

DESIGN CONCEPT FOR A PHYTOREMEDIATION PARK

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Abstract

Phytoremediation is a method that relies on plants innate ability to absorb, transform or stabilize contamination. It is an environmentally friendly method that sadly has not yet won ground in Sweden. Brownfield planning is the redevelopment of former industrial areas, a common phenomenon in today's urban planning. These areas often have issues of contamination and are often in the proximity of a city, where there generally is a need for parks and green areas. Parks however don't bare the same possibility to profit the way other exploitation does, and are therefore seldom founded on these sort of sites.

What makes phytoremediation of high interest for us as landscape architects is the opportunity to transform unavailable spaces into available, green areas. The time aspect can be turned into an advantage through the making of aesthetically pleasing, interesting and recreational areas. The use of phytoremediation gives rise to a series of questions regarding the re-use of industrial places holding a history.

When designing a park that works for phytoremediation and meanwhile allows people to visit the site, it should be important to establish a strong concept for the design, specific for the site and its conditions. In a phytoremediation park, the purpose of remediation should be clearly visible and nature's amazing ability to clean itself from contamination should be emphasized. The park should also tell us a story about the place and its history with craftsmanship and industry as well as what it has left behind, using existing structures and conditions of the site.

The palette of plants useable for this kind of site is strongly limited and the design of the park is highly dependent on the complexity of the contamination situation. The designer needs to have good knowledge about plants to be able to meet the needs for remediation as well as the aesthetics and the experience of the park.

A suitable guideline for designing this sort of site is to work with the strong impact that can be created by using simple means. For instance, the limitation of usable plants is not necessarily to be seen as a restriction, but an interesting tool for designing. As an example, imagine a dense forest of birch trees. The characteristic colours and patterns of the stem are amazingly striking in a mass planting. A creative formation of the trees can create a variation between openness and closeness, a difference in spatiality with interesting rooms and various ways to move through the park. The intention is to create a stylized form of nature and bring forward the experience and the feelings it evokes in us humans. It could be a narrow path through a dense forest of trees as opposed to an opening or a glade in this forest, or one solitary tree in an open field. Moving through or over the dense vegetation, over or under tree canopy, in a field of sunflowers or an open area where the plants have been harvested to remove the contaminants, affects us in various ways and therefore gives us a high experience. In a dense plantation there is room for a play with geometrical shapes in the placing of the plants to reach aesthetic results, sight lines in specific angles and outlooks towards the surrounding landscape and buildings.

The design concept for a phytoremediation park should be built on mass effect, clean lines and strong contrasts, large shapes and a significant expression. The site should provide an experience of nature in a stylized form, where nature's beauty and soothing effect on us is clear.