

Lubbers Works 工程案例

清新自然的城市冠层——Strip S区的屋顶公园

Landscaping on Top of the City—Roof Parks Strip S

撰文/图片提供 Buro Lubbers

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城市规划的下一目标为屋顶空间，旨在在远离地面的高度，凭借绿色屋顶将城市与有机世界、自然与人文融为一体。该规划包括一系列相互关联的屋顶公园、花园与广场，在城市中形成一种新的活动场所。Strip S区（隶属埃因霍温）的安东和杰拉德屋顶公园将这种屋顶景观从理想化的概念转变成了现实，并且证明了在人工环境下是可以培育出自然且成熟的公园的。在这两个位于34 m高空处的公园内，一片桦树林和一个蝴蝶花园沐浴着阳光和微风，成为Strip S区建设绿色都市工程的起点。

抬高的景观

Strip S区曾是飞利浦公司的一处产业基地，后来逐渐转变为集生活、工作和娱乐于一身的高度城市化的区域。设计师在为该区做景观规划时提出了“抬高的景观”这一概念，由此产生的直接成果就是屋顶公园。该区最大的亮点就是将屋顶与立面上闲置的空间成功地改造成公共或私人的娱乐场所，而景观设计的目标就是逐渐对所有的屋顶、立面、管道系统、楼梯和楼梯进行绿化处理。设计团队将可通行的屋顶改造为花园、公园或广场，为城市增加新的便利设施；将不可通行的屋顶用于储水、吸尘，并且改造成鸟类和蝴蝶的栖息地，同样也为Strip S区的绿化做出贡献。另外，通过天桥和电梯等设备将各个屋顶联系在一起，在远离地面的高空形成一个多维度的绿色结构。“抬高的景观”旨在消解技术与自然之间的对立性。

让世界更美好

在高于地面的地方打造景观有诸多好处：越来越多闲置的屋顶和墙体被改造成（半）公共绿色空间，可以抵消城市膨胀带来的负面影响。抬高的景观不仅能为拥挤的城市平添一点绿意，还能给人们提供一个舒适的生活环境，拉近城市居民与自然的距离，提升他们的生活品质。此外，城市绿化面积的增加可以改善空气质量、净化水源，还具有调节温度与湿度的作用，为增加生物多样性和降低噪音做出了贡献。设计师们相

信，通过从各个维度对城市空间进行绿化，可以解决气候变化、能源危机和粮食危机等难题。

当自然遇上科技

屋顶绿化不只是一种装饰，因此，仅将植物种植池搬上屋顶是远远不够的，而是要创造出一种新的景观。针对每个项目，景观设计师都会认真考虑场地的土壤、水源、地势、光照和气候等各种条件，安东和杰拉德屋顶公园也不例外。屋顶的自然条件是进行设计的前提和灵感的源泉，这一点和在地面做设计是一样的。由于屋顶场地空旷、土壤贫瘠，设计师选择先锋植物作为设计的基础。因为即使在完全人造的环境中，先锋植物也可以展现出自然的形态，并给人一种愉快的体验。为了突显这种自然的感觉，如构筑物、种植槽和灌溉系统等所有必需的结构元素都被巧妙地隐藏起来，与建筑融为一体。屋顶的景观效果得到了显著提升：一览无余的景色、不受繁忙交通的干扰、自成一片的屋顶空间。安东和杰拉德屋顶公园展现了高科技与自然的有机世界不仅可以融为一体，更可以相辅相成。当人们漫步在杰拉德屋顶的桦树林中时，甚至会忘记自己置身楼顶，只有低头俯瞰，才会发现所处的高度。

安东和杰拉德屋顶公园

这两处屋顶公园就像安东·飞利浦和杰拉德·飞利浦兄弟一样，相互关联又有明显不同。它们与翻新的建筑结构相契合，楼梯、电梯、维修间和储藏室等元素都很好地隐藏在公园之中，而建筑的细部和色彩也反映在屋顶公园的细节中。由此，建筑与景观浑然一体。

先锋植物在两个公园中创造出了私密的空间。这些私密空间或沐浴在阳光下，或处在树荫下，可供个人或团体使用。在视野最好的地方设有露台、食品柜、舒适的阅读灯光、无线网络和卫生间将公园变得如同客厅一样舒适。为居民提供了一个时尚而富有创意的空间。如果没有开发绿色屋顶，这些居民也就不会拥有这些（半）私人的户外空间。





安东屋顶公园：茂盛的花木

该公园的设计受到其所在建筑的启发，呼应了Torenallee波浪形屋顶上的疏松结构以及上面点缀的椭圆形玻璃结构。屋顶中央是一个长长的花坛，里面栽种着观花树木、灌木和一些多年生植物，形成了一个柔和的空间。茂盛的花卉与建筑中亮白色线条形成了鲜明的对比，营造出一种独特的自然氛围。花坛中花卉的香味浓淡不一，色彩丰富，吸引了很多蝴蝶。花坛外，大片色彩斑斓的苔藓长势正盛。经过精心的设计，花园里栽种下植物后立刻形成了迷人的效果。15年后，这里将会变成一块茂密的绿洲。

花坛座部铺有浅色的颗粒状物质，屋顶小路和露台铺设的颗粒状物质颜色相对较深。平整光滑的木质露台从中央区向外延伸。露台的高度略低于花坛，紧贴屋顶平面。这样一来，私密的花坛空间和开放的露台就形成了强烈对比。

杰拉德屋顶公园：如画的桦树林和考顿钢

杰拉德屋顶公园的设计灵感源于屋顶上分散的玻璃结构，以屋顶中央的长方形花坛为基础而建。花坛中有50 cm厚的基质，可以满足桦树根系的生长需

要。桦树林与建筑洁白平滑的外观设计相呼应。由于桦树之间株距较小，刚栽种下去便形成郁郁葱葱的视觉效果。

桦树稳稳地矗立在花坛之中，花坛内铺着一层浅色的颗粒物。屋顶的小路和露台上则铺满了颜色较深的颗粒物，十分显眼。桦树林下还生长着蕨类、平枝圆柏、金银花和风信子，使得自然风光更显浓郁。花开时节和金秋到来之际，各种植被争奇斗艳，提升了公园的观赏价值。桦树林外有多处开阔的空间，如坡绿篱环绕的露台。悬垂的露台和楼梯是考顿钢材质，与树林形成强烈对比。屋顶出了露台和桦树林之外，还有一片草地。桦树林内设有座椅，可供人们休憩；露台上也摆放了座椅，人们在此休息时，可一览城市的风光。

该项目具有极高的挑战性，面临诸多技术难题，如建筑结构的容量、灌溉、排水和可供植物生长的空间等。景观设计师、建筑师、工程师、委托方和其他专家共同合作，逐一解决这些问题。这一创新项目的成功不仅在于委托方的勇气和坚持，还有赖于其资金投入。该项目特色鲜明，现已成为Strip Six的地标性空间，委托方的投资也终于得到了回报。



The next urban layer is on rooftops. Lifted from ground level it will be a new, green landscape that integrates urban and organic, natural and cultural principles in innovative design. This landscape consists of interlinked rooftop parks, gardens and squares thereby creating a new urban layer. The urban roof parks at Anton and Gerard in Strijp S (Eindhoven) prove that this landscape at height is not merely a Utopian idea. Anton and Gerard roof parks show that it is possible to create natural, full-grown parks under extremely artificial circumstances. There they are: a wood of birches and a butterfly garden high up at 34 metres in broad sunlight and wind. This is the start of a green, urban fabric at Strijp S.

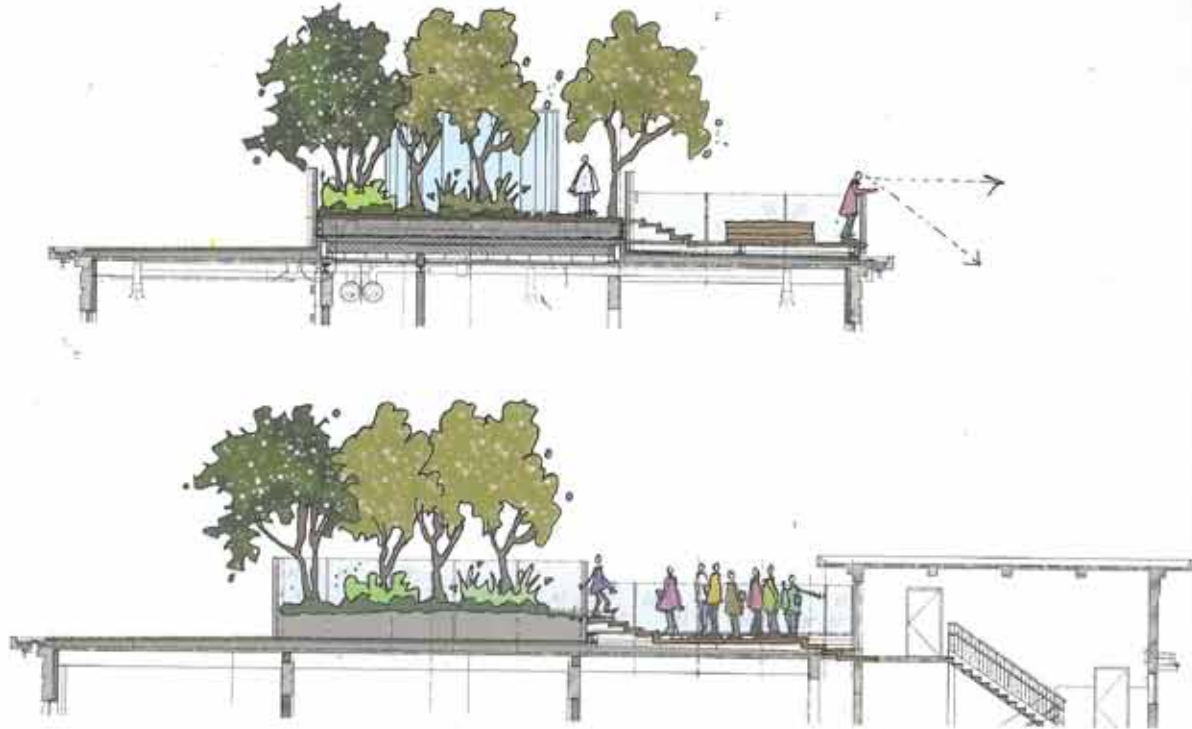
Lifted Landscape

The roof parks are the first results of the "lifted landscape" Buro Lubbers conceptualised for Strijp S, a former industrial site of Philips that is being redeveloped into a highly urban environment for living, working and recreation. The city district distinguishes itself, among other things, by transforming unused spaces on rooftops and facades to public and private hang outs. Our strategy is to gradually add

green functions to all roofs and to have facades, pipelines, lifting beams and stairs overgrown by vegetation. The passable roofs are intended for use as garden, park or square, thus adding new amenities. The impassable roofs will give Strijp S a green wash, as well as a green turn by using them for water storage, absorbing particulates and as bird and butterfly enticing places. By connecting the roofs via bridges, elevators and so on, a multidimensional, green structure will arise above ground level. The idea behind this lifted landscape is to eliminate the classical dichotomy between technology and nature.

Towards a better world

The benefits of creating landscape above ground level are impressive. Barely capitalized roofs and walls can be developed into new (semi)public, green space. This increase of amenity space can counterbalance the negative consequences of increasing urban densification. Landscaping at height creates green areas in dense cities and contributes to a pleasant living environment. It reconnects urban residents with nature, improving their quality of life. Furthermore, an increase of city green



improves air quality and water resource, vegetation regulates the temperature and humidity, it has insulating capabilities, it contributes to biodiversity and it can reduce noise pollution. We believe that greening our cities in all its spatial dimensions, can contribute to the solution of the global climate, energy and food crisis.

Nature Meets Technology

So, greening rooftops is more than mere decoration. It is more than putting plant containers on a roof or sedum mats. It is creating a new landscape. As landscape architects we carefully consider natural conditions of the site such as soil, water, relief, light and climate. The same applies for Anton and Gerard. Just as at ground level, the characteristic landscape of the roofs was premise and inspiration of the

park design. Their main feature being barren, empty land, we based the design on pioneer vegetation. Despite the extremely artificial conditions, this vegetation allowed us to create a landscape with a most natural appearance and high level experience. To enhance this effect all necessary technical components and constraints such as the construction, planting trays and the water system, are carefully hidden and integrated in the architecture. Existing opportunities are optimised: the unobstructed view, the absence of traffic and the quality of a roof as being a world in itself. Anton and Gerard show that high-tech and organic principles can be linked together and even reinforce each other. Even to the extent that while you are strolling through the birch forest on Gerard, you hardly notice that you are on a roof. Only the view betrays the altitude.



Anton and Gerard

Just as the brothers Anton and Gerard Philips the roof parks are clearly related but also show differences. The parks are in tune with the architecture of the buildings that have been renovated by two architects (Diederendirix and Jo Coenen). Architectural elements as the stairs, the elevator, the maintenance and storage rooms are fully integrated into the design of the parks. Details and colours of the buildings are reflected in the detailing of the roof parks. Architecture and landscape become one.

The pioneer planting in both parks create a private, intimate world. Several spaces, either in the sun or in the shade, are equipped for individual or group use. In the places with the best views of the city we find terraces. A pantry, good reading light, wifi and toilets turn the parks into a second living room for the creative, trendy loft residents. If it was not for the green roofs, this extra space, the residents would not have a (semi)private outdoor space.



Anton: Exuberant Flowers and Wood

The design of this park is inspired by the architecture of Anton, echoing the loose structure of the undulating canopy at the Torenallee and the scattered glass oval buildings up on the roof. The center of the roof consists of a long "planter" with flowering trees, shrubs and perennials. Together they form a gentle, fuzzy contour. The exuberant flowering plants contrast with the otherwise straight and bright white details of the architecture. The vegetation provides a unique natural atmosphere. The garden flowers as often as possible, changing its perception due to the large variety of scents and colors. The garden attracts butterflies. Outside the garden we find a blooming colorful moss carpet. The garden is laid out in such a way that immediately after planting an attractive image is created. Over the next fifteen years it will grow into a lush oasis.

The bottom of the planter is made up of a granulate. The routes and terraces are darker granulate. From the central compartment sleek wooden terraces fold out. The terraces are a few steps below the level of the garden, just above the roof. Thus, a strong



contrast arises between the private garden and the terraces in openness.

Gerard: Graphical Birches and Corten Steel

The scattered glass roof structures on Gerard inspired a rational divided roof park. The rational structure is based on a long "planter" in the middle of the roof. This container is filled with substrate (50 cm) to allow sufficient space for the vertical growth of a wood of birches. The graphical appearance of the birches refers to the whites and the sleek design of the architecture. The trees are planted in feathers very close to each other, giving them immediately after planting a woody atmosphere.

The birch stand in granulate with a tough look. Slightly darker granulate marks routes and terraces that are spared in the wood. Between the birches ferns, creeping juniper, honeysuckle and star hyacinths will appear. Their savagery adds to the natural atmosphere. Their flowering and autumn colors provide ornamental value as long as possible.

From the birch wood open spaces fold: terraces bordered by shaved evergreen hedges. The formal, cantilevered terraces and staircases of corten steel are in contrast with the private, natural looking forest. Outside the terraces and the wood we find a carpet of prairie grass. Between the birches there are intimate seating arrangements and the terraces offer unobstructed views of the city.

All parties involved were fully aware of the complexity of creating a special type of landscape on Anton and Gerard. Landscape designers, architects, engineers, commissioners and experts joined forces in facing the technical challenges regarding the capacity of the building construction, irrigation, drainage and the available growing space for plants. The innovative project required courage and perseverance of the commissioner as well as financial investment. This investment pays off since the roof parks are used to brand Strip S as an innovative and creative city district with a unique identity. **LD**





安东屋顶公园

项目位置：荷兰埃因霍温
 景观设计：Buro Lubbers
 委托方：DNC Vastgoedontwikkeling, Woningstichting Trudo
 合作方：Diederendrix Architecten, Vreccken Hoën Architecten
 占地面积：2780 m²
 建成时间：2013 年

Anton

Location: Eindhoven, The Netherlands
 Landscape Design: Buro Lubbers
 Commissioner: DNC Vastgoedontwikkeling, Woningstichting Trudo
 Collaboration: Diederendrix Architecten, Vreccken Hoën Architecten
 Site Size: 2780 m²
 Completion Time: 2013

杰拉德屋顶公园

项目位置：荷兰埃因霍温
 景观设计：Buro Lubbers
 委托方：DNC Vastgoedontwikkeling, Woningstichting Trudo
 合作方：Jo Coenen Architecten, Vreccken Hoën Architecten
 占地面积：3165 m²
 建成时间：2013 年

Gerard

Location: Eindhoven, The Netherlands
 Landscape Design: Buro Lubbers
 Commissioner: DNC Vastgoedontwikkeling, Woningstichting Trudo
 Collaboration: Jo Coenen Architecten, Vreccken Hoën Architecten
 Site Size: 3165 m²
 Completion Time: 2013