



1. 乒乓球活动区
2. 总平面图
1. Pingpong pavilion
2. Site plan

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## 北京市石景山区某中学1/2体育场

### 1/2 Stadium of A Middle School in Shijingshan District, Beijing

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#### 摘要 ……

1/2体育场改造项目位于北京西部的一所中学。我们通过一个非连续性的环形建筑将场地与功能汇总成统一但各自独立的系统，赋予了操场一个明确的建筑构成意向，提升了操场的整体性。这种功能和规模的统一性，以及使用方法的差异性和独特性，最终造就了一种新型的校园建筑类型——1/2体育场。

#### 关键词 ……

体育馆；环形建筑；学校；改造

#### Abstract …

The 1/2 Stadium is located at a middle school in western Beijing. We used a discontinuous and circular architectural form in order to make the site a unique system, defining a clear architectural that strengthens the integrity of the design. This combination of uses and casual flexibility creates a new type of stadium model – the 1/2 Stadium.

#### Key words …

Stadium; Circular Architectural Form; School; Re-design

### 1 场地背景与现状

1/2体育馆改造项目位于北京西部的一所中学。该学校朝阳的操场因城市道路的重新规划而被侵占了一半，剩下的部分最近又被征作校舍用地。如此一来，教学楼北侧的旧操场便成了该校唯一的活动场地。

该操场的功能布局散乱：足球场南侧是一个长12m、宽7.8m、高0.8m的主席台，主要用作日常课间操的领操台及举办学校活动的舞台；除主席台外的其他场地种植有树木，其间夹杂着数张乒乓球台。足球场北侧是一个120m长的红色大理石阶梯式看台，而东、西两侧分别是白色汉白玉升旗台和篮球场。同时，由于南侧教学楼的遮挡，操场约有1/3的区域长年处于建筑的阴影当中。

### 2 记忆、保留、拆除、再利用

建筑与个人对场所的记忆密切相关。天翻地覆的变化会令那些对场所怀有记忆的人的感情受到伤害，而单纯的修复又经常因为时代变迁而无法使用需求。建筑的旧与新都是相对于当前的时间节点而言的。今天的新建筑，再过几十年，也会成为旧记忆。设计团队将每个人在故地重游时都能找到自己的记忆视为旧建筑改造的关键。如何在保留、更新、新建这三部

分之间掌握合适的“度”，需要对项目背景、造价、施工难度及工期等各方面因素进行综合考虑。

旧操场虽然存在着各种问题，但师生们也对其充满了情感记忆。初步的改造思路是尽量保留和利用场地中的元素：保持操场的整体格局不变，在保留场地上的全部树木的同时，利用它们为空间赋予新的定义。

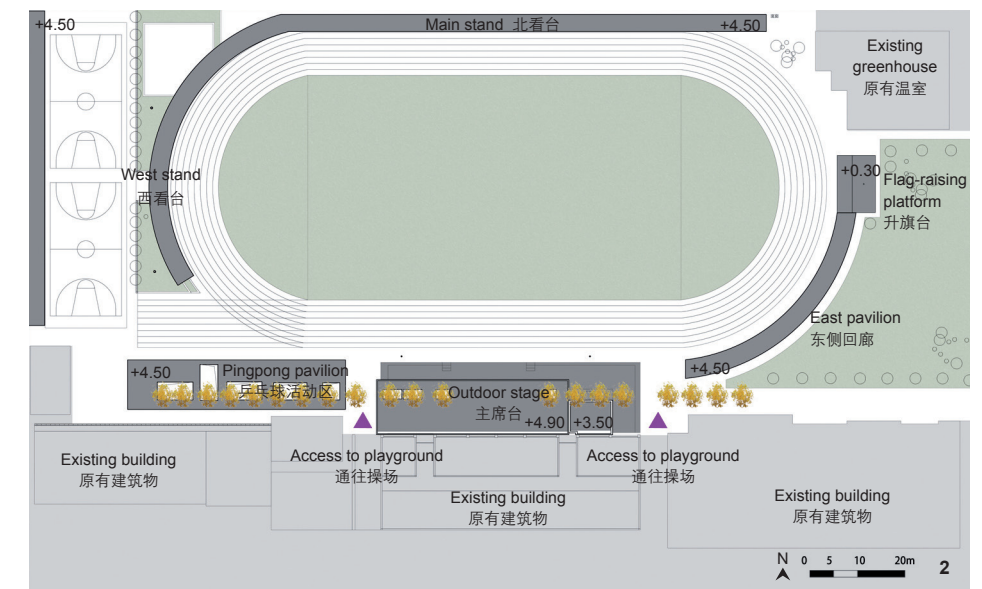
### 3 前期思考

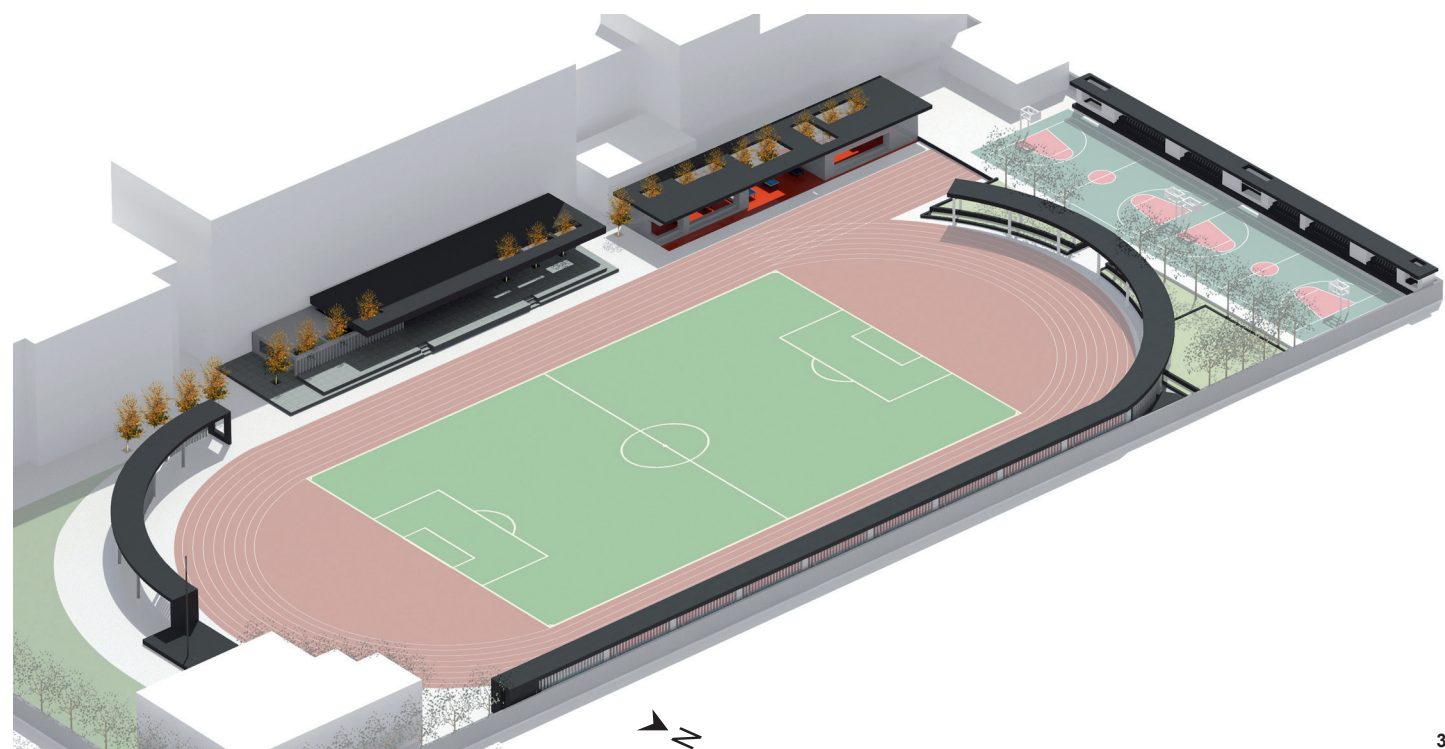
项目初始，校方希望通过改造主席台及看台，来解决这两个设施的形象问题并满足遮风挡雨等实际需求。

对于总面积达1.7万平方米的场地来说，原主席台区域0.8m高的散落式建筑片段毫无意义；主席台处于教学楼的阴影里，显得渺小而毫不起眼，处于阴影下的乒乓球台长年不见阳光；遥遥相望的主席台与看台相隔超过70m，导致观看与被观看者之间很难感受到对方的存在；原有的汉白玉栏杆升旗台与学校年轻的形象不符。多种复杂功能之间缺乏有效的联系，操场上的设施整体情况严重老化。我们觉得需要用一种连续又可分割的语言对操场进行整体思考，而非仅仅考虑主席台与看台单体的改造。

项目地址：北京市石景山区黄庄职业高中  
项目面积：17 000m<sup>2</sup>  
项目委托：北京市黄庄职业高中  
景观设计：空格建筑  
项目负责人：高亦陶、顾云端  
设计时间：2012年9月~2013年7月  
建设时间：2013年8月~2013年11月  
建成时间：2013年11月

Location: Huangzhuang Vocational School, Shijingshan District, Beijing  
Area (size): 17,000 m<sup>2</sup>  
Client: Beijing Huangzhuang Vocational School  
Landscape Architecture: Interval Architects  
Project Leaders: Oscar Ko, Yunduan Gu  
Design Period: September, 2012 ~ July, 2013  
Construction Period: August, 2013 ~ November, 2013  
Completion Time: November, 2013





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## 4 设计

### 4.1 场所

“场所”（Place），在建筑设计领域可以理解为对一个区域或地方的认同与归属。本次设计的主要目标是赋予操场一种场所精神。通过增强各功能区域之间在视觉与精神上的联系，建立一个更加高效和更具人文氛围的运动休闲环境。

我们通过一个非连续性的环形建筑

将场地与功能汇总成统一但各自独立的系统。“环”的概念大多出现于各种体育场中，环形的观众席围绕着运动场地，这种构成方式的向心性及其围合性在于体现中心运动场地的重要性及整体建筑的标志性。我们所设计的“环”整合了主席台、乒乓球活动区、看台与升旗台回廊等主要功能区，赋予了操场一个明确的建筑构成意向，提升了操场的整体性。

我们的设计旨在营造“场”和“人”的两种尺度。场的尺度与场所感相关。主席台、看台、升旗台及乒乓球活动区的建筑屋面采用统一的高度及相同的材料，营造出一种具有连续性的围合感，成为了构成场所尺度的主要元素。这个跨度40余米的屋面除了能够遮风挡雨外，更能突出舞台的重要性。人的尺度旨在创造出令人在心理上更易亲近与使用的效果。全长120m



4-1



4-2



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的看台原本全部以红色大理石贴面，每级台阶高45cm。这种巨大、冰冷的形象增加了建筑与人之间关系的不均等性。改造方案除了加建遮阳屋面，还添设了座椅及台阶中部的小台阶，不仅使其尺度更加便于学生使用，也令人在心理上更容易亲近看台。

此外，原本零散分布的现存树木也通过建筑建立起了相互依存的关系。

### 4.2 功能

在引入一个环状建筑的同时，操场原来的各功能区域除了独立承载自身的功能之外，同时也具有灵活性的使用方式。乒乓球活动区的回廊除了围合出乒乓球运动空间外，也在朝向跑道的墙体上设置了梯级，供学生休息及观看操场上的体育活动。这些梯级所在的洞口，又成为了一个

取景框，有助于在此活动的人与其他区域的人产生互动，视线的通透性也因此得到增强。主席台通向舞台的台阶平时也可为学生提供休息的场地。东侧连接升旗台的回廊下方是可供灵活使用的空间，可以放置移动看台、散座或植物等。

### 4.3 经济

由于项目预算紧张，所以施工过程中要尽可能经济，且对场地现状要高度保护。考虑到在学校中施工不能对师生造成影响，所以尽可能减少工程量和建筑垃圾。升旗台回廊及看台部分采用工厂预制的钢结构桁架，避免现场浇筑混凝土时对场地产生的污染与破坏。

## 5 结语

一个普通的体育场通常是指一个能够

容纳多种体育赛事的半室内建筑，并为观众提供观看比赛的席位。这个被非连续环形建筑围合起来的操场，在形式上与普通的体育场十分相似。由于位于校园内，该操场除了用于开展体育运动之外，亦为课后的散步等休闲活动提供了场所。这种功能和规模的统一性，以及使用方法的差异性和独特性，最终造就了一种新型的校园建筑类型——1/2体育场。LAF

3. 非连续性的“环”
4. 北看台
5. 篮球场与操场的过渡区
3. The discontinuous and circular architectural form
4. Main stand
5. The area between the basketball court and the playground

## 1 Background

The 1/2 Stadium is located at a middle school in western Beijing. The re-design of a city road encroached on the half playground of the school, as a result, the rest part on the north side became the only athletic facility of the school.

The playground served a variety of functions, but in a scattered layout. On the south side of the football field, there was a 12 m long, 7.8 m wide, and 0.8 m high stage for leading recess calisthenics during class breaks. It also became a space for holding school activities. Around the stage, trees were planted, also framing the sports and tennis fields. There was a red marble terrace on the north side, and on the east side it is a white marble flag-raising platform. The basketball field was to the west side. Almost one third of the site was in shadow for most of the year because of a teaching building on the south

side that blocks the sunshine.

## 2 Memory, Preservation, Demolition, and Utilization

Architecture creates closely related site memories. Radical changes to the building design would most likely hurt those with memories of the old site. However, simple site repair does not usually meet the current needs. This means that repairs and changes to the architecture are usually more drastic than preservationists would like, and such changes require that a balance be made between old and new architecture. Over the next several decades, the new architecture will also become an old memory. The design team believed that the key for transforming old architecture into new is for old memories to become inspiration for the new space. Creating a balance of preservation, site history, cost, schedule, and construction must



6. 乒乓球活动区  
7. 学生们在乒乓球活动区上体育课。  
8. 主席台  
6. Pingpong pavilion  
7. Students are taking a gym class in the pingpong pavilion.  
8. Outdoor stage



be considered when moving forward with any new built project.

Furthermore, the playground area was full of past emotions and memories from both students and teachers. For example, the new vegetation tried to maintain the basic pattern of the playground and the existing tree canopy while only adding new trees that helped defined the space in new ways.

## 3 Concepts

At the beginning of the project the school wanted to transform the stage and stand into spaces that met both practical and aesthetic requirements for the area.

For this site of a 17,000 m<sup>2</sup> total area, the existing 0.8 m high stage lacked significant meaning. The stage was always in the shadow of the teaching building and it will probably not see the sun for many years. Moreover, the distance between the stage and stand was more than 70 m, making it difficult for viewers on each of the two sites to feel near each other. The existing white marble flag-raising platform did not match of the image of this robust school. The design team needed to establish a continuous language to describe the stadium while still considering its relationship the stage and stand.



## 4 Design

### 4.1 Place

In architecture, place can be understood as how people identify towards particular spaces and create a sense of belonging associated with site. The design of this project tries to engender a sense of belonging by enhancing views and connections between functional areas and more cultural and recreational environments.

We used a discontinuous and circular

architectural form in order to make the site a unique system. The concept of “circle” is used on all kinds of stadiums. The enclosed form highlights the importance of the central stadium and creates signature architecture. We designed the facilities to be integrated with one another — the stage, tennis courts, playground, and flag-raising platform are all united through a clear architectural definition that strengthens the integrity of the design.

The design creates two scales — one for



the playground and one for people. The scale of the stadium is related to the site, and all the recreational facilities are united through materials and scale, creating a continuous sense of enclosure. The roof spans 40 m, and not only provides shelter, but also highlights the importance of the stage. Constructing at a human scale creates an effect that is psychologically comforting. The existing 120 m stand was made of red marble and its huge and cold image enhanced the disconnected feeling between people and architecture. The new design does not only have a new roof, but it also adds seats and small steps between the stand. In other words, it adds design elements that reduce the enormous scale between the structure and visitors.

In addition, existing scattered trees are connected by the new architectural layout.

#### 4.2 Function

The circular architecture is inherently functional — it provides multiple flexible uses for both new and old parts of the design. For example, the Pingpong pavilion provides an enclosed space for table tennis and a stepped wall for students to rest, eat, and socialize. The steps become viewfinders towards activities on the other side of the stage and helps increase interaction between people. When not in use the steps and stage also become places for rest. There are additional flexible spaces on the east side near the flag-raising platform providing more room for seating, gathering, and vegetation.

#### 4.3 Cost

The project had a limited budget. Therefore, we needed to save money wherever possible, particularly during the construction phase. One way we did this was by preserving as much of the existing site features as we could. We also minimized the engineering and construction waste by using



prefabricated materials wherever possible to reduce redundancies; parts of flag-raising platform and stand are made of prefabricated steel in order to prevent poured concrete from polluting and destroying the site.

#### 5 Conclusions

Usually a new stadium is constructed by creating semi-enclosed space that can accommodate various events by providing a large numbers of seats. In this case, the stadium is surrounded by discontinuous circular architecture. Since it is located at

a school the stadium is used for sports and class recreation. This combination of uses and casual flexibility creates a new type of stadium model — the 1/2 Stadium. **LAF**

9. 操场东侧连接升旗台的回廊同时也是临时观众区。  
9. The east pavilion connects the flag-raising platform with the outdoor stage, also acts as a temporary stand.