



Construction technologist
2nd semester INT.

The design of a house - introduction

Scheme Design Proposal. (SDP)

Subject: To work out a Scheme Design Proposal from the attached outline proposal.

The Scheme Design Proposal is the final part of the proposal phase. The proposal approved by the building owner together with the previous phase (Outline Proposal) forms the base for the following project, Detail Design 1 (Project for approval of the authorities) and Detail Design 2 (project for tendering and implementation)

Purpose: The study is a project work that intends a developing of the designing skills the student has obtained at the 1. semester.

The Form of the Introduction:

The following materials will be handed out:

- Scenario, the requirements from the building owner and other information for working out the project.
- *List of activities – we will create one together by the end of the day*
- Outline proposal
- Suggestion for work method with the supplied outline proposal

The form of solution:

The project must be carried out in groups of (3-)4 persons. The work will end up with sketches and drawings (Revit or carried out by hand) and will together with written documentation enable the building owner to judge the project.

During the designing period project meetings must be held.

Content of the task:

The Scheme Design Proposal includes drawings that show details of constructions and surfaces - it is how the building basically is constructed. It includes connections, details for transmission of forces, cross section, longitudinal section, isometrics and plans of the building, all in suitable scales.

Considerations of the installation demands for space, where to place cables and pipes and how to build in these must be done.

The Scheme Design Proposal must be worked up in a way that no major surprises will occur later in the project period.



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Further on the building owner must be given a suggestion to the entire indoor as well as outdoor surfaces.

The work will end up with drawings and written documentation in a standard that enable the building owner to judge the consequences of the project.

It is important that this phase shows some worked through solutions rather than a number of half done solutions that doesn't correspond with the rest of the project.

Project period: Project period for the Scheme Design Proposal will be from week 06 to week 14.

Evaluation: Week 14 - according to your time schedule.



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Scenario

Imagine that you are working in a drawing office given the task of designing a single family house. The client is a young family consisting of 2 adults and 2 smaller children and a dog. They want a new house for them selves. Furthermore, among their relatives there are disabled persons who use a wheel chair.

Earlier an outline proposal has been carried out containing plans and sections that shows the overall design.

The manager of the drawing office asks your group to work out a full Scheme Design Proposal for the client based on the existing sketches.

However the family has some additional requirements to implement into the Scheme Design Proposal.

- That the area of the house without basement is between 180 – 200 m².
- That the house is of high technically quality with ecologically initiatives which respect environment as much as possible within the frames of the law.
- That the house has well tested solutions build up by natural materials.
- That the materials of the roof are tiles, slates or roofing felt.
- Forslag: The external surfaces are combination of brick and wooden cladding. Internal wall layer is optional and should suit the overall functions of the wall in a best way possible.
- That the storey partition between basement and ground floor can be carried out as concrete elements.
- That the storey partition between ground floor and first floor is carried out as a wooden construction.
- That toilet/bath in the ground floor must be designed for disabled persons, and there must be level access to the house.
- That the ground floor is designed for wheel chairs.
- That basement has both internal as well as external stairs.
- That all rooms in the basement will be provided with daylight through light shafts.
- That the basement as a minimum contains laundry room, hobby room together with a minimum 1 larger available room.
- That ecologically materials are used as much as possible. As an example insulation materials as paper wool and flax wool or other which can replace mineral wool.
- That surfaces and treatments of surfaces are environmental friendly for example wood that is neither pressure treated nor painted with plastic paint, floors treated with soapsuds or oil and so on.
- That district heating is used and consideration of alternative heating sources is used, it could be solar heating, soil heating, mass stow or something else – give a suggestion.
- That mechanical ventilation is used all over the house.
- That a balcony is placed above the ground floor plan.

The above mentioned requirements must be incorporated further on in the project work.

Changes / selections in requirements above, has to be agreed with the building owner during the project meetings.



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Work method:

Suggestions on how to approach the attached Outline Proposal.

Get an overview: The idea of the project. Does the house function? Where are the windows and doors going to be placed? Draw different suggestions to the appearance of the facades and gables in relation to the windows and doors location on the plans, or maybe change the location regarding the appearance of the facades and gables. Also think about the daylight in the different rooms.

Suggestions are going to be presented to the client (pst/daha) at the project meetings.

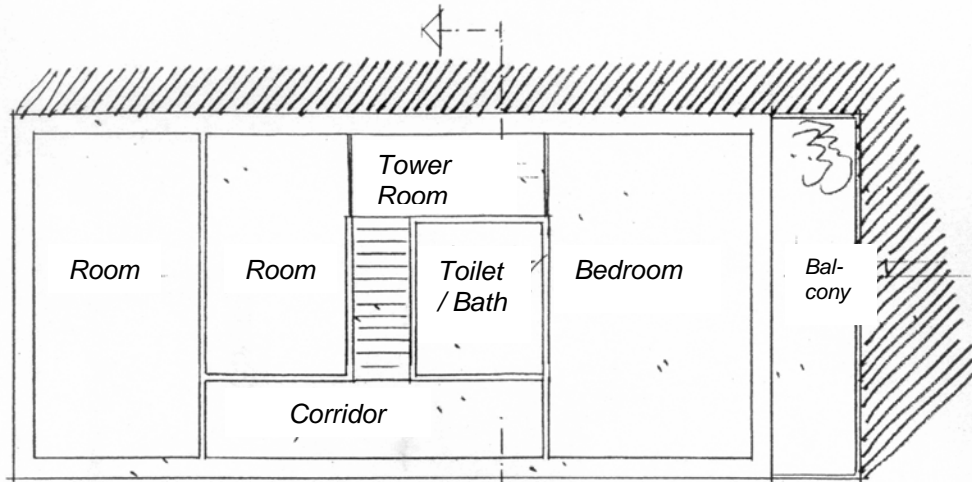
Collect information: Establish a project folder.
Find the demands and regulations that are important for your project.
You will get other information during your work, Internet, brochures from producers and different introductions from the lecturers.

Site the house: Consider how the building can be placed most suitable on the plot.
Make some sketches showing the terraces, entries, paths etc.

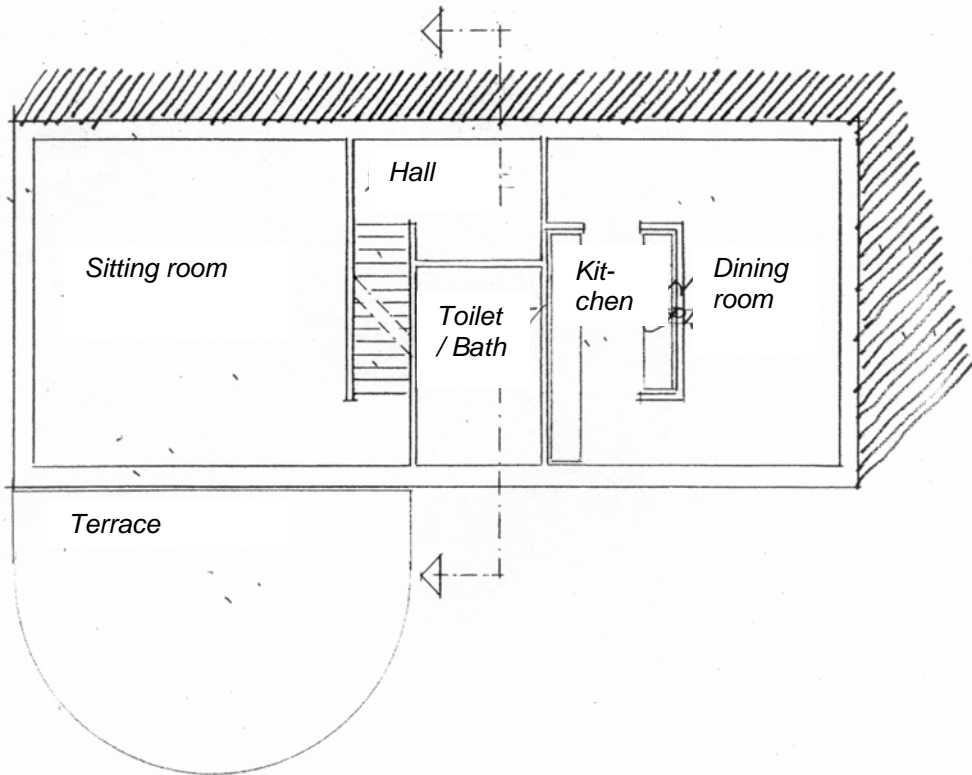
Work up the plans: Basement-, ground floor- and 1.floor, Function / furnishing?
Is it possible to make changes in the furnishing?
Is the ground floor useable for disabled persons in wheelchairs? Consider placement of the technical installations. (Drainage, ventilation, heating, electricity).

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Outline project nr. 1 – Plans



1st FLOOR PLAN



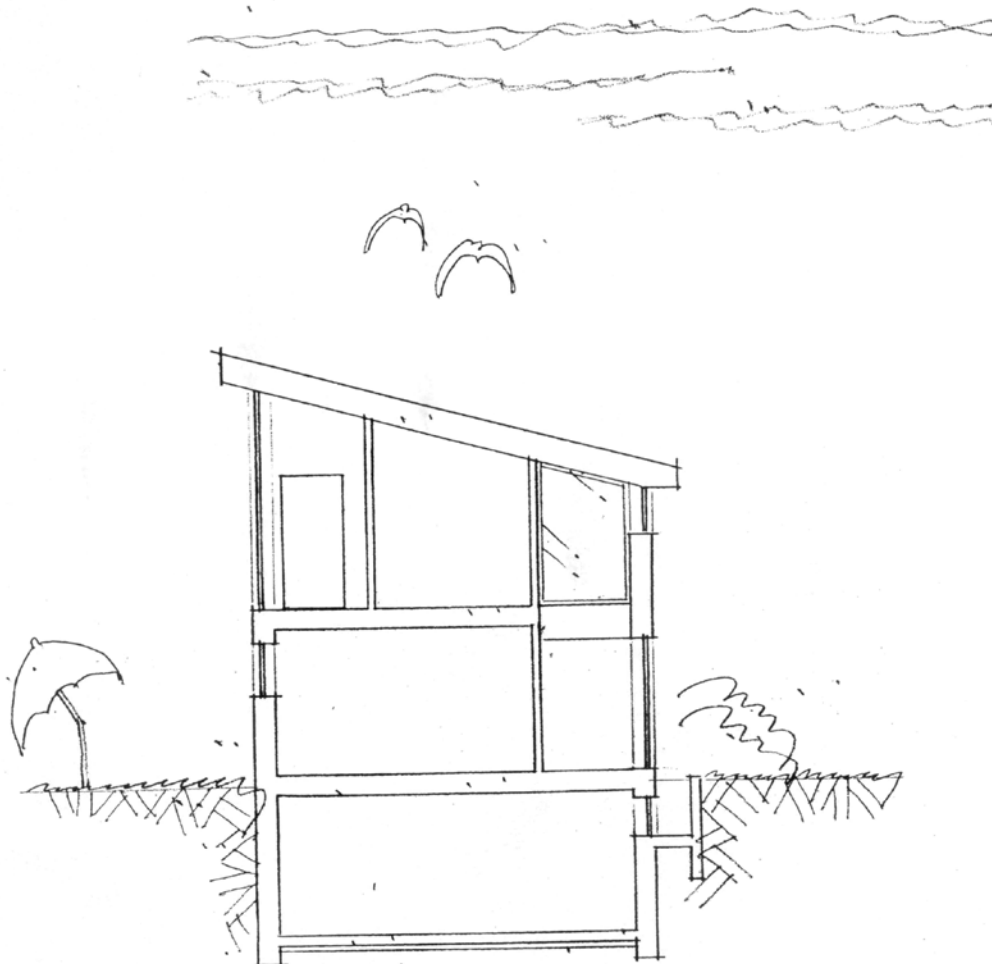
GROUND FLOOR PLAN



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Outline project nr. 1 – Cross section



CROSS SECTION

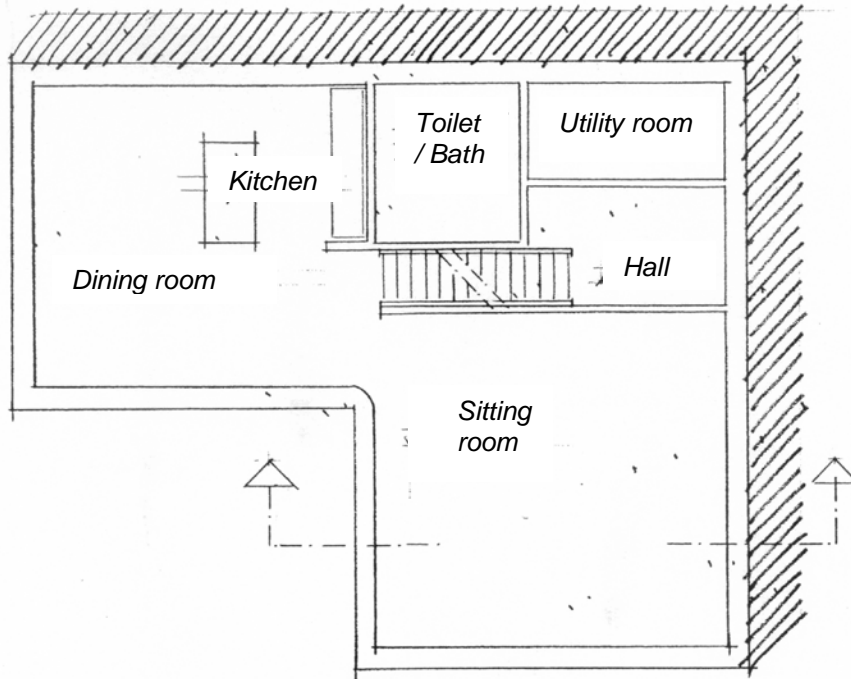




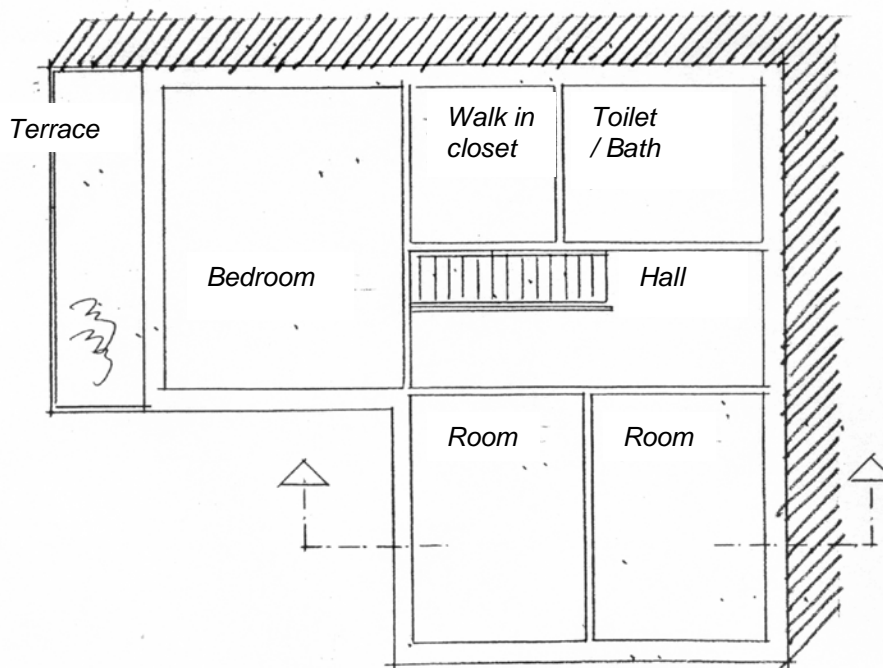
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Outline project nr. 2 – Plans



GROUND FLOOR PLAN

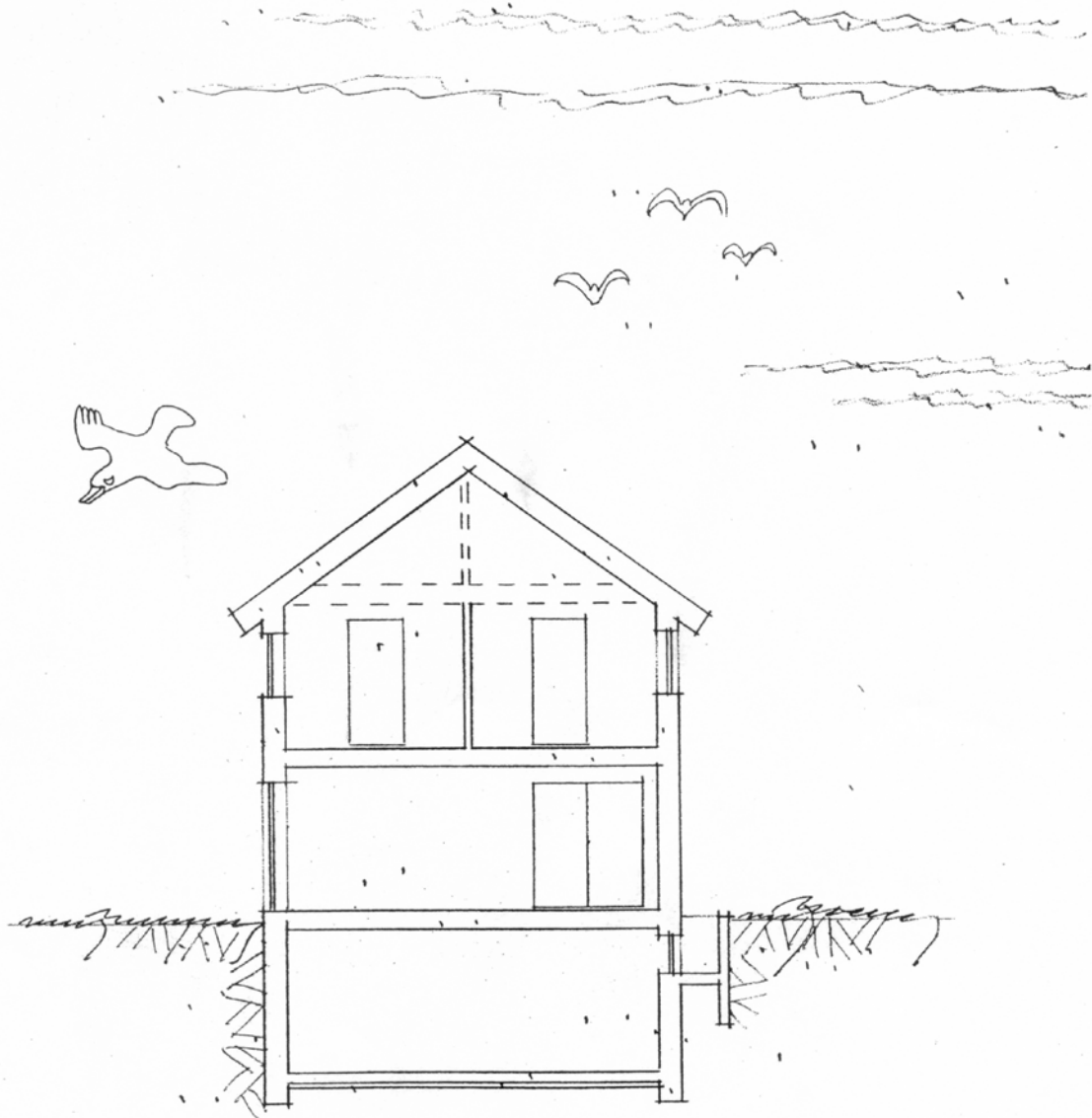


1st FLOOR PLAN

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Outline project nr. 2 – Cross section



CROSS SECTION

