building's facade.

User organisations/the municipal Council for Persons with Disabilities were contacted as advisors to the universal design coordinator during the process.

The developer considers the measure to be very important to the museum's intention to be inviting.

The municipality, which owns the building, considers the measure to be very positive.



*The ramp being built. Photo: Bergen municipality*

## 6.4. Valkendorf gate (street), Bergen

The presentation and evaluation are by: Arve J. Nilsen, Bergen municipality.



*The main facade facing Valkendorf gate (street) with the main entrance on the corner. Photo: CUBUS*



*The same facade with the proposed ramp photo-shopped in. Photo: CUBUS*

### **CULTURAL HERITAGE VALUE:**

Valkendorfgate 6 is a building which is very valuable from a cultural-history viewpoint. It is covered by the zoning plan for the Brannstrøket area 1916 as well as the municipality sub-plan for the city centre, and is located in an area with buildings and structures of high cultural heritage value. The building has a high architectural value and a high cultural heritage and environmental value.

Valkendorfgate 6 was designed in 1930 by the architects Fredrik Arnesen and Arthur Darre Kaarbø and completed in 1934. The building is designed in a strict, neo-classical form and most of it is based on geometric shapes.

The facade has a marked horizontal expression. This architectural style is linked to the contemporary Nordic architecture at the end of the 1920s. It is a transitional style between the pure neo-classicism and the functionalism that was already established as a style in Europe at that time, and which became the main style here in the 1930s. It is part of the Courthouse block and is a very important, significant corner building at the end of this block.

The facade with its windows and main entrances has maintained its original dignified and grand character. The monumental and (at that time) typical steps at the entrance make it difficult/impossible for people with impaired mobility to enter. Visitors could ring the bell on the wall and could then be helped into the building (see the picture on the previous page).



*The entrance with the proposed ramp photo-shopped in. The Norwegian Association of the Blind and Partially Sighted (NABP) has provided valuable ideas for further improvements.  
Photo: CUBUS*



*The ramp is finished. Note the tactile surface under the ramp (idea provided by the NABP).  
Photo: Bergen municipality*

## **THE CURRENT USE AND REASON FOR THE DESIRE FOR CHANGE:**

The premises at the top of the steps contain the state wine and liquor monopoly's shop in Bergen (Vinmonopolet). If they cannot get up the steps, people with impaired mobility must ring a market bell to summon employees who can serve the customer outside. Customers and employees have wanted a more non-discriminatory solution for a long time.

## **PROCESS:**

Following questions received from users, the building owner and company contacted the CUBUS firm of architects, which prepared a first draft. The Cultural Heritage Management Office and a representative of the Norwegian Association of the Blind and Partially Sighted (NABP) proposed improvements to this. These proposals were incorporated into a revised draft (see the photo-shopped image). The Building Applications and Private Plans Department approved the application for a framework permit after obtaining the views of the Cultural Heritage Management Office and the municipal Council for Persons with Disabilities. Their feedback was positive.

The department granted the application but stipulated as a condition that the views of the Norwegian Association of the Blind and Partially Sighted (NABP) regarding a textured surface on the ground under the ramp, contrast-coloured side walls, marked steps on the stairs and the marking of the opening between the stair railings and the side wall had to be taken into account.

The Cultural Heritage Management Office stated that "The ramp's design is discreet and follows the facade's horizontality, which is positive. Provided the materials and details are of high quality, the Cultural Heritage Management Office has no comments to make to the measure that has been applied for".

## **THE PROCESSING OF THE APPLICATION:**

During the process, the measure was discussed on-site with the user, the Building Applications Department and the Cultural Heritage Management Office.

## **THE APPLICATION AND IMPLEMENTATION DATES:**

The measure was completed in 2010.

## 6.5. Borgund Stave Church, Lærdal

The presentation and evaluation are by: Karen Kjeldsberg Pihl Gunleiksrud, the Delta Centre.

### **CULTURAL HERITAGE VALUE:**

Borgund Stave Church is located in Lærdal in Sogn county. The church was built around 1180. Borgund Stave Church is an automatically protected medieval church and is very well preserved. It is the stave church in Norway that has the most original exterior. Its construction is based on the use of load-bearing staves and columns. Not one metal bolt or nail has been used throughout the building. Most of the interior has also been preserved.



*Borgund Stave Church. Photo: The Society for the Preservation of Norwegian Ancient Monuments*



*Visitors' centre. Photo Jiri Havran*

### **THE CURRENT USE AND REASON FOR THE DESIRE FOR CHANGE:**

The desire to build a visitors' centre was in order to reduce the wear and tear on the stave church and medieval churchyard, to be able to better tell the Norwegian stave church history and to improve accessibility for persons with impaired mobility. In addition, a visitors' centre would be able to improve the service functions for everyone and reduce the annoyance caused to neighbours due to parking and flows of tourists.

During the development phase, there was a good dialogue with the interior architect/furniture designer but no practical solutions were found to the issue of accessibility to the church itself.

The visitors' centre is on one floor and is easily accessible for persons with impaired mobility. Temporary solutions are used as required for visits to the church itself. For people with impaired vision, the information imparted in the visitors' centre is not good enough. There are some carved dragon heads that can be touched, and otherwise the information is imparted via text, pictures and films. In the stave church, people can touch everything and experience the history through smell and atmosphere. The lighting inside the church is not satisfactory for persons with impaired vision. There is no audio induction loop linked to the system.

Guides are available both in the church and at the visitors' centre.



*The view of the stave church from the visitors' centre.  
Photo Jiri Havran*

### **PROCESS:**

The Norwegian Stave Church Museum was established by the the Society for the Preservation of Norwegian Ancient Monuments, Lærdal municipality and Bjørgvin diocese, represented by the church in Lærdal. They prepared a needs analysis and announced an architecture competition for the building. The process particularly focused on possible solutions that would allow access to the stave church for persons with impaired mobility. Due to two thresholds, a too narrow door and an outdoor slope leading up to the building itself, no solution was found that was either functional or would protect the cultural heritage. The Directorate for Cultural Heritage stated that no exemption would be granted for that type of measure in stave churches. For that reason, only the work on the visitors' centre was included in the further process. In relation to the development of the actual exhibition in the visitors' centre, the Delta Centre attended a start-up meeting at which principles were discussed.

### **THE PROCESSING OF THE APPLICATION:**

There were no conflicts between the protection of cultural heritage and universal design in the processing of the application in that measures were only implemented in a new building.

### **THE IMPLEMENTATION OF THE MEASURE:**

The measures were expensive and were mainly financed by the Ministry of the Environment, represented by the Directorate for Cultural Heritage, the Ministry of Culture and Church Affairs, Sogn og Fjordane county council and Stiftelsen UNI – in addition to several municipalities, private companies and non-profit organisations.

### **EVALUATION AFTER BEING IN OPERATION FOR SEVERAL SEASONS:**

The lighting for reading text and in the walking areas of the exhibition part has had to be adjusted.

The exhibition text in the glass cases was too small and there are plans to change this. The acoustics may make it difficult for people with impaired hearing to obtain a good sound picture in the cafeteria area. Measures are being considered.

The further development of information and educational services will be a continuous process.

The visitors' centre reduces the use of the church in that most time is spent in the visitors' centre, but everyone also visits the stave church itself.

## 6.6. Risør pharmacy

The presentation and evaluation are by Risør municipality's Building Applications' Unit  
Photo: Risør municipality

### **CULTURAL HERITAGE VALUE:**

The property is located in a conservation area. The building was erected just after the town fire in 1861 and is built in the empire style. It has a very exposed location in Risør Town Square, facing the inner harbour. The building is typical of its era and very well preserved. The main facade has a monumental design so that new elements will greatly disturb the building's overall expression.

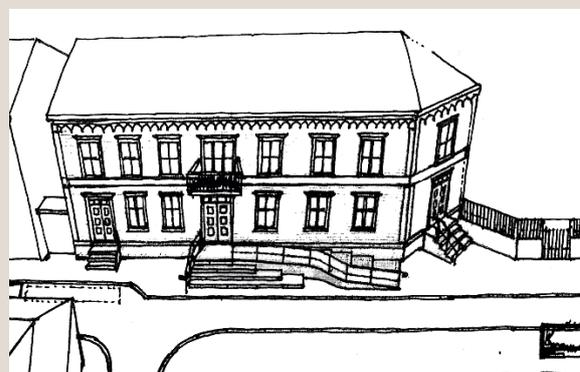
The original entrance is in the middle of the building's long facade.

### **THE CURRENT USE AND REASON FOR THE DESIRE FOR CHANGE:**

The ground floor was previously used as a café but, when this was closed down, an application was submitted to change the usage to that of a pharmacy. This application was submitted in 2005. The pharmacy stipulated as a requirement that there was to be a universally designed access in the middle of the building's main facade. This meant that a ramp had to be established due to the difference in height.



*Location in Risør  
(Indre havn = Inner harbour)*



*Drawing of a ramp*

**PROCESS:**

The proposal regarding a universally designed access was prepared by an architect and approval was sought. The cultural heritage authority was very negative to the solution and did not recommend granting an exemption from the protection plan.

**THE PROCESSING OF THE APPLICATION:**

The administration considered that the solution was clearly in contravention of the zoning plan and recommended not granting an exemption. However, the municipality did grant an exemption. The county council appealed against this decision and the county governor allowed the appeal.

**THE IMPLEMENTATION OF THE MEASURE:**

The pharmacy found other premises whose accessibility was satisfactory.

**EVALUATION OF THE IMPLEMENTED MEASURE:**

The example shows that sometimes the zoning plan and protection of the building are the factors which govern the outcome.



*Main facade of Torvet 1*



*New entrance to the tourist office*

## 6.7. Risør Tourist Office

The presentation and evaluation are by Risør municipality

Photo: Risør municipality



*New ramp and entrance*

### **CULTURAL HERITAGE VALUE:**

The property is located in a conservation area. The building was erected just after the town fire in 1861 and is built in the empire style. It has a very exposed location in Risør Town Square, facing the inner harbour. The building is typical of its era and very well preserved. The main facade has a monumental design so that new elements will greatly disturb the building's overall expression. The original entrance is in the middle of the building's long facade.

**THE CURRENT USE AND REASON FOR THE DESIRE FOR CHANGE:**

The ground floor was previously used as a café, and an application was submitted to change the usage to that of a pharmacy in 2005. Since the pharmacy's requirement of universally designed access could not be met, an application was submitted to turn some of the floor into a tourist office in 2008. The access was to be in the building's eastern corner. A universally designed access was to be established.

**PROCESS:**

This meant that a ramp had to be established due to the difference in height. Several alternative solutions were considered, such as a lifting platform and a ramp.

It proved to be very difficult to establish a universally designed solution. For that reason, a proposal regarding alternative access for persons with impaired mobility was prepared. This proposal was based on the window to the right of the entrance being replaced by a door and the ramp being integrated and adapted to the existing garden.

The cultural heritage authority recommended this solution.

**THE PROCESSING OF THE APPLICATION:**

The administration considered the proposed solution to be a good alternative to a solution that was fully in accordance with the regulations. The municipality granted the necessary exemption and approved the solution.

**THE IMPLEMENTATION OF THE MEASURE:**

The work was carried out well and the solution was successfully integrated into the area's garden.

**EVALUATION OF THE IMPLEMENTED MEASURE:**

The ramp's bend is too sharp. This leads to some difficulties – but it works. The ramp should be slightly wider. The granite stone has been laid at an angle and not horizontally. This gives a rather unfortunate visual impression.

On the whole, this is a good example of a positive solution.

## 6.8. Risør Trekta

The presentation and evaluation are by: Risør municipality

Photo: Risør municipality and the Delta Centre



*A very narrow street environment with characteristic houses in Risør town centre. The entrance with the blue door was formerly the only access to the treatment and exercise centre.*



*Trekta's street environment, with a view of Risør harbour.*

### **CULTURAL HERITAGE VALUE:**

The building is located in a narrow street environment in Risør town centre which is regulated as a "Special Area – protected". The oldest part of the building, with steps, was built between 1862 and 1872. The side building, which has a ramp, was built in 1947. The oldest part was originally a furniture factory/workshop.

The buildings are part of a valuable and richly varied cultural environment.

The buildings contain a physical therapy institute used by persons with disabilities. The access to it was unsatisfactory.

The buildings represent two eras, and the new ramp has been added to the building built in 1947, where the difference in height is also least. In this case, the facade's expression allowed a change to be made. The oldest part represents a typical building of its era and in Risør, with high steps leading up to the ground floor. The door opens inwards and this has been retained in the new solution.

### **THE CURRENT USE AND REASON FOR THE DESIRE FOR CHANGE:**

The building is used by Risør Fysikalske as a gym and physiotherapy centre. The local chapter of the Norwegian Association of Disabled has put great pressure on the enterprise, via both the media and the municipality, in order to obtain better access. The enterprise receives municipal funding and therefore has a special responsibility.



*The previous solution for a shop in the annex built in 1947.*

*The finished ramp with heating cables. The new door opens inwards and allows wheelchairs to turn. There is a door opener to the right of the door. The landing by the door allows space to stand on level ground when pressing the door opener. The treatment services and exercise room have partly been moved down to the ground floor.*

In order to enter using a wheelchair/walker, people previously had to have help. The exercise room was on the first floor. There were two levels on the ground floor. The entrances have good contrast, with strong colours on the doors, and the main steps have iron railings. There is no information outside the building apart from a sign above the main entrance.

### **PROCESS:**

An application was submitted for an outdoor ramp with a gradient of 1:14 and an indoor ramp with a gradient of 1:12 for the building built in 1947. Door openers are located at a good distance from the door. There are handrails at two heights and heating cables have been laid in the ramp. The door opens inwards and allows a large landing for entering the building.

The application has been discussed with the Council for Persons with Disabilities, who have contributed useful ideas. The application has not been sent to the county council for its views.

### **THE PROCESSING OF THE APPLICATION:**

No advance meeting has been held, but the owner has conducted a survey together with the Technical Operations Unit to examine the width of the road in the narrow street environment.



*Advertisement in Aust-Agder Blad (a newspaper) showing the results of this good process, in which the craftsmen have contributed their expertise.*

An exemption from the conservation plan for Risør town centre was granted. The application was dealt with pursuant to delegated authority and the decision was not appealed against. The application was dealt with in 2009 and the measure was built that same year.

### **THE IMPLEMENTATION OF THE MEASURE:**

The work has not led to special problems. The decision was detailed concerning design. This was followed up carefully. The municipality is not aware of how much it cost. The craftsmen were very knowledgeable about the use of materials and design, and there was no need to further improve their expertise.

### **EVALUATION OF THE IMPLEMENTED MEASURE:**

The building has been preserved well in that the entrance door opens inwards and has a relatively similar design to that of the former door. The ramp is not too dominating compared to the building's facade and is built of traditional materials such as natural stone and wrought-iron railings. Slate has been used, but it has a rough surface. The measure is an adaptation to the environment.

The ramp functions well for users with a wheelchair/walker and for those who are blind or have impaired vision, and the owner has received a local Accessibility Prize for 2009 for the measure.



## 6.9. Risør Strandgaten street/inner harbour

The presentation and evaluation are by: Risør municipality

Photo: Risør municipality



*Lead lines, concrete slabs and a new bus shelter. The outside of the bus shelter is decorated with a graphic presentation of ivy-leaved toadflax. The roof represents a hull. The height of the kerbstones is adapted to low-threshold buses. The square is on the right of the bus shelter.*



*Benches, lighting and lead lines in Strandgata street. (Photo: Vestre*

### **CULTURAL HERITAGE VALUE:**

Risør town centre has been regulated as a "Special Area – protected". This protection also includes the street environments, steps, jetties and suchlike.

The square and streets along the harbour were traditionally covered in gravel/sand but have recently been covered with asphalt and cement stones. The design in the past was simple and the square was open, with a lot of trading activity. The town originated in the sailing ship era and became a town in 1723. The inner harbour still has a high functional and utility value and is a very important part of Risør's identity. Boating, trading and "hanging around the pier" comprise a lot of the activity in the area.

It has been important to keep the area simple and with a pure style, as regards both the use of materials and colours, and to allow the buildings around the harbour to continue to play the major role. The changes have only removed the asphalt and cement stones. The front of the pier is now made of granite instead of wood, in line with the older stones that were laid a bit further in and have also been used in the rest of the harbour.

## THE CURRENT USE AND REASON FOR THE DESIRE FOR CHANGE:

Risør town council has decided to upgrade the square (Torvet) and the Kragsgata/Strandgata streets. The driving force behind this work is a work group consisting of the municipality's planning, building application, operations and culture departments, the county council's culture department and Østengen & Bergo AS, a firm of landscape architects that have prepared the plans. Some of the work has been carried out, while the rest will be carried out soon.

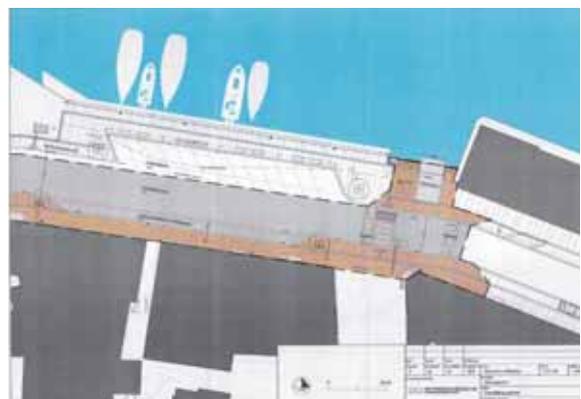
Lead lines have been created in light granite with sinusoids. Attention is drawn to areas made of light granite at all crossings and at the bus shelter. Kerbstones in light granite are used as a natural lead line. The new bus shelter is universally designed and is a reversible and visible measure. The bus shelter is made of Plexiglas with a flower picture on the outside to prevent collisions. New benches have been placed along the Strandgata street. New lime trees have been planted. All crossroads have been raised, pedestrian crossings are at a ninety degree to the edge and there is a 2cm edge so that it can be felt.

## PROCESS:

Many years elapsed between the town council decision and the development. Surveys of other towns were conducted and drawings and solutions were discussed with some groups of the Council for Persons with Disabilities. The choice of materials and solutions, especially regarding lead lines and crossing solutions, was demanding. The narrow street environment and the fact that the road has been a state highway (now a county highway) with requirements as to width and lighting made the work more complicated. The Norwegian Public Roads Administration and bus companies were involved in the process.



*Strandgata street and the inner harbour. Separate zones for cars, pedestrians and moorings.*



*Fig. 2: Plan for the second part of Strandgata street, up to where the ferry stops. The northern part facing the sea is now finished.*



*So far, there is not a lead line right into the bus shelter. The slabs to the left of the lead line are the old concrete stones that cover the entire square.*



*Details of the lead line in light granite with the concrete slabs beside them. The contrast could be slightly better.*

#### **THE PROCESSING OF THE APPLICATION:**

The application was dealt with in 2008/09 on the basis of delegated authority. The change has not led to any need for exemption from the zoning plan. The decision has not been appealed against.

#### **THE IMPLEMENTATION OF THE MEASURE:**

The contractors have had to be followed up to ensure good work.

The measure is expensive but it is important to have high quality materials for such major, permanent changes.

#### **EVALUATION OF THE IMPLEMENTED MEASURE:**

The changes have enriched the inner harbour and its surrounding buildings. The materials and colours chosen are simple and allow the historic buildings to play the main role. The county council's cultural heritage section is pleased with the changes, as are the municipality and users. The consultation process along the way has been good.

The area is used a lot by the town's citizens and tourists. A wider pavement along the Strandgata street has led to greater activity. The lead lines function well.



*The original access with very uneven ground.*

## 6.10. Borgarsyssel Museum, Sarpsborg

The presentation and evaluation are by Karen Kjeldsberg Pihl Gunleiksrud, the Delta Centre  
Overview photo: Rolf Phillips, Kynningsrud Kran AS, Halden  
Other photos: Mona Beate Buckholm, the Østfold Museum Foundation – Borgarsyssel Museum



*All the paths were made of large, uneven stone slabs.*



*Overview of the ruins of St. Nikolas Church*

### **CULTURAL HERITAGE VALUE:**

The ruins of St. Nikolas Church are an automatically protected medieval cultural heritage site. The ruins lie in Sarpsborg, a town that was founded by St. Olav, and is one of few ruins left in the area. They are also one of the largest medieval church ruins we have left.

### **THE CURRENT USE AND REASON FOR THE DESIRE FOR CHANGE:**

In 2006, the Directorate for Cultural Heritage started a 10-year ruins conservation project: The Protection of Medieval Ruins.

The Directorate for Cultural Heritage took the initiative to have a proposal prepared regarding how to make the ruins accessible for everyone, and it hired an Italian architect.

In 2009, Borgarsyssel Museum was awarded funds to carry out accommodation measures so that the St. Nikolas church ruins would be accessible to as many people as possible.

The measures which have been implemented are the building of a path around the entire park and into the church which can be used by wheelchair users. The facility has on the whole been opened up so that it is easier to find one's way. Work is being carried out to design new information signs according to an Østfold county council template. An animation film showing the area's history will be shown on the internet.

There is also a desire to have a bronze model made showing what the ruins used to look like and what they look like today, and the opportunities for telling the ruins' history via mobile phone technology are being investigated.



*The path now has a firm gravel surface and clear edge separating it from the grass.*

A major project to build a visitors' centre is ongoing at the same time.

**PROCESS:**

The process of designing solutions has been very good and not entailed any major conflicts.

**THE PROCESSING OF THE APPLICATION:**

Due to the protected status, exemption was sought in accordance with the normal procedures.

**THE IMPLEMENTATION OF THE MEASURES:**

The implementation of the measures has gone according to plan and been closely followed up by the archaeologist linked to the museum.

The Directorate for Cultural Heritage has awarded Borgarsyssel Museum NOK 1.3 million for the project.

**EVALUATION OF THE IMPLEMENTED MEASURE:**

The facility opened in June 2010.



*New information signs. Photo: Mona Beate B. Vattekar, Østfold Museum Foundation.*

## 6.11. Time Church

The presentation and evaluation are by Time municipality together with the churchwarden. Photo: Time municipality



*The steps and ramp meet in front of the main door. Step-free access provides a main entrance for everyone.*



*Step-free, wide access to the pews.*

### **CULTURAL HERITAGE VALUE:**

Time Church is on the Directorate for Cultural Heritage's list of buildings that are worthy of protection but it is not protected. It is of great architectural value as a well preserved Lindstow church built in 1859.

The altarpiece, and especially the crucifix, is of national interest. It is a wonderful piece of craftsmanship. The crucifix was made in the 14<sup>th</sup>-15<sup>th</sup> century.

### **THE CURRENT USE AND REASON FOR THE DESIRE FOR CHANGE:**

This is a parish church which is used by its congregation all the time. At the same time, it is an important church for ceremonies, with 80-90 funerals, 40-50 weddings and many christenings each year.

The church employees experienced a lot of undignified situations. For example, funerals in which wheelchair users either had to sit right at the back or in the aisle and needed help to get into and out of the church. There was a wheelchair entrance through a side door, but this did not give wheelchair users access to the chancel, altar or baptismal font without special solutions.



*A ramp has been laid on the existing floor. There are signs for an audio induction loop.*



*The carpet in the chancel has been removed, resulting in a better indoor climate.*

The congregation wanted to do something about this in connection with the restoration of the church for its 150<sup>th</sup> anniversary. They also wanted to do something about the church's lighting and sound.

### **PROCESS:**

The congregation started the process by contacting the church consultant at the bishop's office in Rogaland. They were given funding for the planning work and hired the Link Signatur firm of architects in Sandnes to be responsible for planning. A local planning board governed the process.

Time municipality was at that time a pilot municipality for universal design and had a great focus on this issue, including articles in the local newspapers. The municipality's council for older citizens and citizens with disabilities was also consulted during the process.

The architect prepared an application that included photo documentation and was sent to the diocese office. The diocese office sent the application to the Directorate for Cultural Heritage for its views. The Directorate for Cultural Heritage basically believed that the changes might destroy the church's distinctive nature. At the same time, it was aware that new legislation was about to be approved by the Norwegian parliament. The new Anti-Discrimination and Accessibility Act entered into force on 1 January 2009.

The following solutions were outlined in the application:

- There was to be one main entrance to the church.
- Everyone was to have access to the chancel, altar and baptismal font.
- The lighting and sound systems were to be upgraded.
- Wheelchair users were to be able to sit in several places in the church.

### **THE PROCESSING OF THE APPLICATION:**

An application concerning changes to the entrance was sent to the municipality. The application to restore the church was approved by Stavanger's bishop based on a statement from the Directorate for Cultural Heritage.



*The lighting has been greatly improved. New lamps have been installed so that the number of lux has risen from 100 to around 250. A new loudspeaker system and new audio induction loop will be installed and will cover the entire church. The current audio induction loop only covers parts of the church.*

#### **THE APPLICATION AND IMPLEMENTATION DATES:**

The application was submitted to Stavanger's bishop on 22 October 2008 and the statement by the Directorate for Cultural Heritage was issued on 17 February 2009. Final approval was on 11 June 2009. The work started immediately afterwards and the church re-opened after the restoration work on Sunday, 1 November 2009.

#### **THE IMPLEMENTATION OF THE MEASURE:**

The municipality gave the congregation NOK 1 million to pay for the improvements. The Planning Board, which has been in charge of the building process, regards the following as being important for the success of the work:

- a clear order to the architect
- an architect who listened and managed to achieve a good dialogue in the process of finding good solutions
- skilled craftsmen who were involved in discussions and in finding good solutions

#### **EVALUATION OF THE IMPLEMENTED MEASURE:**

The church's distinctive character has been preserved while accessibility has improved for everyone.

An important part of the project was also to restore old copper lamps made in 1925, and this creates a better overall impression.

#### **For more information:**

Time Church Office, c/o the churchwarden. Tel: (+47) 51 77 03 77  
On the church wall. Time Church 1859 – 2009. ISBN 978-82-303-1400-5



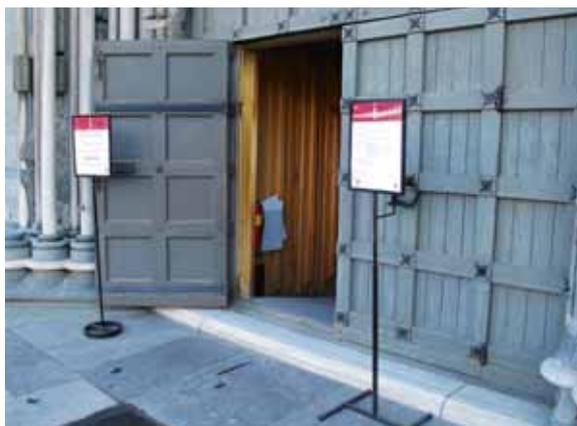
*Under: The Visitors' Centre at Nidaros Cathedral  
Photo: Eggen Arkitekter as*

## 6.12. Nidaros Cathedral

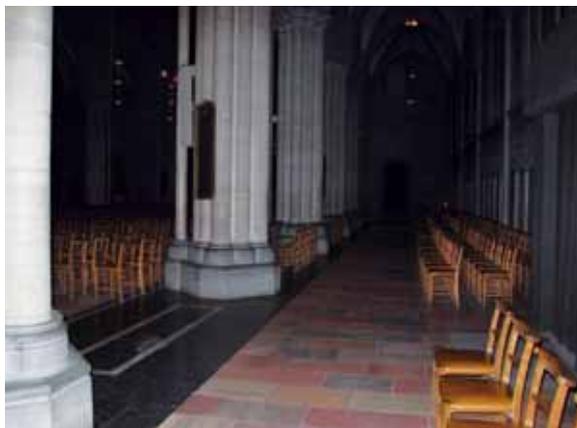
The presentation, photo and evaluation are by: Gunnar Houen of the Cultural Heritage Management Office in Trondheim and Solveig Dale, universal design advisor with Trondheim municipality.

### **CULTURAL HERITAGE VALUE:**

- Nidaros Cathedral has a special status which equals that of a protected building.
- Nidaros Cathedral's knowledge value (the history of the building, its craftsmanship and architecture) is huge in all respects.
- Nidaros Cathedral's experience value (its architecture, art/aesthetics and creation of an environment and identity) is also huge in all respects.
- Utility value; the cultural heritage site is very easy to use and functional; as a parish church, as a concert arena and as a place for important national events.
- Overarching value (genuineness/authenticity, scarceness/representativeness): Nidaros Cathedral is unique in all senses. The Cathedral is of great value as a medieval building and as a reconstructed medieval building.



*The main entrance on the western side. 10cm difference in level between the ground and church floor. Ramp just inside the door.*



*Floor tiles with a clear contrast in the walkway. The columns contrast with the background colour.*



*The entrance beside the main entrance on the western side is step-free. Non-skid coating on the inside ramp.*

### **THE CURRENT USE AND REASON FOR THE DESIRE FOR CHANGE:**

- The improvement in accessibility and help to find one's way around started a long time ago. This was due to the general needs of a church. There were some good solutions, probably without these being strived for on the basis of any deliberate acknowledgement of the need for universal design.
- The northern side aisle is equipped with ramp connections so that people can travel the entire length of the church without having to navigate any steps. The ramps are steep in parts but have non-skid coating in a contrasting colour.

The western entrance was made more accessible around 15 years ago when the ground outside was raised. Unfortunately, there is a 10cm step at the main entrance. The floor tiles inside the church are of different colours and laid such that it is easy to find one's way around and there are open walking zones. The columns that separate the central nave and side aisle provide a good light contrast to the background.



*Marked steps. A line of coloured material has been cut into the outer part of the step.*

### **PROCESS:**

- No particular applications are known of since the outdoor access level was adjusted in the 1990s.
- User participation (Council for Persons with Disabilities, conservation association, etc, and the church's governing bodies).
- Professional statements (state bodies and others): unknown
- Proposed solutions, weighing up of possible solutions, possible compromises, specifically with the church's governing bodies

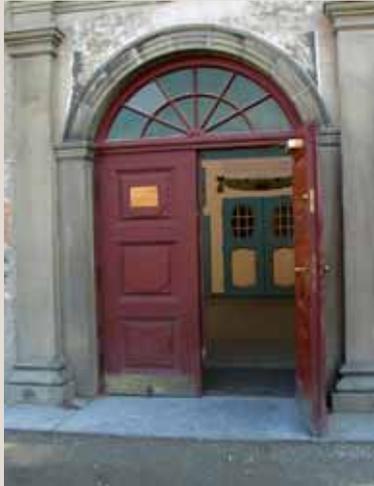
### **EVALUATION OF THE IMPLEMENTED MEASURES:**

The threshold at the main entrance in the west is too high, the indoor ramps are in part too steep, but this has been a compromise in order not to impede cross-movement. It is good that the ramps have non-skid coating.

The measures, which after all are relatively few, are assumed not to create many conflicts in relation to the cultural heritage authorities, and probably not in relation to the developer and municipality either.

## 6.13. Vår Frue Church, Trondheim

The presentation and evaluation are by: the Cultural Heritage Management Office, represented by Gunnar Houen, and Solveig Dale, universal design adviser with Trondheim municipality. Photo: Trondheim municipality



*Step-free access via the main entrance.*



*Step-free access further into the church using an indoor ramp.*



*The entrance seen from the inside looking out.*

### **CULTURAL HERITAGE VALUE:**

Vår Frue Church is a protected medieval church with a post-Reformation annex. As a whole, the church is of great architectural and cultural heritage value. Its fittings and some exterior details contain important artistic and craftsmanship qualities. The church is of great experience value in relation to its architectural, artistic/aesthetic, age-related and environmental- and identity-creating values.

Vår Frue Church is a very important element in the city – it creates identity in and for the city.

Its utility value is large with regard to suitability and functionality: Vår Frue Church is a city church that is open 24 hours a day, as well as being often used for concerts. Its use means that there must be particularly high standards of accessibility and universal design.

Overarching values (genuineness/authenticity, scarceness/representativeness): a well preserved 18<sup>th</sup> century interior with elements from the late 19<sup>th</sup> century. A rare altarpiece and distinctive tower. Very unusual and extremely valuable portal sculptures. One of the widest medieval naves in Norway.

### **THE CURRENT USE AND REASON FOR THE DESIRE FOR CHANGE:**

The process was started due to the general raising of universal design standards and tighter rules concerning the use of town churches that were open 24 hours a day. The church did not have a toilet for wheelchair users.



*The ground in front of the main entrance was raised. This now allows step-free access to the church.*



*There is a 10cm step up to the altar. A moveable ramp has been used since the area is also used for choir benches and orchestras. It would be a good idea to mark the difference in levels.*



*A toilet building located next to the southern wall, with a glass part where it is joined to the church wall.*



*Interior entrance to the toilet building.*

### **MEASURE:**

The ground outside has been raised so that there is step-free access to the church. An audio induction loop system has been installed in the church.

A handicap toilet has been established in a new annex to the foot of the tower and the ground outside the church has been raised to allow step-free access.

### **PROCESS:**

The process leading up to the application:  
General driving force work over a long period of time.

Once the Directorate for Cultural Heritage had agreed to the toilet building, the municipal authorities also gave the go-ahead.

The toilet building led to conflict.

The building authority did not accept the solution at first (believed there was a better alternative).

### **EVALUATION OF THE IMPLEMENTED MEASURE:**

The municipal cultural heritage bodies' evaluation is that, despite its simple design, the toilet building disfigures the church building in an unacceptable way. The step up to the altar should have been clearly marked.



*The interior with the lift to the left, under the gallery.  
Photo: Veslemøy Svendsen Vråskar 2005*

## 6.14. Ilen Church, Trondheim

The presentation and evaluation are by: Eggen Arkitekter AS

Photo: Eggen Arkitekter AS unless otherwise stated



### **CULTURAL HERITAGE VALUE:**

Ilen Church is located in Ila, west of Trondheim city centre, where the land between the River Nidelv and the Trondheim Fjord is at its narrowest. The neo-Gothic church was designed by the architect Eugene Sissenère. It is built of stone with a wooden roof, and was consecrated on 7 June 1889. Previously restored in 1932 and 1953.

### **THE CURRENT USE AND REASON FOR THE DESIRE FOR CHANGE:**

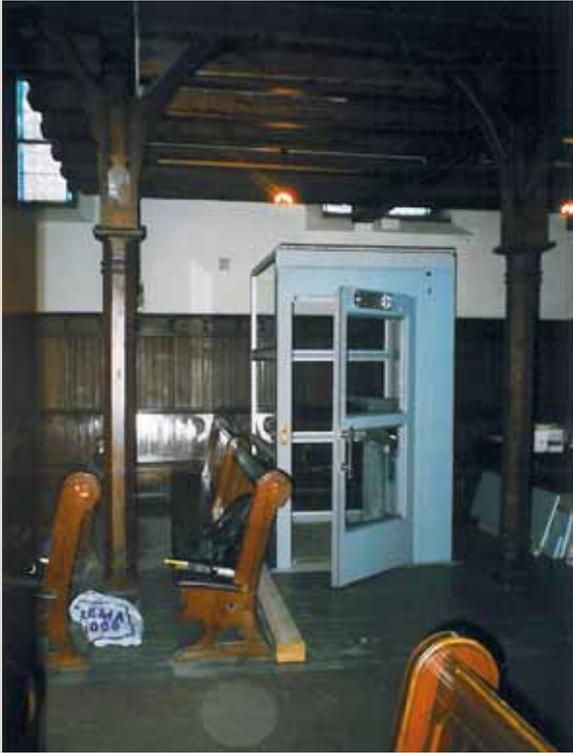
The starting point for the project was that, in 1996, the congregation of Ilen Church wanted to use the basement premises below the church for coffee meetings after church services, for teaching confirmation candidates and for social events linked to church ceremonies, as well as to establish toilets for the users. The challenge was to create a good access to the basement premises, which could only be reached from the outside. Eggen Arkitekter as in Trondheim was hired to plan the work.

### **PROCESS:**

The architect and churchwarden decided, together with the congregation, that the best access solution was to establish a new indoor lift and stairs to the basement. They did not want to create this link near to the sacristy, chancel or transept since this would disturb church services. The church vestibule had no access to the basement.

It was therefore proposed to create a new stairs and lift at the back of the church, under the gallery, on each side of the centre aisle, and to remove the back four rows of pews.

This solution was very suitable since the entrance to the church via the church vestibule was already step-free and had an outdoor ramp.



*The lift being built before being covered by wooden panelling (incorrect representation of the colour)*



*The lift is ready and matches the materials used for the interior.*

The cultural heritage authorities were contacted about this case in 1996. The Directorate for Cultural Heritage approved the proposed solution but believed that the lift and stairs should be located as close as possible to each corner. Following a careful assessment, however, the architect found that it was better to make the stairs and lift independent of the wall in order to keep the wall-panelled interior as intact as possible. The basement walls and their foundations also did not allow a corner solution.

The Cultural Heritage Management Office approved the architect's proposal regarding a free-standing location.

Both the Directorate for Cultural Heritage and the Cultural Heritage Management Office approved the solutions in principle provided the new solutions included elements of the wooden-interior details in the church.

Design – materials:

The stairs leading down to the basement have bench-height railings that are close to each other and are made of wood like that used in the church interior.

The biggest challenge was to match the lift and lift house to the interior. The architect therefore chose to use an electrical wheelchair lift, of the type AccessAHP300, which did not require a space above it, and then to cover the lift house (made of glass/steel) with wood panelling/glass on all sides. All the wood was surface treated with stain/varnish to match the old church interior.

The fire barrier between the floors was created via fire doors to the new premises in the basement.

**THE PROCESSING OF THE APPLICATION:**

An advance meeting and written contact with the Directorate for Cultural Heritage and the Cultural Heritage Management Office before the application was submitted.

**THE APPLICATION AND IMPLEMENTATION DATES:**

The application was approved in principle by the Directorate for Cultural Heritage in 1996, and the building application office/Cultural Heritage Management Office dealt with the case in 1997.

**THE IMPLEMENTATION OF THE MEASURE:**

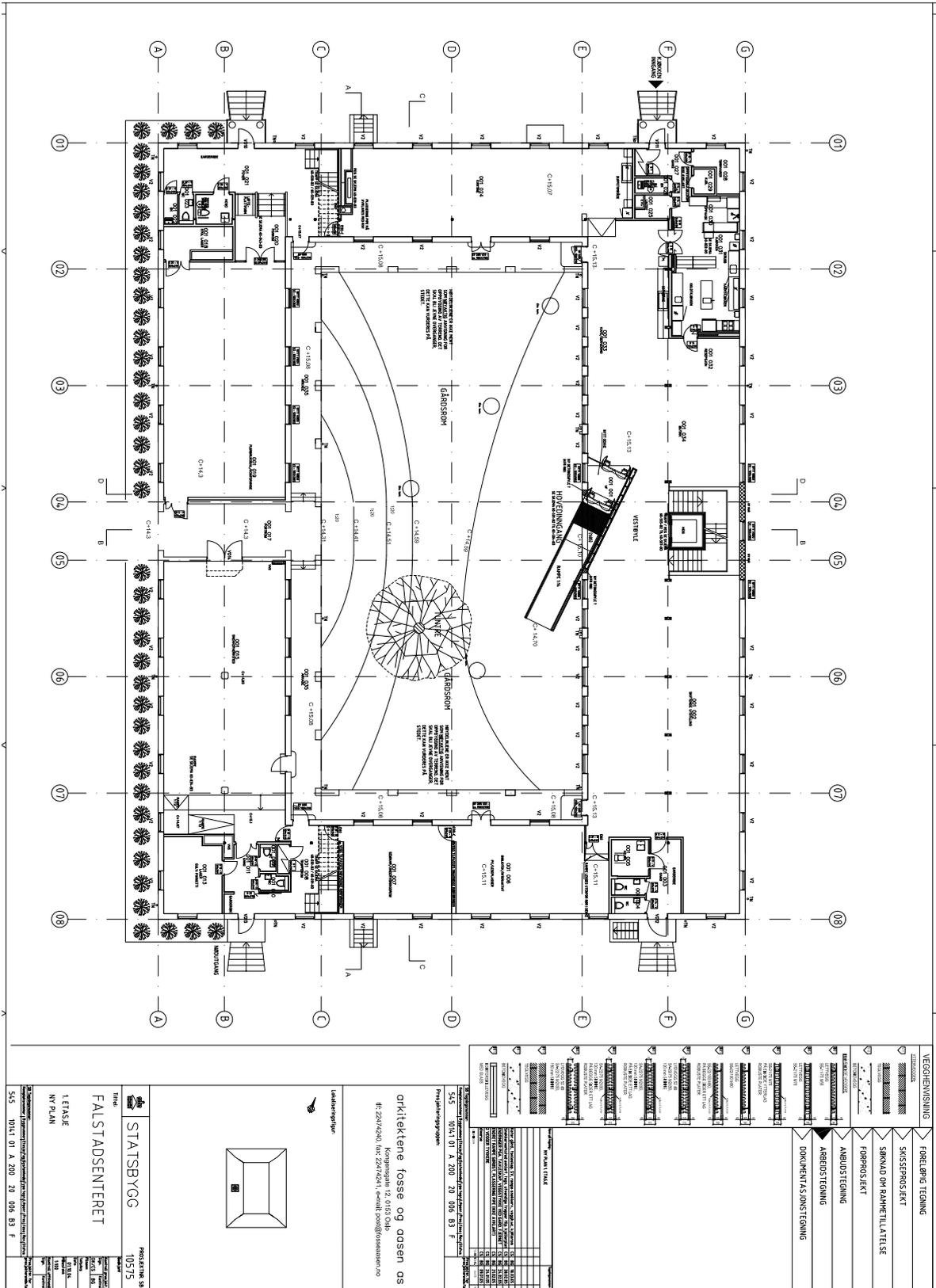
The building work started in 1998 and was finished in 1999. The work went according to plan.

**EVALUATION OF THE IMPLEMENTED MEASURE:**

The church has had very positive feedback on the measures from users. The congregation can connect social and church events in a new way. The new interior flows together with the old one.

# 6.15 The Falstad Centre

Assessment and photo of the Falstad Centre



## BACKGROUND

The original Falstad Building was designed by the architect Claus J. Hjelte and finished in 1921. It was used as a special school before the war, as a German prisoner-of-war camp during the war and as a penal workhouse for those convicted of treason and members of the Norwegian National Socialist party after the war. It was extensively rebuilt in 1949-50 and was used as a special school until the reform of responsibilities in 1991. After being rebuilt in the 1950s, the building changed from a neo-baroque building with one and a half storeys into a two-storey neo-classical building. Characteristic features of the building are its gateway, rectangular courtyard and arcades with stairs and entrance doors in each corner. The building is owned by the Directorate of Public Construction and Property (Statsbygg) and is of great cultural-historical value but is not formally protected. In 2002, the Directorate for Cultural Heritages stated that the courtyard is considered to be the most important room in the centre.

In 2001, the Directorate of Public Construction and Property (Statsbygg) held an architectural competition to restore the building and convert it into a memorial and human rights centre with various functions, including facilities for overnight accommodation, courses and conferences.

The project's building programme states that:

*" (...) The Falstad Building is to impart knowledge of a sombre history while also encouraging humanity and positive forces. This duality in the Falstad Centre's activities must be expressed in its architecture, aesthetics and choice of artistic decoration (...)"*

As the future user of the centre, the Falstad Centre Foundation was very focused on accessibility and universal design at an early stage in the process.



## **CULTURAL HERITAGE VALUES**

In a statement on the pre-project issued in 2003, the Directorate for Cultural Heritage particularly points out the courtyard's *architectural and historical value*. Despite radical changes, the courtyard appears to be classical and well proportioned. Its *historical value* is primarily linked to the period when the building was a prison camp. The architecture and aesthetics give the courtyard and building important *experience values*. The building's role as a human rights centre and place for dialogue, reflection and thought is also conditional on the building's *contemporary value* being expressed. As the party responsible for finances and future operations, the foundation as a user was dependent on the building having an increased *usage and function value*. The courtyard's strong *symbolic value* as a history teller may in a communication context contribute to a sense of identity with and of belonging to the place and its history. The courtyard represents a range of *memory values* and *contemporary values* that to a large extent conflict with each other.

## **DISCUSSION AND PROPOSAL PHASE**

During the planning process, there was especially great disagreement about the solution for the main entrance. The Directorate for Cultural Heritage, the artistic consultant for Public Art Norway (KORO) and representatives of the war veterans very much disagreed with the proposed changes to the courtyard involving a new main entrance and the raising of the gravel surface to lessen the differences in height.

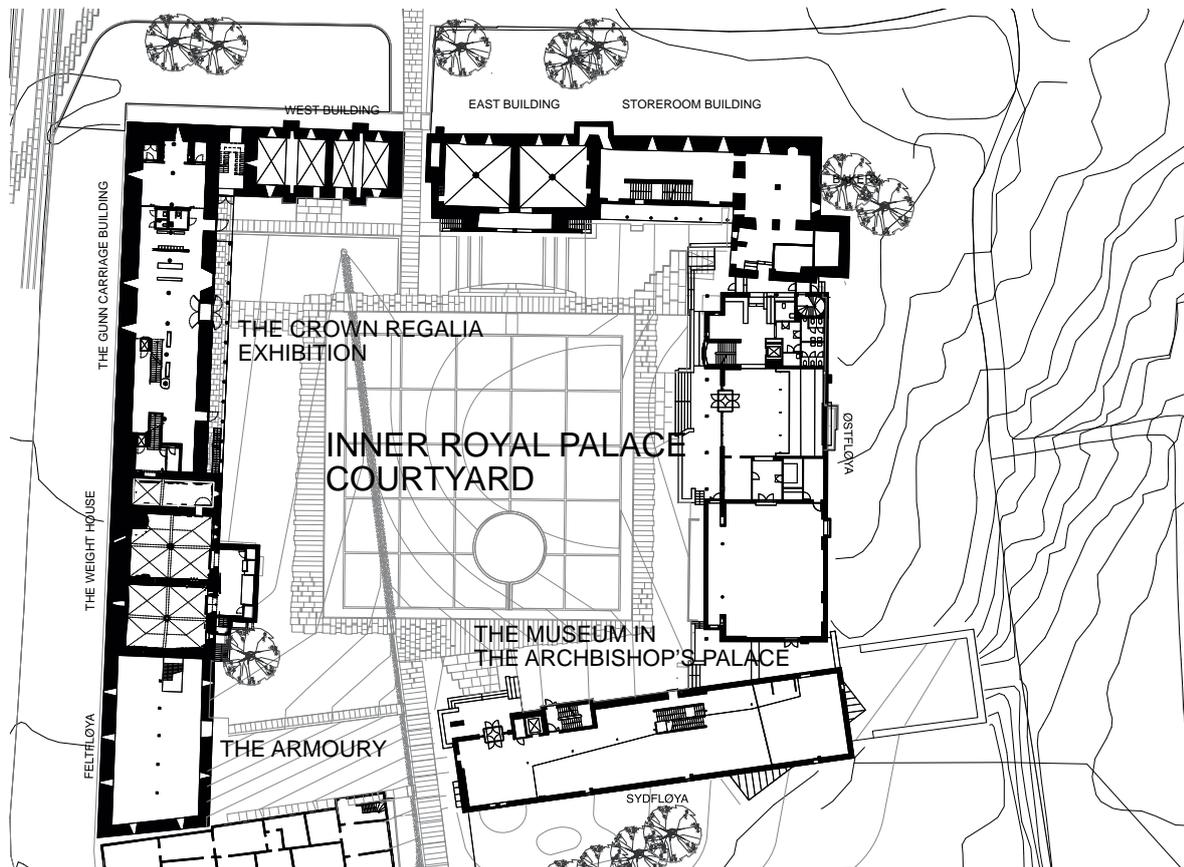
Inspections were conducted, attended by all the involved parties, and a separate work seminar was arranged with the players to discuss alternative solutions. A separate design competition for a new exhibition and interior was arranged and the design of a new entrance was part of this competition. The Directorate for Cultural Heritage agreed to the new entrance in the courtyard but objected to the ground being raised too much. The plans were submitted to the Council for Persons with Disabilities in Levanger municipality and were also discussed with the Norwegian Association of Disabled. An advance meeting was held with Levanger municipality and the plans were approved without objections.

## **EVALUATION OF THE MEASURE**

Both the client, the Directorate of Public Construction and Property (Statsbygg), and the Falstad Centre Foundation as the user basically agreed that the building was of great cultural-historical value and that the cultural heritage value should be safeguarded in so far as possible. All the parties were also aware of the conflict between preserving its authenticity and the requirements as to functionality and use. As a human rights centre, however, it was a mandatory user requirement that the building was to be easily accessible to everyone, and having a separate entrance for wheelchair users was unacceptable. The solution of placing the main entrance at an angle and raising the ground so as to avoid stairs and an excessive ramp has proven to be a good one. The entrance is a clear adaptation that signals a break with and contrast to the building's original purpose as a place for the control, imprisonment, harassment and humiliation of prisoners. By making the main entrance go through the courtyard, the public are confronted with the place where violations of rights took place and can have their own thoughts and reflections. The chosen solution functions well and there have later been few critical comments.

## 6.16. The Norwegian Crown Regalia Exhibition – The Archbishop’s Palace

*The presentation and evaluation are by: Eggen Arkitekter AS  
All photos and illustrations: Eggen Arkitekter AS*



*The Archbishop's Palace with the Inner Royal Palace.*

### **CULTURAL HERITAGE VALUE:**

The buildings surrounding the Inner Royal Palace were built between 1150 and 1997. The Archbishop's Palace is the Nordic region's oldest secular building and currently houses several museums and exhibitions that are open to the public.

The buildings contain elements from several periods – including the sole foundation that previously surrounded the establishment.

The Norwegian Crown Regalia Exhibition is located in the vaults under the Weight House, which was built in the 17<sup>th</sup> century, and in the Gun Carriage Building, which achieved its present design in the 17<sup>th</sup>-18<sup>th</sup> century.

## **THE CURRENT USE AND REASON FOR THE DESIRE FOR CHANGE:**

In the 1960s, archaeological digs were carried out in the Weight House vaults and in the Gun Carriage Building, which were then fitted out for use as a museum. However, the buildings were not accessible in accordance with current universal design requirements.

When the Norwegian Crown Regalia Exhibition was established, improving accessibility while also making the building's history visible was a fundamental requirement.

In a dialogue with the Directorate for Cultural Heritage, it was decided to make some changes in, among other things, the medieval wall in order to be able to use the building for public purposes and make it accessible to the public.

The building was otherwise carefully restored and the vaults were damp-proofed and preserved.



*Slate slabs lead around the courtyard and up to the entrances.*



*The entrance is marked using a red banner.*

## **PROCESS:**

The creation of the Norwegian Crown Regalia Exhibition made stringent demands on, among other things:

- Security
- The indoor climate
- Lighting

## **THE PROCESSING OF THE APPLICATION:**

In addition to the Planning and Building Act, Building Application Regulations (SAK), Technical Building Regulations (TEK) and Working Environment Act, the measure had to be clarified with the cultural heritage authorities (the building) and the Norwegian security services (the objects).



*The outer vault before being restored.*



*The outer vault after being restored. The introduction to the Norwegian Crown Regalia Exhibition has been established along walls that are lit up, and leads in to the exhibition.*

## **THE APPLICATION AND IMPLEMENTATION DATES:**

The complexity of the measure meant that decisions and clarifications with cultural heritage authorities took place during the building process. Some elements and assumptions were not clarified until after the demolition and excavation work.

This necessitated a close, precise dialogue with the Directorate for Cultural Heritage in order to ensure the necessary clarifications in relation to the required progress.

## **THE IMPLEMENTATION OF THE MEASURE:**

The project's challenges lay in finding the balance between different considerations:

- Cultural heritage considerations (the building)
- Security (the objects)
- Experience (the public)
- Accessibility
- Technical requirements
- Functional requirements
- Finances

This led to several compromises in which the objects, among other things, imposed clear limitations on the level of light. Solutions were therefore developed in which the lighting makes the flow from room to room clear through the use of contrasts.



*A physical division is achieved by a glass sliding door that allows visual openness and a better opportunity to find one's way in the building. The wall is used as a leading element, but is also marked so that it is easily visible to those with impaired vision and prevents collisions.*

#### **ACCESSIBILITY:**

Step-free access was created by raising the slate level on the outside to the threshold height and making a downward path in the doorway.

The original wooden gate was retained and hides the automatic glass sliding door after closing time.

The exhibition is clearly and unequivocally organised in the building's longitudinal direction. Permanent installations and fittings are pulled away from the outer walls, which become the leading elements and describe the shape of the rooms.

The vertical connections and steps follow this direction and are organised around a common, easily accessible area on the main floor.

Facilities such as a cloakroom and WC were established as free-standing elements next to the main entrance.

The lighting helps to emphasise walls and the flow from room to room. Due to the objects' sensitivity to light, the level of light gradually dims from the entrance into the crown regalia vault. The use of fibre-optic light is flexible and gentle on the objects.

The simple way in which the exhibition is organised reduces the need for direction signs.

The need for escape route lighting was met by transparent signs in the Gun Carriage Building and "invisible" light behind darkened glass on wall areas or below glass in the floor of the vaults.

New materials were chosen to both harmonise with the building (new floors) and provide a contrast to the surroundings (the stairs, lift, WC).



*Transparent showcases with lit objects provide a good sense of space and reduce visual obstacles. Unwanted reflection in the glass is avoided.*



*The stairs and lift are located together and lit up.*



*Contrasts between the steps and risers help to make the stairs visible. A brass strip marks the front of the step.*



*Uplight from a slit between the floor and wall defines the limits of the vault rooms.*

## **EXPERIENCE:**

The fundamental measures that were absolutely necessary for ensuring the building's functionality and accessibility were discovered early on in the process.

It was a challenge to establish an exhibition with a high level of security in a protected building while also ensuring accessibility and the experience.

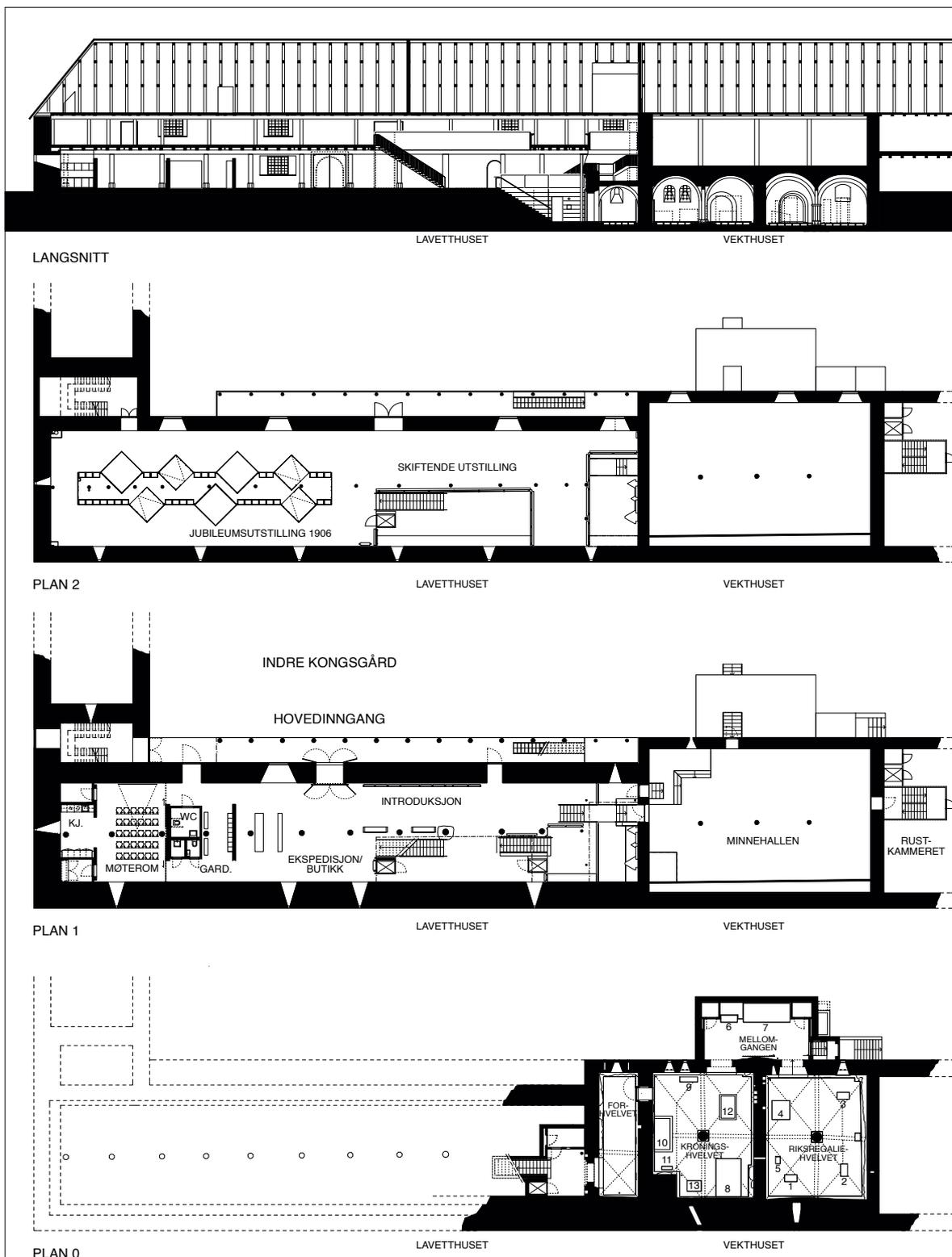
However, various groups of experts took part in the process and, with their specialist expertise, managed to find creative solutions.

For example, an advanced indoor climate and security system has been established out of sight of the public, and this protects the objects against wear and tear and damage.

It is necessary to set aside sufficient time for clarifications and approvals in progress schedules if not all factors can be clarified in advance.

The building has later proven to be very suitable for the purpose:

- Heavy stone structures provide basically stable, secure surroundings.
- The building's long and clear form makes it easy to find one's way around.
- With a few adaptations and the strategic location of vertical links, all the levels are available to the public.
- The exhibition is a supplement to the other museums and exhibitions that surround the Inner Royal Palace.



Plan drawings. Permanent installations and exhibition elements are pulled away from the outer walls, which become leading elements. The vertical links, stairs and lift are split up but gathered in a common area on the main level.

[www.nidarosdomen.no](http://www.nidarosdomen.no)

The link is to a slide show with music that shows examples of the Crown Regalia. Go further to: [Erkebispegården og Riksregaliene](#) < [Les mer om Riksregaliene](#) < [Riksregalieuutstillingen](#) (The Archbishop's Palace and Crown Regalia < [Read more about the Crown Regalia](#) < [The Norwegian Crown Regalia Exhibition](#)) <http://www.nidarosdomen.no/FileHandler.ashx?path=%7e%2fClientData%2fDepartents%2f39%2fFiles%2fFilmer%2fRiksregalieuutstilling+middels.mov>

## 7. Links and literature

### **Links:**

Accessibility to Cultural Heritage

Nordic Perspectives

[www.norden.org/sv/publikationer/publikationer/2009-572](http://www.norden.org/sv/publikationer/publikationer/2009-572)

The Norwegian Working Environment Act

[www.lovdatabank.no](http://www.lovdatabank.no)

The Norwegian Federation of Organisations of Disabled People (FFO)

[www.ffa.no/](http://www.ffa.no/)

The Norwegian State Housing Bank

[www.husbanken.no](http://www.husbanken.no)

The Norwegian Association of the Hard of Hearing

[www.hlf.no](http://www.hlf.no)

The Equality and Anti-Discrimination Ombud

[www.lda.no/](http://www.lda.no/)

The Ministry of Children, Equality and Social Inclusion's universal design website

[www.universell-utforming.miljo.no](http://www.universell-utforming.miljo.no)

The Norwegian Association of the Blind and Partially Sighted (NABP)

[www.blindeforbundet.no](http://www.blindeforbundet.no)

The Norwegian Association of Disabled

[www.nhf.no](http://www.nhf.no)

Norwegian Heritage

[www.kulturarv.no](http://www.kulturarv.no)

The pilot municipality project, universal design as a municipal strategy, experiences and results of the pilot municipality project 2005-2008, T-1472

[www.twm.no/md/](http://www.twm.no/md/)

The Norwegian Planning and Building Act

[www.lovdatabank.no](http://www.lovdatabank.no)

The Directorate for Cultural Heritage

[www.riksantikvaren.no/](http://www.riksantikvaren.no/)

The Delta Centre (National Resource Centre for Participation and Accessibility), the Norwegian Directorate for Children, Youth and Family Affairs (Bufdir),

[www.helsedir.no/deltasenteret](http://www.helsedir.no/deltasenteret)

The National Property Board Sweden

The Dignified Entrance project and some pictures

[www.sfv.se/](http://www.sfv.se/)

The Directorate of Public Construction and Property (Statsbygg)  
The mapping work "buildings for everyone" is available from:  
[www.statsbygg.no/Aktuelt/Tema/Bygg-for-alle/](http://www.statsbygg.no/Aktuelt/Tema/Bygg-for-alle/)

Trondheim municipality, design/planning tool for the universal design of public buildings  
[www.trondheim.municipality.no/universellutforming](http://www.trondheim.municipality.no/universellutforming)

Universal design in the Archive, Library and Museum sector  
[www.abm-utvikling.no/tverrsektorielt/universell-utforming/handbok](http://www.abm-utvikling.no/tverrsektorielt/universell-utforming/handbok)

The centre for universal design  
[www.design.ncsu.edu/cud/](http://www.design.ncsu.edu/cud/)

## Literature:

The Ministry of Children, Equality and Social Inclusion, *Norge universelt utformet 2025* (Norway Universally Designed 2025)  
The government's action plan for universal design and greater accessibility 2009-2013

Gustafsson, Linda: *Tilgjengelighet i kulturhistorisk interessante miljøer* (Accessibility in environments that are of cultural-historical interest), published by Gothenburg University's Centre for Environment and Sustainability in 2004.

The Norwegian Association of the Hard of Hearing (HLF) - *HLFs tilgjengelighetssguide* (HLF's accessibility guide)

Høyland, Karin, SINTEF Building and Infrastructure, *Ingen hindring. Tilgjengelighet for funksjonshemmede til vår felles kulturarv* (No obstacles. Accessibility to our common cultural heritage for those with disabilities)

Erikson, Anna-Lena, *Kulturminnevern og universell utforming-forenelige interesser?* (Cultural heritage protection and universal design - compatible interests?) *Plan* magazine 5/2009

The Norwegian Ministry of the Environment, Ministry of Local Government and Regional Development, and Ministry of Health and Social Affairs, 1999.  
Circular T-5/99B

The Ministry of the Environment. 2007, *Universell utforming, begrepsavklaring* (Universal design, a clarification of the concepts), report on the subject November 2007, Publication no.: T-1468 B/E ISBN 978-82-457-0417-4, Oslo

Nilsen, Arve J *Kulturminners Verdi og bevegelseshemmedes verdighet – refleksjoner om vern og respekt* (The value of cultural heritage and the dignity of those with impaired mobility – reflections on protection and respect) - *Respekt* magazine 1-2005

Nilsen, Arve J.: *Verdier og menneskeverdighet. Refleksjoner om ikke-diskriminerende muligheter.* (Values and human dignity. Reflections on non-discriminatory possibilities) *TID I ARKITEKTUR (TIME IN ARCHITECTURE) Om å bygge i fire dimensjoner* (About building in four dimensions) Peter Butenschøn (editor's comment)  
Akademisk Publiserings. Oslo, 2009

Nordic Council of Ministers 2001 (contains a checklist)  
*Museer for alla – om tilgjengelighet for mennesker med funksjonshinder* (Museums for everyone – about accessibility for people with disabilities)

The Nordic Council on Disability Policy 1999, *Design for alla: om tilgjengelighet ved renovering av kulturhistorisk interessante byggnader* (Design for everyone: about accessibility when restoring buildings of cultural-historical interest).

The Norwegian Association of the Blind and Partially Sighted (NABP)  
*Et inkluderende samfunn, Håndbok om synshemmedes krav til tilgjengelighet* (An Inclusive Society, a handbook on the accessibility requirements of those with impaired vision).

The Norwegian Association of Disabled *Tilgjengelige bygg og uteområder* (Accessible buildings and outdoor areas)

Nygaard, Liv Lund *Hva er konsekvensene av universal design for vår verneverdigekulturarv? Et casestudie om endringer av et fredet kulturminne* (What are the effects of universal design on our cultural heritage that is worthy of protection? A case study on changes to protected archaeological and architectural monuments and sites.) Master's degree thesis 2008, The Oslo School of Architecture and Design, Department of Form, Theory and History

Sirès, Elena, *Utrymning for alla. Byggnader med kulturvården* (Design for Everyone. Buildings with Cultural Value) 2006

Skjerdal, N.V. 2005, *Universal design : fra ideal til rettsnorm* (Universal design: from an ideal to a legal standard) *Likeverd og tilgjengelighet, NOU 2005:8, vedlegg 1* (Equality and Accessibility, Official Norwegian Report (NOU) 2005:8, annex 1)

The National Property Board Sweden (SFV) 2006, *Tilgjengelighet och kulturarv* (Accessibility and Cultural Heritage)

Sørmoen, Oddbjørn - Nordic Association Report.

Accessibility to Cultural Heritage  
Nordic Perspectives

Norwegian Standard

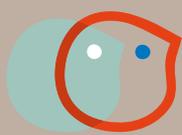
*Universell utforming av byggverk, del 1: Arbeids- og publikumsbygninger* (Universal design of buildings, part 1: work and public buildings)  
(NS 11001-1:2009)

*Universell utforming av byggverk, del 2: Boliger* (Universal design of buildings, part 2: housing) (NS 11001-2:2009)

*Tilgjengelige reiselivsmål, krav som grunnlag for merkeordning* (Accessible travel destinations, requirements that form the basis of the symbol scheme)  
(NS 11010:2008)







**Norwegian Directorate  
for Children, Youth  
and Family Affairs**

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