

美国伯明翰市铁路公园

Birmingham Railroad Park, USA



1. 灌溉水库
1. Irrigation reservoir



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摘要 ……

项目通过一支强大而有凝聚力的顾问团队以及广泛而深入的公/私合作，对场地原有仓库、砖厂的物料进行回收利用，利用地形起伏创造出不同景致，并融入多种可持续设计元素，为游客提供了多尺度的公共空间。

关键词 ……

铁路公园；废弃场地；更新；公共空间

Abstract ...

Through a cohesive team of consultants and an extensive public/private partnership, this project reused the materials recovered from the warehouse and brick-making site, created knolls and views taking advantage of the topography, and built sustainable features and multiple design scales of program usage for visitors.

Key words ...

Railroad Park; Derelict Site; Revivation; Renewal; Public Space

铁路+社区+自然

铁路、社区和自然是一个城市诞生的基本要素。伯明翰的故事就始于这样一个由铁路基础设施带动其社区发展的地方。

伯明翰本是一个钢铁城镇，随着铁路网的延伸而发展，两个大型炼钢熔炉及连接它们的11条轨道铁路联络线服务于钢铁制造业，是维系早期城市生命线。20世纪60年代末至70年代，同许多其他美国城市一样，伯明翰也经历了向郊区的迁移，在市区遗留下多处或空置或未充分利用的零售店和办公楼。近年来，该城市依然缺乏强有力的政策体系或“路线图”，特别是在有关可持续景观基础设施及城市发展总体时间表等问题上。近期的规划方向确立了更加稳固的根基并主张将铁路公园场地作为联合城区南北部分的重要的“城市客厅”。



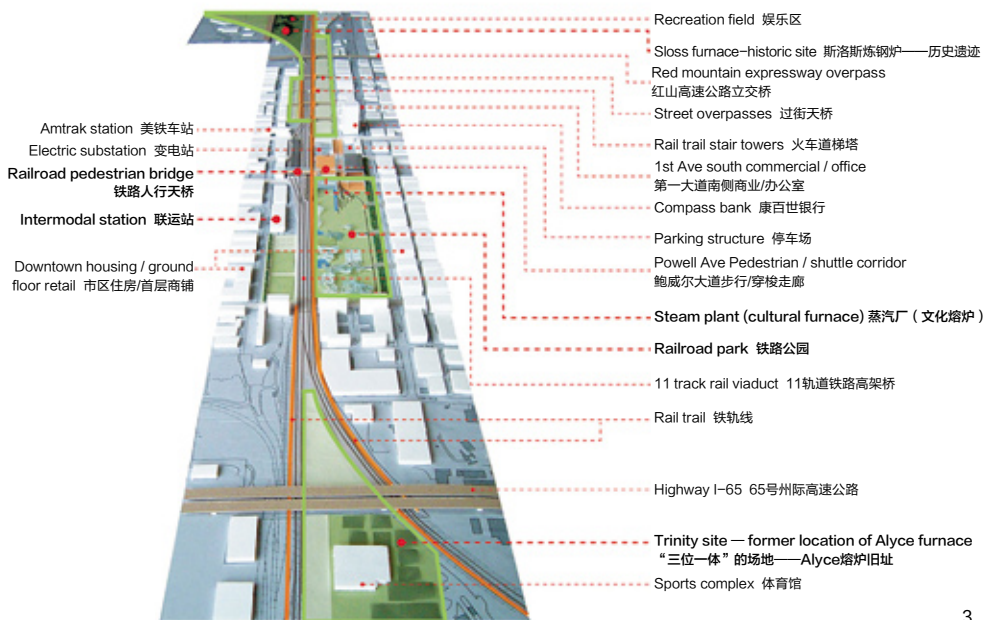
2. 公园鸟瞰图
3. 场地周边环境
2. Aerial photo
3. Site context

- | | |
|---------------------------------|---|
| 1. Crawfish Boil Stage 小龙虾舞台 | 14. Rail Trail Bridge 铁路桥 |
| 2. Lawn Terraces 草坪露台 | 15. Wetland 湿地区 |
| 3. West Gate Plaza 西门广场 | 16. Amphitheater 露天剧场 |
| 4. Pond 水池 | 17. East Gate Pavilion 东门广场亭 |
| 5. Stream 溪流 | 18. Intermodal Station 联运站 |
| 6. Skate Bowls 轮滑碗池 | 19. Amtrak Station 美铁车站 |
| 7. Pond 水池 | 20. Cultural Furnace Project 文化熔炉项目 |
| 8. Toddler Play 幼儿游乐区 | 21. Downtown 市区 |
| 9. Rail Trail 铁路线 | 22. Downtown Ball Park (Under Construction) 市区棒球场 (在建) |
| 10. Strolling Gardens 漫步花园 | |
| 11. Greek Amphitheater “希腊”露天剧场 | |
| 12. Birch Bowl 桦木广场 | |
| 13. Lake 湖区 | |

火车

规划决定避免仅仅将火车和铁路作为主题“风味”，而是使公园游客通过新建的“铁路游径”进行直接体验。虽然伯明翰缺乏类似于河流或海湾等可用于定位的区域地理元素，但是它拥有铁路。新的公园将围绕铁路及其历史风貌，建立一座“铁路边上的公园”。

这一设想源自城市规划十年工作，其共识是，场地的大型城市公园将有助于组织和促进南部城区的发展，并提供一个基于公共空间而非建筑物的新标识——一个位于城区南北两部分结合处的新型市民集



项目地址: 美国阿拉巴马州伯明翰市
项目面积: 77 000m²
项目委托: 伯明翰市政府、铁路公园基金会
景观设计: Tom Leader景观设计事务所
项目费用: 1 750万美元
首席设计师: Tom Leader
项目负责人: Tom Leader
设计团队: Akiko Ono、Sara Peschel、Kathryn Drinkhouse、Gabe Meil、Roman Chiu、Tom McMillan、Paul Burgin、Ivan Valin
设计时间: 2005~2008年
施工时间: 2008~2010年
建成时间: 2010年
所获奖项: 2012美国城市土地学会公共空间最高奖
 2012美国景观设计师协会阿拉巴马州荣誉奖

Location: Birmingham, Alabama, USA
Area (size): 19 Acres
Client: City of Birmingham, Railroad Park Foundation
Landscape Architecture: Tom Leader Studio
Cost Item: USD 17.5 million
Chief Designer: Tom Leader
Project Leader: Tom Leader
Project Team: Akiko Ono, Sara Peschel, Kathryn Drinkhouse, Gabe Meil, Roman Chiu, Tom McMillan, Paul Burgin, Ivan Valin
Design Period: 2005 ~ 2008
Construction Period: 2008 ~ 2010
Completion Time: 2010
Awards: 2012 ULI Urban Open Space — Winner
 2012 ASLA (Alabama) Honor Award

会场地。这个公园有助于使城市的新兴地区对于新居民而言更宜居，并能够创造价值，激励未来发展——公共空间的主旨是成为“城市触媒”。

规划

这一面积为7.7hm²的地区的改造预计用20年时间完成，是对两个早期熔炉之间的整个区域（这里曾为铁路用地）进行改造的第一步。这个曾经的城市分界线将成为一个统一元素，发挥类似其他城市滨水公园的作用。和许多其他城市一样，从现存的闲置土地所属的铁路主管部门手中获

得权限是项目的关键。

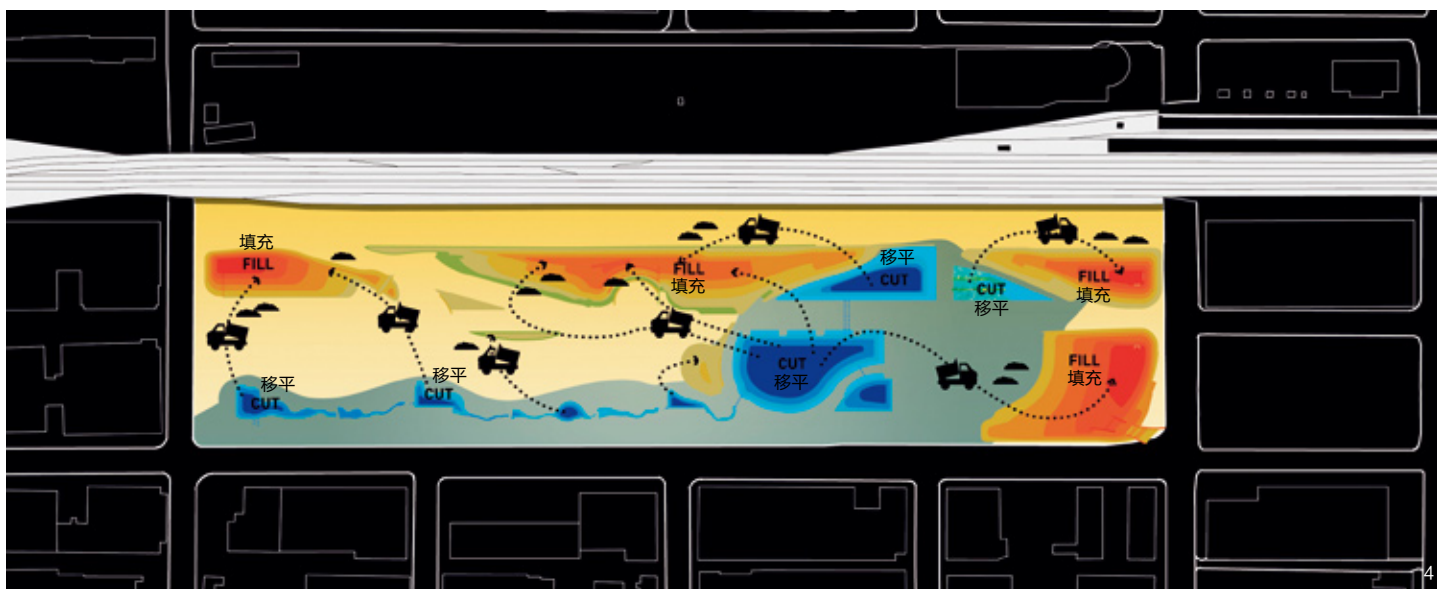
目前我们需要解决的最大问题是如何将公园变为连接南北城区的桥梁。每一个项目顾问都参加了众多的非正式介绍会、公众研讨会和正式的市民大会，尽可能使更多对此感兴趣的居民参与其中。事实上，公园和区域项目正是直接源于这一系列密集的针对该目标的公共研讨会。

场地设计 分析和处理

历史上，公园所在地是伯明翰市最低洼的地区，原本是一片沼泽，后被填埋用

于建设仓库、砖厂和铁路沿线设施。新的公园设计将在项目中利用水这一要素重现这些历史。公园位于城市的低洼区域这一特点使其成为合理的直接集水区水存储地点，亦可在威胁城市雨洪基础设施的季节性强降雨期间成为紧急洪水防御设施。

作为回收利用的工业用地，公园场地上进行了大规模填埋，老旧的铺路材料由橡胶和碎石构成，炼钢的副产品经常被倾倒在这里。这些材料包括老旧破损的砖石、街道鹅卵石、花岗岩路缘石及废弃的铁轨，这些都被融入到设计之中。由于土壤中含有铸造废砂晶体，如不采用大量加



固设施，地面难以稳固。钢制石笼几乎被运用于该场地的所有矮墙中，这是基于柔韧度和价格因素的考虑。它们被填满了适当的再生场地材料——主要是来自炼钢的旧砖石和石灰岩块，这样有助于延续场地往日的风格，并能充满活力且具有实用功能，同时，作为广场特色的大型浅碗形铺装区域，种满了河桦树，利用不定时升降式喷头作为简易喷泉进行灌溉。

铁路边上的公园

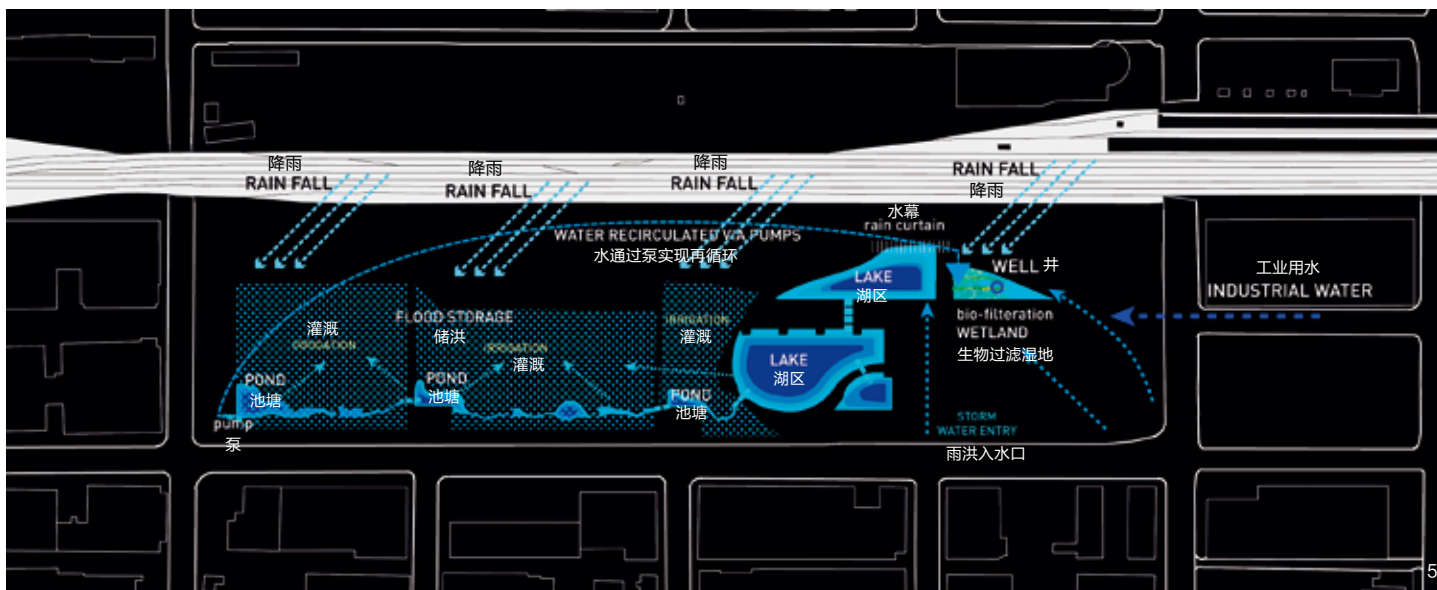
为了夏天灌溉的需要，该项目利用

湖区作为主要蓄水池，避免使用城市供水。大型水体的存在为城区带来了清爽。公园东面的湿地池塘收集周边小山丘和圆形凹地的径流，形成该系统的上游水源。湿地通过水渠，溢流至两个相互连接的湖区的第一个湖中。湖水被抽至横跨湖面的人行桥的扶栏处，形成一个引人注目的、清凉的水帘，高4.6m，长5.5m，在夜晚，它会在缓慢变幻的彩色LED灯的照射下闪烁光彩。

该湖区还在城市图景中起着关键的作用，它为远处城区的大厦群及毗邻公园的

颇具历史意义的砖石蒸汽动力厂中众多红色烟囱提供了美妙的视觉背景和反射面。它借景于那些因其他原因而被忽视的建筑形成了一个令人感动而振奋的创作，使这座城市给人留下了难忘的印象。很多公园游客评论说“市区从未如此之美”。

溪流和池塘担负着多项关键职能——在径流进入城市雨洪系统前对其进行收集，并利用植物进行生物过滤，储存大量暴雨中的径流，使地区免受洪水侵害，并利用拥有滨水树丛和自然林的河流廊道，对土壤进行自然灌溉。





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东门

入口广场显然需要有引导游客的设施及遮挡风雨的地方。东门的凉亭包含了公园食品店、货摊、管理部门、卫生间和仓库等空间。一个大规模的金属顶篷以列车棚的形式沿着长67m的广场延伸，可供游人遮阳避雨。这个由高大的顶篷构建成的东门向西可赏公园、湖泊和公共空间，向东可观蒸汽动力车和城区。

基于城市网络，我们决定在每个公园

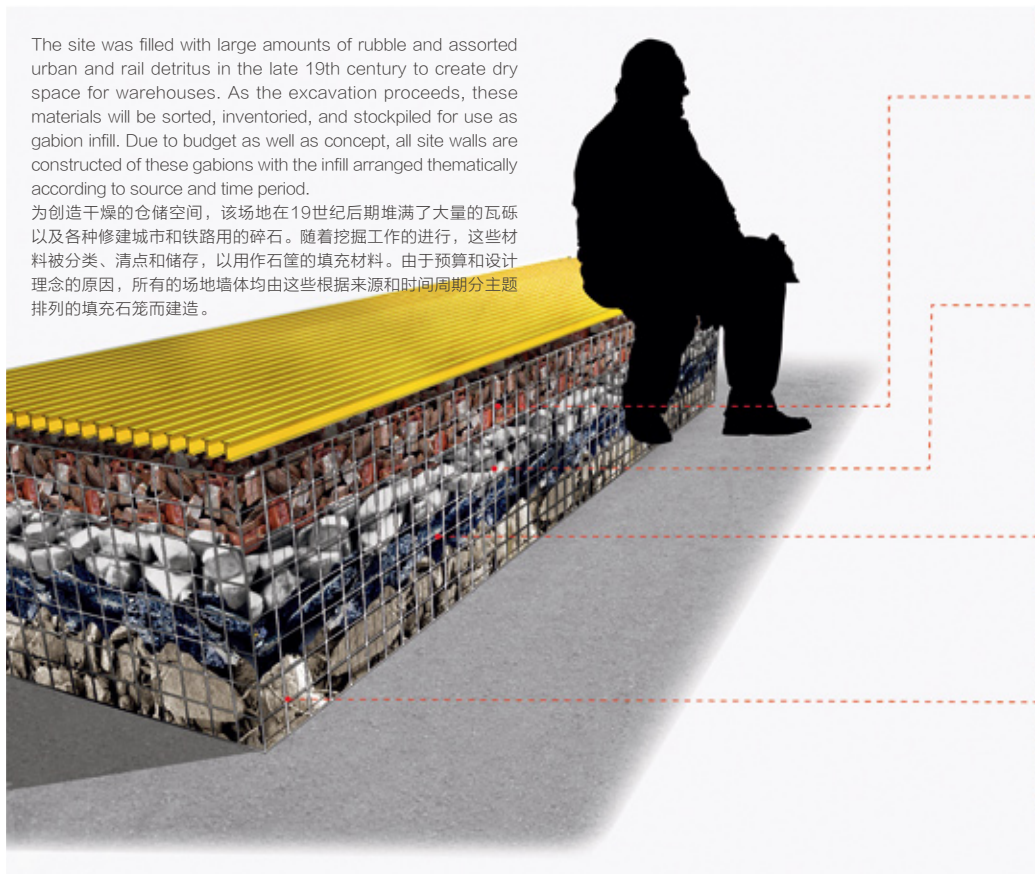


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街区与街道相交处创建门厅广场，这一创意将吸引相当数量的零售活动，形成可直通公园的人流密集的廊道。这使得我们可以将公园分为多个结构化区域，既可以分开利用，也可以合起来构建出一个大型公共空间。

东门广场是公园的“大本营”，是所有大型活动举行的地方，人们在这里聚集进入公共空间，随后可返回这里用餐、饮水、乘凉和交流。**LAF**

4. 土方平衡策略
5. 水体循环利用策略
6. 湖滨步道
7. 网凳
8. 由回收建材制成的座椅
4. Cut and fill strategy
5. Water recycling strategy
6. Lakeside promenade
7. Gabion seating
8. Recycled construction material for seating



The site was filled with large amounts of rubble and assorted urban and rail detritus in the late 19th century to create dry space for warehouses. As the excavation proceeds, these materials will be sorted, inventoried, and stockpiled for use as gabion infill. Due to budget as well as concept, all site walls are constructed of these gabions with the infill arranged thematically according to source and time period.

为创造干燥的仓储空间，该场地在19世纪后期堆满了大量的瓦砾以及各种修建城市和铁路用的碎石。随着挖掘工作的进行，这些材料被分类、清点和储存，以用作石笼的填充材料。由于预算和设计理念的原因，所有的场地墙体均由这些根据来源和时间周期分主题排列的填充石笼而建造。



Reclaimed brick 重新利用的砖块

Reclaimed stone 重新利用的石块

Reclaimed asphalt 重新利用的沥青

Reclaimed concrete 重新利用的混凝土



Rail + Community + Nature

These were the fundamental elements in the birth of a city. Birmingham's story begins in this very place where rail infrastructure begets community development.

Originally a steel town, Birmingham grew around an extensive network of rail lines, two large steel furnaces, and an 11 track rail

corridor connecting them served the steel-making industry and provided the "life blood" to sustain the early city. Birmingham experienced the same flight to the suburbs as many other American cities in the late 1960's and 1970's, which left many parts of the downtown retail and office core vacant or underutilized. Until recently, the city has

lacked a strong body of policy or "roadmap" particularly regarding sustainable landscape infrastructure or civic growth priorities in general. Recent planning direction established a much firmer footing and led to identifying the Railroad Park site as a key "civic living room" uniting the northern and southern halves of the downtown.

Trains

A decision was made to avoid using trains and rail as a thematic "flavor", but instead as a direct experience for park visitors via the newly created "Rail Trail". While Birmingham lacks a regional geographic element like a river or bay around which to orient, it does have the Rail. The new park embraces these trains and their historic presence by instead creating a "Trainfront Park".

Emerging from a decade's worth of planning work by the city was a consensus that a major downtown park on this site would help organize and stimulate growth in the





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southern half of the downtown and provide new identity based on open space rather than structures — a new civic gathering space on the seam between the northern and southern halves of the city. The park could serve to make this emerging area of the downtown more habitable for new residents and generate value and incentive for future development — the keystones of open space as an “urban catalyst”.

Planning

The 19-acre site is the first increment in what will be a 20 year effort to transform the entire area between the two original furnaces that were once reserved for rail. What was once a divide in the city will become a unifying element much same as riverfront

- 9. 在铁路步道上进行锻炼
- 10. 轮滑碗池
- 11. 湖滨步道上的座椅
- 12. 生态过滤水道，其水岸由回收路缘石制成。
- 13. 从铁路步道上望向铁路

- 9. Walking/Jogging on the Rail Trail
- 10. Skate Bowl
- 11. Lakeside promenade and seating
- 12. Bio-filtration stream edged with recycled street curb.
- 13. Rail Trail looking toward trains



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parks are doing in other cities. Also similar to many other cities, acquiring rights to existing vacant lands belonging to rail authorities will be key.

By far the largest issue we had to deal with was that somehow this park was supposed to bridge the north and south areas of downtown. As each consultant visited numerous informal briefings, public workshops, and a formal town hall meeting were held, bringing as many interested residents as possible to the table. In a very real way, the program for the park and district was derived directly from an



intensive series of public workshops aimed at this goal.

Site Design

Analysis and process

Historically, the park site was the lowest area in the city, originally home to a marsh that was filled for construction of warehouses, brickyards, and rail sidings. The new design of the park reclaims some of this history in making use of water for the project. The park's low elevation within the city also makes it a logical place to store water from

the immediate watershed and to provide emergency flood protection during periodic heavy rains that can plague the city's storm infrastructure.

As recycled industrial land, the park site was heavily underlain by old paving materials, assorted rubble and detritus, and layers of steel-making by products often dumped on the site. This material included old and broken bricks, street cobbles, granite curbs, discarded rails that were incorporated into the design. Due to lenses of foundry sand within the soil, the ground was not reliably

stable without major reinforcement. Steel gabions were used for nearly all site walls, both for their flexibility and for cost. They were then packed with suitable reused site materials, primarily old bricks and limestone chunks from steel-making helping to keep

- 14. 活动草坪
- 15. 东入口广场及广场亭
- 16. “希腊”露天剧场/儿童游乐场
- 17. 桦树广场——使用再生石材铺装
- 14. Event space lawn
- 15. East gate pavilion and plaza
- 16. Greek Amphitheater / Children play area
- 17. Birch Bowl — using recycled cobbles



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the site's past both alive and functioning, including a large shallow paved bowl as a plaza feature, filled with River Birch trees and irrigated with erratically timed pop-up sprinklers as an inexpensive fountain.

Trainfront park

The lake creates a major reservoir on site for summer irrigation needs, preventing the need to draw on city water supplies. The presence of this large body of water brings a cooling presence to the downtown. A wetland pond at the east end of the park collects runoff from the surrounding knoll and amphitheater topography and forms the headwaters of the system. This wetland then spills through runnels into the first of two interconnected lake cells. Lake water is pumped to the handrail of a crossing pedestrian bridge, creating a dramatic, cooling rain curtain fifteen feet high and eighty feet long which

glows from slowly rotating color LED lights at night.

The lake also plays a key role in urban scenography as it creates a flattering visual ground and reflecting surface for the downtown towers beyond as well as the powerful red stacks of the historic brick steam plant adjacent the park. The borrowed scenery of these otherwise overlooked structures forms an inspiring and provocative composition that leaves a memorable impression of the city. Many park visitors comment that “downtown never looked so good”.

The streams and ponds perform several key functions — to collect and vegetatively biofilter run-off before it enters the city storm system, to store large amounts of run-off in storms to protect against area flooding, and to naturally irrigate the soils of the stream corridor filled with riparian tree groves and emergent plantings.



East gate

At the entry plaza there was a clear need to help orient arriving visitors and to provide shelter from the elements. The East Gate Pavilion accommodates space for park food service, concessions, administration, rest rooms, and storage. An industrial-scale metal roofed canopy in the form of a trainshed extends the entire 220 feet of the plaza length to provide sun and rain shelter. The tall canopy frames the “east gate” views to the park, lake, and open space to the west as well as views east to the steam plant and downtown.

We decided to create gateway plazas at each of the streets that intersect the park blocks, all based on the urban grid and with the idea that they would draw a fair amount of retail activity and create a populated corridor that would feed directly into the park. This idea allowed us to break the park down into



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structured zones that can be used separately or combined as one larger open space.

The Eastgate Plaza is the “headquarters” of the park — where every big event is staged and people collect before heading into the open spaces and where they later return for food and drink, shade and conviviality. **LAF**

- 18. 露天电影院
- 19. 湖中的落日余晖
- 20. 湖水及东门广场亭
- 18. Evening film event
- 19. Sunset on the lake
- 20. Lake and East Gate pavilion



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