Kristiania Teglverk:
Preservation of architecture and ecology
A new annex to NATUR Vocational School and developing a Flowerfield at Bryn

The proposal posters show the implementation or testing of the ideas and set of value premises developed throughout the Pre-diploma, Process booklet and the Proposal booklet.

Setting the premises:
The pre-diploma looks into the question of protecting our surrounding environment, both the built and the nature. To recognize the values in what’s already there, before new projects are to be developed. I ask, “How to establish a holistic framework for designing and restoring buildings in coexistence with a diverse nature?”

Building, context, function, benefits:
The site, Kristiania Teglverk, a partly abandoned, partly used industrial building from 1898. It is the only remaining standing brick factory with a intact Ring-oven in Oslo, maybe in Norway.

The building is situated along Alna River in relation to several other industrial heritage buildings from the late 1800’s. The prerequisite of these buildings was the natural resources from the river and the surrounding nature.

The ecosystems along Alna River are today mostly healthy and the river moves freely in the open air. However, some parts of the river is in pipes and the surrounding areas on some stretches are dominated by poorly used asphalt surfaces and partly abandoned human infrastructure. This is the case at Bryn.

The Nature Vocational school founded in 1886 is located at Furuset further up Alna River in the Grorud Valley. Their pedagogy have always been to do the theory at the school and learn the working life out in the fields. Back in the days students used to be interns at neighbouring farms to learn most of the time there. Today the schools students still visit farms, and in addition new topics has evolved like riding, modern forest conservation and so on. The Kristiania Teglverk will be a new location for the students to study a new topic; The old traditional culture of running a Flowerfield. The students will use the poorly functioning Bryn area to test out the development of a new Flowerfield.

Situated along the Alna River and the path D 10, the Kristiania Teglverk is a natural destination for the walking visitors. Today the building is closed for the public. Part of the building will be opened and can be seen as a prolonging of the river path.

The Kristiania Teglverk is a part of a ecological relationship with the surrounding nature. This relationship will be strengthen with the introduction of the Flowerfield.

Diploma

Spring 2020
The Oslo School of Architecture and Design

Student Jacob Emil Klinge Borg
Tutors Lisbeth Funck
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## Proposal Posters

### List of Drawings

<table>
<thead>
<tr>
<th>Masterplan</th>
<th>Current situation at Bryn</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Developing a Flowerfield at Bryn</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1:200</th>
<th>Situationplan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:100</td>
<td>Ground Floor</td>
</tr>
<tr>
<td></td>
<td>First Floor</td>
</tr>
<tr>
<td></td>
<td>Second Floor</td>
</tr>
<tr>
<td></td>
<td>Short Section</td>
</tr>
<tr>
<td></td>
<td>Long section</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Illustration</th>
<th>Model photo, interior perspective</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:100</td>
<td>North East Elevation</td>
</tr>
<tr>
<td></td>
<td>South West Elevation</td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td></td>
<td>North West Elevation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Illustrations</th>
<th>Render, exterior perspective</th>
</tr>
</thead>
</table>
Current situation at Bryn
Overview and development objectives

1. The former path, D10 follows the Alna river from the Fjord in the city Centre, up to the hills in the Mælar. Following the path upstream from Klemensdal, one encounters rich, wild and partly undiscovered ecosystems in unifying typography. Oslo today finds traces of the river's industrial past. Factories, ruins and even objects may be found in the forests by the casual visitor.

2. Further up the path, one enters the Bryn area. At this point the path suddenly disappears, the rich ecosystems also disappear and the industrial traces are concealed by heavy infrastructural, highways, high- and subways: lanes, huge and undersized parking lots. It becomes difficult to understand and navigate in this mono-cultural desert, as a pedestrian, animal or insect. The ecological connection following the river is blocked for approximatley 100 meters.

3. At this point the path comes back into sight and with it, the bio-diverse ecosystem of Smalavollen. Here the landscape is almost flat, the ground covered of clay till the river flows in meandering typography setting the foundation for a unique flora and fauna dependent on periodical floods and droughts.

4. The broken connection of the ecosystem, the industrial architectural reading of the area and the broken pedestrian path raise the need for reconnecting the ecosystems along the river. This will have benefits for both humans and the other species that are dependent on the natural resources of the area.

4. Objective - Kristiania Teglverk: Preservation of architecture and ecology. A new annex to NATUR Vocational School and developing a Flowerfield at Bryn

1. Path D10 from the City centre (ecosystem of high biodiversity importance and traces of past industry)
Developing a Flowerfield at Bryn

Why a Flowerfield at Bryn

Flowerfields has status as a prioritized nature type by the Norwegian environment Agency.

Flowerfields has exceptional good biodiversity capacity and plays an important role in saving the pollinators. Pollinators are vital for many ecological processes, and for the humans food production.

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Historically the Bryn area has a long history of farmland, and the Slottmark (Flowerfield) was a way of making use of all small spots of land for the livestock food production. This type of landscape is called Kulturlandskap and is today becoming less and less dominant in Norway. This has several reasons: modernization of livestock farming (leaving Slottmark as a obsolete method of feeding livestock) leading to re-forestation of previous Flowerfields, and urbanization.

The name Bryn is from old Nordic (Norrøn) and means Bryg (Flowerfield) and bridge.

Principles of removing asphalt and adding soil

1. Remove top layer of asphalt and compressed gravel

   - 100 mm Asphalt
   - 500 mm Compressed gravel
   - Soil or/and Clay, depth varies
   - Rock

2. Adding top layer of soil

   - 600 mm new soil with little nutrition
   - Soil or/and Clay, depth varies
   - Rock

Running the Flowerfields

1. Harvest seeds from local neighboring Flowerfields and seed the new Flowerfield. Do not add nutrition to the soil.

2. Establish a Skjøtselsplan (plan of maintenance) based on similar local Flowerfields and develop this document over the coming years. It is important to follow the maintenance cycles.

3. Cut the flowers with a scythe or with a two while tractor, earliest the 10th of July according to tradition, or during August at the latest. Depending on the composition of flowers, geographical location, climatic variations and the plan of maintenance. Follow the Skjøtselsplan. Do not cut shorter than 7-10 cm to not harm the insects sheltering close to the ground.

4. Leave some parts of the fields uncult for pollinating insects.

5. If it is forecasted rain the coming days after the cutting; leave the gras to dry at the field for two to five days. Then shake it to spread more seeds for next year. If rain is coming, bring the gras to the oven and dry it inside. Collect the seeds and spread out on the field. Some is stored for sale to the visitors of the school. Note, it is very important to remove all the gras from the field to avoid giving nutrition back to the soil.

6. After harvesting the seeds, the gras can be given to the horse centre further up the river.

7. In the late autumn and early spring the horses will be invited to grasp on the Flowerfield. The grasing will increase the biodiversity at the Flowerfield.

The name Bryn is from old Nordic (Norrøn) and means Bryg (Flowerfield) and bridge.
Kristiania Teglverk

The Production building, where the bricks were dried and burned. Timbered wood construction with wood panels in facade on three sides. To the North East the facade is made of brick.

The new Greenhouse is plugged into the existing building.

The path D10 has gotten an upgrade at Bryn and is now made up of red gravel referencing the four brick factories dominating the area for almost a century.

The train tracks to Trondheim and the city center.

The train station (built 1856) and the natural resources from the Alna River are the prerequisites for the industry to develop at Bryn.

The Blue Green ecosystems following the river is of very high importance for the biodiversity. Open river areas are a priority in Oslo with regards to urban development. The river and its biodiversity gives resilience on several issues, like preventions of flooding, resistance to raised temperatures from climate change and storing of genetically material that can be used for future medicines.

The treatment of the ecosystems along the river should be minimal. A rough wild and self grown nature has the best chance to enhance a strong and bio-diverse ecosystem.

The trees along the river at this area are mainly consisting of Birch, but there is also some old Lime trees and smaller roe trees. All of them contribute to keeping the ecological balance of the area.

The Flowerfield will be developed in phases during the coming years, starting with the areas in close proximity to the school. Learning from the process will make the scope larger. Over time the whole area of Bryn will be connected by a big Flowerfield measuring more than 10 DA and meet the initiative from the Agency for Environment at size.

The prerequisite for erecting the building was to improve human conditions by processing a natural resource into a construction material. This process completely changed the landscape at Bryn, from a sloping landscape to almost flat. This can be seen in most places where there have been clay minerals.

The vegetation by the highway appears as a result of the topography making it produce asphalt rather than a wish to enhance the quality of the area for humans and other species. There has not been time for a biological analysis of the areas other than the general information gathered from the Ambankene. Often these "forgotten" vegetations are where valuable genetic material and species are located.

The conclusion from this report may be that some species should not be introduced to the area. The conclusion from this report may be that some species should not be introduced to the area.

The old Zink White factory is today used as a distillery.

The Highway E6 is running parallel to Kristiania Teglverk.

1960's office building. The site previously belonged to Kristiania Teglverk, but was sold out. The plan between the two buildings was split by the highway. The parking will be restricted under the bridge, while the Flowerfield will dominate the areas currently not in use.

The Vegetation plan was developed in phases during the coming years, starting with the areas in close proximity to the school. Learning from the process will make the scope larger. Over time the whole area of Bryn will be connected by a big Flowerfield measuring more than 10 DA and meet the initiative from the Agency for Environment at size.

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The machine building is isolated and used for the school annex. The visitors may use the sanitary functions on the first floor.

The production building is open to the visitors and functions as a prolonging of the path D10 along the Alna river.

The window to the classroom is made of polycarbonate and gives a connection with the outside without being able to see through.

1. Horizontal boards
2. New structure for horizontal boards
3. Free standing structures
4. Separation of spaces, production building
5. Separation of spaces, machine building
6. Opening of brick wall
7. Bigger new structure plugin into the existing

List of Architectonic strategies
See the proposal booklet for details on how the different Architectonic strategies are working. In the Ground Floor drawing numbers according to the list are placed out at selected situations to indicate where the different strategies are used.

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5. Separation of space, machine building
6. Opening of brick wall
7. Bigger new structure plugin into the existing...

First floor
A1 1:100
The second floor will mainly be occupied by other species like the pigeons. Humans are allowed to visit at two selected areas. The facade panels, load-bearing constructions and the roof will be preserved by regular maintenance. Damaged parts will be replaced with a similar piece and secure the construction from decaying.

The lift has doors both to the production building and the machine building.

The old tower were used as a lift for the bricks between the drying process and the burning process.
The Machine building is isolated and will be used for the theoretical work, sanitary functions both for students and for visitors, and has solutions for camping overnight for some students when needed.

The Production building first floor can be seen as a prolonging of the path D10 following the river and open to public. The building is not isolated. First and second floor is mainly reserved for other species, but humans can visit in some areas.

The two vaults of the Ring oven. Plants hang on sticks hanging in ropes from the original charcoal openings in the vault ceilings. At some openings light bulbs are suspended, giving a warm light.

Pigeons are other birds have taken over the first and second floors. This is seen as a quality. Pigeons has been vital for human civilization throughout history being the most efficient mail messengers, and by that inherently carry a culture tradition we are about to lose in modern society.

Storage Sales table local produce, cutting, seeds, and plants. Gives the visitors the chance to contribute to a biodiverse surrounding.

The two walls of the Ring oven. Plants hang on sticks hanging in ropes from the original charcoal openings in the vault ceilings. At some openings light bulbs are suspended, giving a warm light.

Driving track Air ventilation from 1941, works as entrances and exits for birds.

Pigeons and other birds have taken over the first and second floor. This is seen as a quality. Pigeons has been vital for human civilization throughout history being the most efficient mail messengers, and by that inherently carry a culture tradition we are about to lose in modern society.

Air ventilation from 1941, works as entrances and exits for birds.

Tower built between 1945 and 1950 used for transporting the bricks from the pre-drying at second floor to the burning at the Ground floor.

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Behind section
Section
New behind section
New section
Section BB, production building

The brick fireplace was built after the fire in 1936 to protect the neighboring Zink White factory from the fire. It has significant value and has not been changed since it was built. It will be maintained and preserved in its initial state.

The brick firewall was built after the fire in 1936 to protect the neighboring Zink White factory from the fire. It has significant value and has not been changed since it was built. It will be maintained and preserved in its initial state.

Other species
For humans

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Section B8, production building
A1 1:100
Eating brought food inside the construction

Relationship between daylight and artificial light
Pollinating insects hibernate in the wood boards during winter.
Walking along the path D10 at daytime you can see the oven from the outside. The polycarbonate boards at the first floor enable you to see a contour of the construction behind. Big sliding door

The load-bearing construction of the Greenhouse follows the height of the wood construction. The double steel columns also functions as support for the plant shelves, as the columns of the wood constructions functions as support for the new table shelves. There are standard natural ventilation from the roof.

The wood facade on the first and second floor are maintained and painted in a traditional way. No toxins are used for the treatment of the wood to still keep it as a possibility for pollinating insects to hibernate over the winter. Broken glass are not replaced in the windows to still let the pigeons enter and exit.

Brick firewall from 1936

Picnic area inside for visitors
The new tower with a lift can only be entered from inside.

This side of the building is the working site. Entrances for the garage and a workshop are placed here.

The machine building is the part where the school's theoretical parts are placed. It is the building where most modifications have been made up until now. The machine building will be treated like a transformation project.

Small narrow windows of polycarbonate give a connection to the outside without directly seeing through.

The brick firewall was built after the fire in 1936 to protect the neighboring Zink White factory from fire. It has significant value and has not been changed since it was built. It will be maintained and preserved in its initial state.

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North East Elevation
A1 1:100

Tower build between 1936 and 1939 used for transporting the brick from the pre-drying at 2nd floor to the burning at the Ground floor.

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The green-house is showing from behind the tower.

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Pollinating insects hibernate in the wood boards during winter.
Entrance for the students who wants to sleep over, or just enter the social area by the fireplace. The new tower with a lift can only be entered from inside.

The wood facade on the first and second floor are maintained and painted in a traditional way. No toxins are used for the treatment of the wood to still keep it as a possibility for pollinating insects to hibernate over the winter. Broken glass are not replaced in the windows to let the pigeons still enter and exit.

The polycarbonate boards at the first floor enables you to see a contour of the construction behind. The facade of the machine building from 1898 has been modified through the years. No design intervention will be made. Regular maintenance after preservation principles will be followed.

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This side of the building is the working site. This entrance is to the storages for all the tools for the Flowerfield.
Passing by the Brick oven
Layers of light from the natural daylight outside into artificial warm light inside the oven