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Swedish University of Agricultural Sciences

Faculty of Landscape Architecture, Horticulture and Crop Production Science

ON SITE/IN STUDIO: SCALE 1:1 SKETCHING
AS AN APPROACH TO A PROJECT IN LANDSCAPE ARCHITECTURE

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Master project in Landscape Architecture

ON SITE/IN STUDIO: scale 1:1 sketching as an approach to a project in landscape architecture
ON SITE/IN STUDIO: skissande i skala 1:1 som angreppssätt för ett projekt i landskapsarkitektur

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abstract

This thesis project explores scale 1:1 sketching on site as an approach to a project in landscape architecture. The aim is to understand how scale 1:1 sketch work on site and sketch work in studio can complement each other in the design process and contribute to proposals for site which are sensitive to existing qualities experienced on site.

The main approach of the thesis project is to investigate scale 1:1 sketching through a case study of my personal sketching process in which I develop a proposal for Högdalstopparna, an urban open space in southern Stockholm, in two different work contexts – on site and in studio. The research is guided by a methodological framework for art-based research, based on architectural thinking, suggested by Catharina Dyrssen (2011) using multi-media techniques for data collection. Complementary to the main case, a second case study of scale 1:1 sketching in the context of professional landscape architectural practice is undertaken to include the perspective of experienced landscape architects on scale 1:1 sketching and on site/in studio sketch work. In the second case study, data is collected through participant observation and an open question questionnaire. Further, literature studies are conducted to inform the explorative sketch work and to compare the results of the case studies to existing theory on design method and the sketching process in landscape architecture.

Scale 1:1 sketch work on site is in the cases studied found to promote the inclusion of small-scale material features and the subjective perspective on experiential qualities on site in the sketching process. Investigations into the combination of analogue scale 1:1 sketching and digital tools provide insight on how scale 1:1 sketching may be incorporated into the contemporary on site/in studio sketching process, adding to existing tools and techniques to choose from in the landscape architectural toolbox.

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INTRODUCTION

A. INTRODUCTION TO SCALE 1:1 SKETCHING ON SITE

B. HÖGDALSTOPPARNA ON SITE/IN STUDIO

C. IN PRACTICE

D. DISCUSSION/REFLECTIONS

PARATGE DE TUDELA-CLIP, CAP DE CREUS, CATALUNYA / 2017/03/14

Jag tänker på impressionisternas landskapsmåleri. De lämnade sina ateljéer för att vistas och måla direkt i landskapet som en motståndshandling mot den rådande normen för verklighetsåtergivning. Land-art rörelsen omformade naturlandskapet i monumentalformat, och också detta var en motståndshandling mot konstens kommersiella system. Som en parafras/kommentar till dessa båda rörelser och ett personligt möte med bruksorten, en plats som tidigare var främmande för mig, ville jag pröva att arbeta direkt i landskapet i skala 1:1 och samtidigt titta på det som bild och rum för att undersöka om det går att röra sig genom bilden av rum. Det kan ses som en reaktion på en närvaro på och samverkan med en viss plats, där denna plats och det kontextspecifika formar varandra. De lokala förutsättningarna möter de globala frågeställningarna och ett kunskapsutbyte uppstår.

I think of the impressionists' landscape painting. They left their studios to dwell and paint directly in the landscape as an act of resistance against the current standards of reality reproduction. The Land Art movement transformed the natural landscape on a monumental scale, and this was also in opposition to the commercial system of art. As a paraphrase/comment on these two movements and a personal meeting with the mill town, a place that was previously unknown to me, I wanted to try to work directly in the landscape in scale 1: 1 and look at it as picture and space at the same time to investigate if it is possible to move through an image of space. It can be seen as a reaction to a presence in and interaction with a certain place, where this place and the context-specific shape each other. Local conditions encounter global issues and a knowledge exchange occurs.

Swedish artist Åsa Jungnelius (2016) on her work *Landscape painting in scale 1:1* in Ljuder, Småland. English translation by author.

background

It is not uncommon to start a landscape architectural design project with a site visit. James Corner (2017) describes the designer's research conducted on site as part of an anthropological and ethnographic approach, which designers immerse themselves in in order to better understand places which they do not belong to and become, as Corner describes it, more "grounded" in the particular place (Corner 2017:121).

Corner argues that even though research on a particular site in a design project may be approached using different research methods, including methods that advocate for the landscape architect's personal immersion on site, the aim is nevertheless the same. The research process is to engender a description of place which allows the designer to intervene with care and act as an informed and credible authority. Despite the research and resulting knowledge, the designer to some extent always remains an outsider. This outsiderness is related to the designer's intent to intervene and make changes to the existing. Corner writes: "The act of doing and making change is inevitably somewhat foreign (…) Design requires invention and transformation, not simply repetition of descriptive data. The designer ultimately has to take the next step" (Corner 2017:122). But what happens when the designer remains immersed on site, and takes the next transformative step?

Landscape architectural practice Estudí Martí Franch, in charge of the restoration project of a former vacation village in the national park of Cap de Creus, Catalunya, provides an example of a landscape project based on an extended presence on site of the architect, beyond the research phase. The architects at EMF spent a total of fourteen months on site over the five year duration of the project. EMF's approach was to develop a new proposal for Cap de Creus guided by the gradual transformation of site. The design team made detailed documentations and mappings of site and oversaw the demolition of existing built structures which resulted in them uncovering new qualities as deconstruction work transgressed. In the light of new discoveries, adjustments to the proposal were made

and incorporated in the new design. The transformed site is partly constructed from the materials that were available on site; existing structures such as roads and foundations are repurposed within the new program (Puiguriguer 2015). Reviews on the project emphasize the resourceful use of existing materials and the experiential qualities associated with the choreography of movement in the network of paths that EMF has created (Bridger 2012, Vidal 2012).

The hypothesis behind this thesis project is that relocating a greater part of the design process to the project site, and working more actively with the proposal while surrounded by existing qualities on site, may inform more resourceful design decisions and transformation of site – resourceful in terms of acknowledging and better understanding what is already on site and how it can be integrated or redeployed within a new program. EMF's work on Cap de Creus provides an example of a landscape project which seeks to achieve this in its local contexts. My interest is in exploring this in the local context of landscape architectural practice in Stockholm and a situation in which the landscape architect is assigned a project where the main contents of a new program and a limited time frame is set by the client, and where the main place of work is the studio located off site. My focus is on *how* - how designers in this context can work actively with the conception of a design proposal - sketching on site.

Further, this projects starts off from a speculative idea that not only basing the work process on the actual project site, but also that the development of ideas in full scale - scale 1:1 - could be a useful tool, complimentary to the work in studio where proposals are conventionally developed in abstract representations such as plan, section and axonometric drawing.

Christophe Girot highlights that the role of representation in landscape design processes, and of the plan as the primary tool for landscape design, has shifted over the course of time. Girot writes: "It is worth noting that the plan was not always used as a tool in landscape design; rather, a landscape was conceived directly on site with chains, poles ropes and the help of range finders. The overall plan was only drawn thereafter, once the landscape

had been made (…) Most early geometric and curvilinear landscape projects were indeed traced, modeled and tested directly on site" (Girot 2015:17).

The introductory quote from Swedish artist Åsa Jungnelius (2016) expresses the intent to explore the relationship between representation and landscape, and the art world, by paraphrasing earlier art movements in a contemporary and local context. This project could be situated in a similar way within the field of landscape – an exploration of the contemporary sketching process by paraphrasing the above described earlier landscape design processes.

method and material

The approach of this master project is to conduct investigations through out a design process, using a method which involves sketch work on site and in studio. Complementary to the main method and case, a second case study and literature studies are included.

CASE I: HÖGDALSTOPPARNA ON SITE/IN STUDIO

The main case of this project is a study of my personal sketching process in which I develop a proposal for site in two different work contexts – scale 1:1 sketch work on site and sketch work in studio. The research is guided by a methodological framework for art-based research, based on architectural thinking and suggested by Catharina Dyrssen (2011). *Architectural thinking* is defined as a complex, artistic activity of thinking-making-composing. Two aspects of architectural practice are central to the theme of architectural thinking: the architect's training to deal with and create meaning in complex spatial situations and to combine and shift between different tools for thinking and communicating. The investigations carried out in the case study are structured around three approaches suggested by Dyrssen: *performance, explorative experiments* and *modelling*.

Performance refers to investigations carried out through making-actions in set-ups which are composed by the researcher herself or himself. Performance is defined as a series of actions through which discoveries can be made and understood. The set-up or situation of the performance can be altered during the process (Dyrssen 2011:227).

Explorative experiments is an approach to research problems which may be used in order to provide quick feedback, generate curiosity and to get the creative process moving forward (Dyrssen 2011:229).

Modelling concerns how different representational media and techniques can be utilized in the research process in order to investigate research problems and communicate the research and findings (Dyrssen 2011:231).

choice of case

Scale 1:1 sketching on site and sketch work in studio is investigated in the specific situation of designing a walking trail for Högdalstopparna, a site in southern Stockholm. The choice of Högdalstopparna as a testbed site was made from the consideration of aspects of the existing site and future program. The three main aspects considered were

Scale of the site: A situation where it would be possible, but constitute a challenge to develop a proposal in scale 1:1 to uncover both potential strengths, and weaknesses of scale 1:1 sketching on site.

Site qualities: A site with existing and potentially overlooked experiential and material qualities which could be identified on site.

Program: A specific task sufficiently low in complexity to allow me to execute it in scale 1:1, and to focus on reflection on the sketching process rather than resolving a complex program.

The sketch work on site is limited to ten days of work on site. A proposal for the walking trail is developed entirely in scale 1:1 on site using an intuitive approach. After completing the work on site, the proposal is transported into the studio for further processing. In studio, I work from the material collected on site while adding new sketching techniques to explore the relationship between site and studio.

data collection

The material collected in the HÖGDALSTOPPARNA ON SITE/IN STUDIO case study consists of

+ multi-media documentation of the sketch work on site.
+ representations of the proposal produced in studio using multiple media and techniques
+ a reflective notebook documenting my reflections on the sketching process on site and in studio.

A compilation of media and techniques for representation and documentation, together with techniques for scale 1:1 sketching, is presented in the section INTRODUCTION TO SCALE 1:1 SKETCHING ON SITE: SKETCHING TOOLBOX of this thesis.

CASE II: IN PRACTICE

A second case study is undertaken to test scale 1:1 sketching on site in a situation of real landscape architectural practice, as a complementary approach to the investigative sketch work on site/in studio in the main case.

choice of case

The case studied involves an ongoing project of one Stockholm-based landscape architectural office. The project and specific sketching tasks are selected by the two landscape architects working on the project. I work in the same office, but not on the particular project.
The landscape architects are part of a multidisciplinary team working on the detailed development plan for a new housing area and public parkland on a site which is currently used by an allotment and cabin house association and as a recreational area. In this project, the landscape architects develop a proposal mainly from sketch work in studio, but also make recurring site visits. In the case study, they were asked by me to bring the proposal out of the studio to sketch in scale 1:1 on site.

data collection

The material collected in the IN PRACTICE case study consists of

+ my observations of the landscape architects' sketch work and conversations on two site visits, documented through notes and photography.
+ the landscape architects' written reflections on the sketch work in response to an open question questionnaire.
+ my observations from a meeting attended by the entire project team, documented through notes.
+ sketches of the proposal prior and posterior to sketch work on site.

LITERATURE STUDIES

Complimentary to the two case studies, literature studies are conducted to compare the results to existing theory. The literature studies focus on three main themes which relate to the sketching process on site/in studio as displayed in FIG. 1.

theme 1: scale 1:1 work on site

Initial literature studies focus on finding inspiration for a scale 1:1 sketching method in relation to the specific case. A series of 'scale 1:1 practices' are studied. Scale 1:1 practices are understood as practices concerned with the making of full-scale interventions directly in the landscape. These precedent studies include examples from both the field of landscape architecture, artistic and activist practices, and range from ephemeral interventions to more long-term processes. In addition, the work on site is inspired by the *traveling transect* – a method by researchers Lisa Diedrich, Gini Lee and Ellen Braae – where I draw on both theoretical writings on the method by Diedrich et al and from my own participation in the course *Öresundsect* in the summer of 2015 at SLU Alnarp. The work on site does not follow a specific method but the references are presented in the section INTRODUCTION TO SCALE 1:1 SKETCHING to account for ideas and actions that influence the work.

theme 2: högdalstopparna

In advance to the sketch work on site, a study of sources that deal with the history and development of Högdalstopparna and a review of planning documents from Stockholms stad to construct an understanding of the current planning situation is conducted. This is done as part of the performance set-up to formulate a program and specific task that the proposal needs to comply with and to generate a knowledge base for the sketching process on site/ in studio.

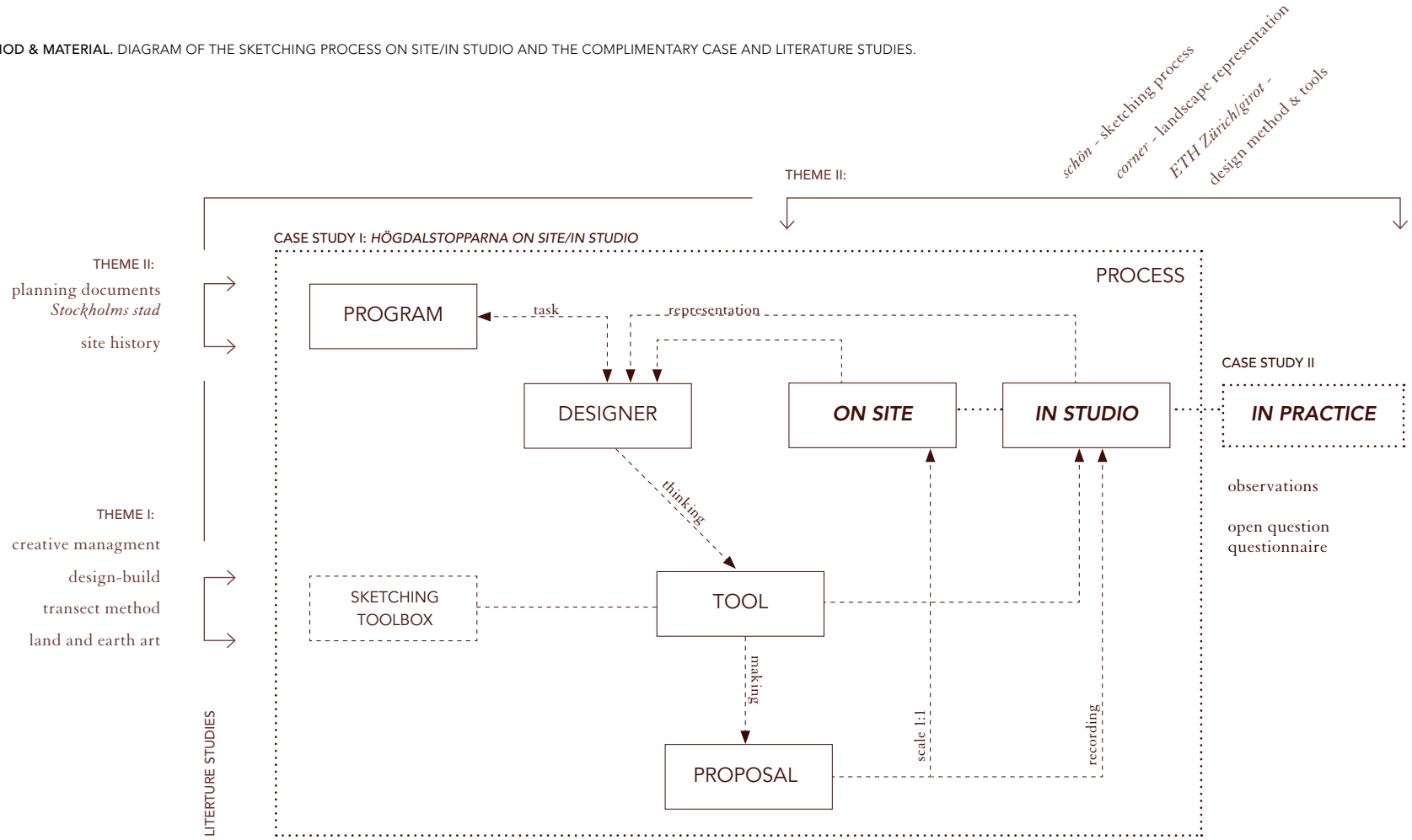
theme 3: the sketching process – design method and tools

The project explores the sketching process in relation to landscape architectural practice. Literature studies therefore include writings concerning professional practice, mainly Donald Schön's epistemology of reflective practice and literature that draws from Schön's theories. Schön's description of sketching in architectural practice serves as a theoretical model for the sketching process. Further,

James Corner's writings on representation in landscape architecture are included to provide a perspective on the sketching process from the field of landscape.

Christophe Girot's definition of the concept *topology* and suggestions on how designers should approach landscape constitute an important part of the literature studies. Girot's thinking is used to connect the sketch work on site to a design method which promotes the subjective perspective of the designer in the contemporary landscape design context and draws on the possibilities from technological advancements in studio. Research conducted at the Chair of Girot at ETH Zürich on tools for landscape design based on the importance of fieldwork in the design process is included to connect the work on site to the work in studio.

FIG. 1 METHOD & MATERIAL. DIAGRAM OF THE SKETCHING PROCESS ON SITE/IN STUDIO AND THE COMPLIMENTARY CASE AND LITERATURE STUDIES.



goals & aims

This project intends to explore the potential of scale 1:1 sketching on site, in processes of designing new proposals for site in which the designer values existing material and experiential qualities on site in the local context of landscape architecture projects in Stockholm. In the project situation, the landscape architect is assigned a project where the main contents of a new program and a limited time frame is set by the client, and the main place of work is the studio. The aim is to better understand how scale 1:1 sketching on site and sketching in studio can complement each other and to explore potential sketching tools and techniques for this purpose. The research question which this project intends to answer is

What is the difference between scale 1:1 sketch work on site and sketch work in studio?

limitations

Both cases studied are 'works-in-progress'. To investigate how the sketch work performed on site materializes in a built transformation of site or in a final design proposal is therefore not possible. Instead this project focuses on the sketch work before technical drawings and specification are produced. Representations of the proposal which form part of this work are not made to communicate a final design, but the outcome of sketching on the proposal in order to investigate potential answers to the research question and aim. A final proposal for Högdalstopparna is not presented.

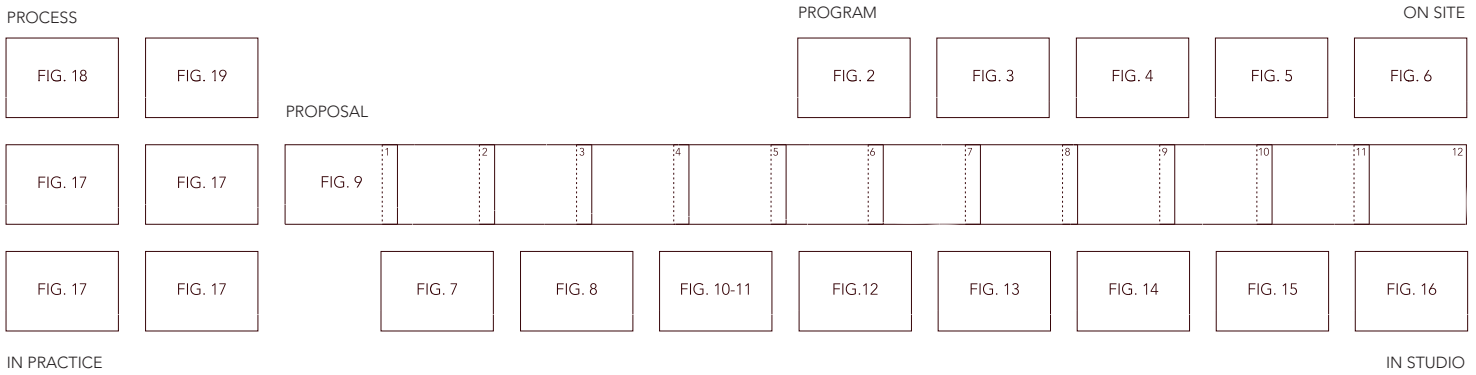
This work deals with the 'wicked problems' (Rittel and Webber 1973) of representation in landscape architecture, a subject on which much has been written within landscape theory and other academic disciplines. Due to the limited time frame of the master project a full review of literature related to the discourse on landscape representation will not be conducted. Knowledge on the subject is instead pursued through the making-centered and reflective approach to the

case studies as explained in the method section. Literature on representation referenced in this work is chosen for its relevance in relation to the results of the practical work and the specific cases.

This project is structured around a threefold understanding of representation applied to the practical situation in which the design process takes place. In other words, landscape architects work in, through and with representation(s). Landscape architects work in representations of the existing site – usually in the studio context, the process of designing a new reality is carried out through the performance of representation using different instruments, and create representations as proposals – a product explaining the intended design for site (to someone who may be another landscape architect, a practitioner from another discipline, a client, a builder, a local citizen).

Several different instruments and techniques for visual representation are used in the experimental approach to sketching, ranging from drone photography of site to experimenting with the combination of different instruments in studio. The instruments are chosen from the existing toolbox available to me at my place of work, and other easily accessible digital and analogue instruments, conventionally used for other purposes than sketching. The work does not pretend to arrive at a fixed toolbox for sketching on site/in studio, but to explore different tools and techniques in relation to the specific cases and contribute to the discussion on methods and tools for landscape design.

reading suggestion



reading this work

There are two main alternatives on how to read this thesis. You either read it in the order it appears in the document and guided by the FIG. references. Alternatively, you start by separating the text from the visual material and organize the images according to the suggestion above, or to your own preference. Personal curations are encouraged. All visual material by author unless stated otherwise.

defintions

PROGRAM - the existing activities on site and the given task that the designer has to find a solution for.

PROCESS - the designer's sketching process.

PROPOSAL - the designer's proposed solution to the program task and transformation of the existing site.

SITE - the area as delimited by the project.

STUDIO - the designer's place of work off site.

PRACTICE - professional landscape architectural practice.

A. INTRODUCTION TO SCALE 1:1 SKETCHING ON SITE

introduction to scale 1:1 sketching on site

This chapter introduces precedent studies that have served as points of departure and sources of inspiration for the scale 1:1 sketching in this project. It focuses on how these practices operate and the possibilities that scale 1:1 and on site work may open up for. The references include practices from the field of landscape and architecture, artistic and activist practices. The chapter ends by presenting a sketching toolbox for Högdalstopparna, derived from the scale 1:1 references presented and the work on site/in studio.

THE SKETCHING PROCESS

Donald Schön (2003) describes the importance of virtual worlds for problem solving in professional practice. In architectural practice, the virtual world is that of the drawing. In the world of drawing, the architect's proposals have no real consequences and ideas can be tested repeatedly until the architect finds a solution suited for the task at hand. In order to access this world, the architect must acquire certain skills related to the different media associated with architectural production and develop a repertoire of techniques to choose from when working (Schön 2003:158).

Schön highlights three key aspects of the drawing's relation to the real world context it represents which may be conceptualized as abstraction, time and translation. The abstractness of the drawing eliminates features from the real world, features which may otherwise become distractions or result in confusion in the sketching process. It also permits the testing of ideas at different pace of time, things can be made to happen at the speed of drawing instead of building. But ultimately, the success of the work in the virtual world is dependent upon translation, from drawing to material construction (Schön 2003:158-159).

American architect and scholar Lola Sheppard suggests a mode of architectural practice which envisions the architect as detective. She makes a distinction between the *process* and the *procedures* of work. Detective work has certain established procedures, but each case must be approached

with its own set of questions and methods that respond with specificity to the particular case (Sheppard 2016:127). Before starting the scale 1:1 sketching process on site I have to figure out how I will actually perform this work and a first definition of scale 1:1 sketching in relation to the specific project context. With the program, the testbed site, and the sketching in studio which will follow later in mind, I look for practices that can inform the design of the specific sketching process compatible with the procedures of a landscape architectural project.

SCALE 1:1 PRACTICES

Working with proposals at scale 1:1 in architectural practice occurs both in the context of education and of professional design-build practices (see e.g. the practice of Studio Mumbai and Rural Studio). Architectural educator Stephen Temple promotes 'making thinking' which involves working at full scale, directly with the actual construction material, as part of the student's education . This, Temple argues, facilitates an understanding of the process which is not apprehended by the students when thinking is performed through abstraction alone (Temple 2011:7). Studies on scale 1:1 in architectural education (e.g. Wales 2006, Mannell 2006, Jemtrud & Cazabon 2002) describe a process where the construction of the full scale model of the proposal happens after a sketching process using other techniques of representation. The work is then built by the students themselves, serving as a pedagogic exercise intended to provide an understanding of the connection between drawing and the built design.

Perhaps not as commonly used as a term in the field of landscape, work in scale 1:1 is also undertaken in the context of landscape architectural research and education. An example of such work is the practice of *creative management*, an evolutionary approach to management and design where the two are considered of equal importance and integrated with one another (Gustavsson 2016:91). The constantly evolving results of creative management work is displayed in Alnarp's landscape laboratory, an experimental space for research on dynamic vegetation design, pioneered in the 1980's on the SLU campus.

Landscape architect and researcher Roland Gustavsson argues that a landscape laboratory provides a space for research and practice where theoretical understanding evolves from the direct experience of hands-on work. The laboratory serves as counterweight to the technological advancements which facilitate landscape architectural design work at a distance from the real landscape situation. It provides the designer the opportunity to experiment working at full scale while being immersed in the multi-sensory experience of reality (Gustavsson 2016:92).

The time aspect of the landscape laboratory is of particular interest. The work relates to time in a long-term perspective, which is necessary to survey and conduct research on how the interplay between natural processes and management interventions affect vegetation development. The development is recorded using surveying techniques such as aerial photography. But the work performed in the laboratory also relates to a more instant and ephemeral perspective on time. The experimental interventions where ideas are conceived and carried out directly on site by the laboratory manager, designers, student and children groups are, although they leave traces, of spontaneous and transitory nature (Gustavsson 2016:92).

James Corner (1992) relates the challenge of representation in landscape architecture to three main characteristics of landscape architectural production which resembles Schön's description of the virtual world of drawing. First, the landscape architect has an indirect access to the physical landscape; the actual construction of landscape is usually performed by someone other than the landscape architect. Second, the abstractness of the drawing makes it radically different compared to the first hand experience of the physical landscape. The third challenge is found in the generative function of the drawing; landscape architectural drawings are projective and represent a future reality as envisioned by the designer. Creative management in the landscape laboratory operates directly in the real world and removes the distance to site by placing the designer in the actual landscape, working directly with the vegetation material, and instead of projective representation, survey the outcome of the intervention.

Dutch artist Louis Le Roy and the construction of his Eco-cathedral in Mildam, Netherlands, provides another example of a scale 1:1 experiment on site which relates to the field of landscape. One of his first actions was to plant a screen of trees behind which he could operate on site, gradually constructing the Eco-cathedral through the reuse of bricks from demolished construction sites and embracing the interplay between natural and human forces on site. Le Roy's initial aim was to see how much could be achieved by one man only, hence the screen of trees. From 2000 and onwards the work on site became increasingly collaborative as volunteers entered the process. This was done in order to assure that the continuos process of the Eco-cathedral's construction would continue after Le Roy's lifetime (Woudstra 2008).

Le Roy did not produce any detailed representations of the Eco-cathedral. The design of it emerged simultaneous to its construction. Rough sketches were created to convey ideas and, like the surveying of progress in the landscape laboratory, document the progress of the construction. Landscape historian Jan Woudstra juxtaposes Le Roy's approach to representation with conventional landscape architecture and its association with technical drawings and specifications to enable the construction of landscape, which in comparison limits flexibility in the process and the participation of other actors (Woudstra 2008:200).

Both the landscape laboratory and the Eco-cathedral are working processes which involve scale 1:1 work and experiments on site, where the designers envision and work on changes for site while being in direct contact with the actual site. Both practices could be considered a sketching of sorts, from the perspective of a tentative experiment with ideas on landscape transformation. The sketch work is, however, performed using the actual materials of construction. The outcome of the sketching process is not a proposal, but a transformation of the reality which leaves more or less apparent traces on site. In this sense, they differ from the premises for my forthcoming work on Högdalstopparna. Further, both practices mainly operate with a different relationship to time, embracing the long-term perspective of natural processes, and not the limited timeframe of a conventional landscape design process.

Considering the Earth and Land Art movement in relation to scale 1:1 sketching, the processes and procedures of certain practices within the movement are of interest. The Earth and Land Art movement include a range of divergent artistic practices. The exhibition *Ends of the Earth: Land Art to 1974* curated by Miwon Kwon and Philipp Kaiser at MOCA in Los Angeles, 2012, dealt with the emergence of Land Art and the complexity of the movement. It also highlighted the importance of media other than the actual earthworks used by the artists to document the works (Herd 2012).

Jeanne-Claude and Christo's large-scale landscape installations were made by introducing materials, often textile, that did not derive from and were then removed from site. The preparations preceding the actual scale 1:1 installation on site, including the obtention of permits and search for volunteers to participate in the construction of the work, were considered as important as the landscape installation (Archer 1997:93). As a process considered, the work on site, despite the ephemerality of the installations, has more in common with the construction of landscape project than with the sketching process.

In Richard Long's landscape walks, or performances, the artist himself created geometric forms such as a line, circle or square in the landscape. The geometric traces left behind in the landscape, if at all visible, would immediately begin to fade away after the walk was completed, and the experience of the art work would take place in a gallery through the documentation, in the shape of a map, a text or a photograph among other representations, Long made of his walk. The choice of representational technique was specifically made in relation to the specific idea. (Archer 1997:90).

Corner (1999) in his mission to pursue creative approaches to mapping of landscape relates the procedures of Long's walks to the *dérive*, or drift, of the Situationist movement and the aimless walks of Guy Debord. Corner highlights the performative aspects of the walks and how mapping from this perspective provides a complimentary perspective to e.g. the masterplan. Further, he recognizes how the recordings of the events are not in any way neutral but

subjective and curated representations (Corner 1999:233-234).

The *traveling transect* is a method developed by researchers Lisa Diedrich, Gini Lee and Ellen Braae for landscape mapping and analysis which seeks an approach that is sensitive to the unique qualities of particular locations. The method embraces the potential in first hand experience of landscapes and the subjective perspective of the designer-researcher in order to capture dynamic and ephemeral qualities of place, while also recognizing its relationship to large scale-contexts. The transect is organized in three steps: pre-travel preparations, including the research upon which the itinerary of the transect is based and the selection of tools for documentation of the field work, the travel through the landscape of study where deviations from the itinerary and findings are documented, and the post-travel recomposition and iterative mapping of the fieldwork findings, through which new site knowledge is rendered (Diedrich et al 2014).

sketching toolbox

Before going on site for the first time I make an initial choice of tools. This toolbox must respond to the particular project, the task at hand, and the need to transport the work from site to the studio. The choice of tools is intuitive but follows two principles

1. Scale 1:1 work on site can be carried out as material intervention, ephemeral installation or traceless performance.

2. Scale 1:1 sketches must be documented. The selection of media and techniques for documentation of the sketch work requires careful consideration.

In studio, a third set of tools are introduced, intuitively chosen from tools that I am used to working with for their assumed compatibility with the previously used tools and the specific project.

ON SITE SKETCHING	technique	tools	purpose
	Walking	Sneakers, rubber boots*	Performing the sketch
	Marking	300 flags (100 x red/yellow/orange)	Visualize scale 1:1 sketches in the landscape
	Cutting**	Secateurs	Clear path of vegetation when necessary/appropriate
	Writing	Sketchbook and smartphone	Conveying ideas
	Drawing	Sketchbook	Conveying ideas

ON SITE RECORDING	media	tools	purpose
	GPS-trail	Smartphone app	Recording my movements on site
	GPS-notes	-"-	Making annotations on specific locations on site
	Photography	Digital camera	Spontaneous photography of site features
	Film	Action camera strapped on to head	Constant video recording from my point of view***
	Sketches and notes	Sketchbook and pen	Recording design decisions and ideas

IN STUDIO SKETCHING	media	tools	purpose
	Digital 2D-drawings	CAD-software	Detailing of the on site proposal
	Digital 3D-models	3D-modelling software	Detailing of the on site proposal, visualize the proposal
	Physical models	3D-printer	Visualize the proposal
	Sketches and notes	Sketchbook and pen	Recording design decisions and ideas

* Added to toolbox after encountering a viper on Högdalstoppen.

**Added to toolbox after reaching a dead end in a dense rosebush.

*** Except during rain episodes as drops blurred the camera lens, and when battery discharged.

B. HÖGDALSTOPPARNA ON SITE/IN STUDIO

program

In this chapter, the testbed site is introduced through a summary of the historical background and current planning situation.The current and new program is presented.

SITE BACKGROUND

One consequence of the realization of extensive housing development and infrastructural projects of the 1960-70's in Stockholm was the enormous amount of debris from construction and demolition projects all over the city. The major mass-imbalance had to be resolved and the Director of Parks Holger Blom proposed a solution to the problem. The debris was to deposed in a series of peripheral sites around the city and constructed into artificial hills, thus adding a new topographical layer to the Stockholm fissure-valley landscape (Andersson 2000:89). Holger Blom envisioned the hills as large-scale sculptural additions to the existing landscape. The intent was not to resemble the natural topography of Stockholm, instead, Blom argued, they should rather be considered works of art and were developed as such in collaboration with artists using sandbox models to sculpt the shape of the hills (Blom 1983).

Of the three hills on site, Högdalstoppen was the first to be constructed. An ambitious program focusing on recreational activities was presented in 1963 and included both winter and summer sports such as down hill skiing facilities and swimming pools. The program in its entirety was not realized but Högdalstoppen did become a popular site for winter sports in the 1960's and 70's until the mid-1990's when the ski lifts were ultimately dismantled, due to their declined state (Lundgren 2016:142). When the second and the third hill, Hökarängstoppen and Fagersjötoppen, were completed in 1980 and 2001 respectively, no efforts were undertaken to actively transform the depositions into the recreational area Blom had intended. Instead both hills were mainly left exposed, without a covering layer of soil and any planting of vegetation (Melinder and Stephenson-Möller 2014).

Both use and physical appearance of site was thus left

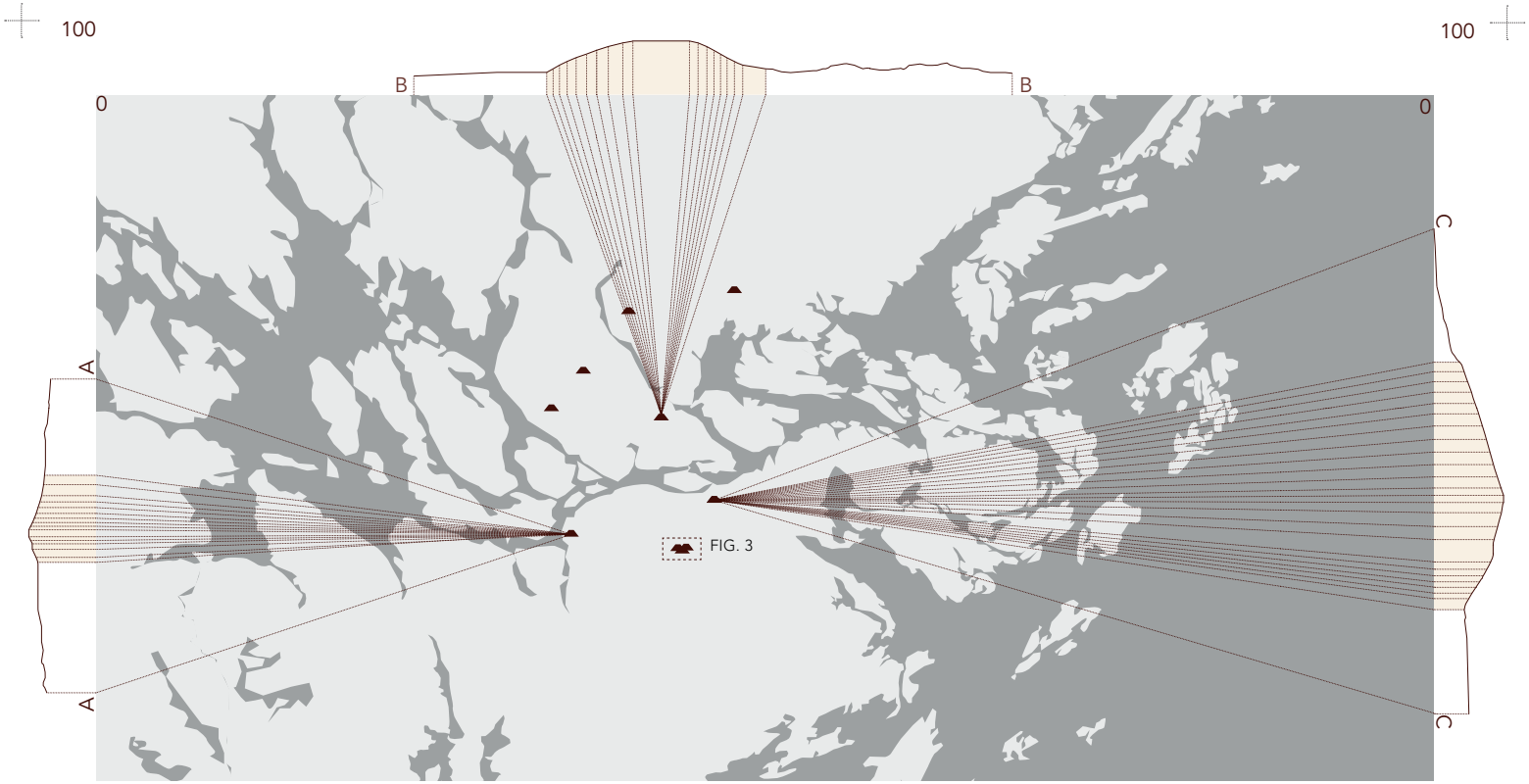


FIG. 2 LOCATION OF CONSTRUCTED HILLS IN THE STOCKHOLM REGION. SECTIONS OF VÅRBERGSTOPPEN (A-A), HAGATOPPEN (B-B) AND HAMMARBYBACKEN (C-C) IN SCALE 1:10000 (A4).

FIG. 3 DRONE PHOTOGRAPHY OF HÖGDALSTOPPARNA. PHOTO: MIKAEL THUNBERG.

open for the future and in a state of uncertainty. The most significant development of site in recent years is found in the expansion of the adjacent large-scale recycling facility and of Högdalenverket, a cogeneration plant producing heat and electricity through the combustion of waste, redefining the boundaries of site (Melinder and Stephenson-Möller 2014).

VISION FOR HÖGDALSTOPPARNA: PLANNING DOCUMENTS 2005-2017

In 2005 a vision for Högdalstopparna was adopted by the City of Stockholm stating that the area was to be developed into an attractive and frequented recreational area that offered the possibility of practicing spontaneous sports and outdoor life, experiencing nature and cultural events (Stockholms stad 2005:8). The vision was developed into a park program. The program focuses on interventions intended to assure and develop existing natural and experiential values on site and, improved accessibility and orientation on site. Further it proposes the construction of a skatepark as a target point to attract more visitors and ideas on how to develop the outlooks (Stockholms stad 2005). A skate park has since the program was adopted been realized on a nearby site in Högdalen.

The Stockholm comprehensive plan of 2010 highlights the proposed programming of Högdalstopparna as an example on how the the attraction of the city's green wedges may be increased (Stockholms stad 2011:42). The 2011 planning document *Program för Sambandet Högdalen-Farsta* identifies Högdalstopparna as an area that, due to its dramatic topography, holds a unique potential of being developed into a recreational area of regional importance (Stockholms stad 2011:8). The document suggests that the site should develop according to the park program of 2005 (Stockholms stad 2011:16). In the 2017 Stockholm Comprehensive plan (consultation proposal) it is stated that Högdalstopparna should develop as a green target point with an increased program and improved entrances (Stockholms stad 2017a:162).

CURRENT PROGRAM

The current use of site is mainly based on spontaneous activities that occur in the unprogrammed space of Högdalstopparna. Activities and qualities on site identified by the municipality include walking, running, playing ball games, nature play, picnic and sunbathing, sledding in winter time, views of the city and the feeling of restfulness (Stockholms stad 2017b).

NEW PROGRAM: DESIGN TASK

The aim of the project is to strengthen Högdalstopparna's function as a recreational area through the design of a new walking trail. The trail is to connect the three peaks of Hökarängstoppen, Fagersjötoppen and Högdalstoppen (Stockholms stad 2005). The proposal should focus on recreational qualities and make the multiplicity of scenic views and varying landscape characters available to both everyday and first time visitors.

on site: process

This chapter describes the sketching process on Högdalstopparna. It starts by addressing possible implications of starting up a project on site and describes the arrival and first impressions on Högdalstopparna. It then considers site as a scale 1:1 model and focuses on the (development of) techniques for sketching in the model. It ends by describing how site is not a model and how reality interferes with the sketching and the sketching with reality, providing both possibilities and limitations to the sketching process on site. In the margins, annotations from moments of reflection on site and recorded gps-tracks are displayed to provide the reader with specific examples to the topics discussed in the main text.

STARTING A PROJECT ON SITE

Christophe Girot (2015) questions the acceptance within the field of landscape to work with methods that he finds insensitive to unique local circumstances. The designers of landscape should, Girot argues, return to the terrain. The notion of terrain has over time shifted from an understanding based on bodily experience towards a more abstract concept and resulted in a lost connection between the physical landscape and the working methods for intervening in it. Girot stresses the importance of direct contact with the actual terrain for the development of an informed design approach which is sensitive to the unique features of the landscape. Girot's approach embraces the fact that landscape architecture work is practiced mainly in the context of a studio and the tools and techniques associated with the approach are chosen from this perspective. IN STUDIO, I will return to this matter but first I will test the combination of a return to terrain in the literal sense and scale 1:1 sketching techniques as an approach to a project in landscape architecture.

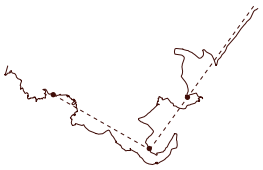
I arrive to Hökarängen by bike. It has taken me over an hour, twice the time I expected, from getting constantly lost on the way. I leave my bike by the square at the centre of the neighborhood and continue on foot through the residential area until reaching the forest adjacent to Högdalstopparna. When I reach the point where

AUG 4 13.07

first glimpse of Hökarängstoppen

Hökarängstoppen, one of the three hills, becomes visible I stop. I take a photo with my digital camera, activate the GPS-app on my phone and strap the action camera to my head. The moment feels somewhat dramatic. I also feel a bit silly and very self-conscious standing alone in the forest dressed up in technology.

Besides the selection of tools, I have only made one decision on a strategy for the start up of the work on site. The decision came from thinking on the traveling transect method and I have considered the itinerary of my first session. Drawing the transect line across a site plan is enough to comply with one of the requirements of the program – to connect all three peaks – and I make it my planned itinerary.



AUG 4 13.07-15.40

gps-track of first sketch and planned itinerary

In earlier writings by Girot (1999), he promotes an approach to site which combines direct physical experience, intuition and local research. The approach is intended as a guide for designers to act knowledgeably by focusing attention on existing site features and is expressed through the four concepts of *landing, grounding, finding* and *founding*. *Landing* refers to the ”moment when a designer still does not know anything about a place and yet is prepared to embark on a lengthy process of discovery” (Girot 1999:61). Girot addresses the discrepancy between the designer’s preconceived ideas about site and the experience of reality on site for the first time. He regards the tension produced between preconceptions and experience of the actual situation on site as a potential contributor to the design work in the early stage of the process.

I came to Högdalstopparna for the first time expecting spectacular views of the city. My first annotations, made while ascending Hökarängstoppen for the first time, are ”First view of Globen” and ”View of Kaknästornet”. The reference to two of Stockholm’s most iconic buildings reflects what I thought would be one of the most significant qualities on site and therefore likely to have a major influence on the layout of the walking trail – the views towards the inner city and its landmarks, north of site. What surprised me was instead the view facing south (FIG. 4).

FIG. 4 VIEW OF SOUTHERN STOCKHOLM FROM HÖKARÄNGSTOPPEN.

Girot argues that impressions and insights that occur during the event of landing often remain important factors throughout the entire design process (Girot 1999:62). *Grounding*, the second of the four trace concepts, is less intuitive and coincidental than landing and is about reading and understanding site through repeated visits, analyzing the traces on site. Landing only happens once, whereas grounding is a recurring process (Girot 1999:63).

Adjacent to site is the industrial area of Högdalen. A large-scale recycling facility and a cogeneration plant producing heat and electricity through the combustion of waste are two of the main functions within the area. Together with the regional commuting trains, whose tracks partly define the southern boundary of site, they act as significant contributors to the sensuous experience on site; the episodic sound of lorries emptying loads of glass bottles and speedy trains passing by, the occasional smell of waste combustion. Understanding how these features affect the experience on site requires research beyond the initial discoveries of the landing phase. Throughout the 10 days on Högdalstopparna, I take note of the differences from day to day and in different locations on site and become gradually more informed by my own impressions as well as from what I learn from the insiders – the users on site– and how they experience sounds and smells.

The third trace concept, *finding*, is the act of searching for and finding of distinct qualities of place. What is found depends on the method for searching (Girot 1999:64). The method I use, which may be described as sketching and searching for qualities simultaneously, result in me finding things which are related to the program – scenic views, differences in landscape character within site, traces of paths. *Founding*, the fourth concept, is described as bringing something new to a place. It concerns the transformation of site and is, following landing, grounding and finding, a reaction to the things already there (Girot 1999:65).

HOW SITE IS A SCALE 1:1 MODEL

Schön describes the sketching process as a situation taking place in a virtual world. The situation which I have set up for myself is one where the virtual world is the real

world situation; the actual terrain of Högdalstopparna is a scale 1:1 model of itself where the testing of ideas take place. The scale 1:1 practices in the previous chapter have provided me with three possible entries to scale 1:1 sketching techniques – sketching as material intervention, ephemeral installation, and performance – which I use for the thinking and making of the proposal of the trail.

Schön relates a situation of sketching in the architectural studio and how the architect oscillates between involvement and detachment from the projected spaces in the drawing. The architect's spatial thinking allows her or him to imagine the experience of moving through the space represented in the drawing. But this alone is not enough. The architect also needs to take a step back and consider the larger relationships connected to the imagined space (Schön 2003:102).

In the on site situation, I do not have to imagine myself moving through space as this is how I literally sketch. Mainly to work on the proposal for the trail, but sometimes just as an experiment: looking for the "perfect" spot to experience the panorama on the peak of Fagersjötoppen while spinning around in a circle, testing if walking too close to a steep edge is as thrilling as I imagine it to be. Confined to reality as my scale 1:1 model, the lack of overview complicates stepping back to consider the scale 1:1 sketches in relation to the overall layout of the trail. Instead of imagining the drawn space, I imagine site as a representation. I visually imagine Högdalstopparna as a scaled model or a plan drawing and my movement as drawn line or incision into the model. I also, like Le Roy, make rough drawings in my sketch book to convey ideas before testing at full scale.

I more often than not find that there are multiple alternatives to consider for the same segment, and in some cases that repeated sketches performed through walking does not help me discern the arguments I need to choose one particular alternative. Despite the repeated walks, testing different alternatives over and over again, I simply do not now if it is "good" or a "bad" idea. After some repetitive, and in some cases irrational, attempts and pondering upon a range of questions – Does it

become easier when familiarity with site increases? Is it a representational problem? Pin out the previous sketch using the marking flags to be able to compare on site? Which instrument is most useful to transport the insecurities and be able to compare multiple options in studio? – I come to think that this is due to either one or two things. First, that from the situation I have set-up, the simplicity of the program and constant scale 1:1 sketching performed through walking, I have become so obsessed with creating the perfect walking trail that I sometimes overdo it. If no specific site features or other arguments for a certain route become evident through walking it, perhaps it does not matter exactly where I place it.

Or, second, the scale of and the time needed to produce the sketches make them difficult to compare. When performing one sketch through walking, I am too immersed in that one to be able to conceptualize the differences between the particular sketch and another alternative. The carrying out of the sketches is, compared to a drawing in the sketchbook, a time consuming activity – especially in this topographically challenging terrain and making everything by myself. Ideas are tested at the speed of my movement.

The issue of comparing different proposal to one another can in some situations be solved through combining walking with a second scale 1:1 instrument – the marking flags. When working in detail with a fragment of the trail on the peak of Högdalstopppen I make use of this combination. Coming from the entrance in Högdalen, this is where one gets the first panoramic view of site, overlooking the two other hills, which includes both experiential aspects and the first overview from which to construct an understanding of the area and orient oneself from.

I place the marking flags, walk back and forth, adjust the flags, to find the precise location of the trail fragment. I make a second sketch next to the first one, offsetting it a couple of meters from the first, using a different color set of marking flags. I can now look at them both as if they were two layers of tracing paper placed on top each other, and evaluate them by moving along them. I decide on the

orange trail.

Le Roy's initial aim with the Eco-Cathedral was to see how much could be achieved by one man in space and time (Woudstra 2008). This was not my intent, although I do experience a thrill of actually trying to make a full-scale sketch directly in the landscape by my self. I become very fond of the marking flags and when looking at a pinned out trail of red flags, I find it aesthetically pleasing.

AUG 11 17.25

Order more marking flags? Mark the entire proposal? Requires help from more people...

Corner highlights the importance of recognizing the difference in the production of picture and the production of landscape when working with the representation of proposals, in order to not reduce the landscape experience to a scenic one (Corner 1992:155). Have I, although not working with site at a distance through drawings, walked into another of Corner's representational challenges – that of not working with the actual construction materials but a visual representation? Have I stepped out of my role as a landscape architect working with the projection of a proposal, and started to believe that I am Le Roy, or Jeanne-Claude and Christo without collaborators?

HOW SITE IS NOT A SCALE 1:1 MODEL

Schön's description of the virtual world of drawing includes abstraction - the elimination of real world features which may distract the process of conceiving a proposal. Högdalstopparna is not a virtual world, but a real world landscape. Not even the most small-scale feature on site can be eliminated and have bearing on the unfolding proposal.

AUG 7 12.17

So hot today! Nice with cooler and more humid air.

Precisely the lack of abstraction becomes the basis for exploring different alternatives for the trail. While sketching on multiple options on the eastern slope of Fagersjötoppen, each alternative is clearly connected to the multi-sensory experience of walking the trail, including choosing from different views available form different vantage points and whether to lead the trail through the dense, low woodland stand to provide shade to some parts. Further, one possible solution is to connect the trail to an existing path which would reduce the remodeling of terrain needed to construct the trail.

From the small number of photographs I had seen of

FIG. 5 THE VALLEY BETWEEN HÖKARÄNGSTOPPEN AND FAGERSJÖTOPPEN.

FIG. 6 THE TALL HERB MEADOW ON FAGERSJÖTOPPEN.

AUG 5 17.16

View corridor towards the peak of Fagersjötoppen, bring secateurs!!

Högdalstopparna prior to the work on site, I assumed that I would be able to move freely when testing proposals for the trail. The photographs however, as they were either taken in winter time or from several years ago, did not reveal the dynamics of the tall herb vegetation. On site in August, it is one of the most influential aspects both in terms of a site quality on Högdalstopparna (FIG. 5-6) and how it affects the sketching process. The tall herbs in combination with dense shrubbery restrict my movement; I become entangled in a rosebush, encounter vipers and find ticks on my skin.

AUG 7 11.41

Good view on the way up, resembles The Hills at Governors Island. Want to continue in the same direction, but need rubber boots and long sleeves.

I update my outfit and sketching toolbox, and bring rubber boots and a pair of secateurs to trample and cut vegetation when sketching. I cannot do this everywhere, as the scale of the site means I will not be able to work through an entire proposal for the trail within the 10 day time frame.

While walking down the eastern slope of Hökarängstoppen I notice a man and a woman cutting grass using a pair of secateurs. This makes me curious as I have been doing the same thing myself on the other hillside. I ask them what they are up to. They explain that they are preparing for an off-road cycling event which is to take place in the evening. The site is perfect for this activity, except for the occasional smell of garbage when the wind is blowing in the wrong direction. They ask me about the marking flags and we discuss the difference between going up- and downhill and how it is difficult to know if a trail works both ways until it has been tried in both directions. I ask them if they are the ones who have constructed the speed bumps I have noticed around site and they confirm to be the makers. They suggest I shift my focus from walking to biking and that I make a proposal for a bike trail.

British anthropologist Tim Ingold (2012) writes about a meshwork in the landscape which he describes as an entanglement of lines. The meshwork is characterized by movement and growth from the many superimposed passages made by living beings in the landscape. ”One could almost treat line as a verb, and say that in the thing’s growing – in its issuing forth, in its making itself visible, as

the painter Paul Klee would say – it lines (Ingold 2012:51)" Ingold writes.

The notion of the meshwork may be applied both to describe the nature of the sketching process (FIG. 7) and for describing existing conditions on site which inform the proposal. As the state of the vegetation at the time of the sketching on site prevent me from moving uninhibited I move where it is has been made possible by previous movement. In some cases, the accumulated lines have grown into a trampled path. In others, they are more ephemeral traces of people biking, the passage of deers and management machinery. They are now absorbed into the proposal for the trail.

Being constantly present in the space I am working with, triggers reflection on subjectivity. Using my own body as a sketching tool, and making my movements on site the proposed design for the site, raises questions on the relationship between informed design decision based on my education in landscape architecture, and the decisions provoked by personal bias. How much do my personal preferences, needs and fears affect the design proposal? Is the double role of being simultaneously designer and user on site an asset or does the personal experience get in the way of informed design decisions?

Four caravans are parked by the foot of Högdalstoppen. One of them has the word 'HOME' handwritten on the side. I never see anyone there, but I notice details around the camp shift; clothes being hanged out dry, a chair being moved. When I sketch-walk, I maintain at a distance from the camp, sometimes closer but never crossing through. I wonder how I would have dealt with this dilemma in the studio. Trailers are moveable, an actual park renovation at Högdalstopparna would most likely result in a dislocation of the settlement, even if I chose not to intervene on that particular plot of land. But being in the space where this is the present reality, I still choose not to. There are so many other options.

I experience fear in certain situations. Mainly this happens when sketching on Högdalstoppen, which I relate to the fact that it is the part of the site where I feel the least

secure. If I was acting on site as user I would simply not go there and restrict my use of site to the areas where I start to feel at home and actually like. But the designer role requires I do something to adjust the situation. I decide to spend more time on Högdalstoppen and, in Högdalen, as I suspect that I am also influenced by the fact that I am more familiar with Hökarängen. I also decide to embrace my personal preferences and fears as part of the motivation behind the layout of the trail on Högdalstoppen which means staying out of the woods and keeping to the more open parts.

Contingent events which would not have become part of the sketching process had it taken place in studio, such as the encounter with the off-road cyclists or my focus being disrupted by the cracking sound of a deer in the thickets, both contribute to the conception of the proposal and reflection on scale 1:1 sketching on site. As site is not just a virtual world of a scale 1:1 model but a real world landscape, the scale 1:1 sketches do produce real and at times unintended consequences. My actions, like the cyclists ongoing constructions and maintenance of tracks and bumps, transform reality on site. These consequences, unintended or not, reveal new aspects of scale 1:1 sketching. ”Is there going to be a race here today?” a man making his way down the western slope of Hökarängstoppen asks me. He is wondering because of the trail of marking flags he has noticed and now caught me placing. I explain the reason behind what I am doing. He says that he has been continuously turning around to watch his back, afraid that he is going to be hit from behind by a bike, I apologize and he leaves.

A few days later, I am engaged in detailed scale 1:1 sketching on Fagersjötoppen. I am using the marking flags to test a sequence stretching from the peak and 200 metres down the western slope. Suddenly a family appears on the ephemeral path, they have followed the marking flags from the top and are curious to see what is going on. They thought perhaps someone had organized a quiz walk. I explain the actual reason and we talk briefly about the trail. Again, my sketches have intervened with the reality of site and with the behavior of other actors. But the most important result of this encounter was how

the visualized scale 1:1 sketch generated an immediate understanding on how this fictive path was different from the existing.

This encounter makes me think about the collaborative scale 1:1 practices referenced in the introductory chapter. Woudstra (2008) makes a connection between Le Roy's chosen mode of work and the possibilities for a collaborative creative process. In the landscape laboratory, the hands-on work has facilitated collaboration between both different design and research disciplines, and between professional designers and groups of users. To what extent do the sucess of these processes relate to them taking place on site and to the scale 1:1 work?

After 10 days of sketching on Högdalstopparna, the first deadline of the project has expired resulting in a proposal produced in scale 1:1 on site. The next step is to translate this work, not from drawing to built design as in Schön's notion of translation, but from reality/scale 1:1 model to the virtual worlds IN STUDIO.

FIG. 7 **THE MESHWORK OF SCALE 1:1 SKETCHES.** 36 SUPERIMPOSED SKETCH-WALKS ON SITE RECORDED WITH GPS.

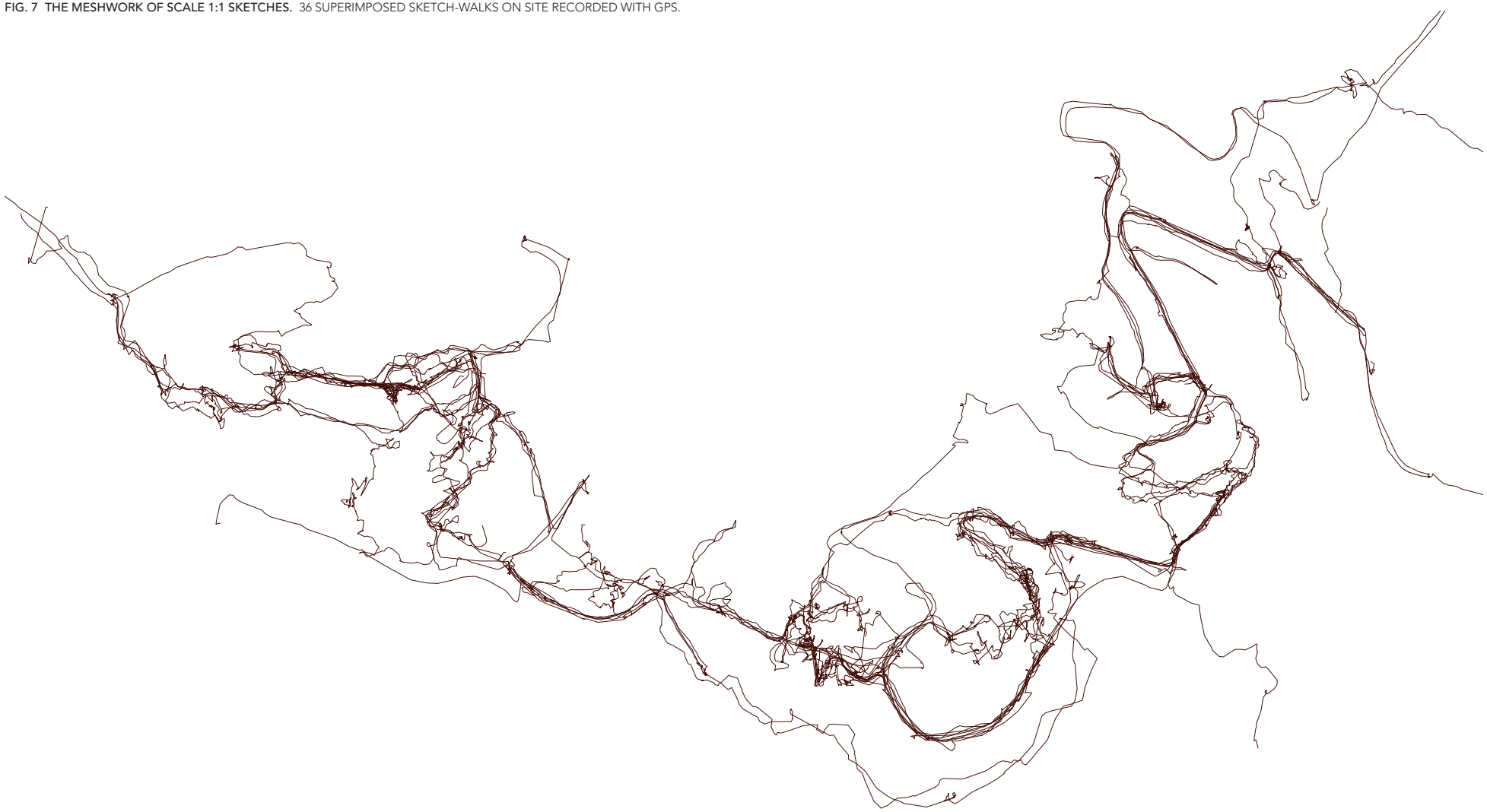
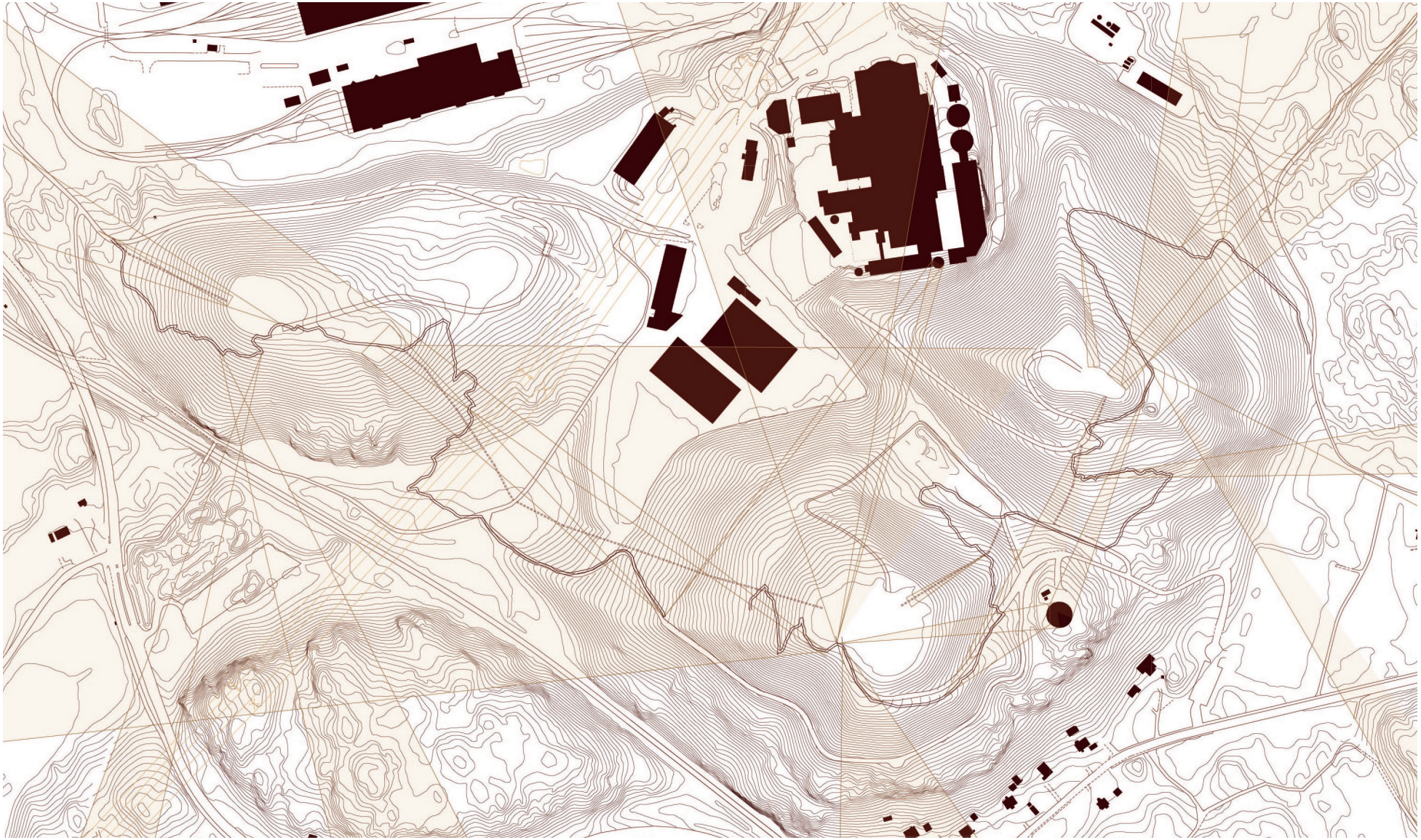


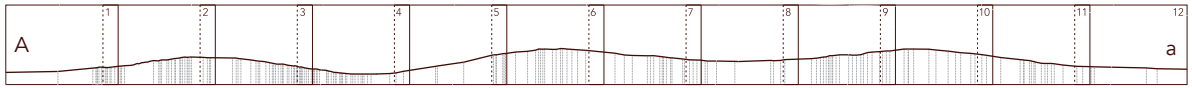
FIG. 8 **SITE PLAN.** PLAN DRAWING OF SCALE 1:1 PROPOSAL FOR THE WALKING TRAIL AND SELECTED SCENIC VIEWS.



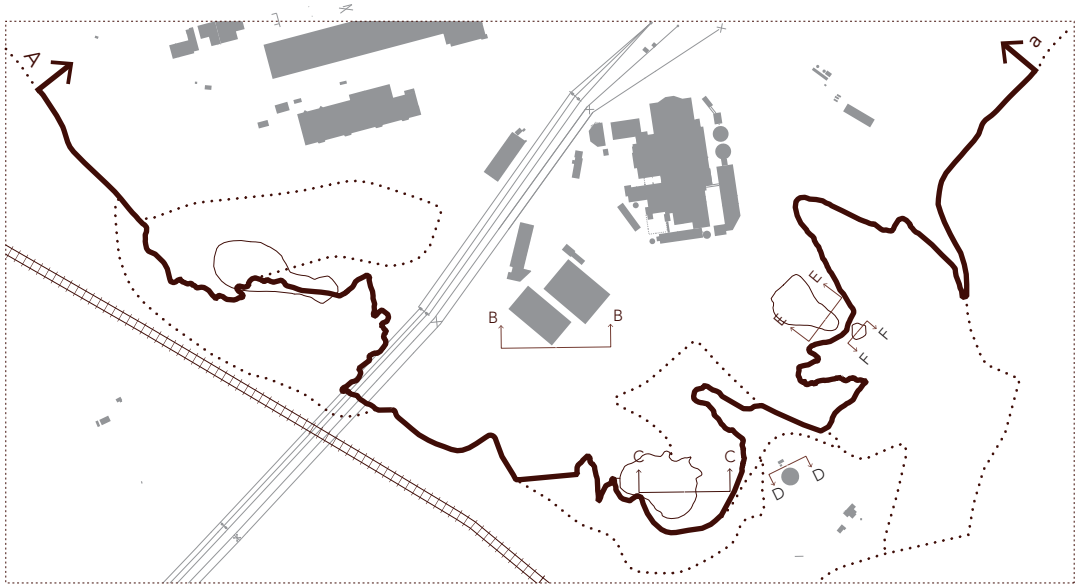
SCALE 1:5000 (A4)

MATCH LINE

FIG. 9 **ELEVATION DIAGRAM.** THE TOPOGRAPHY OF THE TRAIL AND ILLUSTRATION OF EXISTING SITE CONDITIONS ALONG IT.



THE ELEVATION DIAGRAM SPREAD OUT ACROSS 12 X A4



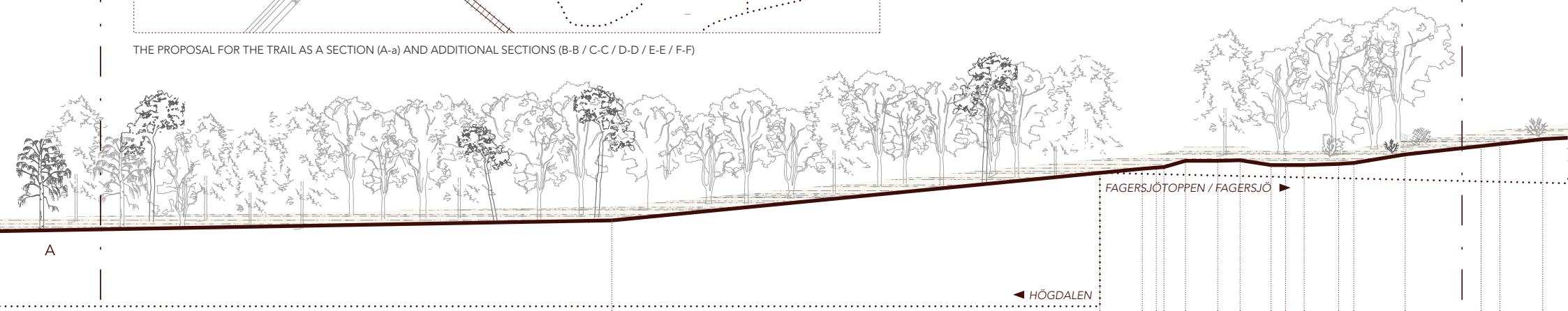
LEGEND

ON SITE PROPOSAL (A-a)

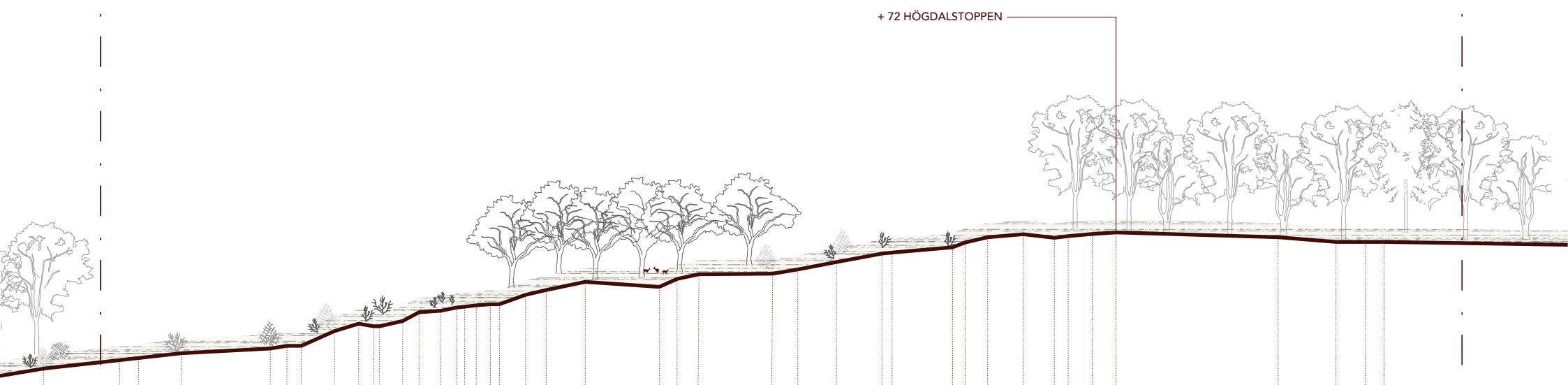
ADDITIONAL SECTIONS

CONNECTING PATH

THE PROPOSAL FOR THE TRAIL AS A SECTION (A-a) AND ADDITIONAL SECTIONS (B-B / C-C / D-D / E-E / F-F)



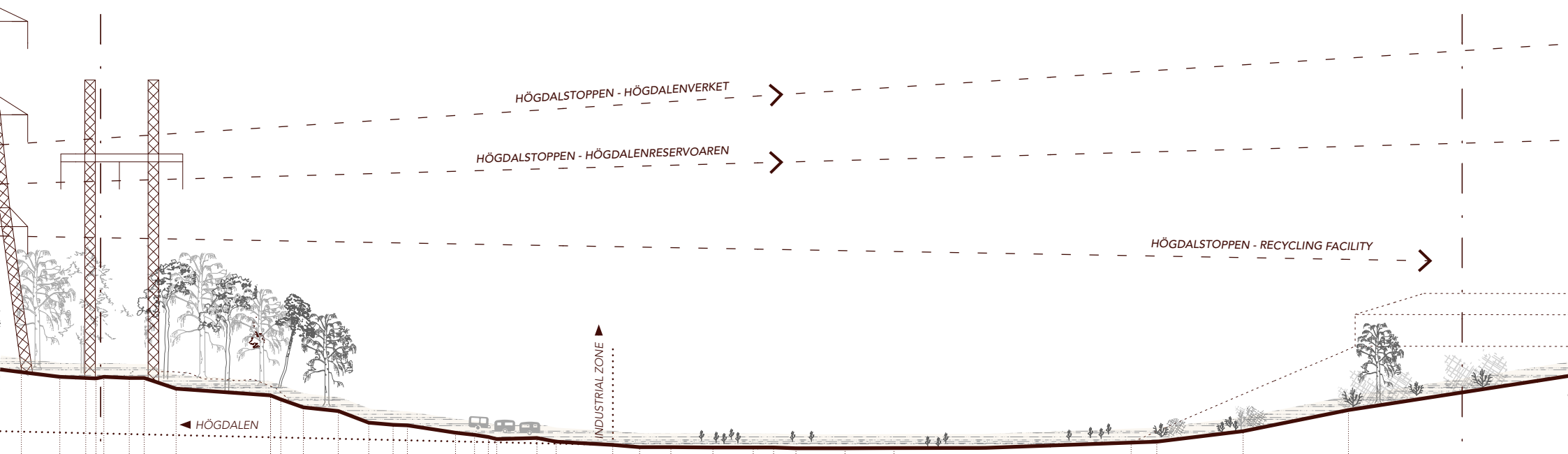
MATCH LINE



MATCH LINE

SCALE 1:1000 (A4)

MATCH LINE

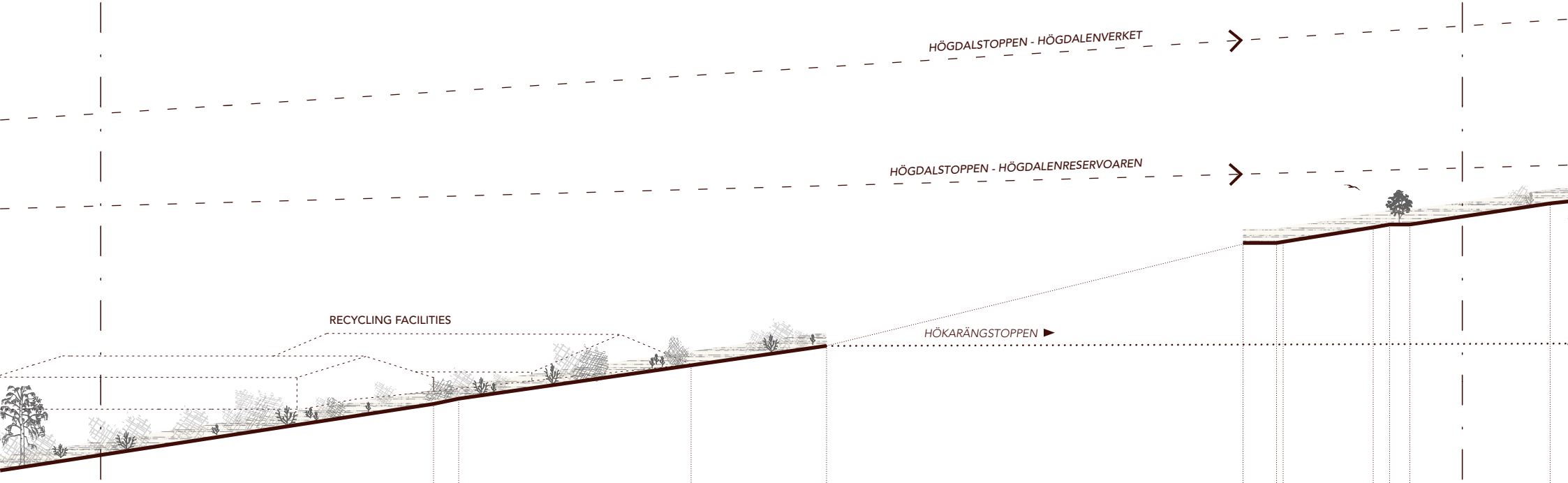


B

SCALE 1:1000 (A4)

55/105

MATCH LINE



B

SCALE 1:1000 (A4)

MATCH LINE

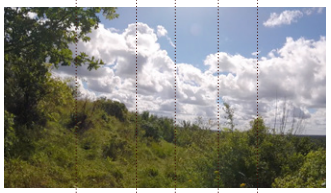
+ 95 FAGERSJÖTOPPEN

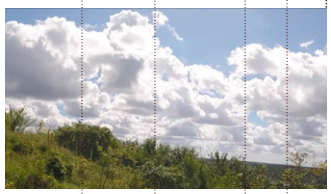
HÖGDALSTOPPEN - HÖGDALENVERKET

HÖGDALSTOPPEN - HÖGDALENRESERVOAREN

C

C





SCALE 1:1 SKETCHING AS PERFORMANCE (WALKING)

MATCH LINE

HÖGDALSTOPPEN - HÖGDALENVERKET

FAGERSJÖTOPPEN - HÖGDALENVERKET

HÖGDALSTOPPEN - HÖGDALENRESERVOAREN

FAGERSJÖTOPPEN - HÖGDALENRESERVOAREN

SCALE 1:1 SKETCHING AS MATERIAL INTERVENTION (CUTTING)

MATCH LINE

HÖGDALSTOPPEN - HÖGDALENVERKET

FAGERSJÖTOPPEN - HÖGDALENVERKET

HÖKARÄNGSTOPPEN - HÖGDALENRESERVOAREN

HÖGDALEN RESERVOAREN

◄ HÖGDALSTOPPEN

FAGERSJÖ ▼

HÖKARÄNGEN ►

D D

SCALE 1:1 SKETCHING AS EPHEMERAL INSTALLATION (MARKING)

SCALE 1:1000 (A4)

MATCH LINE

HÖKARÄNGSTOPPEN - HÖGDALENRESERVOAREN

E






SCALE 1:1000 (A4)

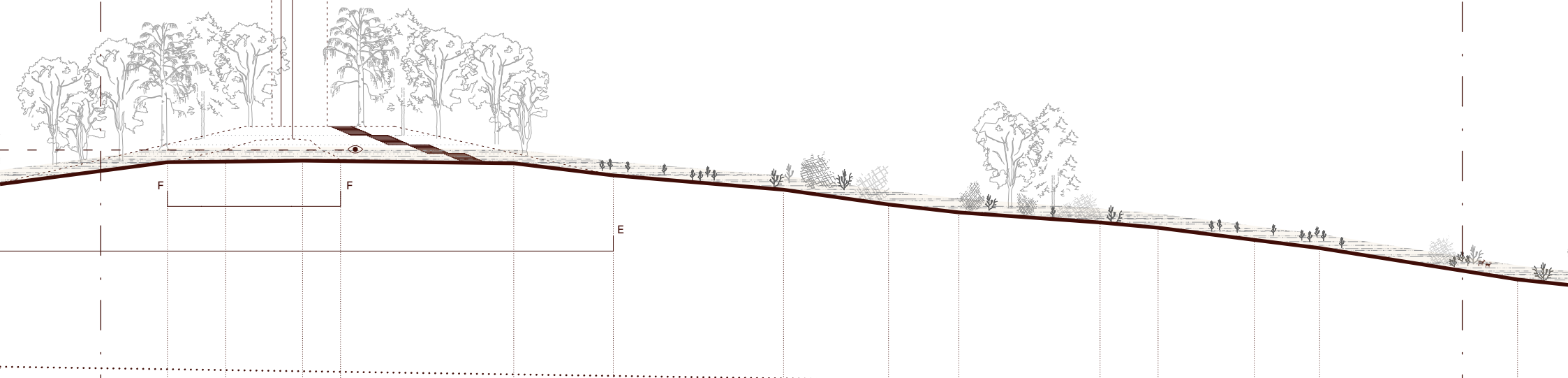
ON SITE: PROPOSAL

MATCH LINE

HÖGDALENVERKET

+ 102 HÖKARÄNGSTOPPEN

"SMALL" HÖKARÄNGSTOPPEN



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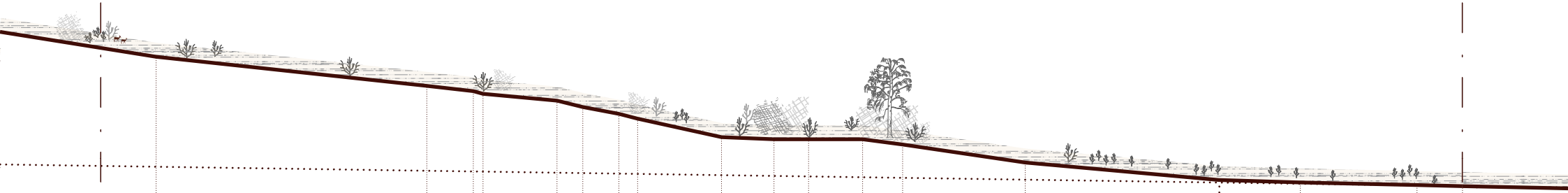

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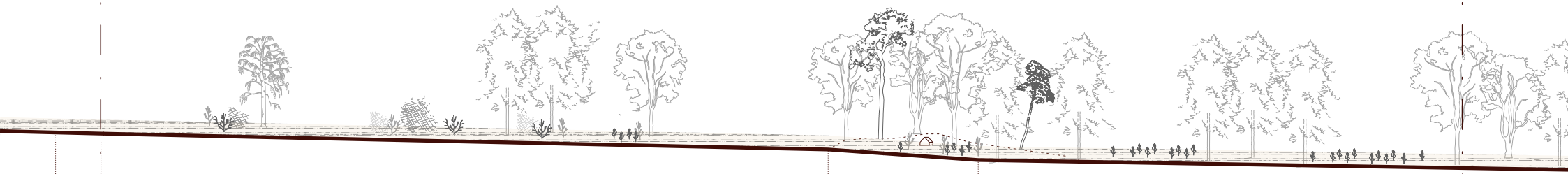

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HÖKARÄNGEN ►

PHOTO: MAJA RÅBY.

in studio: process

This chapter describes the sketch work in studio, and examines the investigative sketch work on site/in studio in relation to Girot's topical method for landscape design and research on fieldwork tools at ETH Zürich. It also provides examples of explorative experiments made in studio, aiming at an understanding of the possibilities of sketching tools and techniques to connect the work on site to the work in studio.

TOOLS & TECHNIQUES IN STUDIO

Ilmar Hurkxkens (2015), researcher in landscape architecture at ETH Zürich, suggests that the distance between the material reality on site and work in studio may potentially be reduced through innovation in design instruments. Each media, or instrument, has its own possibilities and limitations in terms of representing site characteristics and proposed changes. The choice of media will subsequently have an impact on the proposal, and ultimately the built project. Relating back to Schön's description of the virtual world of architectural drawing, it includes the need for translation from drawing to built design and that the architect chooses from a repertoire of media and techniques based upon an existing tradition within the profession (Schön 2003:158).

Hurkxkens (2008) argues that if the work of the architect is to be considered as visionary, the development of new and not only choosing from existing design instruments should be part of that work. Two possible ways of how to accomplish innovation are introduced: the first is by borrowing tools from other domains and the second by assembling new combinations of existing tools within the discipline. He presents three concepts related to innovation in toolboxes in the field of landscape: *hybridization, site-specificity* and *funkiness*.

Site-specificity applied to design instruments is based on the notion that every site has its own unique characteristics, and therefore requires tools developed specifically for the particular site and project context. Hurkxkens argues that every design project should start off from the selection

of specific instruments. This choice is an intuitive one, combining different tools from an hypothesis of what they will achieve (Hurkxkens 2015:27). In the section ON SITE: PROCESS, possibilities and limitations to different scale 1:1 sketching techniques specifically chosen for the project and site were presented and discussed in the on site work context. But as the process now continues in studio, new decisions on design instruments need to be made in order to bring the proposal closer to translation into built work.

Having developed a first proposal for Högdalstopparna entirely in scale 1:1 and not in a scale or media that I am used to creating and reading design proposals from, there are certain aspects of the proposal I do not understand. What kind of aesthetics does the scale 1:1 sketching on site inflict on the proposal? The first step of the process in studio is to translate the on-site proposal into a representation which helps me understand the proposal in the changed work context.

Hybridization in Hurkxkens's definition refers to the combination of existing tools within the field of landscape architecture with tools from other fields. As an example the combination of analogue sand-modelling and instant scanning of the model, a technique developed at ETH, is provided. The combination of instruments makes it possible to connect analogue modeling to a digital 3D-model which is continuously updated as the sand is remodeled (Hurkxkens 2015:29).

Although not as instantaneous as the sandbox-digital model tool, the combination of walking on site, GPS-recording and digital drawing software works in a similar way. This 'hybrid' mode of sketching translates the scale 1:1 sketches from site to the studio where I can now investigate the outcome of the scale 1:1 sketch work as well as continue the process, working on the aspects which I did not resolve on site and further detailing of the proposal. The process can also be inverted, bringing a sketch developed in studio to site and locate its position in the landscape, making adjustments to the proposal on site. This was done in the sketch work performed and described in IN PRACTICE.

Hurkxken's third concept, *funkiness*, questions the capacity of digital tools to represent both aspects of landscape which are not quantifiable, and the designer's creative and intuitive actions working with a proposal. The on site proposal has not dealt with the trail as a quantifiable, material surface. The GPS-recordings simply represent lines of movement on site. My first move in studio is to offset the line in a two-dimensional drawing, translating the line to a surface which could be constructed. Hypothetically, this one move is enough to translate the scale 1:1 sketch work on site to work which may be built and the plan drawing provides me the overview I lacked on site to consider the trail in relation to the more large-scale spatial organization on site. This swift experiment instantly reveals an inherent aesthetic to the scale 1:1 sketching technique of walking (FIG 8 & 10-11). The shape of the path reflects how I have moved on site, conditioned by the small-scale topographic features and vegetation.

Further detailing and refinement of the proposal is also necessary. The current grading of the proposal is entirely based on the GPS-recordings of my movements on the existing terrain which as revealed in the elevation diagram has resulted in a somewhat irregular gradient (FIG. 9). This is another outcome of the scale 1:1 sketch work on site, a proposal which is, perhaps overly so, respectful to the existing terrain. Further, complementary hand drawn sketches and annotations from the work on site at times show a different intention than the scale 1:1 sketches.

Hurkxkens, without providing specific examples on funky tools, argues for the use of multiple technologies and techniques of representation for the development of a proposal (Hurkxkens 2015:31). Similarly, Diedrich et al (2014) find that the combination of several tools for representing relational, dynamic, and atmospheric aspects of site, supports knowledge-production and that much knowledge is produced in-between the tools in the traveling transect method.

The time stamp of the video recording and the GPS-recordings of the scale 1:1 sketches on site makes it possible to return to a specific moment and location on site when remodeling the proposal in studio. I use this

combination of data collected on site working on the design of a stairway connecting the trail to the highest peak of Hökarängstoppen. On site, I did not make a specific decision on where to place the stairway. It was left at the stage of an idea to create a 'formal' access point to the highest point in Stockholm and not investigated in detail. I have a series of rough scale 1:1 sketches made walking up and down the hill prior to a decision to exclude the highest peak from the trail itself.

In studio, I work with the sketches translated into two-dimensional lines in a CAD-software, combined with the video recorded simultaneously to the performance of the sketches. I make a proposal for the stairs choosing from several points of view recorded on video and working from the rough scale 1:1 sketches. Whether funkiness is achieved, I cannot answer, but it does allow me to work on this specific part of the proposal with site qualities and small-scale features which are not represented in the two-dimensional ground map informing the decisions. Working with the tools and techniques of the studio, I can also model the new additions and visualize it in scaled models (FIG. 12-13).

ON SITE IN STUDIO

Christophe Girot promotes a topical approach to landscape design. *Topology*, as defined by Girot, is understood as 'intelligence about the terrain' and is concerned with the "refined art of picking out the essential features of a site" (Girot 2013:82). The approach is developed in response to what Girot considers to be universal methods for landscape design, insensitive to unique characters of particular sites and promoting globalization over local culture (Girot 2017:136).

The universalist design methods of which Girot is critical, are based on the systemic layering of landscape features and originating from Ian McHarg's layered technique for landscape analysis. Girot's main critique of the layered approach is that it does not consider the three-dimensionality of the terrain and encourages the separation between nature and culture by not considering the landscape as full body and the uniqueness of the local terrain which is the sum of both built and natural features

(Girot 2017:138).

Girot's topological design method requires sketching tools that reveal the full complexity of the local terrain. The point cloud model, a digital model constructed from large data sets retrieved from precise laser scanning of site, is introduced as a tool that goes beyond simplified and picturesque representations. The precision of the model makes it possible to "literally visit each rock, each tree, each house (…) placing viewer, the client, the designer at the heart of the landscape and the intended design" (Girot 2013:94).

Topology thus promotes working with landscape represented in full detail in regards to the materiality of site, an opposed position to the notion of abstraction illustrated by Schön as one of the virtues of the virtual world of sketching and in this sense, closer to the sketch work in scale 1:1 on Högdalstopparna. In relation to the other dimensions of the virtual sketching world, the point cloud model shares its characteristics. If the designer masters the technique, design experiments can be tested and investigated at a pace which exceeds the real world time of making, and as it works from geographically positioned information, precise translation from model to intervention on site is supported.

The three-dimensionality of the point cloud model and the inclusion of the designer's subjective point of view when navigating in the virtual landscape restructures the relationships between different landscape elements, making time appear in a different order than in the two-dimensional plan and from the designers chosen view (Girot 2015:19). Girot stresses the role of the individual designer in the process. The topological method and modelling techniques provide opportunities for informed interventions on site but the success of the proposal is ultimately dependent on the capacity of the designer to capture the essence of the landscape. The designer's decision making on how to intervene on site follows considerations based on a combination of site conditions, program and intuition (Girot 2017:146).

On site, I questioned how my subjective perspective

and reflected on how my own physical presence on site affected the decision making for the proposal. In studio, I test the combination of hybrid-sketching tools and additional data recording on site to recreate the subjective experience. Combining a digital terrain model with the translated scale 1:1 proposal for the trail and photography (FIG. 14-16) enables the inclusion of the subjective perspective from which the frame was selected and the material qualities on site at that particular moment and to distinguish between the vegetation that covers the surface and the terrain below, in part a layered technique but from a perspective of "being" in the landscape. Moreover, it allows me to discover new things about the proposal and the scale 1:1 sketching techniques as the path is visualized on the hills of Högdalstopparna.

Working with Högdalstopparna in studio, I have been able to experiment with tools and techniques openly to test the relationship between scale 1:1 sketching on site and the studio context. Next I will investigate how scale 1:1 sketching on site might work in a situation of increased complexity in real world landscape architectural practice.

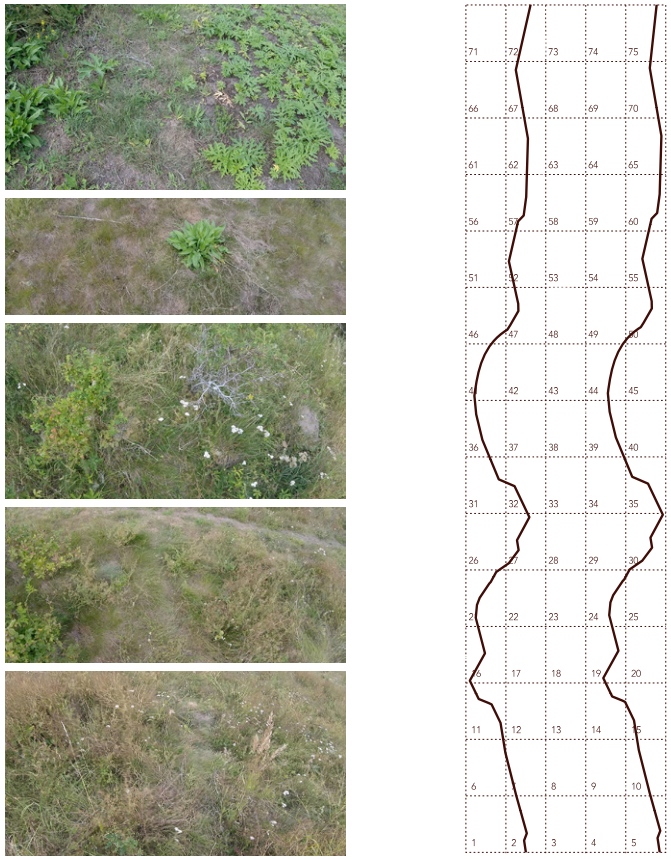


FIG. 10 SCALE 1:1 PROPOSAL (WALKING). STILLS FROM ACTION CAMERA RECORDINGS AND SCALE 1:1 PLAN (75 X A3) OF ON SITE PROPOSAL.

FIG. 11 SCALE 1:1 ON SITE TRANSLATED TO SCALE 1:1 PLAN IN STUDIO.
PHOTO: MAJA RÅBY

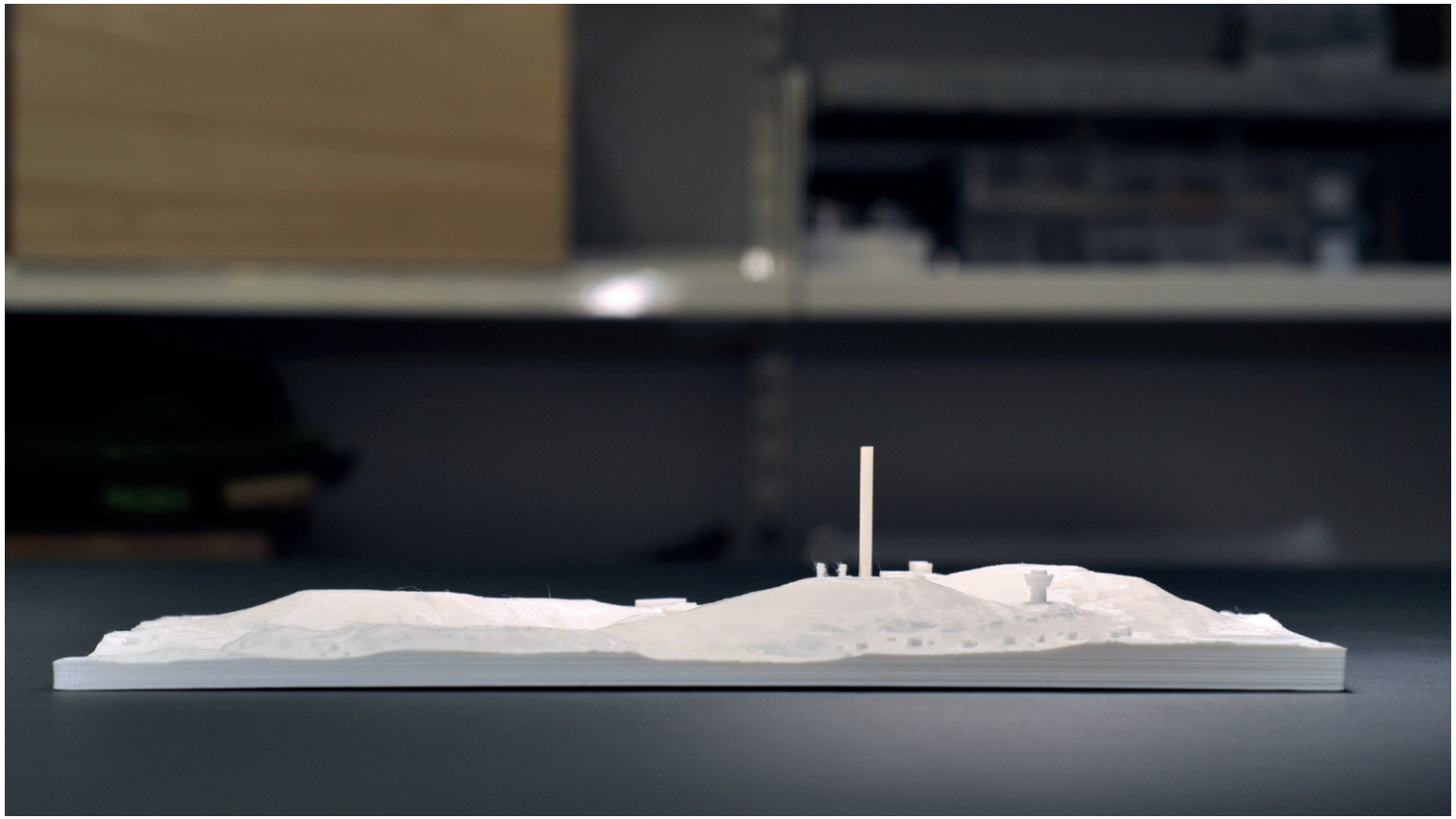


FIG. 12 SCALE 1:5000 PRINTED TERRAIN MODEL OF THE PROPOSAL. PHOTO: MAJA RÅBY.

FIG. 13 SCALE 1:500 PRINTED DETAIL OF TERRAIN MODEL OF THE PROPOSAL REMODELLED IN STUDIO. PHOTO: MAJA RÅBY.

FIG. 14 HYBRID SCALE 1:1 SKETCHING AND SUBJECTIVE SITE DATA. SCALE 1:1 SKETCH (MARKING), TERRAIN MODEL WITH CONVERTED SCALE 1:1 SKETCH, PHOTOGRAPHY

FIG. 15 HYBRID SCALE 1:1 SKETCHING AND SUBJECTIVE SITE DATA. SCALE 1:1 SKETCH (WALKING), TERRAIN MODEL WITH CONVERTED SCALE 1:1 SKETCH, PHOTOGRAPHY

FIG. 16 HYBRID SCALE 1:1 SKETCHING AND SUBJECTIVE SITE DATA. SCALE 1:1 SKETCH (MARKING), TERRAIN MODEL WITH CONVERTED SCALE 1:1 SKETCH, PHOTOGRAPHY

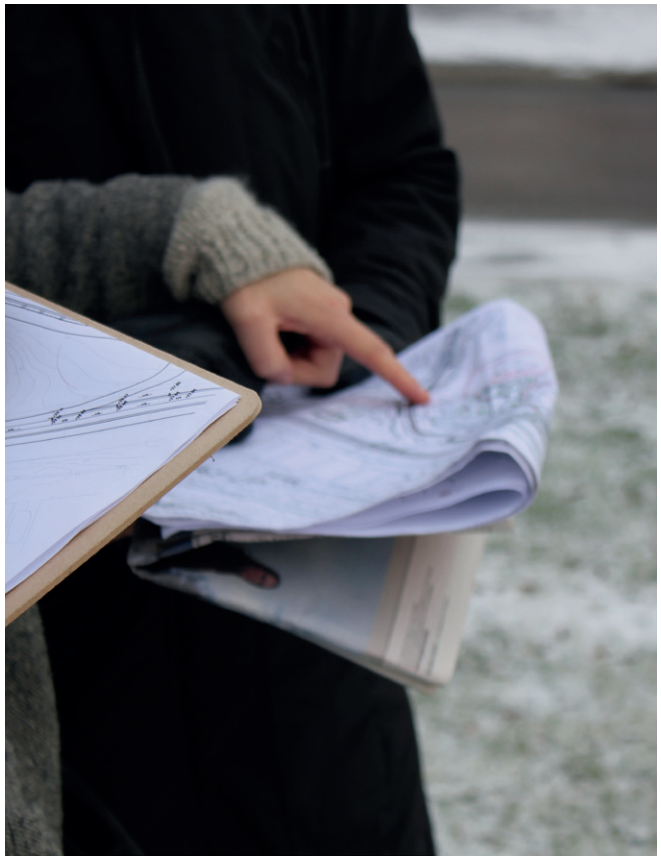
C. IN PRACTICE

PHOTO: REBECKA ROSÉN.

PHOTO: REBECKA ROSÉN.

PHOTO: REBECKA ROSÉN.

PHOTO: REBECKA ROSÉN.



on site/in studio: in practice

In this chapter, scale 1:1 sketching on site is performed in a real case of landscape architectural practice. The perspective of more experienced landscape architects, working in group, is introduced and their reflections - in and on practice - in relation to scale 1:1 sketching are presented.

SKETCH WORK SITUATION

The project site is an urban open space located by a lake in one of Stockholm's city districts. The project is concerned with a detailed development plan for a new neighborhood and is one of several new plans along the shoreline in the same district. The projected development involves housing and local service including a new school and supermarket. The current main users of site are the owners of camping cabins and plots located within the part of the area which is managed by an allotment association. The majority of the cabins are to preserved in the future plan and coexist with the new use of and built structures on site.

S and R are two landscape architects with respectively fifteen and five years of experience from landscape architectural practice in Stockholm. They are part of a multidisciplinary project team of professionals assembled by the municipality and S and R's main responsibility is the design of public places and parks in the new plan.

The landscape architects' intention for the sketch work on site is to test a proposal they have developed from sketch work in studio and adjust the proposal based on discoveries on site. The work will focus more in detail on one stretch of parkland which runs parallel to the shoreline. From their findings from earlier site visits the landscape architects have developed a concept for the park which is based upon preserving existing built structures in the landscape. Some of the existing allotment cabins and gardens along this stretch will be demolished but S and R are suggesting to make use of the flat surfaces that are gained from keeping the foundations of the cabin in the otherwise complicated terrain The idea is that these platforms will be transformed into small-scale programmed places along a park trail.

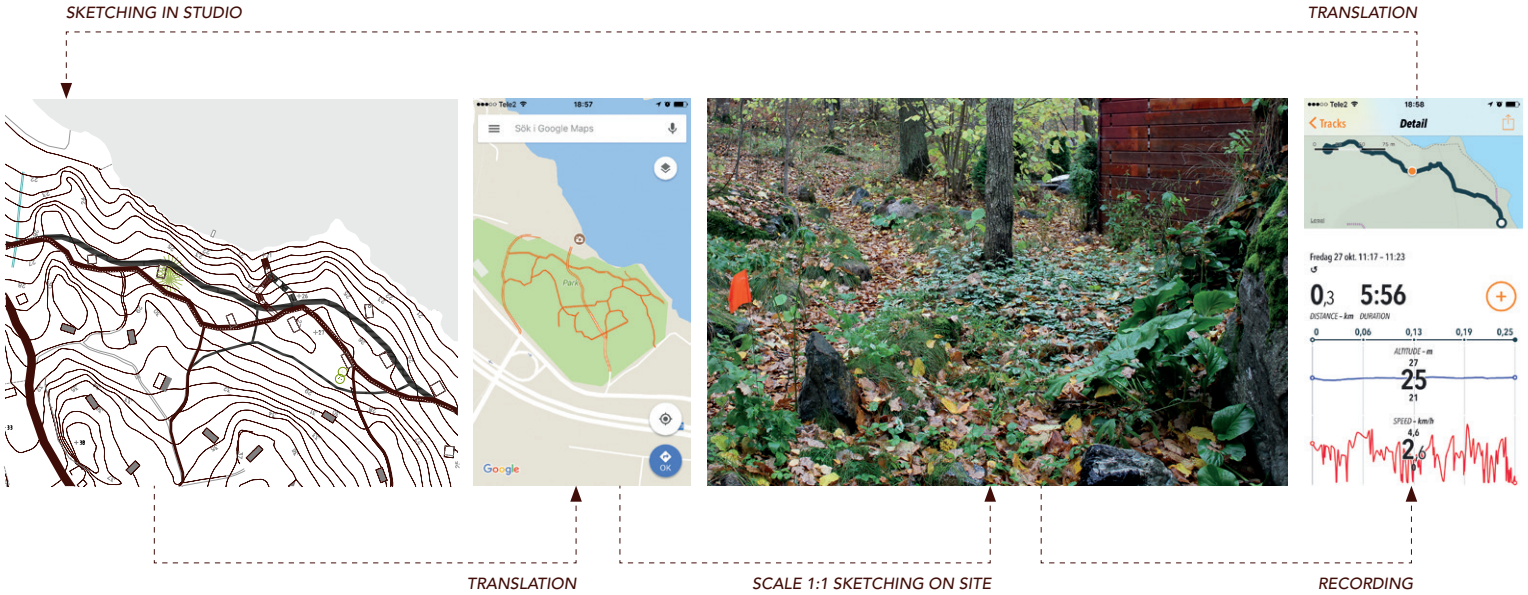


FIG. 18 HYBRID SCALE 1:1 SKETCHING PROCESS IN PRACTICE.

To site, the designers have brought paper drawings of the proposal in different scales. I have converted the sketch and uploaded it to a digital map app on S's phone, which will allow them to trace the location of the proposal in the landscape (FIG. 18). We have also brought marking flags to visualize the sketches in scale 1:1 on site.

S describes the park promenade along the shoreline sketched out in studio as a rough two-dimensional, hypothesis from the elevation contours in the digital ground map and the assumed location of informal paths they have noticed on site. The promenade is also part of a wider context and being investigated as part of a network connecting this area to the other areas in the same city district. They are therefore required to investigate the possibility of making it an accessible path.

SKETCH WORK OBSERVATIONS

Schön views design work as a reflective conversation with the materials of the situation. The actions, or 'moves', of the designer in a particular situation tend to produce unintended consequences. If the designer notices these consequences, he or she may form a new understanding of the situation itself and make new moves based on the discovery. Schön describes this as the 'back-talk' of the situation to which the designer responds (Schön 2003:79).

Back on site, S and R's proposal is now confronted with the real situation in the landscape and they take notice of the unintended consequences that the sketch work in studio has produced. The first stretch of the park promenade runs through a part of site which is planned to remain mainly unchanged in the future. The camping cabins are to be preserved and the allotment association will remain in charge of management. Sketching on site, the designers find that the small-scale topography of bare rocks and boulders which they were unable to read from the data available to them in studio and the location of the plots of the allotments complicate the original idea of an accessible, public path through the allotment area. Such an intervention would change the material qualities on site significantly resulting in the removal of large trees and extensive remodeling of the terrain, S and R agree.

In response to this 'back-talk' of the situation, the path through the allotment area is rethought as an informal path that signaled through small interventions in the existing terrain of stairs and portals.

S and R continue to move along the path and take note of more unintended consequences. The trail on multiple occasions coincide or run across small water streams. They adjust the sketch to this new knowledge and make note to include small footbridges as part of the proposal for the material addition to site.

Another discovery on site is the relationship to the waterfront as experienced while walking and marking out the trail. The sketch made in the studio was drawn based on the idea of maintaining visual contact with the lake throughout the entire walk but from a higher level than an existing boardwalk which parallels the waterfront. On site, the path is adjusted and partly withdrawn from the lake as it becomes clear that the contact is still experienced at a greater distance from the water and that its position on a stretch where the slope towards the water is steep has ended up to close to the boardwalk.

Midway through the session, it begins to rain. During the brief rainfall the conversation continues beneath a roof of a veranda. S and R agree upon an idea that at least one of the programmed places along the park promenade should provide some sort of shelter for situations like this.

The decision to preserve what the landscape architects consider to be valuable material qualities on site and integrate them into the future situation works as a frame for the sketch work on site. Existing features from the gardens such as stone walls and horticultural plants are regarded as contributors to the future character to the path. S later describes them to the client in a meeting as 'an aesthetic contribution to the park, free of charge' . These small-scale features have a bearing on the decisions that are now made on site. S and R test the organization of the park promenade through swift decisions on how the path should relate to these features. They communicate with each through both conversation, and by illustrating their thoughts by moving and the making of gestures.

They also use the marking flags to visualize the path in the landscape. They sometimes change their mind and turn back to adjust the position of the flags after discovering something further ahead.

Working in a multidisciplinary team of architects, planners and engineers, S and R need to coordinate their sketch work with the rest of the group. This happens mainly through the passing on of digital plan and section drawings between the different professionals, and in meetings in attended by the entire team. Following the sketch work on site, the GPS-recordings of the scale 1:1 sketches are converted and incorporated the result into an updated plan drawing which is then superimposed with the most recent location of the building footprints and roads. From this operation, the landscape architects identify where their sketches, made in relation to what they conceive as valuable qualities on site that should be preserved, are in conflict with proposals from other team members. The drawings illustrating the conflicting situations are brought to a meeting with the project team as a basis for discussion on potential solutions.

SKETCH WORK REFLECTIONS

A sketch made in studio, S reflects, is always too rational and a simplification of the existing reality. In some situations, a simplification is the appropriate approach to site but is not enough in this case. Adjusting the proposal to existing, sometimes subtle, site qualities requires a different method. The scale 1:1 sketch work performed on site, moving along the proposed trail, adjusting it in its actual context and recording the changes made, made it possible to pin-point a solution which is adapted to the materiality which was ignored in the studio sketch. However, S adds, the studio sketch and development of a concept made prior to the site visit and sketch work on site provided an important knowledge base to act from and guide the scale 1:1 sketch work. Due to the limited time frame of the project, it is important to use a method for sketch work on site that allows them to extract as much knowledge and data as possible in little time.

Both S and R highlight the topography as an aspect which motivates sketch work on site. S emphasizes the need for repeated visits to site in order to find specific solutions

adjusted to the existing topography. R describes a second topographic layer of small-scale features of bare rocks, loose boulders, garden stone walls and stairs which is easy to forget about when sketching in studio. Further, R reflects, the site itself may be the carrier of implicit solutions which may be discovered when working on site and transformed into refined solutions.

S and R's attention to details in the landscape and the notion of the existing site as a provider of solutions suggest an approach to the work with site that bear similarities with certain aspects of Girot's topological approach: "Topology is about reappropriating a site by making sense of its traces. (…) and take the marks of a terrain as essential elements of the composition and understanding of a place" (Girot 2017:148). Girot rejects the idea of topology as a nostalgic concept that opposes any overwriting of existing traces, but the designer needs to recognize and take the traces into consideration as this is what constitutes the uniqueness of the local terrain.

R emphasizes the documentation of the sketch work on site as it is crucial to the continued work in studio. It may be difficult to remember certain features found important on site and their geographic location. R finds sketching in studio using plan drawing and aerial photos a useful tool to distinguish and remember existing site features. In this case, however, it is complicated by the fact that the site is entirely covered by a tree canopy making it difficult to locate oneself within the large project site, looking at it from above on a computer screen.

Both S and R find the use of multiple instruments for documenting the work and data collection on site useful. The two-dimensional drawings brought to site were used to make annotations, adding information to the recorded location of the path for later use when sketching in studio. R adds another dimension to the use of plan drawing in addition to sketching in scale 1:1. Bringing the drawing to site makes it possible to connect the elevation contours used for sketching in studio to the reality experienced on site. She describes this as "becoming familiar with the elevation contours" and that this familiarity supports the sketching process in studio.

Girot despite his critique towards the systemic layered approach to site acknowledges that is important in the early stages of planning, as it highlights conflicts of interest, existing resources and enables the formulation of policies. However, it should not be employed as a substitute creative design of the landscapes physical form for which he finds a topical approach more suited (Girot 2017:147). Working on the detailed development plan for site, technical drawings and construction is several years ahead. R highlights the fact that the work they are performing in this phase will establish the boundaries that detailed proposals later on will have to adjust to. She finds the sketch work on site important in this phase so that these boundaries will not prevent the valuable qualities they have identified on site from being preserved. S finds the knowledge that is gained from the first hand experience of site to be an important contribution to the process and believes that it in the end will be valuable for the built result. But, she adds, then there are other aspects such as social aspects and scenario thinking that require other and complimentary methods to the work on site.

S reflects on the sketch work on site within the wider context of the landscape architect's presence on site throughout the project process. Site visits, she believes, should take place on a repeated occasions, with different focuses and aims. In addition to active sketch work and documentation using multiple tools, it is important to simply experience and get a feel for the site.

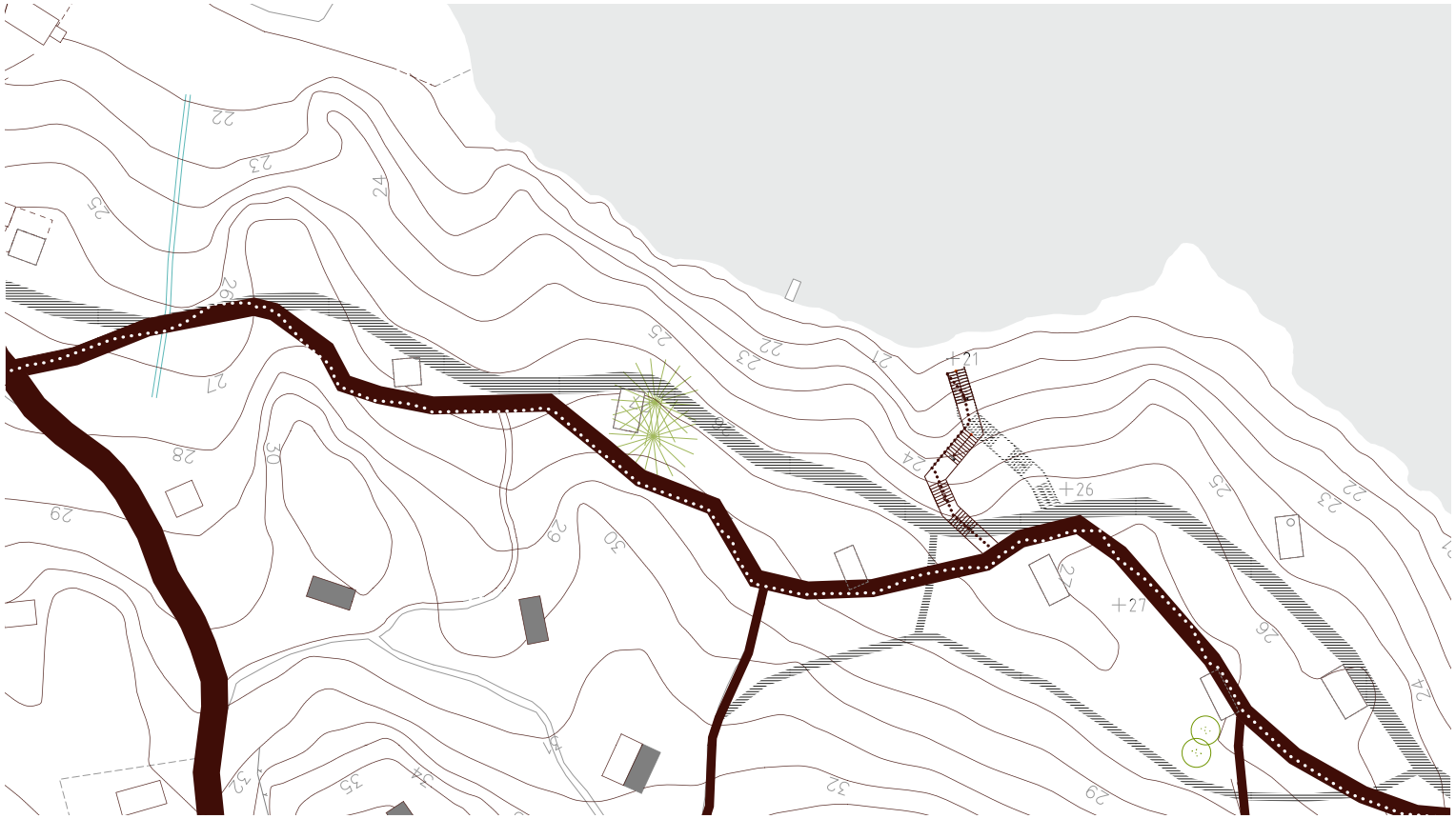


FIG. 19 PROPOSAL IN STUDIO BEFORE AND AFTER SCALE 1:1 SKETCHING ON SITE. HATCH SHOWS PROPOSAL PRIOR TO SCALE 1:1 SKETCH WORK ON SITE, DOTTED LINE THE RECORDED SCALE 1:1 SKETCH AND SOLID THE PROPOSAL IN STUDIO POST SKETCH WORK ON SITE.

D. DISCUSSION / REFLECTIONS

(...) the bulk of the work is all about the city: how we live in the city, how we operate within it, and the dilemmas of contested space within the city. It's about saying, 'Well if you're interested in a very big scale, but you can also see these conflicts, how do you work at a big scale but remain in some way intimate?' It's about a different sort of urban planning. A lot of the projects are about deliberately taking the scale down to where it's about fragments, small things, understanding quite fragile qualities of the city and working on those. Because by understanding what's there, instead of overlaying something else on top of it, you are rather exposing it and bringing it to bear.

Australian architect and researcher Melanie Dod when in an interview asked if *muf* – her architectural practice – intentionally has chosen to focus on a small scale in their work (Hyde 2011:79).

discussion: results

The aim of this project was to explore the potential of scale 1:1 sketching on site as an approach to a project in landscape architecture, and how sketch work on site and sketch work in studio could complement each other in processes of designing new proposals for site in which the designer values existing material and experiential qualities on site to a higher degree than usually is the case.

The initial hypothesis from which this project departed was that the relocation of the design work from the studio to the actual site might result in a proposal which is attentive of existing site qualities and aims at a resourceful transformation of site. This relationship has not been corroborated by the studies in this project, nor was it the aim. As Girot emphasizes, a method for design work does not by default result in a certain outcome. The proposal is the result of the considerations made by the individual designer's decision making based on the combination of the designer's apprehension of the existing site, the program and intuition. The project sought to increase the understanding of the sketching process on site/in studio by asking the research question

What is the difference between scale 1:1 sketch work on site and sketch work in studio?

I will answer this question by reflecting on the results from the sketch work on site/in studio in the case of Högdalstopparna and using the results from the second case study and literature studies as a template. The intention of the discussion is to summarize the findings in this project to guide future sketch work on site/in studio. It ends by presenting my provisional notes on scale 1:1 sketching for this purpose.

TOOLS & TECHNIQUES ON SITE – SCALE 1:1 SKETCHING TECHNIQUES

In Schön's understanding of the sketching process, the architect needs the virtual world of sketching to experiment with potential solutions for the project that are reversible

and have no real world consequences. Before considering the differences of on site/in studio, the first question that needs to be answered is if site can function as a virtual world for experimental and tentative sketching. Through the use of scale 1:1 sketching on Högdalstopparna I was able to test and experiment with ideas for the proposal for the walking trail. The same techniques were used by the landscape architect in the second case study and allowed them to test and consider different options on site. From this perspective, it would be possible to argue that sketch work on site and in studio is essentially the same. However, regardless of if one considers site as a scale 1:1 virtual world or reality the differences are significant between the sketch work on site and in studio.

On site, the three different sketching techniques labeled as performance (walking), installation (marking) and intervention (cutting) which were found useful for different situations that occurred in the process on site. Walking was used as the main sketching technique and served to create a proposal which complied with the program - a walking trail connecting the three peaks and focusing on recreational qualities and making scenic views and varying landscape characters available - by performing the program.

Marking was used to make visual scale 1:1 representations of the proposal on site. It facilitated comparing different proposals and working more in detail on specific fragments of the trail. Further, it produced interactions with other actors on site by visually communicating the proposal.

Cutting was used to a limited extent as it was the most time consuming of the three sketching techniques. It was mainly used complimentary to the other two techniques, to remove small-scale vegetation where it obstructed movement or before marking the proposal. Had the work been collaborative, and/or had I had access to less basic tools, a creative management approach combined with the work on the proposal might have revealed more options and allowed for more precise tests.

Hurkxkens suggests that specific sites require specific tools. All scale 1:1 sketching techniques as employed on Högdalstopparna contributed to a proposal which is

respectful of the existing terrain and site conditions as they are all connected to the physical work I was able to achieve alone and were it was possible to move on site. Subsequently, they all fail to deal with any remodeling of the terrain. Re-sculpting the constructed hills is not a scale 1:1 task. From this perspective the suitability of scale 1:1 sketching for Högdalstopparna could be questioned as the existing site conditions is a result of Blom's conceptual take on the large-scale remodeling of the Stockholm landscape, continuos remodeling through deposition of construction debris and small-scale interventions by local users. The materiality on site, a result of the interplay between the large and small-scale construction efforts and natural processes, is not a sensitive in the sense that it requires precise material intervention in order to be "preserved". However, the enhancement of experiential qualities on site do require precision as the sensory experience, including impressions produced both within and outside site boundaries, differ significantly from one location to another.

In Practice, the landscape architects when describing their work demonstrate an intention to adapt their proposal to the existing topography and materiality on site, and to make use of exiting features to comply with the program. The existing site conditions require a precise approach to achieve this as the terrain is composed of the bare rocks of the fissure valley landscape and built elements which will be erased unless taken into consideration in the material recomposition of site. For this specific purpose, scale 1:1 sketching and its attention to details in the landscape was found a suitable approach.

TIME AND TIMING – SCALE 1:1 SKETCHING IN PROJECTS WITH A LIMITED TIME FRAME

Scale 1:1 sketching on site is undeniably a slow sketching method compared to sketching in studio with digital drawing tools. Starting the sketching process on Högdalstopparna without a preconceived idea on the layout of the trail and using scale 1:1 sketching as the main approach resulted in many hours spent walking in order to create a rough overall idea.

A significant difference between the first and the second case was that the landscape architects had visited site and carried out sketch work in studio prior to the scale 1:1 sketch work on the proposal. In the case of Högdalstopparna, the apprehension of the existing site, or in Girot's (1999) terms the phases of landing, grounding, finding and founding, unfolded simultaneous to the sketch work with the proposal. Sketching experiments resulted in the findings of new site qualities which constantly made me reconsider the proposal. However, not having developed a proposal before going on site did open up for small-scale features and contingent events on site to affect the initial shaping of the overall proposal, an opposed and complementary perspective compared to the comprehensive planning documents reviewed initially and similar to Corner's (1999) view on drift as a mapping technique.

In the second case study it was found that sketch work in studio prior to the scale 1:1 sketch work on site was beneficial to the outcome of the work. The precision of scale 1:1 sketching is dependent upon the chosen technique and tools for translation from site to studio, but also on timing in the process. In the second case study, landscape architects came to site with more specific questions and delimited task which resulted in more precise sketches. The work on site was considered as time efficient as it resulted in specific discoveries on site in relation to the landscape architect's proposal and a rich material of site data from the additional recordings. Further, the work in group made it possible to carry out the sketches in less time than I needed working alone on Högdalstopparna.

TRANSLATION – THE HYBRID SKETCHING PROCESS

Schön notes that sketching is only successful to the extent it can be translated to real world built work. Working in scale 1:1 a second problem of translatory nature arises. The results need to be translated to the studio context, and to a media which is ultimately used to communicate the information necessary to build the proposal. Through Hurkxkens thinking on innovation in landscape architectural toolboxes the notion of hybrid representation was introduced in relation to the on site/ in studio sketch work. The idea of a hybrid sketching

process connects and translates the physical scale 1:1 work on site to the representational media and work in studio. In the hybrid sketching process, the translation from each media to another affects the proposal and reflection on what is lost in translation is necessary. Using geographically positioned information allows the scale 1:1 work in the landscape to be transported to a different media in studio to its accurate position in the drawing, or as in the second case study, from drawing to the landscape for scale 1:1 sketching. Translation into media from the 'basic' landscape architectural toolbox which I am used to working with contributed to an understanding of the aesthetics inflicted on the proposal by the scale 1:1 sketching.

TOOLS&TECHNIQUES IN STUDIO – BRIDGING THE GAP BETWEEN SITE AND STUDIO

Sketch work experiments in studio took two different directions. The first was concerned with technical problem solving of aspects I had not yet dealt or been able to deal with on site such as the quantifiable aspects required for a hypothetic construction of the proposal. The second was concerned with how it in studio possible to crete a situation which reconstructs the experience on site.

Girot's topological design method promotes both the inclusion of a detailed material representation of site and the designer subjective perspective in the conception of new proposals for site. The proposed tools to this method may be described as bringing as much of the terrain to the studio through extensive data collection. In studio, I found that combining data recorded on site using multiple media was a useful tool to bring the experience of site into the studio. The combination of a terrain model in which the new proposal was modeled and photography allowed me to read the terrain and the proposal from subjective points of view consciously selected on site. Further, the non-conscious video recordings from site contributed to support memory and reveal new aspects of the specific moments on site. Notations and sketches recording decisions on site were useful as the decisions behind the proposal were not always self-explanatory when looking at it in 2D- or 3D-representations of the on site proposal.

provisional notes on scale 1:1 sketching

Schön observes that part of the architects skills is the selection of media and technique suited to the task at hand, and Hukxkens argues for the selection of specific tools in relation to the particular project. Scale 1:1 sketching on site was in the case of Högdalstopparna tested as the main technique for the conception of the proposal, revealing as discussed above both its potentials and weaknesses. Knowing when to use it and what it inflicts on the proposal is necessary for it to become useful in the sketching process, and requires training. My understanding of scale 1:1 sketching on site from the results of the investigations in this project is the following:

SCALE 1:1 SKETCHING is sketching in scale 1:1. It promotes attention to detail above overview and the experiential over the conceptual.

SCALE 1:1 SKETCHING is a reality check in the project. When sketching experiments take place in the existing and momentary reality on site, existing site conditions cannot be ignored and unexpected things happen. Small-scale features and events on site may disrupt the sketch work and provoke inconveniences, but also result in valuable discoveries.

SCALE 1:1 SKETCHING triggers personal reactions to the sketching situation on site which may come in the way of informed decisions. Critical reflection on the influence of personal attitudes on the sketch work is necessary.

SCALE 1:1 SKETCHING in group presents the advantage that the sketches can be carried out in less time than one person can achieve. Using a technique which visualizes the sketch in the landscape facilitates communication within the group, and with other actors present on site.

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SCALE 1:1 SKETCHING is a primitive, hands-on technique for sketching that relates in a direct way to features in the landscape from a subjective and bodily perspective. Walking from this point to that, rounding or removing (literally or by imagination) that thing which obstructs your passage in the landscape. In combination with digital and analogue tools it may be integrated into a hybrid sketching process of on site/in studio sketch work, complimentary to existing tools and techniques in the landscape architectural toolbox.

discussion: method

The first and main case study is a study of my own design process. The results are therefore connected to me as an individual designer and the intuitive decision making in the sketching process. A second case study was conducted to provide a complimentary perspective on sketch work on site/in studio from more experienced landscape architects in the context of real world practice with it requirements in terms of program, project time frame and transdisciplinary collaboration. Comparing the reflections on my own work to existing theory in the literature studies served to increase my understanding of the sketch work situation and identify relevant findings in the sketching process.

The second case study is based on observations of sketch work and responses to an open question questionnaire from practicing landscape architects. The landscape architects being my colleagues and my knowledge on the practice beyond the specific case is likely to have had an impact on my interpretation of the observed sketch work and responses by including knowledge from working with them in other situations than the case studied. Further, the specific practice of the office may differ from other Stockholm-based offices, potentially reducing the generalizability of the results from the case study.

The use of multiple techniques for data collection in both cases allowed investigations of the situation from multiple perspectives that in different ways contributed to an understanding of the situation. Conducting investigations through the setting up of situations for explorative experiments and performance, as proposed in Dyrssen's methodolgical framework for art-based research, provided a research context where I could explore aspects of the sketching process openly which might have been more difficult in a real world situation, as in the second case. The use of multi-media techniques for representation allowed me to investigate and explore beyond the limits of the verbal language.

continued work

As shown by the practical experiments on representation on site and in studio, digital instruments open up for new possibilities for scale 1:1 sketching in the design process. This work did not pursue theoretical studies on representation in landscape architecture. A literature review of the discourse on representation in landscape theory would therefore be of interest for further insight into what such possibilities might engender.

This thesis project has focused on scale 1:1 sketching in the early design phase and the techniques used were chosen and investigated in this context. An increased understanding of the potential of scale 1:1 sketching in the landscape design process could be informed by a study which follows an entire project from initial sketch work to built result.

The interactions produced from the the real world situations was an interesting outcome of the process, but was not pursued further. It could in future work be of interest to explore the potential of such interactions and investigate how it could be used actively to contribute to the design process and inclusion of local actors in the process.

The sketching tools and techniques require further investigation beyond the limited scope of this project, investigations which could be of interest to undertake both within the context of research and practice. This includes both the toolbox presented in this work as well as researching other potential instruments in relation to scale 1:1 sketching. If one were to follow Hurkxkens suggestion, the start of every design process provides an opportunity to innovate the toolbox in landscape architecture, by considering specific instruments for the specific site, program and process, choosing from everything from the 'basics' such as plan, section and axonometric drawing to completely foreign ones which have not yet found their place in the toolboxes of landscape architects.

references

Andersson, T. (2000) *Utanför staden. Parker i Stockholms förorter.* Stockholm: Stockholmia förlag.

Archer, M. (1997) *Art since 1960.* London: Thames and Hudson.

Arthur, B. (2009) *The Nature of Technology: What it is and how it evolves.* New York: Free Press.

Blom, H. (1983) *Skulptur på stan. Från Kungars hyllning till konst i kommunal regi.* Särtryck ur Stadsbyggnad nr 6. Stockholm: Sv. kommunaltekniska förening.

Bridger, J. (2012) 'Versus: The 7th Landscape Architecture Biennial in Barcelona'. *'scape magazine,* vol 1, 2012, pp. 38-45.

Corner, J. (1992) Representation and Landscape. In Swaffield, S. (ed.) (2002), *Theory in Landscape Architecture.* Philadelphia: University of Pennsylvania Press, pp. 144-164.

Corner, J. (1999) The Agency of Mapping: Speculation, Critique and Invention. In Cosgrove, D. (ed.), *Mappings.* London: Reaktion, pp. 213-252.

Corner, J. (2017) The Thick and the Thin of It. In Girot, C. & Imhoff, D. (eds.) *Thinking the Contemporary Landscape.* New York: Princeton Architectural Press, pp. 117-135.

Diedrich, L. (2012) *Translating Harbourscapes. Site-specific Design Approaches in Contemporary European Harbour Transformation.* PhD thesis. Department of Geosciences and Natural Resource Management, University of Copenhagen, Frederiksberg. Retrieved from http://ign.ku.dk/formidling/publikationer/ign-phd-thesis/filer/translating_harbourscapes_140120.pdf

Diedrich, L. (ed.) (2016) 'Landscape Laboratories Dossier.' *'scape magazine*, no 15, pp. 70-170.

Diedrich L., Lee G., Braae E. (2014). 'The transect as a method for mapping and narrating water landscapes:

Humboldt's open works and transareal travelling.' *NANO New American Notes Online* 6 Cartography and Narratives. Retrieved from http://www.nanocrit.com/issues/6-2014/transect-method-mapping-narrating-water-landscapes-humboldts-open-works-transareal-travelling

Dyrssen, C. (2011) Navigating heterogeneity: Architectural Thinking and Art-based Research. In Biggs, M. & Karlsson, H. (eds.), *The Routledge companion to research in the arts*. Oxon: Routledge, pp. 223-239.

Girot, C. (1999) Four Trace Concepts in Landscape Architecture. In Corner, J. (ed.), *Recovering Landscape: Essays in Contemporary Landscape Architecture*. New York: Princeton Architectural Press, pp. 59-67.

Girot, C., Freytag, A., Kirchengast, A. & Richter, D. (eds.) (2013) *Landscript 3: Topology.* Berlin: jovis Verlag GmbH.

Girot, C. (2015) A Return to Terrain. In Hurkxkens, I. (ed.) (2015) *Field Instruments of Design*. Zürich: gta Verlag, ETH Zürich, pp. 14-22.

Girot, C. (2017) Breaking Ground: A Return to Topology. In Girot, C. & Imhoff, D. (eds.) *Thinking the Contemporary Landscape.* New York: Princeton Architectural Press, pp. 136-154.

Gustavsson, R. (2016) 'The Pioneer - A Campus Lab.' In Diedrich, L. (ed.) (2016) 'Landscape Laboratories Dossier.' *'scape magazine*, no 15, pp. 89-92.

Harrison, F. (2016) 'Garden as 1:1: Between Paper Thinking and Earth Moving in Landscape Architectural Learning'. *Landscape Review,* vol. 16, no 2, pp. 26-42. Retrieved from https://journals.lincoln.ac.nz/index.php/lr/article/view/954/668

Hensel, M. (2015) 'Studio Mumbai. The Practice of Making', *Architectural Design*, 85, 2, pp. 94-101.

Herd, C. (2012) 'Defining the territory. Ends of the Earth: Land Art to 1974.' *Aesthetica,* Aug/Sep 2012, vol 48, pp. 26-31.

Hurkxkens, I. (ed.) (2015) *Field Instruments of Design*. Zürich: gta Verlag, ETH Zürich.

Hyde, R. (2011) *Future Practice: Conversations from the Edge of Architecture.* London: Routledge.

Ingold, T. (2012) 'Looking for Lines in Nature.' *EarthLines*, vol 3, pp. 48-51.

Jemtrud, M. & Cazabon, Y. (2002) '1:1 @ Carleton University School of Architecture.' *Journal Of Architectural Education,* vol 55, 3, pp. 167-173

Jungnelius, Å. (2016) 'Landskapsmåleri i skala 1:1'. *OEI - Naturbegreppet*, vol 75/76, pp. 284-285.

Kahn, A. (2005) Defining Urban Sites. In Burns, C. & Kahn, A. (eds.) (2005) *Site matters.* New York: Routledge, pp. 281-296.

Kwon, M. (2002) *One place after another: site-specific art and locational identity.* Cambridge, Massachusetts: MIT Press.

Lundgren, K. (2016) 'Sporttoppen i Högdalen.' *OEI. Grön våglängd: Trädgårdar, parker och växter*, vol 73-74, pp. 138-151.

Lundequist, J. (1994) 'Om den kunskap vi använder.' *Nordisk Arkitekturforskning* 1994:1. Göteborg: Nordisk förening för arkitekturforskning.

Mannell, S. (2006) 'Architectural Reenactments at 1:1 Scale.' *Journal Of Architectural Education*, vol 60, no 2 Art & Architecture Complete, pp. 29-42

Melinder, K. & Stephensson-Möller, H. (2014) *En studie av Högdalstoppen*. Stockholm: Bergstugan Konsult.

Meyer, E. (1997) The Expanded Field of Landscape Architecture. In Swaffield, S. (ed.) (2002) *Theory in Landscape Architecture.* Philadelphia: University of Pennsylvania Press, pp. 167-170.

Meyer, E. (2005) *Site citations.* In Burns, C. & Kahn, A. (eds.), (2005) *Site matters.* New York: Routledge, pp. 281-296.

Molander, B. (1993) *Kunskap i handling*. Göteborg: Daidalos.

Ponte, A. (2017) Mapping in the Age of Electronic Shadows. In Girot, C. & Imhoff, D. (eds.) *Thinking the Contemporary Landscape*. New York: Princeton Architectural Press, pp. 208-228.

Puiguriger, M. (2015) *Guía de descoberta del Paratge de Tudela-Cadaqués. Parc Natural de Cap de Creus*. Girona: Documenta Universitaria.

Rittel, H.W.J. & Webber, M.M. (1973) 'Dilemmas in a General Theory of Planning.' *Policy Sciences,* vol. 4, issue 2, pp. 155-169.

Scalbert, I. (2011) 'The Architect as Bricoleur.' *Candide*. Journal for Architectural Knowledge, No. 04 (07/2011), pp. 69-88.

Schön, D. A. (2003[1995]) *The reflective practitioner: How professionals think in action*. Repr.[= New ed.] Aldershot: Arena.

Sheppard, L. (2016) Navigating territories of engagement. In Bohm, M. & Hwang, J. (eds.), *Beyond Partronage: Reconsidering Models of Practice*. New York: Actar Publishers.

Smithson, R. (1973) 'Fredrick Law Olmsted och det dialektiska landskapet.' *OEI. Grön våglängd: Trädgårdar, parker och växter,* 2016, vol 73-74, pp. 115-124.

Stockholms stad (2005) *Program för utveckling av Högdalstopparna,* Stockholm.

Stockholms stad (2010) *Den Gröna Promenadstaden - Översiktsplan för Stockholms stad,* Stockholm.

Stockholms stad (2011) *Program för Sambandet Högdalen-Farsta,* Stockholm.

Stockholms stad (2017a) *Översiktsplan för Stockholms stad - Utställningsförslag,* Stockholm.

Stockholms stad (2017b) *Sociotopkartan,* Stockholm. Retrieved from http://kartor.stockholm.se/bios/dpwebmap/cust_sth/sbk/sociotopkarta/DPWebMap.html

Swaffield, S. (2016) Case studies. In van den Brink, A., Bruns, D., Tobi, H. & Bell, S. (eds.), *Research in Landscape Architecture: Methods and Methodology.* Taylor and Francis Ltd.

Temple, S. (2011) *Making Thinking: Beginning Architectural Design Education.* Dubuque, Iowa: Kendall/Hunt Publishing Co.

Vidal, J.M. (ed.) (2012) 'De 'Club Med' a 'Tudela'. Cap de Creus. España.' *Paisea.* Paisajes Culturales, March 2012, pp. 52-58.

Waldheim, C. (2012) Provisional Notes on Landscape Representation and Digital Media. In Girot, C. & Truniger, F. (eds.) *Landscript 1: Landscape, Vision, Motion - Visual Thinking in Landscape Culture.* Berlin: jovis Verlag GmbH, pp. 21-35.

Wales, B. (2006) 'Small Built Works Project: Energizing the Public Realm in Buffalo.' *Journal Of Architectural Education,* 60, 2, pp. 18-24.

Woudstra, J. (2008) 'The Eco-cathedral: Louis le Roy's expression of a "free landscape architecture".' *Die Gartenkunst,* 20:1, pp.185- 202.

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