DETROIT FUTURE CITY

DETROIT INDUSTRIAL ADAPTIVE REUSE INITIATIVE

Trends and Case Studies in North America and Western Europe

March 2019

Prepared by SmithGroup in partnership with
Detroit Future City & Mass Economics

While Detroit's identity is inextricably linked with its industrial heritage, its 6.1 square miles of sprawling vacant industrial facilities and sites define a more contemporary reality: One woven throughout the city's urban fabric, powerfully conveying an important facet of Detroit's decline, and impacting the quality of life of surrounding communities. While conventional wisdom, policy, and regulation have driven large scale demolition and brownfield creation, growing recognition of the potential for alternative futures on Detroit's vacant industrial sites and facilities demands a fresh, informed, and strategic assessment, now.

From the recent mixed-use transformation of the Seaholm power plant in Austin, TX, to the long-running reutilization of the Seattle Gas Works, and the myriad adaptive reuse projects across the Ruhr Valley, in North Westphalia, Germany, a new range of potential futures – previously unconsidered – is emerging. For Detroit, such a reassessment and strategic reconceptualization of its vacant and underutilized industrial assets may reveal unique characteristics that differentiate the city from other competitive markets, and serve to fuel needed jobs, accommodate creative enterprise, provide energy, produce food, support research and innovation, and challenge us to think more dynamically about the future of our physical past.

This document highlights examples of industrial adaptive reuse in North America and Europe that have leverages vacant industrial facilities to create dynamic spaces that support economic development, food production, research and innovation, and arts and culture. The scales of these project resonate with the industrial lands presently in Detroit, and thus are presented at three system scales: site (one facility), district (across several properties) and system (regional connections).

SITE

DISTRICT

SYSTEM

NORTH AMERICAN CASE STUDIES

Pictured: Interior of 7800 Susquehanna
Image Source: FortyEighty Architecture

7800 SUSQUEHANNA

Bridgeway Capital is a non-profit lender that provides low-interest and alternative financing options for minority-owned businesses. During the early, 2000s, Bridgeway Capital wanted to combat the double-digit unemployment rates that were disproportionately impacting people of color in Pittsburgh. In 2013, they launched 7800 Susquehanna, which reimagined a 156,000 square foot, long vacant and underutilized industrial building in the Homewood neighborhood of Pittsburgh into a job creating engine that focuses on economic development support for minority-owned businesses in the city. The facility offers low-cost maker space and offices as well as employment workshops and training sessions to keep the minority workforce competitive in the construction and sustainable job markets.

New Markets Tax Credits and contributions from the Richard K. Mellon Foundation provided necessary financing to create affordable space for maker and craft manufacturers, artisans, and workforce development organizations, generating new businesses, jobs and economic opportunity to Homewood and the City of Pittsburgh.

Resources:

7800 Susquehanna Street Website: www.7800susquehanna.com

7800 Susquehanna Street Facts Brochure: www.bridgewaycapital.org

LOCATION
Pittsburgh, Pennsylvania

SIZE
156,000 gsf

CONSTRUCTION COST
$15 Million (Phase One)

COMPLETION DATE
2013

LEED CERTIFICATION
None

YEAR CONSTRUCTED
1920s

ARCHITECT
FortyEighty Architecture

ARCHITECTURAL STYLE
Unknown

HISTORIC USE
Westinghouse Electrical Facility

DESIGNATION
None

Stakeholders / Funders:

Richard King Mellon Foundation

$1 million Pennsylvania First Grant

PA Department of Community and Economic Development

$1M Redevelopment Assistant Capital Program Grant Award

Commonwealth of Pennsylvania

Caliguiri Group

Ma'at Construction Group

Tenants:

Urban Tree

Bones and All

Ma'at Construction Group

Radiant Hall

New Precision Technologies

Impact Audio

Peter Johnson

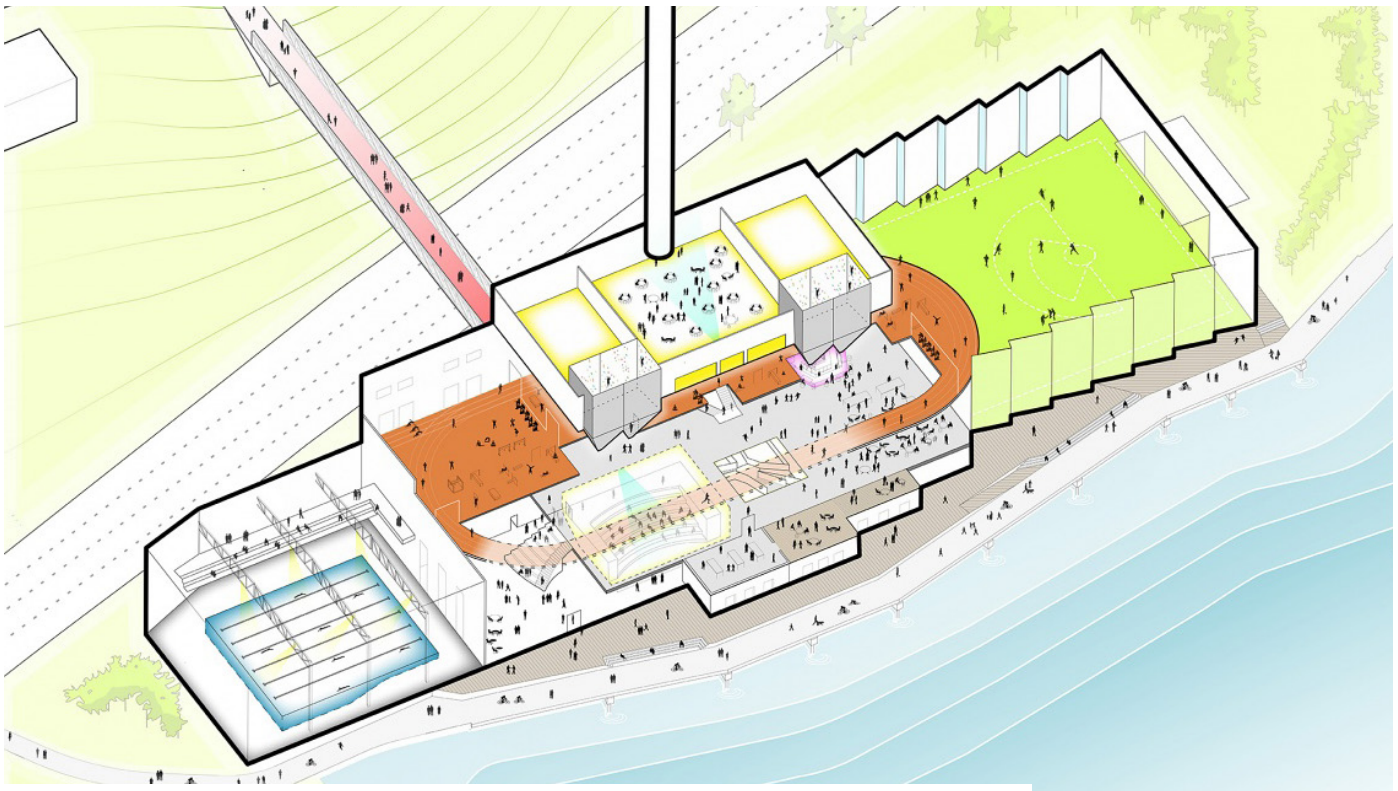
Melissa Lombardo

Mia Henry

Trade Institute of Pittsburgh

Rebuilding Pittsburgh Together

Homewood Business Center



Pictured: Beloit Powerhouse with Diagram
Image Source: Studio Gang

BELOIT POWERHOUSE

Beloit College's proposed reutilization of the former Blackhawk Power Generating Station repurposes the unique spaces and systems of the plant into a student resource center. The Beloit Powerhouse will be developed as a integrated student union that will benefit Beloit College students and the greater community. Nestled between the College's campus and the Rock River, the Powerhouse will feature a fitness center and recreational gym, including a 3-lane track and 8-lane competition pool, as well as spaces for conversation, collaboration, and study. Other amenities include a coffee shop, student lounges, club rooms, conference center, and a lecture hall/theater. The Beloit Powerhouse is expected to have a direct link with student attraction and retention.

All of the plant's unique qualities will be adapted, including the turbine gallery and pump house to establish student community and a nucleus of activity to work, train, eat, and play. It will showcase sustainable design of one of the state's most important historic buildings, tying the college and the City of Beloit closer to the Rock River. The major design challenges focus on efficient energy use, materiality and building technological functionality. The project, designed by Studio Gang, is targeting LEED Gold status.

Resources:

Beloit Powerhouse History: https://www.beloit.edu/powerhouse/timeline/

Beloit College moving forward on Powerhouse Project: http://www.gazettextra.com/20170425/beloit_college_moving_forward_on_powerhouse_project

LOCATION
Beloit, Wisconsin

SIZE
120,000 gsf

CONSTRUCTION COST
$38 Million

COMPLETION DATE
Expected Fall 2019

LEED CERTIFICATION
LEED Gold

YEAR CONSTRUCTED
1918

ARCHITECT
Studio Gang

ARCHITECTURAL STYLE
Modern

HISTORIC USE
Power Plant

DESIGNATION
None

Stakeholders:
Alliant Energy Corporation
Studio Gang Architects
City of Beloit
Alexander Company
The State of Wisconsin Historic Preservation Office
Angus Young Associate
Beloit College

Pictured: The Energy Innovation Center is located in Pittsburgh's Hill District
Image Source: Covestro via Crain's Pittsburgh

ENERGY INNOVATION CENTER

The Energy Innovation Center is a nonprofit located in Pittsburgh, focused around local economic and career development, and research in sustainable technology. The Center's mission is to "engage corporate and community leaders, align workforce development and education, develop and demonstrate technology, and incubate businesses, to support emerging clean and sustainable energy markets," (Energy Innovation Center Website, www.eicpittsburgh.org).

Located in Pittsburgh's Hill District, the Energy Innovation Center transformed a vacant former technical trade school into a workforce development training center for the green economy. The Energy Innovation Center co-locates collaborative university industry partners, technology demonstration projects, an early state business incubator, and targeted workforce training and placement programs. It now stands as a long-term asset for the city in training, research and job creation. The facility functions as a 'living laboratory' for industry-informed education and training programs, also housing energy sector corporations, national energy research laboratories, political and community leaders, economic development organizations, and leading academic institutions.

New Markets Tax Credits were key in filling the financial gaps, which attracted a variety of other public and private financing resources to invest in the project.

LOCATION
Pittsburgh, Pennsylvania

SIZE
200,000 gsf

CONSTRUCTION COST
$44 Million (Phase One)

COMPLETION DATE
2016

LEED CERTIFICATION
LEED Platinum

YEAR CONSTRUCTED
1930, 2016

ARCHITECT
DLA+ (2016)
Edward B. Lee, JG + Fullman Co. (1930)

ARCHITECTURAL STYLE
Classical Revival + Art Deco

HISTORIC USE
Connelley Trade School

DESIGNATION
National Register of Historic Places (1986) + Pittsburgh History and Landmarks Foundation (2002)

Resources:

Energy Innovation Center Website, www.eicpittsburgh.org

Stakeholders:

Allegheny County Community Infrastructure & Tourism Fund
BNY Mellon
Bridgeway Capital
Capstone Turbine Corporation
CCAC
Claude Worthington Benedum Foundation
Community Foundation for the Alleghenies
Covestro
Dollar Bank
Duquesne Light
E-finity
EATON
EolveEA
First Niagara
Goodwill Indusries International, Inc.
Henry L. Hillman Foundation
McAuley Ministries
National Trust Community Investment Corporation
Northside Community
Pennsylvania Alternative and Clean Energy Program
Pennsylvania Geothermal Program
Pennsylvania Redevelopment and Capital Assistance Program
Peoples
PGH Green Innovators
Pittsburgh Gateways
Pittsburgh Urban Initiatives, LLC.
PNC
PPND
Richard King Mellon Foundation
Scalo Solar Solutions, LLC.
Shell
The Buhl Foundation
The Grable Foundation
The Heinz Endowments
The Penn State Center
U.S. Department or Energy
University of Pittsburgh
Urban Innovation 21
Urban Redevelopment Authority of Pittsburgh
William J Recker
WPPSEF

Pictured: Gas Works Park
Image Source: City of Seattle

GAS WORKS PARK

Gas Works Park is a 20 acre multi-use public park, marina, and event structure. The former gas manufacturing facility closed in 1962 and underwent a four-decade process of public-private remediation and reuse. Today, the park is a recognized landmark and civic space for Seattle.

The site was acquired by the City of Seattle for parkland in 1965, and opened to the public ten years later. The site offers unrivaled panoramic views of the lake and downtown skyline, with passive informal open space available for community events.

A central feature - the boiler house - was converted into a picnic shelter with tables and fire pits, and the former exhauster-compressor building was converted into an open-air play barn, with a maze as a play feature.

This project has been celebrated for its ability to garner public support and shift public perceptions of post-industrial landscapes. It is considered revolutionary for its reclamation of polluted soils using bioremediation.

Resources:

Gas Works Park: https://tclf.org/landscapes/gas-works-park

University of Washington Press: https://uwpressblog.com/2015/04/15/gas-works-park-a-brief-history-of-a-seattle-landmark/

Build a Better Burb: http://buildabetterburb.org/gas-works-park/

LOCATION
Seattle, Washington

SIZE
20 acres

CONSTRUCTION COST
$2 Million

COMPLETION DATE
2016

LEED CERTIFICATION
N/A

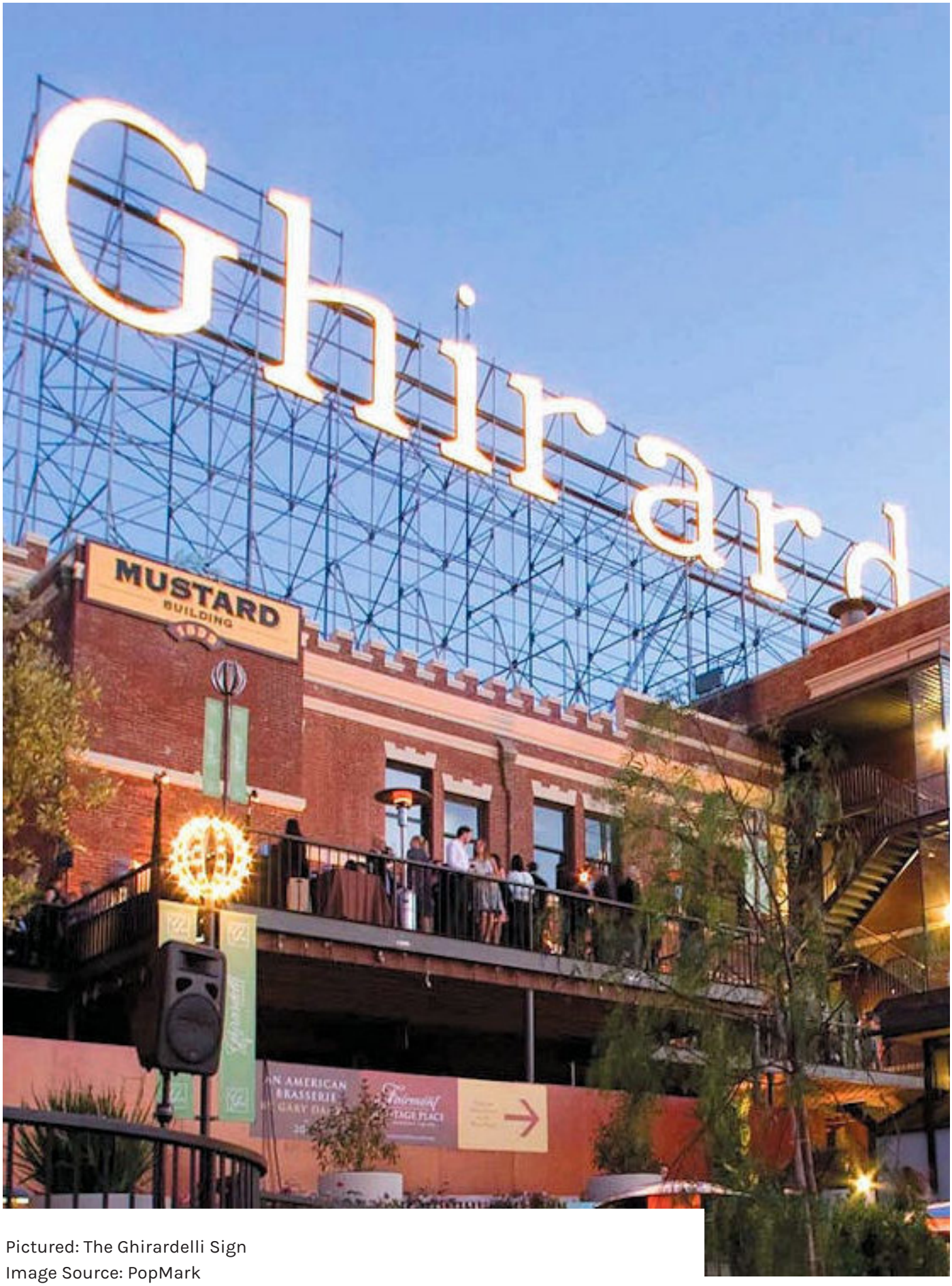
YEAR CONSTRUCTED
1906

ARCHITECT
Richard Haag

ARCHITECTURAL STYLE
Landscape Architecture

HISTORIC USE
Coal Gasification Plant

DESIGNATION
National Register of Historic Places (2013)



Pictured: The Ghirardelli Sign
Image Source: PopMark

GHIRARDELLI SQUARE

The building that is now known as Ghirardelli Square has undergone significant identities over th years. In 1858, the site was home to an industrial woolen mill originally owned by Heynemann, Pick and Company. In 1861, the building was lost in a fire and later replaced by with brick, building the structure higher. It continued its operation as wool mill until 1889.

In 1892 the Ghirardelli family purchased the building and moved in with their chocolate, coffee and spice company and manufacturing operations. The site has since remained with the Ghirardelli Chocolate company. In the companies expansion, other buildings were developed including the cocoa, chocolate and mustard buildings, a power house for the complex, the clock tower, and the iconic Ghirardelli sign that overlooks the bay.

In 1962, the Ghirardelli Companies relocated their production outside of San Francisco, converting their city properties into a small shopping complex to include retail shops, offices, restaurants, and a movie theater. The complex opened to the public in 1964 and was considered the first successful adaptive reuse project in the country, receiving its place on the National Historic Register in 1982.

Resources:

Ghirardelli Square Website: http://www.ghirardellisq.com/

Urban Renaissance with Mermaids: http://experiments.californiahistoricalsociety.org/urban-renaissance-with-mermaids-lawrence-halprins-ghirardelli-square/

LOCATION
San Francisco, California

SIZE
100,000 gsf / 3 acres

CONSTRUCTION COST
Unknown

COMPLETION DATE
1964

LEED CERTIFICATION
None

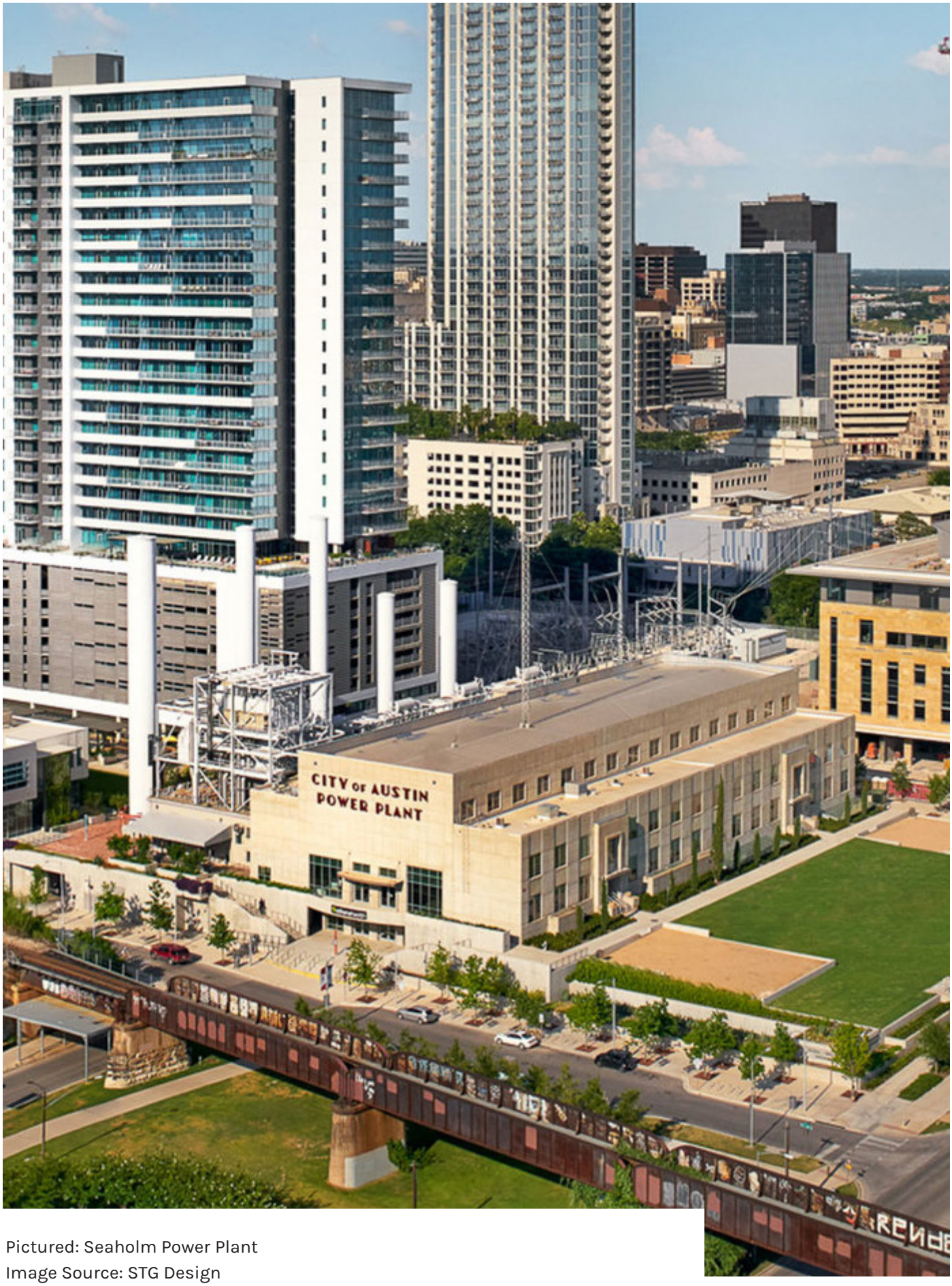
YEAR CONSTRUCTED
1858, 1861, 1923, 1964

ARCHITECT
Lawrence Halprin, William Wurster

ARCHITECTURAL STYLE
Art Deco

HISTORIC USE
Woolen Mill

DESIGNATION
National Register of Historic Places (1982)



Pictured: Seaholm Power Plant
Image Source: STG Design

SEAHOLM POWER PLANT

The Seaholm Power Plant previously served as Downtown Austin's primary electric resources from 1951 to 1996, in which it shut down entirely. The site lay dormant until 2004, when Austin City Council considered redevelopment partners to reposition the building as a business incubation space.

The Seaholm Power Development LLC was successfully formed as a public-private partnership with the City of Austin and several other private development agencies. The site master plan was approved in 2008 and construction began in 2013.

The building itself retains the original architecture. The interior of the turbine generator building was converted for offices, retail and restaurant spaces. Seaholm was a semi-outdoor power plant, with its boilers outdoors which were preserved as an aesthetic component in the redevelopment. The reuse effort also includes 280 high-rise condo units, 48,000 square feet of retail, and 143,000 square feet office. A residential tower called Seaholm Residences was constructed at the west end of the site.

Resources:

Seaholm Power: http://seaholm.info/

EcoDistricts: https://ecodistricts.org/registered-districts/seaholm/

LOCATION
Austin, Texas

SIZE
800,000 gsf / 2.71 acres

CONSTRUCTION COST
$133 Million

COMPLETION DATE
2018

LEED CERTIFICATION
LEED Gold

YEAR CONSTRUCTED
1951

ARCHITECT
Burns and McDonnell (1951)
Charles Rose Architects (2013)

ARCHITECTURAL STYLE
Art Moderne

HISTORIC USE
Power Plant

DESIGNATION
National Register of Historic Places (2013) + Recorded Historic Texas Landmark (2007)

Stakeholders:
City of Austin
Austin Park Foundation
Austin Trail Foundation

Pictured: Powell Steam Plant Renderings
Image Source: Alabama News Center

POWELL STEAM PLANT

The Powell Steam Plant operates as primary electrical source for the City of Birmingham, providing service particularly for the new streetcar system designed to connect downtown to surrounding neighborhoods. Other service industries began to co-locate to the Powell Steam Plan, including the Birmingham Railway, Light & Power Company. By 1905, the Powell Steam Plant had more than doubled in size to occupy an entire block, and had begun offering steam heat to the Birmingham Central Business District. The Powell Steam Plant remained in business until the late 1990s. The City of Birmingham is looking to re-energize the facility as a business center or industrious tech start-up location.

Construction is currently in progress, estimated for completion by 2021-2022.

Resources:

National Park Service: www.nps.gov/

Powell Steam Plant: http://powellsteamplant.com/powell-avenue-steam-plant-part-of-what-made-birmingham-magic/EcoDistricts: https://ecodistricts.org/registered-districts/seaholm/

LOCATION
Birmingham, Alabama

SIZE
62,000 gsf

CONSTRUCTION COST
$72 Million

COMPLETION DATE
Ongoing

LEED CERTIFICATION
None

YEAR CONSTRUCTED
1895

ARCHITECT
Birchfield Penuel and Associates

ARCHITECTURAL STYLE
Unknown

HISTORIC USE
Power Plant

DESIGNATION
None)

Pictured: Rendering for Underpass Park
Image Sources: Waterfront Toronto

UNDERPASS PARK

Underpass Park transforms a derelict and underused space underneath an existing expressway into a "art walk," where the beams, column, and overpass provide year round weather protection for playgrounds, basketball courts, a skate-park and flexible community space for public events, farmers markets and festivals.

Underpass Park is linked with the Lower Don Redevelopment, initiated by a mandate from the Governments of Canada, Ontario along with the City of Toronto, to transform 2,000 acres of largely vacant and underutilized industrial land and brownfields into mixed-use communities and public space. The city recognized that the new Lower Don Lands Redevelopment would require recreational amenities, as well as a connection to the adjacent West Don Lands.

Initially, integrating the overhead structure into a park design was a challenge, but with innovative re-engineering, the overpass structure becomes a defining element of the park.

Resources:

Waterfront Toronto: http://www.waterfrontoronto.ca/nbe/portal/waterfront/Home/waterfronthome/projects/underpass+park

Urban Toronto: http://urbantoronto.ca/database/projects/underpass-park

LOCATION
Toronto, Ontario

SIZE
62,000 gsf

CONSTRUCTION COST
$6 Million (Phase One)

COMPLETION DATE
2012 (Phase One)

LEED CERTIFICATION
N/A

YEAR CONSTRUCTED
1950s

ARCHITECT
PFS Studio

ARCHITECTURAL STYLE
Landscape Architecture

HISTORIC USE
Expressway Underpass

DESIGNATION
None

Stakeholders:

Toronto Water
Baird & Associates
Toronto Parks, Forestry & Recreation
Toronto City Planning
Toronto Transit Commission
Toronto Region Conservation Authority
Senes Consultants
AECOM
Toronto Emergency medical Services
West Don Lands Committee
St. Lawrence Neighborhood Association
Port Lands Action Committee
Home Depot
The Kirkland Partnership
Toronto Island Community Association
Gooderham & Worts
Royal Canadian Yacht Club
Aird & Berlis
Corktown Business & Resident Association
Task Force to Bring Back the Don Community Consultation

Pictured: Charles Center - Inner Harbor
Image Source: ULI Case Studies

CHARLES CENTER – INNER HARBOR

Charles Center is a large-scale urban redevelopment in Baltimore's waterfront business district, developed largely between 1950-1960. In 1954, the Committee for Downtown promoted a master plan for arresting the commercial decline of central Baltimore, and the following year, a $25 million bond was issued to finance the redevelopment of the waterfront properties. The plan was unusual for its time in not pursuing a clean-slate site, but rather incorporating existing structures. The 33 acres site includes three public plazas connected by walkways, staircases and pedestrian bridges. The plazas cap several multi-level underground parking garages.

In the 1970s, the Inner Harbor project expanded the redevelopment between the Baltimore Harbor and Market Place. The result is a centrally located downtown destination and business district that serves the financial sector and other industries in Maryland.

Resources:

Global Harbors: www.globalharbors.org

ULI - Baltimore Inner Harbor: https://casestudies.uli.org/wp-content/uploads/sites/98/2016/06/Baltimore-Inner-Harbor.pdfULI Case Studies: https://casestudies.uli.org/steelstacks-arts-and-cultural-campus/

LOCATION
Baltimore, Maryland

SIZE
192 acres

CONSTRUCTION COST
$140 Million

COMPLETION DATE
1970s

LEED CERTIFICATION
None

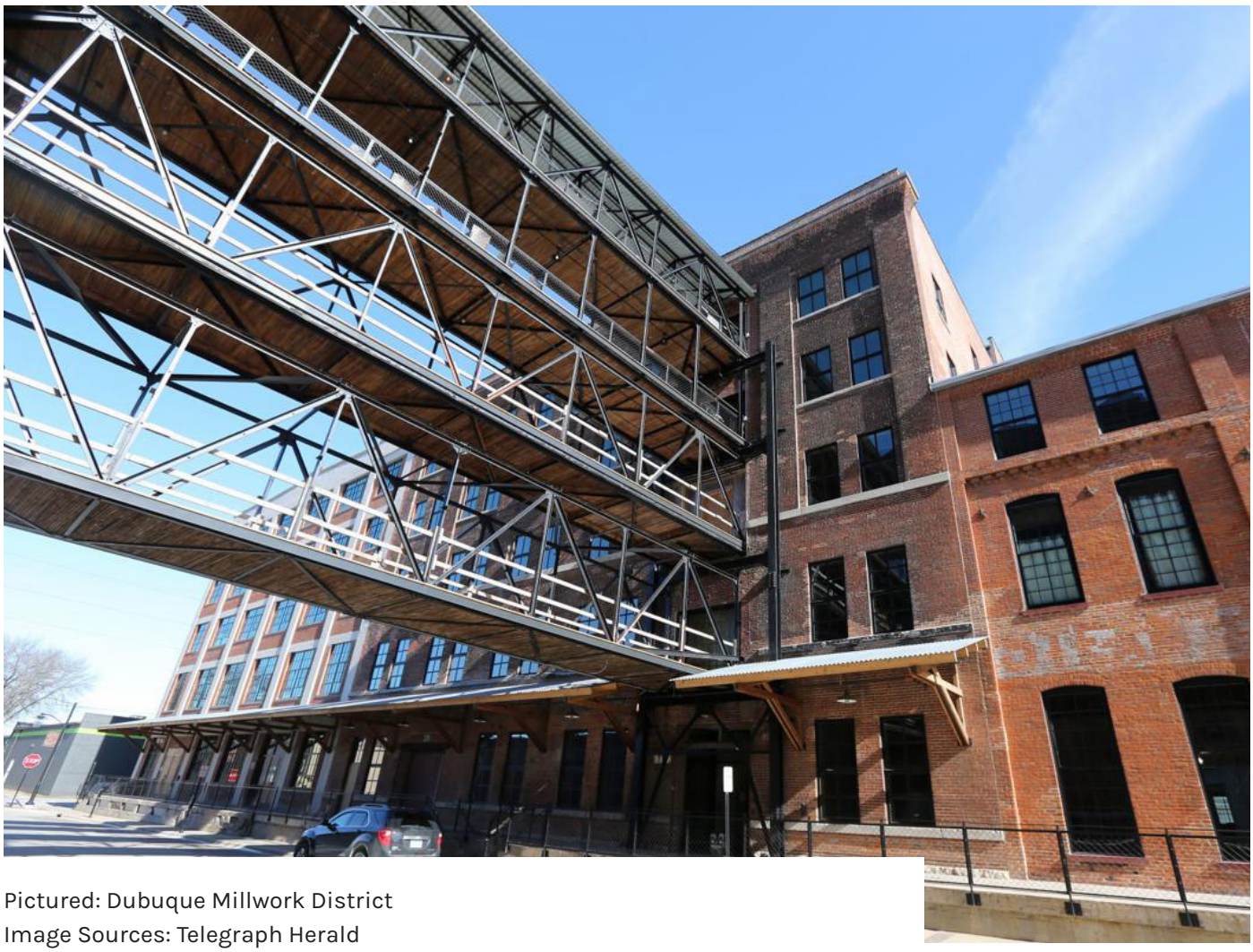
YEAR CONSTRUCTED
1858

ARCHITECT
WRT Architects and Planners

ARCHITECTURAL STYLE
Mixed

HISTORIC USE
Seaport and Canning Facility

DESIGNATION
None



Pictured: Dubuque Millwork District
Image Sources: Telegraph Herald

DUBUQUE MILLWORK DISTRICT

The Historic Millwork District is a mixed-use commercial and residential development featuring art galleries, restaurants, breweries, shops, entertainment venues, recreational facilities and residences. The project prioritizes environmental, economic and social sustainability while honoring the district's industrial history. This district builds off of the investments into the Port of Dubuque Riverfront district, which honors the historic and environmental significant of the Mississippi River.

According to the Dubuque Millwork District Master Plan, " The Plan is a vision and a road-map that positions the District for significant growth by building on and reinforcing its strengths: size, unique building stock, proximity to the Mississippi River and Downtown, and healthy and aggressive public-private partnerships committed to making the District a model sustainable community."

Resources:

City of Dubuque: https://www.cityofdubuque.org/DocumentCenter/View/1115/Millwork-Master-Plan?bidId=

LOCATION
Dubuque, Iowa

SIZE
1 million gsf / 30 acres

CONSTRUCTION COST
$18 Million

COMPLETION DATE
2012

LEED CERTIFICATION
None

YEAR CONSTRUCTED
1881

ARCHITECT
Cuningham Group Architecture

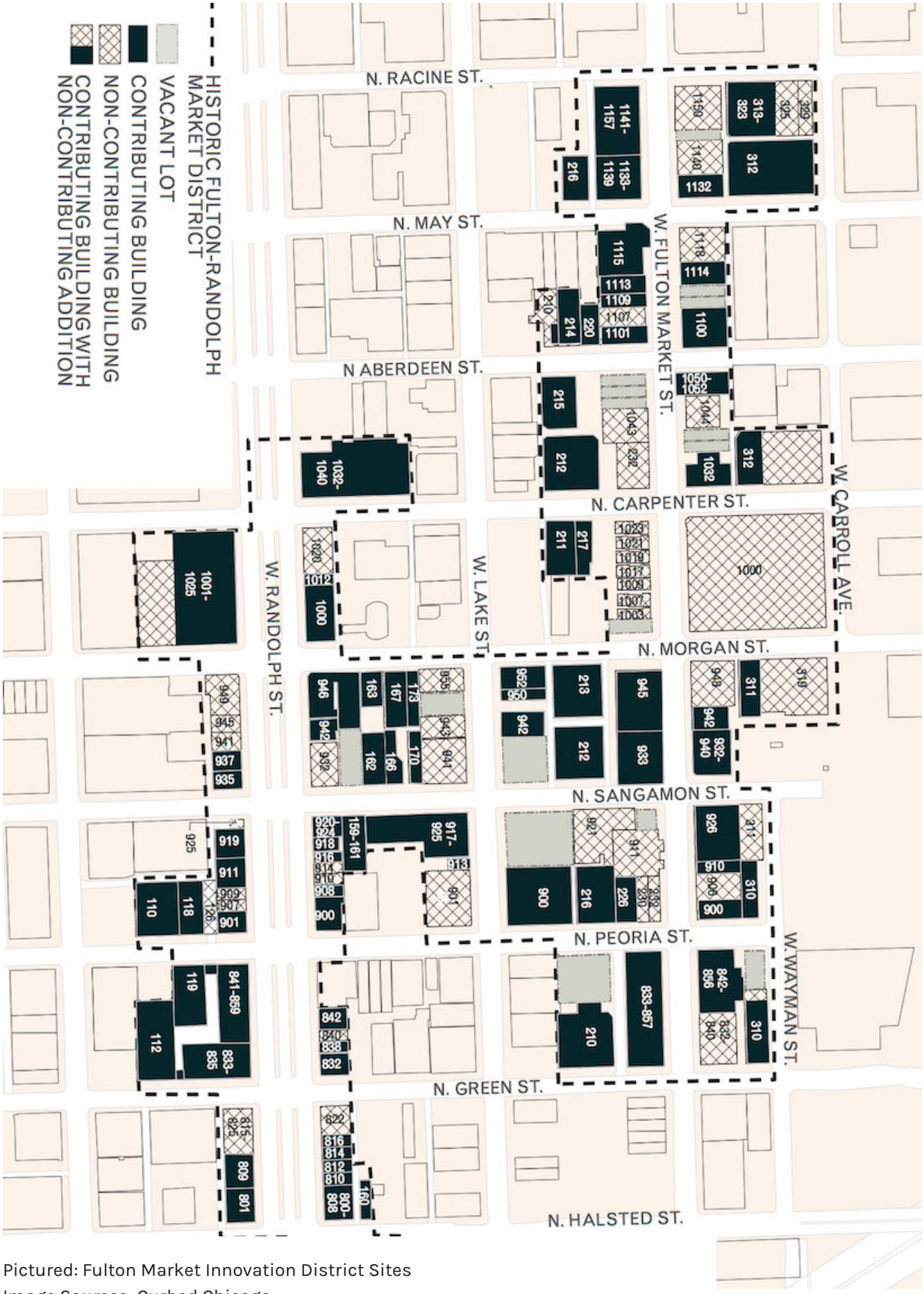
ARCHITECTURAL STYLE
Mixed

HISTORIC USE
Mill Work & Lumber

DESIGNATION
None

Stakeholders:

American Institute of Architects Communities by Design
Alliant Energy
City of Dubuque
Climate Communities
Community Foundation of Greater Dubuque
Dubuque Area Chamber of Commerce
Dubuque County
Dubuque Initiatives
Dubuque Main Street
East Central Intergovernmental Association
Envision 2010
Fischer Companies
Greater Dubuque Development Corporation
Gronen Restoration
Fly-By-Night Productions
Four Mounds, H.E.A.R.T. Youth Build
International Council for Local Environmental Initiatives (ICLEI)
Jeld-Wen
Julien International Film Festival Dubuque
Matter
National Trust for Historic Preservation, Office of Sustainability
National Mississippi River Museum & Aquarium
State of Iowa
Voices from the Warehouse District
Warehouse Trust
Wilmac Properties



Pictured: Fulton Market Innovation District Sites
Image Sources: Curbed Chicago

FULTON MARKET INNOVATION DISTRICT

The Fulton Market Innovation District envisions a plan to preserve existing jobs while accommodating private sector investments that expand the area's role as an innovation-drive employment center. This plan converts industrial zoning into other mixed-use and special district codes to allow for new uses that include modern manufacturing, small batch production and commercial activity.

The Fulton Market Innovation District also focuses on retaining manufacturing as a low-barrier entry into the economy with financial penalties for businesses that remove those programs. That fees will then go into a fund that supports industrial development in other places in the city to reinforce economic and workforce development in the city. There are also environmental protections that prohibit residential uses in incompatible areas.

The Fulton Market Innovation District expands on the existing Neighborhood Opportunity Bonus system which allows rezoned areas to generate funds for commercial projects in under-served neighborhoods.

Resources:

Fulton Market Innovation District: https://www.cityofchicago.org/city/ en/depts/dcd/supp_info/fulton-randolph-market-land-use-plan.html

LOCATION
Chicago, Illinois

SIZE
217 acres

CONSTRUCTION COST
$42 Million

COMPLETION DATE
Ongoing

LEED CERTIFICATION
None

YEAR CONSTRUCTED
1880, District Established 2014

ARCHITECT
In-house

ARCHITECTURAL STYLE
Mixed

HISTORIC USE
Food Distribution

DESIGNATION
None

Stakeholders:

Mayor Rahm Emanuel

City of Chicago

Chicago Department of Planning and Development

Pictured: Hazelwood Green Master Plan and Abandoned Mill Building on Site
Image Sources: Perkins + Will

ALMONO LLC

HAZELWOOD GREEN

Hazelwood Green is envisioned to be a mixed- use district in a previously under-invested neighborhood in Pittsburgh along the Monongahela River. This program mix will include offices, research and innovation spaces, light manufacturing and maker spaces, small-scale production, housing and a wealth of open public green space. Nearly 20% of the total acres are reserved for public space, prioritizing pedestrian and bicycle access and safety.

The plan will also consider Pittsburgh's city-wide sustainability initiatives and programs, particularly the new 2017 Riverfront development zoning and a performance-based approach to accommodate a range of densities and intensity of uses.

Finally, the entire plan for the site has been designed to meet LEED for Neighborhood Development Plan standards. The Hazelwood Green is also expected to perform well with other sustainability metric-based certifications, including the Living Community Challenge, WELL Community Standard, and Pittsburgh's own p4 Performance Measure. The first buildings in queue for development have been registered with United States Green Building Council and are expected to reach LEED Gold upon completion.

Resources:
Hazelwood Green Website, www.hazelwoodgreen.com
Almono Development Report: www.heinz.org
Greater Hazelwood Neighborhood Plan, www. ghcrmc.org
Preliminary Development Plan, hwww.apps.pittsburghpa.gov

LOCATION
Pittsburgh, Pennsylvania

SIZE
178 acres

CONSTRUCTION COST
$114 Million (Estimated)

COMPLETION DATE
Ongoing

LEED CERTIFICATION
LEED Gold Expected

YEAR CONSTRUCTED
1883

ARCHITECT
Perkins + Will (Lead)

ARCHITECTURAL STYLE
Unknown

HISTORIC USE
Jones & Laughlin Steel Company

DESIGNATION
None

Stakeholders:
Hazelwood Initiative, Inc.
Greater Hazelwood Community Collaborative
Center of Life
Regional Industrial Development Corporation
Carnegie Mellon University
ARM Institute
Propel Schools
Partner 4 Work
Pittsburgh Association for the Education of Young Children

Pictured: Exterior of Keystone Commons
Image Source: Regional Industrial Development Corporation

REGIONAL INDUSTRIAL DEVELOPMENT CORPORATION

KEYSTONE COMMONS

This former Westinghouse plant, now called Keystone Commons, has several high-bay buildings and lots of staging property, which proved to be a great opportunity to house 40 light industrial companies across 2.25 million square feet. The adapted electrical facility now features the West Shop Industrial mall - a converted high-bay plant into a building with industrial store fronts, an indoor drive way, and employs approximately 1,100 people.

Purchased in 1986 the Regional Industrial Development Corporation slowly rehabilitated millions of square footage to create a world-class industrial facility to contribute strong economic growth to the region. The site includes a collection of multi-occupancy buildings owned and managed by the Regional Industrial Development Corporation.

LOCATION
Turtle Creek, Pennsylvania

SIZE
2.25 million gsf / 92 acres

CONSTRUCTION COST
$13 Million

COMPLETION DATE
2012

LEED CERTIFICATION
None

YEAR CONSTRUCTED
1880

ARCHITECT
Unknown

ARCHITECTURAL STYLE
Unknown

HISTORIC USE
Westinghouse Electric and Manufacturing Plan

DESIGNATION
None

Resources:

Keystone Commons: http://ridc.org/view-property/keystone-commons/

Brownfields Center - Keystone Commons: https://www.cmu.edu/steinbrenner/brownfields/Case%20Studies/pdf/keystone%20commons1.pdf

Keystone Commons Brownfield Redevelopment: http://files.dep.state.pa.us/EnvironmentalCleanupBrownfields/BrownfieldRedevelopment/BrownfieldRedevelopmentPortalFiles/success_stories/KeystoneCommonsfinal.pdf

Stakeholders:

Businesses In Our Sites Fund

Pennsylvania Department of Community and Economic Development

Commonwealth Financing Authority

Pennsylvania Industrial Development Authority

The Strategic Investment Fund

Richard King Mellon Foundation

Huntington National Bank

Mid-City Community CDE

Pittsburgh Urban Initiatives

U.S. Bancorp Community Development Corporation

Rise Community Capital

Pictured: Exterior of Lawrenceville Technology Center
Image Source: Desmone Architects

LAWRENCEVILLE TECHNOLOGY CENTER

Leveraging Pittsburgh's place as a world leader in robotics, machine learning and artificial intelligence technologies, the Lawrenceville Technology Center bridges an important business and job creating gap for Pittsburgh by providing research and development space for growing technology firms in the region.

Located next to Carnegie Mellon's National Robotics Engineering Center (NREC), the Lawrenceville Technology Center uses a 14-acre former steel factory site to establish an urban technology park, and to focus on small and mid-size growth research and design, manufacturing and engineering companies. Key tenants include Carnegie Robotics, Helomics, nanoGrip Technology, and Uber. The former Geoffrey Boehm Chocolates building on site was renovated to house some of Pittsburgh's fastest growing firms such as RedZone Robotics, Everpower Wind Holdings and Precision Therapeutics.

New Markets Tax Credits provided financing to help redevelop the former Heppenstahl Steel industrial site and the Regional Industrial Development Corporation received $4 million in BIOS (Businesses In Our Sites) funds for the development of the Lawrenceville Technology Center, site demolition, construction, environmental cleanup and road development.

Resources:

Lawrenceville Technology Center: www.ridc.org/view-property/lawrenceville/

LOCATION
Pittsburgh, Pennsylvania

SIZE
610,000 gsf / 14 acres

CONSTRUCTION COST
$20 Million (Phase One)

COMPLETION DATE
2016

LEED CERTIFICATION
LEED Platinum

YEAR CONSTRUCTED
1889

ARCHITECT
Desmone Architects

ARCHITECTURAL STYLE
Unknown

HISTORIC USE
Heppenstall Steel Company

DESIGNATION
None

Stakeholders:

Businesses In Our Sites Fund
Pennsylvania Department of Community and Economic Development
Commonwealth Financing Authority
Pennsylvania Industrial Development Authority
The Strategic Investment Fund
Richard King Mellon Foundation
Huntington National Bank
Mid-City Community CDE
Pittsburgh Urban Initiatives
U.S. Bancorp Community Development Corporation
Rise Community Capital

Tenants:

National Robotics Engineering Center (NREC)
Pittsburgh Automation Center
Aurora Innovation
nanoGriptech

Pictured: Master Planning for Lower Don Lands
Image Source: Michael Van Vaulkenburgh Associates

LOWER DON LANDS REDEVELOPMENT

The Lower Don Lands Redevelopment transforms underutilized industrial zones, aging infrastructure and shipping yards at the Toronto waterfront to provide better access and amenities along the Don River the city residents.

The Lower Don Lands were once part of the largest natural wetland system on Lake Ontario. During Toronto's industrial boom, the Don river was re-engineered and infilled for industrial development, which has caused long-term flooding challenges. In the redesign, flooding continued to present the biggest challenge on the site, as it prevented much of the land to be developed. The proposal returns Don River to its natural state by re-naturalizing the mouth of the river and along with other flood-protection measures. Controlling the flooding establish more developable land while building a natural resource for the local communities.

The development is part of a larger mandate by Governments of Canada, Ontario along with the City of Toronto, to transform 2,000 acres of largely vacant and underutilized industrial land and brown-field into mixed-use communities and public space.

Resources:

Lower Don Lands Redevelopment Framework Plan: http://www.waterfrontoronto.ca/nbe/wcm/connect/waterfront/60434e92-5a3d-46f9-be79-81ead7f15c6e/lower_don_lands_framework_plan___may_2010_15_mb_1.pdf?MOD=AJPERES&CACHEID=60434e92-5a3d-46f9-be79-81ead7f15c6e

MVVA Framework Document: https://portlandsto.ca/wp-content/uploads/lower_don_lands_framework_plan___may_2010_15_mb_1.pdf

LOCATION
Toronto, Ontario

SIZE
308 acres

CONSTRUCTION COST
$630 Million

COMPLETION DATE
Ongoing

LEED CERTIFICATION
None

YEAR CONSTRUCTED
1912

ARCHITECT
Michael Van Valkenburgh Associates

ARCHITECTURAL STYLE
Mixed

HISTORIC USE
Toronto Harbor Commission

DESIGNATION
None

Stakeholders:

Toronto Water
Baird & Associates
Toronto Parks, Forestry & Recreation
Toronto City Planning
Toronto Transit Commission
Toronto Region Conservation Authority
Senes Consultants
AECOM
Toronto Emergency medical Services
West Don Lands Committee
St. Lawrence Neighborhood Association
Port Lands Action Committee
Home Depot
The Kirkland Partnership
Toronto Island Community Association
Gooderham & Worts
Royal Canadian Yacht Club
Aird & Berlis
Corktown Business & Resident Association
Task Force to Bring Back the Don Community Consultation

Pictured: Master Plan for Philadelphia Navy Yard
Image Source: CanAm Enterprises

PHILADELPHIA INDUSTRIAL DEVELOPMENT CORPORATION

THE NAVY YARD

The Navy Yard is a dynamic 1,200-acre urban development, that provides the Philadelphia region a unique and central waterfront business campus focused on smart energy, innovation, and sustainability. Building on the Navy's history of industrious activity and production, the Navy Yard is being revitalized to establish a progressive mixed-use district that accommodates innovative thinking and creative economies, united along about six miles of waterfront.

Today, the Navy Yard is home to more than 13,000 employees and 150 companies in the office, industrial/manufacturing, and research and development sectors, occupying 7.5 million square feet of real estate in a mix of renovated, historic buildings and new, high-performance and LEED-certified construction. The Navy Yard is considered the most successful redevelopment of a former military facility in the country.

PIDC is the master developer for the Navy Yard, where, since 2000, more than $1 billion has been invested into the region's most dynamic business campus.

Resources:

The Navy Yard Website: http://www.navyyard.org/

The Navy Yard Master Plan: http://www.navyyard.org/master-plan-2013/

LOCATION
Philadelphia, Pennsylvania

SIZE
7.5 million gsf / 1,200 acres

CONSTRUCTION COST
Over $1 Billion

COMPLETION DATE
2012

LEED CERTIFICATION
LEED Certified

YEAR CONSTRUCTED
1880

ARCHITECT
Robert A. M. Stern Architects

ARCHITECTURAL STYLE
Mixed

HISTORIC USE
United States Navy Docks

DESIGNATION
None

Stakeholders:

Keystone Innovation Zone
Keystone Opportunity Improvement Zone
Real Estate Tax Abatements
Federal and State Historic Tax Credits
Research and Development Tax Credits
City of Philadelphia Job Creation Tax Credits
Liberty Property Trust
Synterra Partners
CBRE
DTE Energy
The City of Philadelphia
The Commonwealth of Pennsylvania

Partial List of Tenants:

A.P. Construction, Inc.
Adaptimmune
Advance Integrated Technologies (AIT)
Allied Universal Security Services
Alstom
Amee Bay
American Systems Corporation
Arthur H. Sulzer Associates, Inc.
Axalta Coating Systems
BAE Systems
Bar Amis
Ben Franklin Technology Partners of Southeastern PA
BFW Group, LLC
BMT Syntek
Boragen, LLC
BrightFields, Inc.
CBRE
CERTUSS America
Chapel of Four Chaplains
Cloudnexa, Inc.
Continental Tide Defense Systems, Inc.
Coriell Life Sciences
Cornerstone Discovery
Courtyard South Philadelphia at The Navy Yard
Daymon Worldwide - Omni Global Sourcing Solutions
Delphinus Engineering, Inc.
Dinic's Oven Roasted Beef & Pork
Drexel University

Pictured: Steelstacks View from Elevated Pedestrian Bridge
Image Source: Rudy Bruner Award Report

STEELSTACKS

Steelstacks is the mixed-use arts and entertainment district that reutilized a former steel manufacturing facility. Anchored by a casino, and a range of uses and attractions, the 9.5 acre campus is a noteworthy development that merges history with arts and culture to create dynamic performing arts facility and tourist destination.

Steelstacks is defined by the blast furnaces and the Levitt Pavilion outdoor performance area as well as the Bethlehem Visitor Center, the Arts Quest Center, the PPL Public Media Center at PBS39, an elevated pedestrian walkway and the Hoover-Mason Trestle Park. Since it opened, the venue draws 1.5 million visitors per year on average.

The preservation of five 20-story blast furnaces form part of the northern border of the district and serve as an iconic backdrop for performance venues, arts and cultural activities, and public programming. The new arts and cultural programs are intended to make the region more competitive in attracting talent to support local workforce needs.

Resources:

Steelstacks: http://www.steelstacks.org/

ULI Case Studies: https://casestudies.uli.org/steelstacks-arts-and-cultural-campus/

Rudy Bruner Award Winner: https://planningpa.org/wp-content/uploads/F5.-SteelStanks-Campus.pdf

LOCATION
Bethlehem, Pennsylvania

SIZE
9.5 acres

CONSTRUCTION COST
$93.5 Million

COMPLETION DATE
2016

LEED CERTIFICATION
None

YEAR CONSTRUCTED
1857

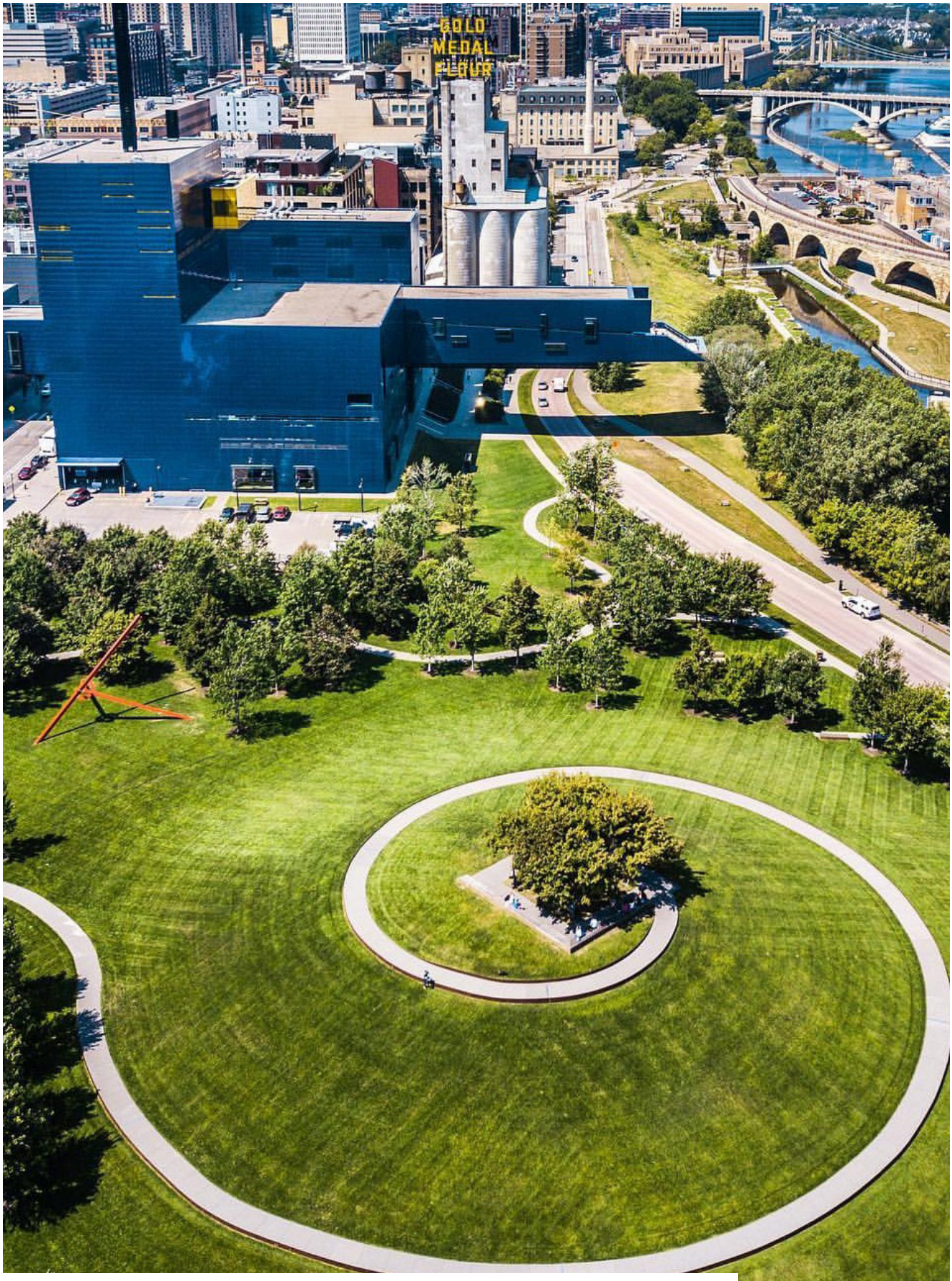
ARCHITECT
WRT Architects and Planners

ARCHITECTURAL STYLE
Mixed

HISTORIC USE
The Bethlehem Steel Plant

DESIGNATION
None

Stakeholders:
Sands Casino
TIF District
Levitt Foundation
Kresge Foundation
Sand BethWorks Gaming
Sand BethWorks Retail



Pictured: Gold Medal Park
Image Sources: Stuff About Minneapolis Blog

GOLD MEDAL PARK – HISTORIC MILLS DISTRICT

Gold Medal Park is 7.5 acres of open space located along the Minneapolis Riverfront, in the historic Mill District. The park serves as gathering and contemplation space, as well as community market and cultural events. The focal point of the park is the sculptural observation mound at the center of a spiral walkway, offering stunning views of the cityscape.

LOCATION
Minneapolis, Minnesota

SIZE
7.5 acres

CONSTRUCTION COST
$16 Million

COMPLETION DATE
2007

LEED CERTIFICATION
None

YEAR CONSTRUCTED
1883

ARCHITECT
Tom Oslund

ARCHITECTURAL STYLE
Landscape Architecture

HISTORIC USE
Mill District

DESIGNATION
None

The William W. and Nadine M. McGuire Family Foundation leased the land for 10 years, starting in 2007, from the City of Minneapolis. In 2014, the Gold Medal Park Conservancy purchased the majority of the parkland owned by McGuire family, then secured a 50-year lease for the rest of the land, owned by the City of Minneapolis. The mission of the Conservancy "to maintain the character and quality of the park and enhance its contribution to the health and well-being of the rapidly growing arts and residential community that surrounds the downtown Minneapolis riverfront."

Resources:

Gold Medal Park: http://www.goldmedalpark.org/

Stakeholders:

McGuire Family Foundation

City of Minneapolis

Gold Medal Park Conservancy

Paul and Mary Reyelts Foundation

Margaret and Angus Wurtele Family Foundation

Nelson Family Foundation

Pictured: The 606 Chicago Line
Image Sources: The 606 Website

SYSTEM

CITY OF CHICAGO

THE 606

The 606 is a converted abandoned rail corridor, formerly known as the Bloomingdale Line. As train traffic declined in the 1990s, the surrounding growth raised questions on how it might be used as a green space. At the time, the neighborhood Logan Square needed an additional 99 acres of active open space just to meet the City's minimum standard. To meet this requirement the City proposed the rail's conversation to a park.

The 606's success was made possible through partnerships with The City of Chicago, Friends of the Bloomingdale Trail, Chicago Park District, the Trust for Public Land and dozens of other organizations. The park design stemmed from city-wide engagement to ensure that the public input was integrated into the park and trail system's design, function, and aesthetics of the parks, trail, and event spaces. The park and trail system is also part of a citywide launch to create 800 new parks, recreation areas and green spaces throughout Chicago.

Resources:

The 606 Website: https://www.the606.org/about/story/

LOCATION
Chicago, Illinois

SIZE
Citywide / 2.7 lin mi

CONSTRUCTION COST
$95 Million

COMPLETION DATE
2015 (Phase one)

LEED CERTIFICATION
N/A

YEAR CONSTRUCTED
1873, 2013

SYSTEM TYPE
Recreation + Connectivity

DESIGNATION
None

Stakeholders:

Mayor Rahm Emanuel

City of Chicago

Chicago Department of Transportation

Department of Cultural Affairs and Special Events

Department of Housing and Economic Development

Mayor's Office for People with Disabilities

Chicago Police Department

Chicago Park District

The Trust for Public Land

Friends of the Bloomingdale Trail

Pictured: Birds Eye of the Atlanta Beltline
Image Source: Atlanta Beltline Website

ATLANTA BELTLINE

The Atlanta Beltline is a circular loop within the city of Atlanta's core that serves as a biking and pedestrian route, connecting 45 critical and under-served neighborhoods within the city. The project originated from a student thesis developed in 1999 that sought to connect residents to job centers as the sprawling development in Atlanta threatened long-term affordability. The Atlanta Beltline will eventually include 33 miles of trails and 2,000 acres of parks by its 2030 completion date.

The mission of the Atlanta Beltline is to, " ...deliver transformative public infrastructure that enhances mobility, fosters culture, and improves connections to opportunity...[And to] build a more socially and economically resilient Atlanta...Through job creation, inclusive transportation systems, affordable housing, and public spaces for all."

The popularity of the Atlanta Beltline has also prompted the city to respond with stronger land use policies and sustainability measures around Atlanta's booming housing economy.

LOCATION
Atlanta, Georgia

SIZE
Citywide / 33 lin mi

CONSTRUCTION COST
$4.8 Billion

COMPLETION DATE
Ongoing, 2030 Projected

LEED CERTIFICATION
N/A

YEAR CONSTRUCTED
2006

SYSTEM TYPE
Green Space + Connectivity

DESIGNATION
None

Resources:

Atlanta Beltline: https://beltline.org/about/atlanta-beltline-inc/

National Geographic: https://www.nationalgeographic.com/environment/urban-expeditions/green-buildings/urban-parks-photo-gallery-sustainability/

Pictured: The Bentway
Image Source: The Bentway Conservancy

THE BENTWAY

The Bentway offers year-round activities and events, including gardens, a ice-skate trail, recreational amenities, public markets, public art, special exhibitions, festivals, theatre and musical performances.

Due to Toronto rapid growth, the city looked to connect previous industrial sites together with seven neighborhoods to establish a new gateway to the waterfront. The design framework took into consideration the lack of connection between new and existing neighborhoods, and recognized the need for more public space to support new residential developments, including the Lower Don Lands Redevelopment.

The Bentway is maintained, operated, and programmed by The Bentway Conservancy. The project was initiated through a 25 million dollar donation by the Matthews family, and made possible through the collaboration of a range of city-builders and experts. The Bentway is a member of the High Line Network, an international network of projects that transform underutilized infrastructure into new urban landscapes.

Resources:

Park Website: http://www.thebentway.ca/about/

Waterfront Toronto: http://www.waterfrontoronto.ca/nbe/portal/waterfront/Home/waterfronthome/projects/the+bentway+%28project+under+gardiner%29

Urban Toronto: http://urbantoronto.ca/news/2017/07/bentway construction-begins-carve-out-new-linear-park

LOCATION
Toronto, Ontario

SIZE
Citywide / 1.09 lin mi

CONSTRUCTION COST
$25 Million

COMPLETION DATE
Ongoing

LEED CERTIFICATION
N/A

YEAR CONSTRUCTED
1950s

SYSTEM TYPE
Green Space + Connectivity

DESIGNATION
None

Pictured: The BIG U
Image Source: The City of New York

THE BIG U

The Bjarke Ingels design team explored the problem of flooding in New York City in the aftermath of Super-storm Sandy - a hurricane event that disrupted the city's coastal edge and underground infrastructures. The design framework investigated coastal resilience without building a seawall that would segregate the boroughs.

To achieve this, the multidisciplinary team brought together a diversity of knowledge, from urban ecology to infrastructure engineering. The collaboration combined local expertise in community outreach with global experience protecting the world's most vulnerable coastlines. The resulting proposal considers the reutilization of public space for water storage, mitigation strategies for flooding in the city's subway system and other underground utilities, and protective barriers for the city's most economically vulnerable residents. It responds to the specific needs of communities today but remains flexible enough to develop over time, as sea level and climate continue to change.

Resources:

Rebuild by Design: http://www.rebuildbydesign.org/data/files/499.pdf

LOCATION
Manhattan, New York

SIZE
Citywide / 10 lin mi

CONSTRUCTION COST
$816 Million

COMPLETION DATE
Ongoing

LEED CERTIFICATION
N/A

YEAR CONSTRUCTED
Varies

SYSTEM TYPE
Coastal Resilience + Recreation

DESIGNATION
None

Pictured: Brooklyn Bridge Park
Image Sources: Architect Magazine

BROOKLYN BRIDGE PARK

Located on the historic Fulton Ferry Landing, Brooklyn Bridge Park consists of six piers and connecting paths that tie together commercial and residential development, passive open space, variety of athletic fields. The piers also include a beach, green way terrace with "sound attenuating" hills, dog runs and other support facilities. The goal of the Brooklyn Bridge park is to preserve the dramatic experience and monumental character of the industrial waterfront while reintroducing self-sustaining ecosystems to the site and promoting new social and recreational possibilities.

The park design includes a variety of salvaged materials and repurposes existing marine infrastructure, simplifying engineering solutions and reducing construction and maintenance costs The site presented a few design challenges including abandoned and dilapidated infrastructure, active industrial use and issues with ownership and titles.

In order to pay for Brooklyn Bridge Park, 20% of the parkland will be developed to generate revenue in order to be financially self-sustaining over time.

Resources:

Brooklyn Bridge Park Website: http://www.brooklynbridgeparknyc.org/

LOCATION
Brooklyn, New York

SIZE
Citywide / 85 acres

CONSTRUCTION COST
$370 Million

COMPLETION DATE
Ongoing

LEED CERTIFICATION
N/A

YEAR CONSTRUCTED
1883

SYSTEM TYPE
Recreation + Connectivity

DESIGNATION
None

Pictured: Shop Architects Entry for the Dallas Connected City Design Challenge
Image Source: Shop Architects

DALLAS CONNECTED CITY DESIGN CHALLENGE

Downtown Dallas is currently dominated by highways and underdeveloped lands that encloses around the city, severing the city completely away from the waterfront. This typology is acute in the area between Dallas and the Trinity River Corridor. Currently planned expansions to this infrastructure— namely the Horseshoe project and the new Trinity River Parkway—will further congest an already saturated area with more primary roadways that act as thoroughfares.

The Dallas Connected City Design challenge looked at different opportunities to connect downtown Dallas and the Trinity River Corridor, in a way that allows Downtown to expand and bring new life and access to the waterfront. The design challenge was strongly influenced by quantitative date, such as hydrological and flooding data, existing infrastructure quality and use, and other important components.

If implemented, the Dallas Connected City Design plan dramatically change the city of Dallas' connection to the Trinity River Corridor, and help to establish a more vibrant and usable urban area between them.

Resources:

ASLA Awards (2015): https://www.asla.org/2015awards/95738.html

Archinect: https://archinect.com/news/article/95359093/results-of-the-dallas-connected-city-design-challenge

LOCATION
Dallas, Texas

SIZE
Downtown / 1.4 sq mi

CONSTRUCTION COST
N/A

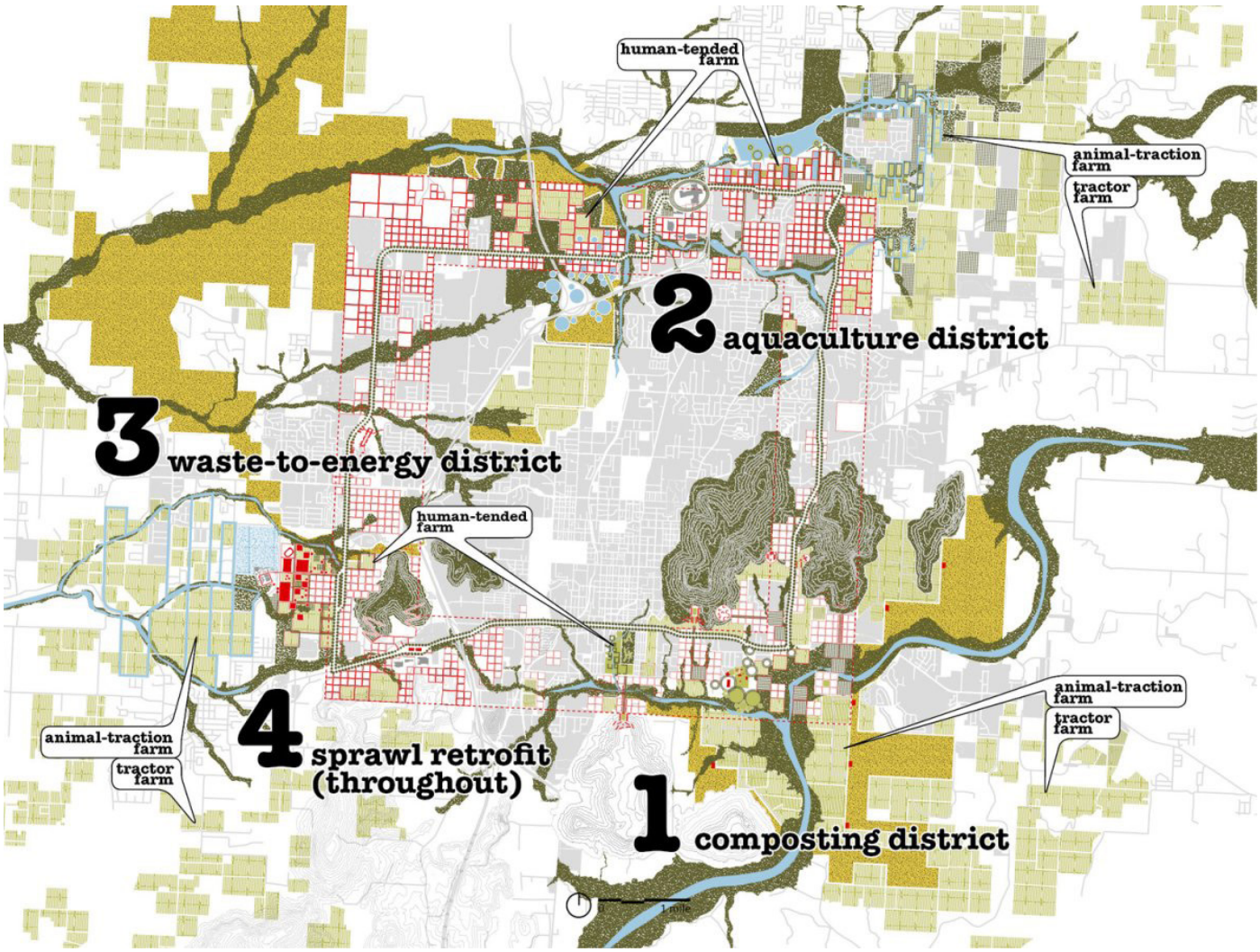
COMPLETION DATE
2015

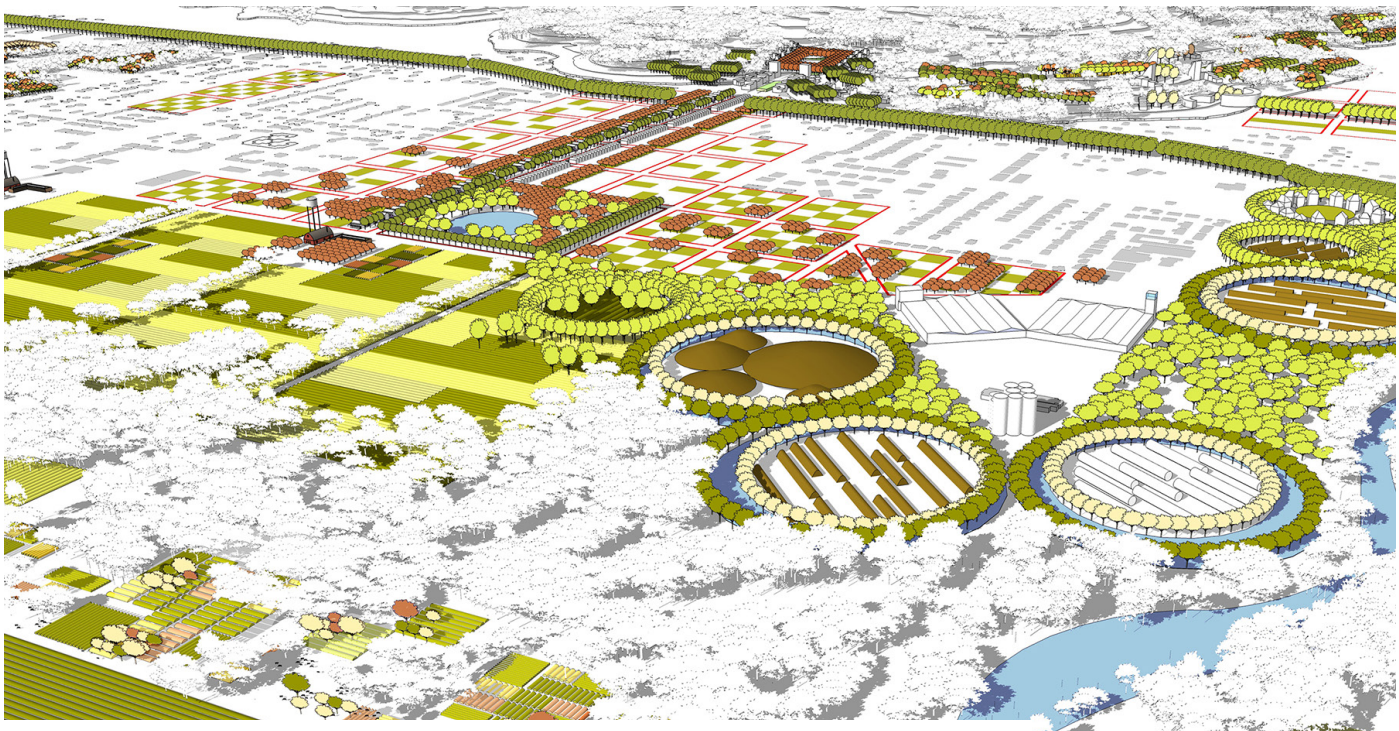
LEED CERTIFICATION
N/A

YEAR CONSTRUCTED
N/A

SYSTEM TYPE
Hydrology + Connectivity

DESIGNATION
None





Pictured: Diagrams for the Food City Scenario
Image Sources: University of Arkansas Community Design Center

FAYETTEVILLE 2030 : FOOD CITY SCENARIO

Food City envisions a future based on resilient and recuperative forms of urbanism in a region with the nation's highest food insecurity. Food City devises an agri-ecological model for reclaiming a missing middle scale of urban agriculture to integrate food security, minimize urban sprawl and define best environmental practices for scaling food production without compromising ecological systems.

This food shed model considers green infrastructure, public growscapes, spaces for food processing and distribution, and waste management. Food City's transferable set of planning tools shows to integrate high-quality food production into new urbanism, while proving how existing urban infrastructure can also deliver important ecosystem services.

LOCATION
Fayetteville, Arkansas

SIZE
Citywide / 55.41 sq mi

CONSTRUCTION COST
N/A

COMPLETION DATE
2015

LEED CERTIFICATION
N/A

YEAR CONSTRUCTED
N/A

SYSTEM TYPE
Food System + Connectivity

DESIGNATION
None

Resources:

ASLA Awards (2016): https://www.asla.org/2015awards/94716.html

University of Arkansas Community Design Center: https://s3.amazonaws.com/uacdc/Fayetteville_2030-Food-City-Scenario-Plan.pdf

Stakeholders:

University of Arkansas Community Design Center

Fay Jones School of Architecture

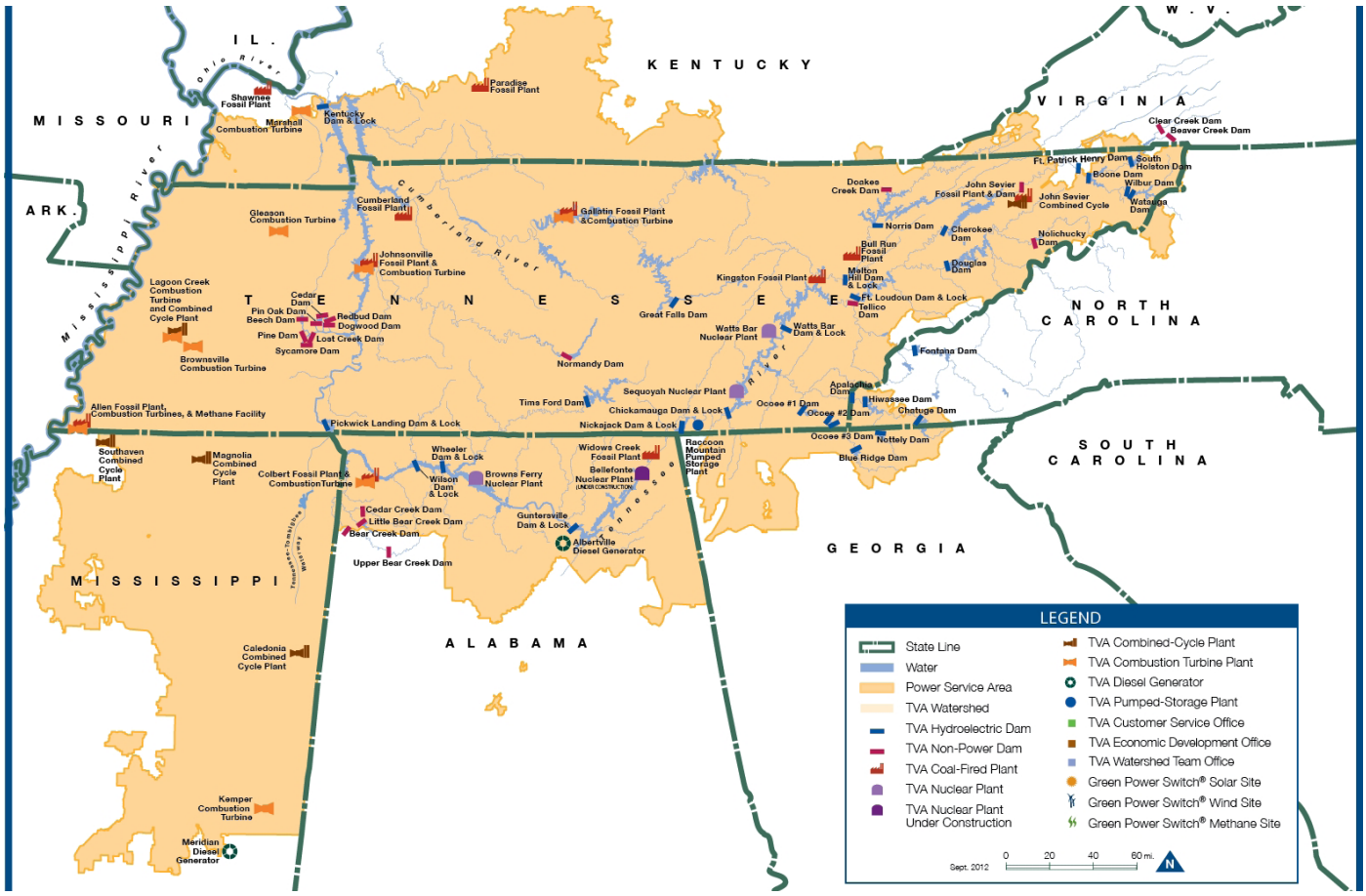
University of Arkansas Department of Biological and Agricultural Engineering

University of Arkansas Center for Agricultural and Rural Sustainability

University of Arkansas Dale Bumpers College of Agricultural, Food and Life

University of Arkansas School of Law and LL.M. Program in Agricultural and Food Law

City of Fayetteville, Arkansas



Pictured: Tennessee Valley Authority Coverage and Infrastructure
Image Sources: Tennessee Valley Authority

SYSTEM

TENNESSEE VALLEY AUTHORITY

The Tennessee Valley Authority was created by the United States Congress in 1933 during the New Deal Era with a charge to improve the quality of life in the Valley through the integrated management of the region's resources. The Tennessee Valley Authority is a corporate agency of the United States that provides electricity for business customers and local power companies serving 10 million people in parts of seven southeastern states.

The Tennessee Valley Authority is not publicly funded and derives all of its revenue from electricity sales and service. In addition to operating and investing its revenues in its electric system, Tennessee Valley Authority provides flood control, navigation and land management for the Tennessee River system and assists local companies and governments with economic development and job creation.

Resources:

Tennessee Valley Authority: https://www.tva.gov/

LOCATION
Tennessee, Alabama, Kentucky, Georgia, North Carolina, Virginia, Mississippi

SIZE
80,000 sq miles

CONSTRUCTION COST
$2.1 Billion

COMPLETION DATE
1958

LEED CERTIFICATION
N/A

YEAR CONSTRUCTED
1958

SYSTEM TYPE
Energy

DESIGNATION
None

EUROPEAN CASE STUDIES

Pictured: Landschaftspark Duisburg-Nord
Image Source: Landschaftspark Duisburg-Nord

DUISBURG – NORD LANDSCAPE PARK

Within the context of Germany's ongoing state-led structural change - an economic shifts from coal and steel production to innovative industries, advanced manufacturing, and entrepreneurial enterprises - the Duisburg-Nord Landscape Park is a globally recognized icon of post-industrial transformation. Driven by the IBA Emscher Regional Design and Development Strategy, the park emerged as the new life for a former steel manufacturing facility and the Ruhr Valley.

The park is divided into different areas, marked carefully by existing infrastructure. This pattern was then woven together by a series of walkways and waterways, that mimic the old railway and sewer systems. Other industrial elements were converted for social activity: Concrete bunkers as a space for a intimate gardens; old gas tanks as pools for scuba divers; concrete walls for rock climbers, and the middle of the former steel mill as a piazza.

The 570 acre park, recreation, event, and program space utilized a 50 million Euro capital base, and another 100 million Euro series of investments.

Resources:

Landschaftspark Duisburg-Nord: http://en.landschaftspark.de/the-parkk/introduction

Landezine - Landschaftspark Duisburg-Nord: http://www.landezine.com/index.php/2011/08/post-industrial-landscape-architecture/

LOCATION
Duisburg, Germany

SIZE
570 acres

CONSTRUCTION COST
€18 Million

COMPLETION DATE
1991

LEED CERTIFICATION
None

YEAR CONSTRUCTED
1901

ARCHITECT
Latz + Partner

ARCHITECTURAL STYLE
Varies

HISTORIC USE
Coal and Steel Production Plant

DESIGNATION
None

Pictured: Landschaftspark Duisburg-Nord
Image Source: Landschaftspark Duisburg-Nord

GASOMETERS

The Gasometers are four former gas tanks that operated in Vienna, Austria from 1899 to 1984. The Gasometers are four cylindrical telescopic gas containers, each with a volume of about 90,000 cubic meters and each tank is enclosed by a red-brick facade. The transition from town gas to natural gas left the plant defunct and vacated.

Its transformation began in 1999 to reimagine the gas tanks as a new use that maintained the integrity and history of the structure. The gas tanks were reimagined as a mixed-use development with areas for zones for living, working, and entertainment and shopping. The shopping mall levels in each gasometer are connected to the others by sky bridges. The Gasometers were gutted during the remodeling and only the brick exterior and parts of the roof were left standing.

Resources:

Twisted Sifter: https://twistedsifter.com/2009/10/gasometers-of-vienna/

LOCATION
Vienna, Austria

SIZE
375,000 gsf

CONSTRUCTION COST
€150 Million

COMPLETION DATE
2001

LEED CERTIFICATION
None

YEAR CONSTRUCTED
1896

ARCHITECT
Various

ARCHITECTURAL STYLE
Varies

HISTORIC USE
Gas Plant

DESIGNATION
None

Pictured: Landschaftspark Duisburg-Nord
Image Source: Landschaftspark Duisburg-Nord

DIMITRI HEGEMANN

HOLZMARKT

Located on the site of a former water pumping station along the Spree River, the Hotzmarkt project is a new mixed-use, arts-driven program set atop one of the former pump houses. It is also close to a larger communal development created to foster creative enterprise and social engagement.

The deliberate make-shift, bohemian style development drives a strong agenda toward social inclusion and equity while creating an environment that supports entrepreneurialism and social enterprise. Supported by 50 million euros in capital, the development is evolving year over year.

Resources:

Holzmarkt Website: https://www2.holzmarkt.com/home

LOCATION
Berlin, Germany

SIZE
20, 100 gsf / 9.7 acres

CONSTRUCTION COST
€150 Million

COMPLETION DATE
2006

LEED CERTIFICATION
None

YEAR CONSTRUCTED
1964

ARCHITECT
Latz + Partner

ARCHITECTURAL STYLE
Varies

HISTORIC USE
Power Plant

DESIGNATION
None

Pictured: Interior of Kraftwerk Berlin
Image Source: Kraftwerk Berlin

KRAFTWERK BERLIN

The Mitte CHP Plant operated as a local power plant for the city of Berlin from 1964 until it was abandoned in 1997 when another facility was constructed. At its peak, the CHP Berlin-Mitte power generating facility once turned out over 440MW of power, and is seen as one of the earliest drivers of Berlin's transformation after the Berlin Wall was dismantled. The former Mitte CHP Plant thus documents Berlin's early industrial history.

In 2006, the CHP Plant reopened at "Kraftwerk Berlin," which became home to Technoclub Tresor - a techno music venue - and a series of exhibitions spaces. Kraftwerk is a globally recognized brand for music, culture, design, and fashion, accommodating events from fashion shows, to film launches, and most notably techno music parties. Building on the city's relationship with techno music, the 1960s

Resources:

Visit Berlin - Kraftwerk Berlin (Historic Mitte CHP Plant): https://www.visitberlin.de/en/kraftwerk-berlin-historic-mitte-chp-plant

Kraftwerk Berlin Floorplans: http://www.kraftwerkberlin.de/fileadmin/user_upload/downloads/prasentation/121122_KWB_PDF_ENG.pdf

LOCATION
Berlin, Germany

SIZE
86,000 gsf

CONSTRUCTION COST
€18 Million

COMPLETION DATE
2006

LEED CERTIFICATION
None

YEAR CONSTRUCTED
1964

ARCHITECT
Unknown

ARCHITECTURAL STYLE
Varies

HISTORIC USE
Power Plant

DESIGNATION
None

Pictured: Lingotto Roof Test Track
Image Source: Fiat Chrysler

LINGOTTO

The Lingotto opened in 1923 as an five-level automobile factory, which brought the raw materials on the ground floor and the cars were built on a line that led up to the roof. On the roof was a test track for Fiat Italian cars. It was the largest car factory in the world at that time. The building itself was acclaimed by Le Corbusier who called it "one of the most impressive sights in industry", and "a guideline for town planning".

By the 1970s, the factory became outdated and was finally closed in 1982. The new vision for the Lingotto envisioned the building as an exciting public space for the city. The former automobile factory was transformed into a modern complex, with concert halls, theatre, a convention center, shopping arcades and a hotel. The eastern portion of the building is the headquarters of the Automotive Engineering faculty of the Polytechnic University of Turin. The track was retained, and can still be visited today on the top floor of the shopping mall and hotel.

Resources:

Lingotto Study: http://www.gmfus.org/sites/default/files/Lingotto_Giovanni_Comoglio.pdf

LOCATION
Turin, Italy

SIZE
5400 gsf / 125 acre

CONSTRUCTION COST
€356 Million

COMPLETION DATE
1989

LEED CERTIFICATION
None

YEAR CONSTRUCTED
1923

ARCHITECT
Matte Trucco (1923)
Renzo Piano (2011)

ARCHITECTURAL STYLE
Avant Garde

HISTORIC USE
Automobile Plant

DESIGNATION
None

Pictured: Manufaktura
Image Source: Manufaktura

MANUFAKTURA

Manufaktura establishes a mixed-use development out of an agglomeration of sprawling industrial buildings, centralized around arts and small-scale maker spaces. Following the departure of city's mill industry, the sprawling textile mill buildings were converted into a mixed-use development that has become a destination for the city and its region. Opened in 2006, the 70 acre site now maintains over 300 stores, cafes, galleries, and other destinations.

The historic elements that were maintained in the new development include Europe's longest fountain (extending at 300 meters long). Some of the new attractions include a cultural center, a local branch of The Museum of Art of Poland, a science museum, a Factory Museum, and an entertainment center (featuring a multiplex cinema, a bowling alley, a climbing wall, a fitness club, and a skate park).

Resources:

Manufaktura: http://en.manufaktura.com/

In Your Pocket - Manufaktura: https://www.inyourpocket.com/lodz/manufaktura

LOCATION
Lodz, Poland

SIZE
125,700 gsf / 70 acres

CONSTRUCTION COST
€180 Million

COMPLETION DATE
2006

LEED CERTIFICATION
None

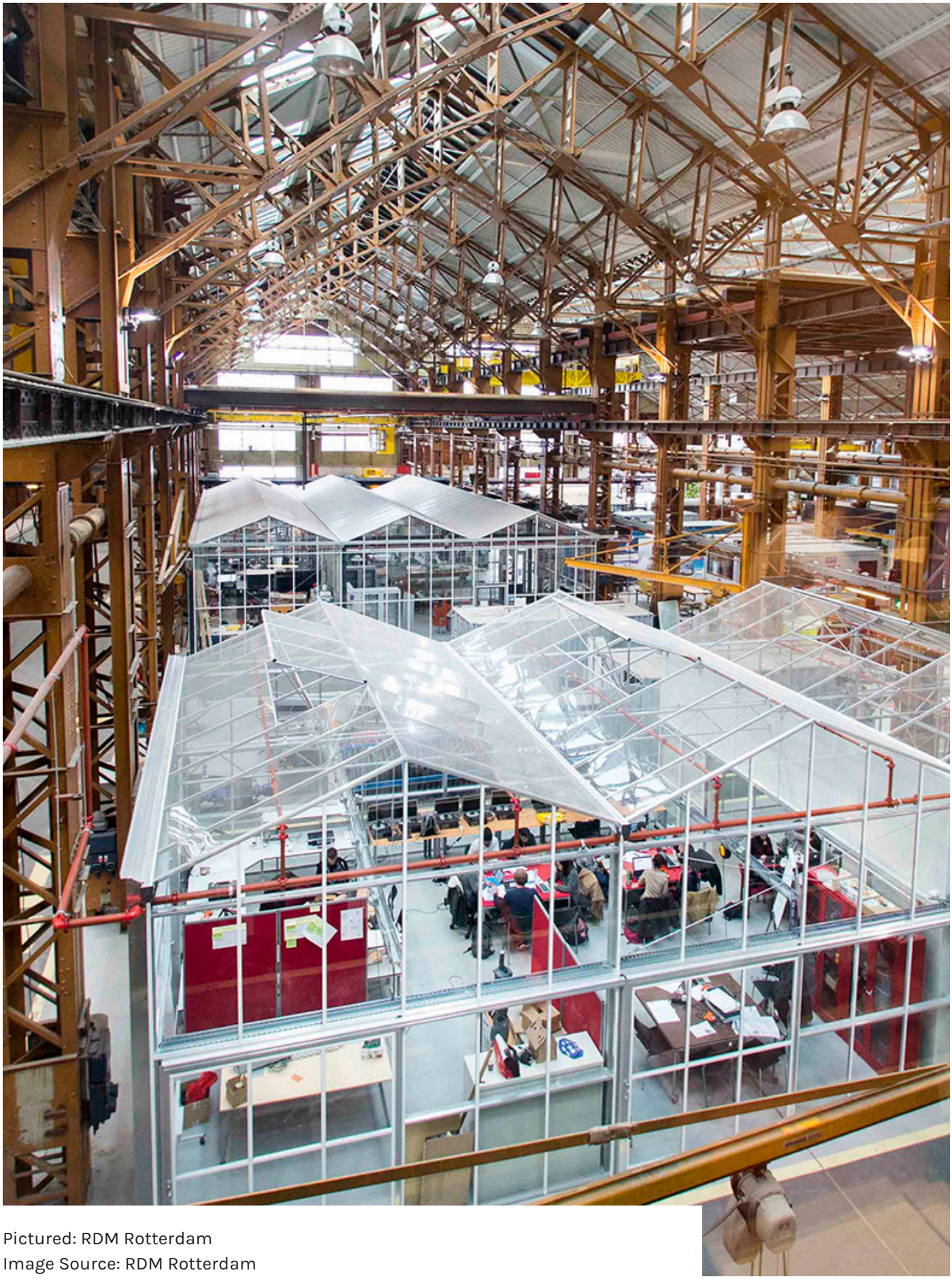
YEAR CONSTRUCTED
1835

ARCHITECT
Hilary Majewski

ARCHITECTURAL STYLE
Deco

HISTORIC USE
Textile Factories

DESIGNATION
None



Pictured: RDM Rotterdam
Image Source: RDM Rotterdam

RDM

The Rotterdamsche Droogdok Maatschappij (RDM or the Rotterdam Dry Dock Company) is a former shipyard where shipbuilders once worked on world-famous vessels like the SS Rotterdam. In 1984, the Company went bankrupt, which seemingly stopped all activity on the site which had already been vacated since the 1960s.

In 2008, the property ownership changes and the dry dock location was identified as a new home for exciting private-sector, education and research initiatives. The transformation of the sprawling abandoned shipbuilding factory now provides a comprehensive skilled labor training and manufacturing facility. The project integrates an educational component anchored by Albeda College and Rotterdam University, and s a business hall dedicated to small innovative manufacturing companies. Over 40 innovative companies – including Ampelmann, Franklin Offshore, Energy Floors and Urban Green – have found a home at RDM. The is also an emphasis on youth workforce development with through university-corporate partnerships.

Resources:

RDM Rotterdam Website: https://www.rdmrotterdam.nl/en/about-rdm-rotterdam/

Aeidl Report "Good Practice in Urban Development" : https://www.aeidl.eu/images/stories/50bestpractices/nl_rotterdam_analytical-fiche.pdf

LOCATION
Rotterdam, Netherlands

SIZE
14.8 acres

CONSTRUCTION COST
€7.7 Million

COMPLETION DATE
2010

LEED CERTIFICATION
None

YEAR CONSTRUCTED
1902

ARCHITECT
SPEE Architecten

ARCHITECTURAL STYLE
Varies

HISTORIC USE
Shipbuilding Yards

DESIGNATION
None

Stakeholders:

European Union

Municipality of Rotterdam

Ministry of Education, Culture and Science

Ministry of Economic Affairs/'Pieken in de Delta' programme

Platform Beroesponderwijs

Platform Beta Techniek

Port of Rotterdam Authority

Rotterdam University of Applied Sciences

Albeda College and Zakine

Rotterdam Ahoy

Pictured: Landschaftspark Duisburg-Nord
Image Source: Landschaftspark Duisburg-Nord

RHEINPARK

Rheinpark stretches across 98 acres of parkland along the river Rhine between the boroughs of Mülheim and Deutz. As early as in 1912, the park was landscaped for an exhibition and was later expanded on in 1914 and 1928. After World War II, the Rheinpark enlarged to its current dimensions for first Federal Garden Show in Cologne. The park was nominated as "The Most Beautiful German Park," by the country in 2007.

Designed as an expansive public open greenspace along the Rhine River, the park is also a thoughtful real estate site preparation for future redevelopment. Once an industrial center, the site is now cleared, with an elegant landscape, former industrial artifacts, and amenities. The site includes a skate park, climbing walls, riverfront boardwalk, and a restaurant. In summer, the park is ideal for relaxation, inline skating, jogging, or ball sports on the large lawns.

Resources:

Rhine Tourism: https://www.cologne-tourism.com/see-experience/poi/rheinpark-park/

LOCATION
Cologne, Germany

SIZE
98 acres

CONSTRUCTION COST
Unknown

COMPLETION DATE
1971

LEED CERTIFICATION
None

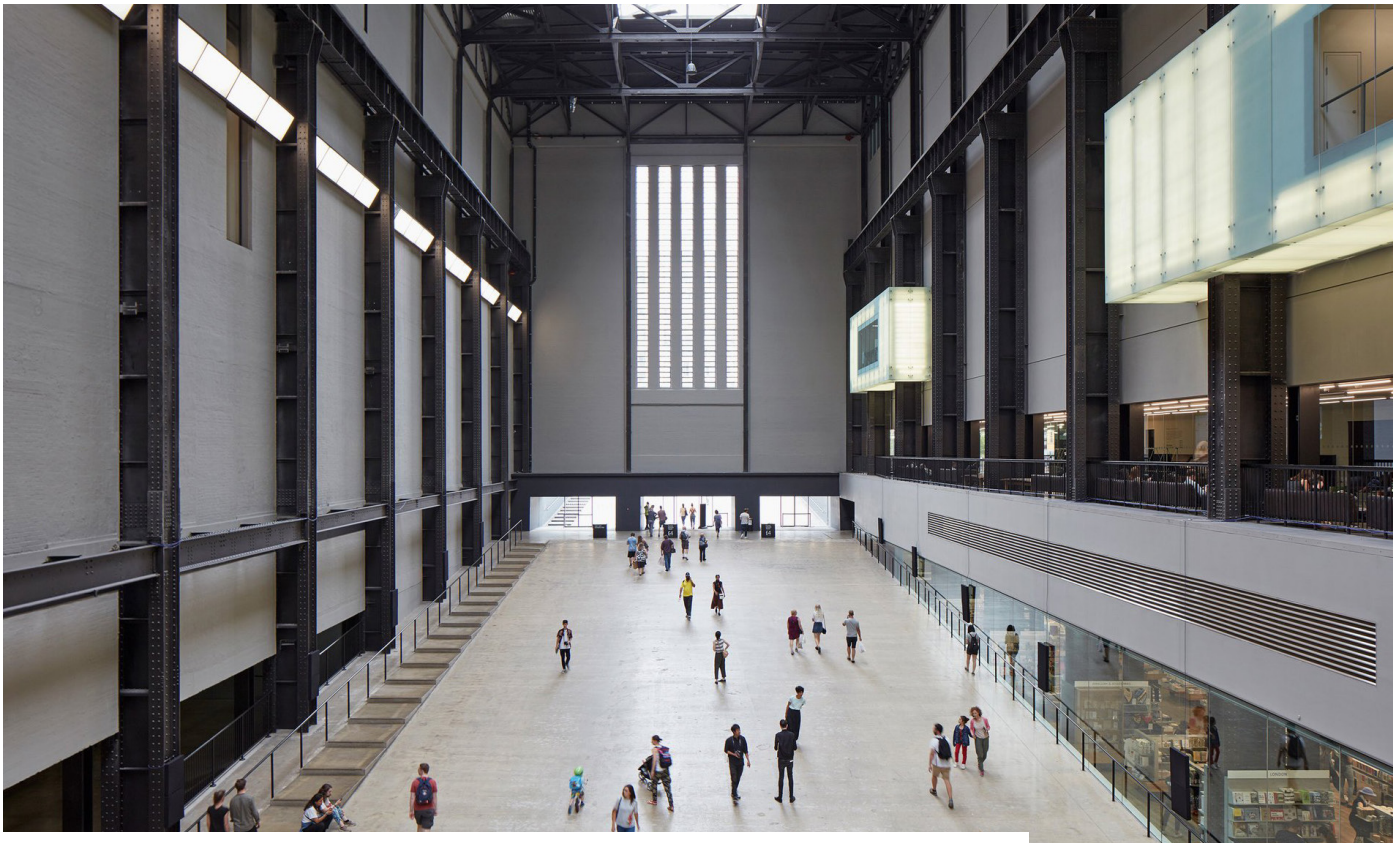
YEAR CONSTRUCTED
1913

ARCHITECT
Fritz Encke

ARCHITECTURAL STYLE
Landscape Architecture

HISTORIC USE
Coal and Steel Production Plant

DESIGNATION
None



Pictured: Landschaftspark Duisburg-Nord
Image Source: Landschaftspark Duisburg-Nord

TATE MODERN

The former Bankside Power Station was selected as the new site for an international modern and contemporary art in London in 1994. The design proposal retained much of the original character of the building, maintaining the historic significance.

The iconic power station consisted of a turbine hall, with the boiler house alongside it and a single central chimney. However, apart from a remaining operational London Electricity sub-station the site had been redundant since 1981.

In 1996 the design was unveiled and, following a £12 million grant from the English Partnerships regeneration agency, the site was purchased and development began. The huge machinery was removed and the building was stripped to its original steel structure and brickwork. The turbine hall became a dramatic entrance and display area and the boiler house became the galleries.

Today the Tate Modern receives over 5.5 million visitors a year. The Tate holder the national collection of British art from 1900 to present day, and it one of the largest museums of modern and contemporary art in the world.

Resources:

Tate Modern Website: https://www.tate.org.uk/about-us/our-priorities

LOCATION
London, United Kingdom

SIZE
372,000 gsf / 8.48 acres

CONSTRUCTION COST
£137 Million

COMPLETION DATE
2000

LEED CERTIFICATION
None

YEAR CONSTRUCTED
1947, 1963

ARCHITECT
Herzog & De Meuron

ARCHITECTURAL STYLE
Classical

HISTORIC USE
Power Station

DESIGNATION
None

Stakeholders:
Millennium Commission
English Partnerships
Arts Council England
Southwark Council
Tate Learning
Tate National

Pictured: Wieliczka Salt Mine
Image Source: Wieliczka Salt Mine Website

WIELICZKA AND BOCHNIA ROYAL SALT MINES

The Wieliczka salt mines have been excavated for rock and table salt since the 13th century and is one of the world's oldest operating salt mines. Due to economic setbacks and mind flooding, commercial salt mining in this location was discontinues in 1996, and the salt mines were stabilized as a public space and historic monument in Poland.

The site is a serial property consisting of Wieliczka and Bochnia salt mines and Wieliczka Saltworks Castle. The Wieliczka and Bochnia Royal Salt Mines highlight the historic stages of the development through a series of exhibitions and underground spaces. Both mines have hundreds of kilometers of galleries with works of art, underground chapels and statues sculpted in the salt, making a fascinating pilgrimage into the past. Other special events, including concerts or royal family events, occur in the mines.

Resources:

UNESCO: http://whc.unesco.org/en/list/32

Weiliczka Salt Mine Website: https://www.wieliczka-saltmine.com/about-the-mine

LOCATION
Wieliczka, Poland

SIZE
2400 acres

CONSTRUCTION COST
Unknown

COMPLETION DATE
2008

LEED CERTIFICATION
None

YEAR CONSTRUCTED
13th Century

ARCHITECT
N/A

ARCHITECTURAL STYLE
N/A

HISTORIC USE
Salt Mine

DESIGNATION
UNESCO World Heritage Site (1978)

Pictured: Triple Z Exterior
Image Source: Triple Z

TRIPLE Z – ZUKUNFT ZENTRUM ZOLLVEREIN

Triple Z is the Essen-based start-up and enterprise center in an adapted Zollverein coal production buildings. The Triple Z project was created as a small manufacturing business pipeline. Here, small entrepreneurial start-ups begin their process in one set of facilities, with subsidized rent, while other more established second stage businesses expand into other areas, and underwrite the rent for the smaller businesses. The resulting network fosters mutually beneficial collaboration that yields a system of intellectual resources each company may utilize.

Currently Triple Z operates in ten refurbished colliery buildings, with nearly 100 companies with approximately 600 employees, offices, production areas, conference rooms and warehouses.

Resources:

Triple Z Website: https://www.triple-z.de/zeche-zollverein-4-5-11/

LOCATION
Essen, Germany

SIZE
156,808 gsf

CONSTRUCTION COST
Unknown

COMPLETION DATE
2007

LEED CERTIFICATION
None

YEAR CONSTRUCTED
1851

ARCHITECT
Unknown

ARCHITECTURAL STYLE
Varies

HISTORIC USE
Coal Production Plant

DESIGNATION
None

Pictured: Battersea Design
Image Source: Battersea Website

BATTERSEA

Battersea Power Station is a decommissioned coal-fired power station, that was transformed into a mixed-use development, with new homes, offices, shops, restaurants, bars, and open space. The project was developed in eight phases, due to large-scale remediation efforts. The phases established eight different zones or villages within the area

The Power Station itself houses 250 residential units, bars, restaurants, office space, shops, entertainment space and recreation.

The development sold for £400 million in September 2012, launching it into the private market. The first residential units went on sale in January 2013.

Apple will locate its new London headquarters at Battersea Power Station, becoming the largest office tenant with 1,400 staff on six floors in the central boiler house.

Resources:

Battersea Website: https://batterseapowerstation.co.uk/

BBC Website: https://www.bbc.com/news/uk-england-london-37497807

LOCATION
London, United Kingdom

SIZE
42 acres

CONSTRUCTION COST
£8 Billion (Phase One)

COMPLETION DATE
2016

LEED CERTIFICATION
None

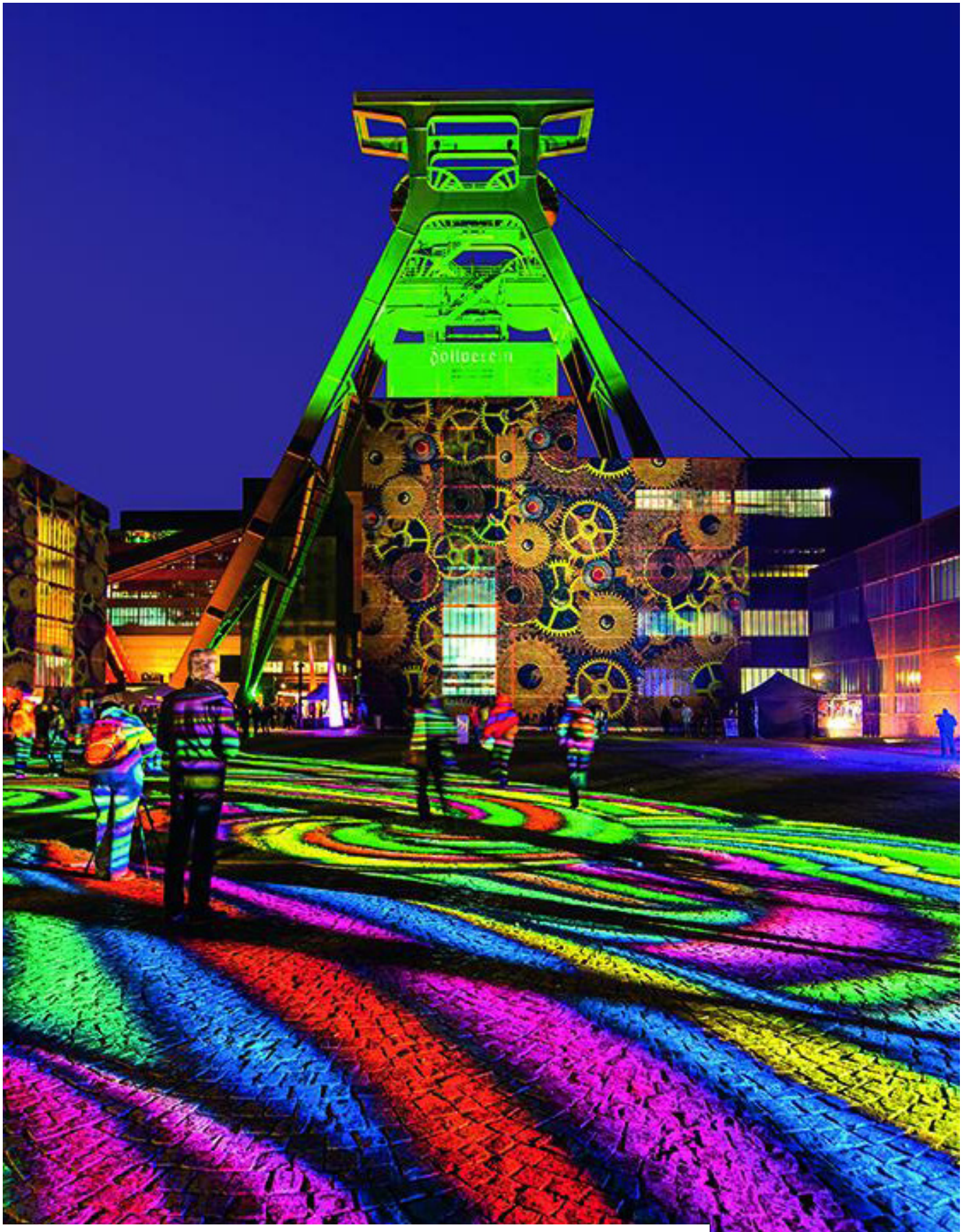
YEAR CONSTRUCTED
1939-1983

ARCHITECT
Sir Giles Gilbert Scott (1940s)

ARCHITECTURAL STYLE
Art Deco

HISTORIC USE
Coal Power Plant

DESIGNATION
None



Pictured: Zollverein
Image Source: World Heritage

ZOLLVEREIN PARK

Zollverein was the world's largest and most modern coal-mining facility and a leading example of the development of heavy industry in Europe until it was decommissioned in 1986. At its peak, 8,000 miners worked day and night in the mines and the buildings above ground. Today, with its Bauhaus-influenced design, the mine is a triumph of modern industrial architecture and a center for art and culture.

A UNESCO World Heritage Site, Zollverein Park is a superlative example of the Ruhr Valley's transformation of its physical past into a dynamic future. One key attraction is the Ruhr Museum in the former Coal Washery. It has more than 6,000 pieces and attachments, and presents the exciting natural and cultural history of the region. The permanent exhibition illustrates present-day Ruhr, the pre-industrial memory, as well as the dramatic history of industrialization and structural change in the Ruhr area.

Resources:

World Heritage: https://visitworldheritage.com/en/eu/zollverein/b0b631c5-ea55-4717-9141-dcf745ee052d

LOCATION
Essen, Germany

SIZE
247 acres

CONSTRUCTION COST
€14.5 Million

COMPLETION DATE
2019

LEED CERTIFICATION
None

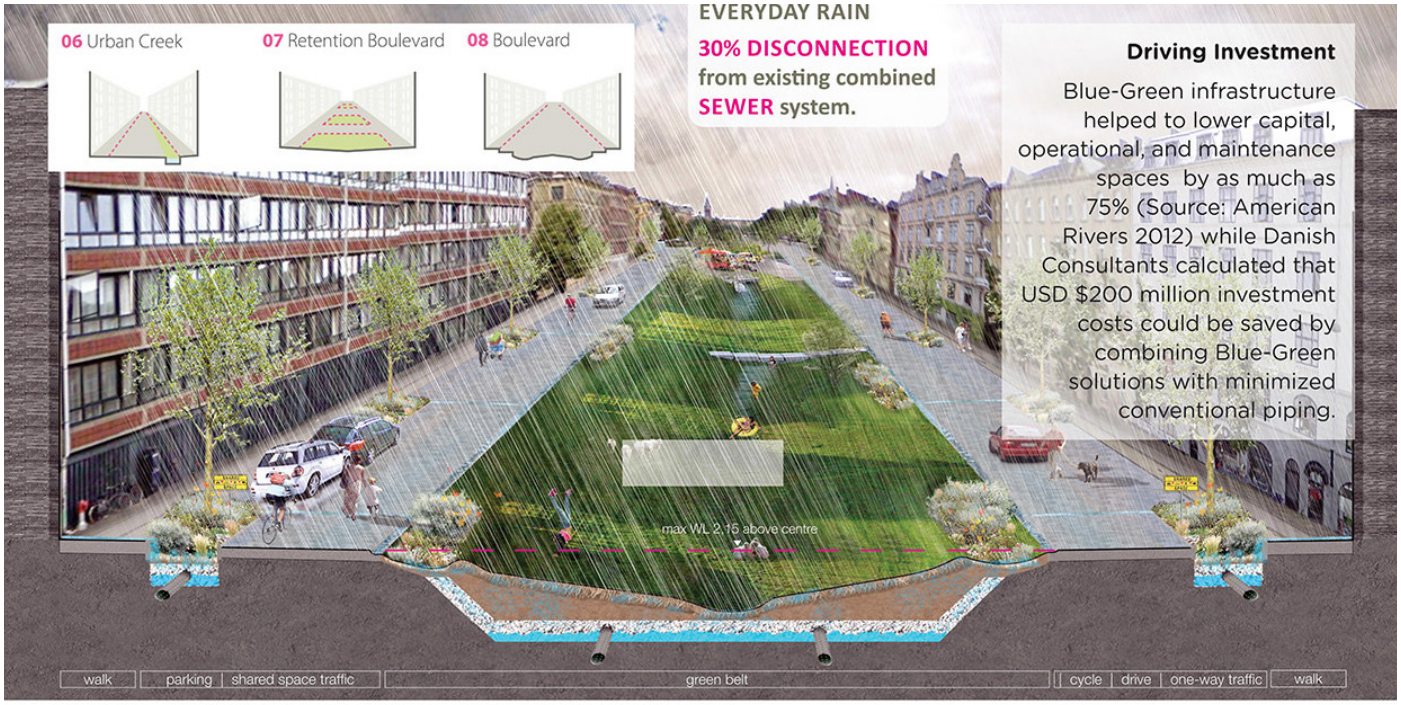
YEAR CONSTRUCTED
1851, 1932, 2005

ARCHITECT
Rem Koolhaas

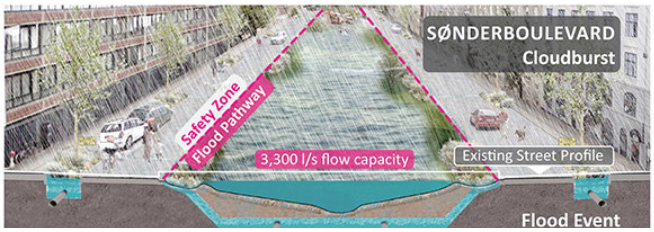
ARCHITECTURAL STYLE
Bauhaus

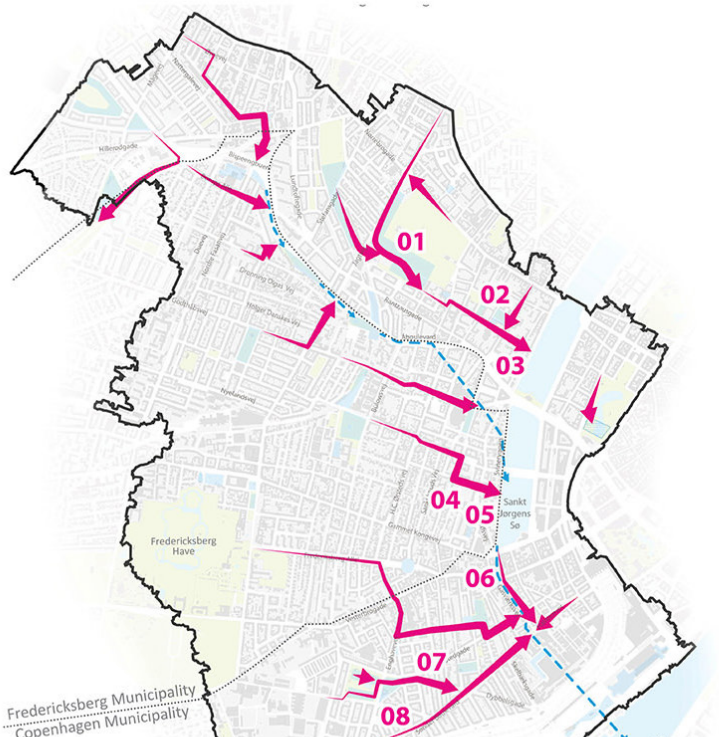
HISTORIC USE
Coal and Steel Production Plant

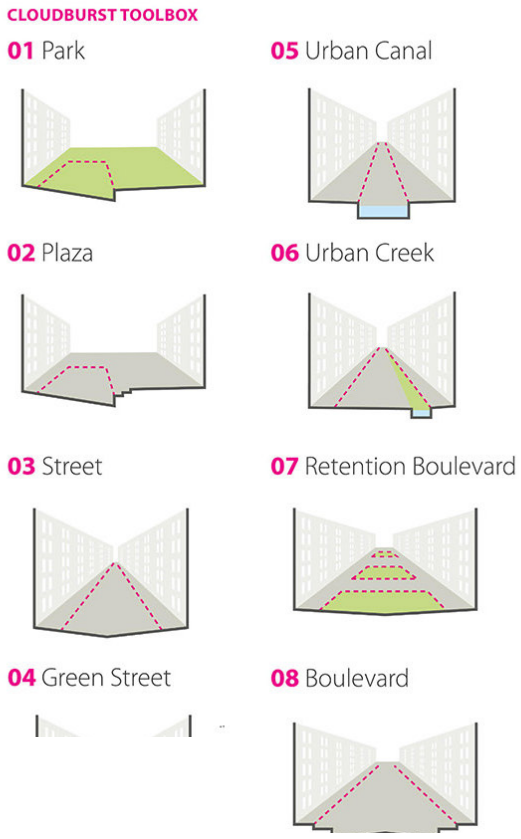
DESIGNATION
UNESCO World Heritage Site



Rain Event Handled within Multi-Functional Tools including Urban Creek, Retention Boulevard, and Boulevard







Pictured: Cloudburst Management Plan
Image Source: City of Copenhagen

COPENHAGEN CLOUDBURST MANAGEMENT PLAN

Climate change is impacting how what types of infrastructural investments cities take. In Copenhagen, where stormwater management and high volume storms critically impact daily life, the City of Copenhagen prepared the Cloudburst Management Plan, which uses existing and new infrastructure to capture and hold water where it falls, to protect critical areas within the city as well as the city's coastline.

There are other initiatives to protect Copenhagen against flooding resulting from extreme rainfall events, that will protect the City against storm surges where sea water is forced inland. Work is also going on to find new ways for the city to exploit rainwater instead of pure management.

The Cloudburst Management Plan has been coordinated with Kobenhavns Energi (Copenhagen Energy), the City of Frederiksberg, and Frederiksberg Forsyning (Frederiksberg utility company).

Resources:

City of Copenhagen Cloudburst Management Plan: https://en.klimatilpasning.dk/media/665626/cph_-_cloudburst_management_plan.pdf

LOCATION
Copenhagen, Denmark

SIZE
City-wide

CONSTRUCTION COST
€9 Million (expected)

COMPLETION DATE
2016

LEED CERTIFICATION
N/A

YEAR CONSTRUCTED
N/A

SYSTEM TYPE
Stormwater Management

DESIGNATION
None

Pictured: Food Valley Facilities
Image Source: National Geographic

FOODVALLEY

Foodvalley is the primary knowledge-intensive agrifood ecosystem in the Netherlands. This ecosystem is characterized through innovative agrifood and food-related solutions in partnerships with other corporate companies, knowledge institutions, innovation firms and government agencies.

Foodvalley offers a platform of resources and opportunities to an international network to accelerate innovation and market introduction, as well as attract other global partners and investors.

Foodvalley was founded in 2004 and uses various facilities (both post-industrial and new construction) to build its agrifood performance, conduct research and foster creative thinking around food production.

From its home base in Wageningen, the Netherlands, every day Foodvalley works on speeding up the innovation performance of companies, both from the Netherlands and abroad. Our experienced team does so in a way that fits your demands: fast, to-the-point and practical.

Resources:

National Geographic Website: https://www.nationalgeographic.com/magazine/2017/09/holland-agriculture-sustainable-farming/

LOCATION
Wageningen, The Netherlands

SIZE
Regional

CONSTRUCTION COST
N/A

COMPLETION DATE
2011

LEED CERTIFICATION
N/A

YEAR CONSTRUCTED
N/A

SYSTEM TYPE
Food System + Research

DESIGNATION
None