**Winemaking to solve rural problem of northern Öland?**

This same project aims to transform one of the old abandoned quarries along the coast on the northwest of Öland into a regional wine cellar and tourist attraction. Such a building – hidden in a quarry – could be important for the whole island. Not only can it become a part of the municipality’s efforts to populate the northern rural areas, it can also contribute to improve the image of the whole island and attract different kinds of tourists all year round. But most importantly, a regional winery and cellar will make way for a new agricultural future on Öland by providing all Öland winemakers access to the necessary expertise and the expensive equipment needed for winemaking of international high quality and standard.

**BACKGROUND**

Winemaking to solve rural problem of northern Öland?

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**THE QUARRY & ÖLAND TERROIR**

To let an old abandoned limestone quarry once again serve the island by being converted into a modern wine cellar, the old plant needs to be taken apart and rebuilt. The former walls of the quarry will provide shelter and protection from the wind, while the stone will support the plant's roots. The limestone quarry has a capacity for thermal insulation and moisture, which is essential for grape growing. The quarry's position on the high cliff will also provide a unique environment for the production of high-quality wine.

**WINEMAKING**

The winemaking process begins with the harvest of grapes, which are then transported to the winery. The grapes are destemmed, and the must is transferred to stainless steel tanks for fermentation. During fermentation, the grapes are pressed, and the resulting must is transferred to oak tanks for aging. The wine is then filtered and bottled, ready for distribution.

**MAPPING**

The map of Öland shows the location of the winery and its surroundings. The winery is strategically located on a hillside, surrounded by forests and fields, providing a unique microclimate for grape growing. The map also highlights the surrounding landscape, including the coastline and the interior. This information is crucial for understanding the potential for wine production and the potential for tourism development.
CONCEPT - QUARRY HIDEOUT

GENERAL FEATURES
1. Forest
2. Alvarmark
3. Limestone/quarry
4. Water

1. Quarry filled with scrap stone, partly covered with alvarmark.
2. Extension of "LANDBORGEN" hidden from the road by extending alvarmarken on landborgen as a roof.
3. Prolonging alvaret. The second level, creating a yard, is also covered by alvarmark hiding the winery cellar on the north side.
4. Reintroducing quarry stones. Immersing block-shaped rock houses as a monument of the limestone, using the stones on the site.
TRANSPORTATION

VISITOR ACTIVITIES

POSSIBLE BUILDING PHASES

PHASE 1.
REGIONAL WINERY & BODEGA.
Concrete construction on the north side of the quarry in two levels with landscape roofs.

PHASE 2.
WINERY PUBLIC SERVICES LIKE RESTAURANT, RECEPTION, TASTING ROOM ETC.
Large, autonomous, one-story stone block houses.

PHASE 3.
CONFERENCE, SEMINAR FACILITIES, SAUNA & GRAPE SPA.
Freestanding concrete units under a landscape roof.

PHASE 4.
STONE COTTAGES Small, autonomous, one-story stone block houses.

VISITOR ACTIVITIES

ON THE SITE IN THE AREA INTENSITY DURING YEAR

JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

WINERY & CELLAR

VISITORS CENTRE

TRANSPORTATION

VISITOR ACTIVITIES
OVERVIEW SUSTAINABILITY ASPECTS

WATER

THE WATER CYCLE

- Gravity flow winemaking: Using the level difference for grape and wine transportation.
- Natural thermal controle: Using the maximum humidity and temperature of the limestone mountains for natural climate control.
- Desalination plant: Using seawater to desalinate salty water on an island with constant shortage of fresh water.
- Renewable energy: Using solar cells and wave power plant for electricity and heating.
- Laboratory storage: For experimental and research purposes.
- Technician room: For technical and administrative support.
- Café: For visitors and employees.
- Service road: For access and transportation.
- Showers toilet: For personal hygiene.
- Cleaning tanks: For water treatment and recycling.
- Drinking water: For consumption and hydration.
- Desalination plant: Using reverse osmosis to desalinate Baltic sea water on an island with constant shortage of fresh water.


the water cycle

DESALINATION PLANT

- Primary cycle: Using seawater to desalinate salty water on an island with constant shortage of fresh water.
- Secondary cycle: Using the constant humidity and temperature of the limestone mountains for natural climate control.
- Tertiary cycle: Using renewable energy for electricity and heating.

WAVE POWER PLANT

- Principle of wave power plant: Chapter of wave power plant with linear generator on the seabed, connected by a rope to a buoy on sea level.
- Principle of wave power plant: Using the linear generator as sun shelters on the stone cottages.
- Principle of wave power plant: Vertical solar cells as sun shelters on the larger stone block houses.

SOLAR CELLS

- Horizontal solar cells as sunshades on stone cottages.
- Vertical solar cells as sunshades on larger stone block houses.

WIND - WAVE POWER PLANT

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MATR RE-USE

- Using the limestones on the site in various ways to construct the stone block houses.

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The success of transforming Öland into a wine region depends upon close cooperation and joint efforts when it comes to knowledge, workforce and equipment. A regional collaboration in a winery and cellar will make this possible.

Start of wine tour with "the Öland walk" and the entrance into the cellar.

GRAPE SELECTION AND RECEIVAL AREA.

DIAGRAM OF MOVEMENTS FROM GRAPE TO WINE

THE WINE TOUR

The Öland walk: limestone, alvarsmark & ocean

START

WINE TOUR

Crushing, destemming & pressing

Fermentation, lower level

Barrel Cellar

Bottle Cellar

Bottleing area

Laboratory

Warehouse Desalination

Plant

Staircases to upper level

Water Treatment Plant

Exit with the wine

Lobby

Entering the tour with the grapes

Eco Station

WINETASTING

END TOUR

Grape Reception Area

Fermentation Cellar, upper level

Grapes in to tanks for 1st & 2nd fermentation

Staircases to lower level

Loading of Wine Cases

Whites & Reds into 225l oak barrels

Entry & Exit Road for grapes

Exit Road

Staircases to lower level

CLASSROOM, CONFERENCE & SEMINARS

ENTRANCE & RECEPTION

WINERY & CELLAR, UPPER LEVEL

GRAPE SPA & SAUNA

RESTAURANT

TASTING BAR

VINEYARD OFFICES

WINE SHOP

LODGING. STONE COTTAGE AREA

WINERY & CELLAR, LOWER LEVEL

SUMMER CAFÉ
The success of transforming Öland into a wine region depends upon close cooperation and joint efforts when it comes to knowledge, workforce and equipment. A regional collaboration in a winery and cellar will make this possible.

One of the key challenges when constructing a winery is the maintenance of a constant temperature. A solution is to leave the limestone mountain bare hence using its capacity for thermal self-regulation.

MATERIALS & DETAILS

MEETINGS WITH THE LIMESTONE MOUNTAIN

150 kross/isolerande material
GOLV MÖTER KALKBERGET
200 betongbjälklag
tätskikt/asfaltsmatta
dränering/kalksten
100 betonggolv
200 isolering
fiberduk
cellplast

WALL CONSTRUCTIONS

DETAILS 1:20

MEETINGS WITH THE LIMESTONE MOUNTAIN

kalkberget
150 betong
150 isolering/cellplast
tätskikt
150 betong
silikonlist
rostfri ram

TAKFÖNSTER

STONESTONE...AND STONE

fyllda brottet används skrotstenen av kalk som botten.
jordlager på kalkstensberggrunden. I det igen bildas på flacka kalkhällmarker med litet

*Alvarmark - ett tunt lager växtlighet som

Classroom with stone frame window overlooking the limestone wall.

Winetasting looking out towards the island Blå Jungfrun

Reveiled all the way into the sea water pool outside the sauna in the south.

Metal frame holding the stones together.
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The proposal is to make a regional winery and cellar on a prime spot with fantastic views towards the island Blå Jungfrun. The proposed site is delicate since it’s situated in between the nature reservoir of Horn and the ocean. The building needs to meet in the middle of two fields; landscaping and architecture.

LONGITUDINAL SECTION C-C
SCALE 1:200
Winery on the north side in two floor concrete construction.
Visitors centre on the south side in one floor.

SECTION D-D
SCALE 1:50
FACADES SCALE 1:200
100 betonggolv
golvvärme
200 betongbjälklag
tätskikt/asfaltsmatta
200 isolering/cellplast
150 kross/isolerande material
dränering
fiberduk

150 betongelement
isolerglas (u>0.9)
luftspalt
stålram
150 travad
calksten
150 kallmurad kalksten
horisontell solavskärming av solcellslameller
gesimsränna för vattenavrinning
150 terasstak av kalksten
skyddsbetong m fall
asfaltsmatta
300 isolering/cellglas
asfaltsmatta/ångspärr
200 betongstomme
isolerglas (u>0.9)
luftspalt
stålram
150 travad
calksten

200 betongstomme
asfaltsmatta/ångspärr
240 isolering/cellplast
asfaltsmatta
150 betongelement
100 pordrän/cellplast
dränering
fiberduk

SECTION E-E
SCALE 1:20
D
D
E
E
KLK
WC
KAMIN
SOV
PENTRY
UTEPLATS
MED
HAVSUTSIKT