MANUFACTURED LANDSCAPES

The Collective Memory in Industry's Architecture

Kathryn Douthart | Master of Architecture Thesis

MANUFACTURED LANDSCAPES:

The Collective Memory in Industry's Architecture

A design research thesis presented to
Ryerson University in partial fulfillment
of the requirements for the degree of
Master of Architecture in the Program of
The Department of Architectural Science
Toronto, On., Canada

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Fig. 1 - Composite Site Aerial, Walkerville neighbourhood in Windsor, Canada
(2015). [digital image] Modified by author.
Underlay: (July 1979). Aerial photograph, Municipal Archives Windsor Public Library PC/4612
Overlay: (2015) Google Earth Aerial Photograph of Windsor, Public Domain
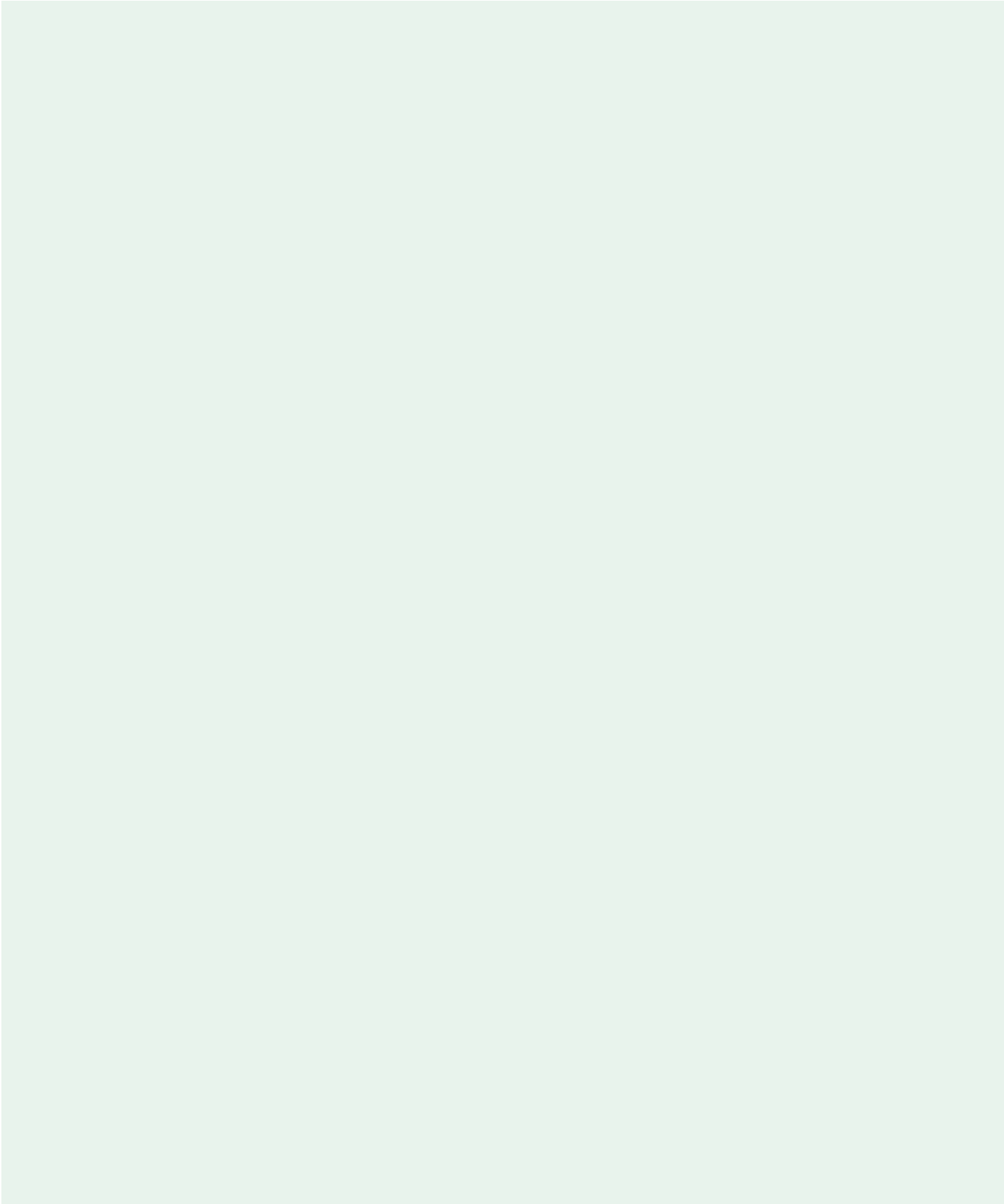
Abstract

Post-Industrial infrastructure is disconnected from the active urban environment. As such, post-industrial sites are socially underutilized, economically unproductive, and ecologically damaging to the urban fabric. Because these sites are often seen as undesirable or lacking value they are frequently wiped out, erased from the landscape forever. This thesis addresses this challenge by re-imagining industrial infrastructure as a valuable cultural resource deserving of reclamation and remediation. Taking Windsor as a site-specific example, the thesis demonstrates the opportunity to preserve industrial infrastructure as a cultural resource that maintains the industrial character and collective memory of the place. The proposal reconnects to the urban environment, creates an urban model for industry in the twenty-first century, and maintains the collective memory of a particular place for its people.

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01 Introduction

Locate

The impetus for this thesis arises from the social, economic, and ecological challenges and opportunities posed by abandoned post-industrial sites in cities with manufacturing legacies. With a specific focus on the City of Windsor, it asks the critical question: what value remains in the detritus of industry? In response, the thesis proposes that the post-industrial artifacts of Windsor's auto-manufacturing and distilling past, and their surrounding landscapes are worth conserving; and that we should save these places in the urban context as an homage to the past, a catalyst in the present, and long-term repurposing strategy for the future.

Specifically, the thesis presents a plan for the reclamation, remediation and redevelopment of a "manufactured landscape" along the Detroit River in Windsor Ontario. Figures 2-4 show the primary clusters of brownfield sites in the City of Windsor. The project site for the thesis is a brownfield located adjacent the Detroit River in cluster 2. The chosen site is part of the ongoing redevelopment of the central riverfront as a park system, and is directly adjacent the historic Hiram Walker Distillery, Windsor's oldest active industry. Further, the site is anchored by the Walker Power Building, a derelict Kahn style industrial structure, a heritage building listed on the Windsor Municipal Registrar, but not yet designated. I propose that rather than protecting a single building, and bulldozing everything around it, the entire site should be recognized for its historical, cultural and economic significance as a "manufactured landscape"; and that the Walker Power Building, as a monument to the Khan style factory, be put to creative light-industrial re-use as a brewery. This site is a crucial part of the Central Riverfront Plan.[1] Without it, the Hiram Walker Distillery, a popular tourist attraction, will remain disconnected from downtown Windsor. Thus, the site is a key piece within the overall plan to connect the neighbourhood of Walkerville back to the Detroit River.

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1   Brook McIlroy Inc. + The MBTW Group, *Central Riverfront Implementation Plan*, 6

Fig. 3 - Riverfront Industry, c.1910s, Ford City (foreground) and the Town of Walkerville (background)
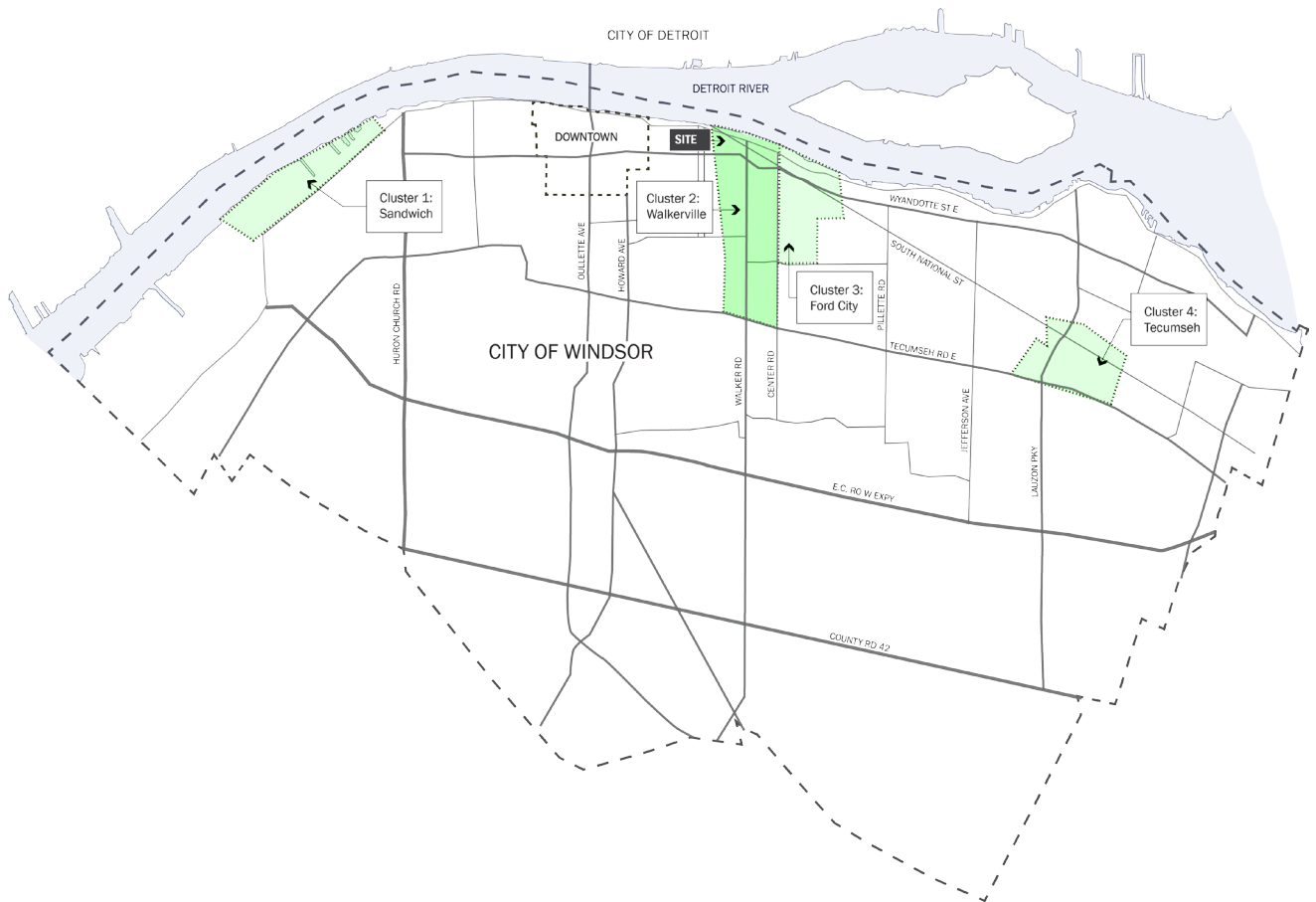
Fig. 4 - Clusters of post-industrial sites in need of remediation and redevelopment as identified in the ROI in the City of Windsor. *(2014). [Digital Image]. By Author.*

Why Heritage? Why Now?

Industrial relics in places like Windsor and Detroit continue to be demolished or allowed to deteriorate in a landscape quickly succumbing to natural succession (figs. 5-6). By erasing these structures we are missing out on an opportunity to capitalize on architecture and landscape as cultural resources for collective memory. The history and identity of the City of Windsor are deeply connected to manufacturing industries, where distilling and automotive production have traditionally been the two primary activities. Like its neighbour to the north, Windsor's economy thrived during the early and mid-twentieth century as several automotive manufacturing and assembly plants, tool and dye manufacturers and automotive parts plants, set up operations there in support the American and Canadian automotive industries (figs. 7-8). Windsor was also the location of a major distilling operation for the popular whiskey brand, Canadian Club. By the 1960s, however, the demand for heavy manufacturing began to significantly decrease in North America, devastating manufacturing centers across the continent. In Canada, none fell harder than Windsor. Industry has thus left the city with its detritus, as factories closed their doors and left.

It is estimated that Canada has upwards of 30,000 brownfield sites currently in need of remediation and development.[2] Based on the Redevelopment Opportunities Inventory (ROI) taken in September 2009, the City of Windsor alone has 137 underutilized and potential brownfield sites within its city limits.[3] This constitutes 1% of all potential brownfield sites in Ontario. Brownfield sites are defined as lands where expansion or redevelopment is complicated by real or perceived environmental contamination due to historical, industrial or commercial land use practices. Generally, these sites are abandoned, idle, or underutilized. However, brownfield properties can have a wide range of uses including dry cleaners, gas stations, parking lots, as well as manufacturing and industrial lands and factory buildings. Because these sites are often seen as undesirable or lacking value they are frequently wiped out, erased from the landscape forever. This "tabula rasa" approach to redevelopment arose from the theories of modernism, with its penchant for eradicating "old", undesired

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2   RCI Consulting, *Brownfield Redevelopment Strategy & Community Improvement Plan*, 1
3   RCI Consulting, *Brownfield Redevelopment Strategy & Community Improvement Plan*, 1

*Fig. 5 - Vines covering building envelope, Walker Power Building, Windsor, Canada
(2014) [Photograph]. By Author*

*Fig. 6 - Detritus at the Packard Plant, Detroit, USA
(2010) [photograph]. Retrieved from*

landscapes, in preference for the new. To date, this approach to redevelopment has been especially prevalent in the treatment of old, post-industrial, brownfield sites. However the erasure of these sites frequently represents a missed opportunity to conserve important industrial heritage. It is also a missed opportunity to maintain the collective memory of this particular place for its people. Erasure of the post-industrial – or manufactured landscape also misses out on the chance to create an urban model for industry in the twenty-first century that reinforces that post-industrial infrastructure can have value as a cultural resource.

Under-use and failure to remediate these properties can have significant economic, social and environmental impacts on their surrounding communities. Lost property tax revenues, increases in public services, and lower neighbouring property values are some of the negative effects that brownfields can have on the economy. Socially, they contribute to neighbourhood deterioration and can create land use conflicts. Environmentally, there is potential contamination to soil and groundwater, which can have negative impacts on adjacent residents and habitats.[4]

The high number of sites located in the city of Windsor presents unique opportunities for the City to revivify its rich industrial past. Moreover, the time is particularly ripe for thinking about the challenges and opportunities faced by Windsor in reimagining its industrial past and present and associated brownfields. During the recession triggered by the 2007/08 financial crisis, Windsor's unemployment fell as low as 15.7% in July of 2009, forcing the City to undergo a social and economic restructuring. It is forecasted that by the end of 2016 Windsor will have completed most of its economic restructuring from heavy manufacturing towards light and advanced manufacturing.[5] This opportunity to restructure presents an architectural opportunity as well: the opportunity to capitalize on the industrial heritage of post-industrial artifacts in the city to maintain the industrial character and the collective memory of the place for its people.

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4   RCI Consulting, *Brownfield Redevelopment Strategy & Community Improvement Plan*, 1-3
5   Thompson, *'Windsor Has Been Canada's Most Unemployed City For More Than Five Years*', http://windsorstar.com/
        business/windsor-unemployment-rate-falls-to-8-9-per-cent.
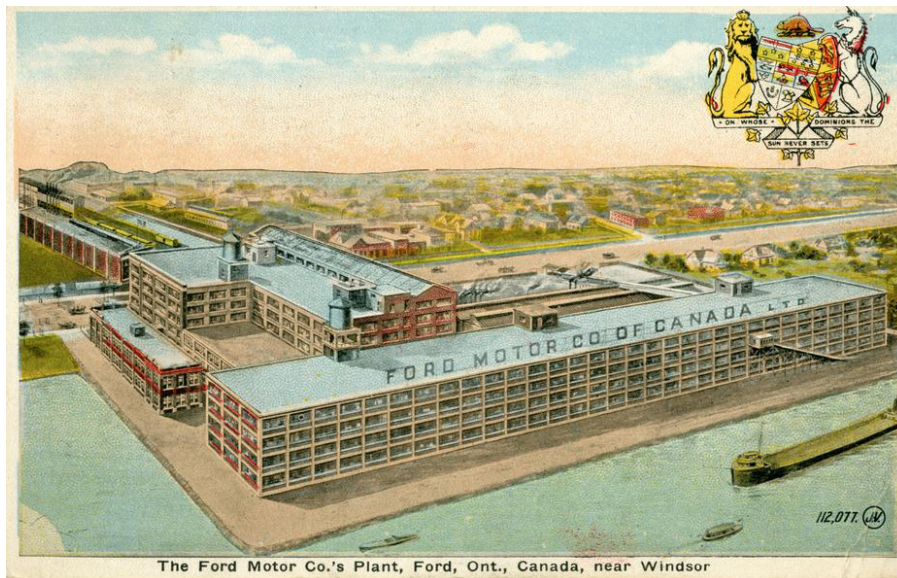
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Valentine & Sons United Publishing Co. (1920) [illustrated image]. Retrieved April 27, 2015 from http://swoda.uwindsor.ca/node/794

Fig. 8 - Postcard of Ford Chassis ready to be Shipped.
(n.d). (n.p) [illlustrated image] Retrieved April 27, 2015 from http://www.tinlizziefl.com/Photos.html

Why the Kahn factory prototype?

The centerpiece of this proposed redevelopment is the Walker Power Building, an early example of the Kahn-style factory building developed as North America's primary industrial prototype. Prior to the Khan-style, industrial buildings were constructed of heavy timber, and therefore had limitations on spans, leading to undesirable working conditions, and a lack of proper fire protection. Changes in the nature of industries, their regulation, and the scale of production, required the design of buildings to be reconsidered as well. Thus, as the mass production of cars accelerated around the turn of the twentieth century, a new building typology was required. Mass auto production required buildings made with innovative materials and methods that would allow both for a continuous production line, and for increased safety measures. The Detroit-Windsor region, as a crucial auto-manufacturing region, was the incubator for the tremendous industrialist imagination that produced the necessary architectural innovations. The form and structure of the building was inspired by the requirement of a vast and modular construction to accommodate mass production. This typology was formalized by its exposed, reinforced concrete structure with red brick infill and large glazing spanning between modular bays.[6]

The massive scale and simple form of the factory building is a well-established industrial artifact in the Detroit-Windsor region, and throughout the North American rust-belt. These ruins represent the remains of the golden age of industry, and as industrial artifacts these structures tell a story about the history of a particular place and its people: the people who worked, died and dreamed of better futures in those buildings and the surrounding communities. The collective memory represented in these structures should not be erased at the end of their manufacturing life, but should continue to be an iconic part of a city's past, present and future. For Detroit-Windsor, these buildings are a product of the place and represent a distinctive regional architecture.

The experiential qualities of industrial artifacts make them fascinating. The extraordinary characteristics of industry, such as its vast scale and grand forms, elicit emotional responses that are almost otherworldly. The experiential fascination associated with these buildings

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6   Marcello, "Albert Kahn", http://vimeo.com/89577085

Fig. 9 - Proposal site - Kahn style factory building is the centerpiece, surrounded by heritage buildings
Base: (2015) Google Earth Aerial Photograph of Windsor, Public Domain
(2015). [Digital Image]. By Author.

renders them ideal candidates for reuse as unique places, capable of serving as social, environmental, and economic catalysts in their communities. Their aesthetic appeal invites us to imagine their revivification, to imagine projects capable of bringing people and activity back to the site in a way that is unique to these large-scale developments.

Organization of the Thesis

The thesis unfolds in three main sections: in chapter two I define and contextualize the term "manufactured landscape" in relation to the adaptive reuse imagined in this proposal. The term is borrowed from Canadian photographer Edward Burtynsky who produces large format photographs of landscapes that have been altered by various forms of human activity. In the case of this thesis, the term manufactured landscapes refers to vacant sites and the structures they contain that were once in use for industrial purposes. In architectural discourse the typical terms "post-industrial", brownfield or greyfield could be used in its place. However, I use the term "manufactured landscapes" in preference to these others to capture the significance of these sites as cultural and economic resources. The manufactured landscapes that are important to this investigation are those found inside city limits, and that are significant to the industrial and social collective memory of the place. In this chapter I also delve into the development of industrialism and the early architectural response, specifically in the form of city planning. Further, I explain the notion of the sublime in industry in the full Kantian meaning of the term and how this notion has transformed from when the industry was in its infancy, through to its current state of detritus. Finally, I will unpack the development of post-industrialism and explore in the form of case studies how post-industrial sites are being redeveloped into active public spaces that sustain the area's identity.

In Chapter 3 I outline the current state of the preservation debate as well as the significance of the concepts of 'collective memory' and 'industrial heritage' for this project. I will argue that progressive tendencies in recent decades have led to a broad range of design strategies for re-building with heritage structures, which lend themselves to the redevelopment of manufactured landscapes. As examples of this, I offer "local" and "global" projects that have successfully redeveloped manufactured landscapes as industrial heritage sites, thereby

protecting them as a cultural resources for future generations. Against this background I will answer the question of what to keep when it comes to heritage conservation and why the industrial heritage of Walkerville, as a model garden city in Canada merits such conservation.

The final chapter introduces the proposed reclamation, remediation and redevelopment project in the neighbourhood of Walkerville. I make reference to the selected site to show how concepts discussed in previous chapters can be applied in a way that is specific and contextually appropriate for the neighbourhood, the city and the region, given its existing assets and constraints. I present my vision for forming a design with built heritage and show how this proposed project will create opportunities for visitors to consciously and unconsciously experience the heritage of the site. To this end, I show how the project realizes the three main objectives of the design proposal, namely: (1) to present a model for industry in an urban setting in the twenty-first century; (2) to develop a scheme that reconnects industrial "detritus" to the active urban environment, thereby reclaiming the identity of the place and remediating the surrounding landscape; and (3) to maintain the collective memory of the place and its people, into the future.

02 The Manufactured Landscape

What is a manufactured landscape? Why is it environmentally, culturally and architecturally significant? The term is borrowed from Canadian photographer Edward Burtynsky who documents large-scale landscapes that have been altered by human activity (Figs. 10-13). In the case of this thesis the term manufactured landscapes refers to vacant sites and their attendant structures, once in use for industrial purposes. These areas sometimes require remediation for toxic waste or poor soil and water conditions before the land can be used for redevelopment. The high initial capital required to do this is often a deterrent for development, causing these sites to stay vacant and underutilized. By photographing and documenting various landscapes of waste produced by man, Burtynsky provokes his audience to contemplate postmodern humanity's global situation of production and consumption and to consider the manufactured landscape as a naturally occurring setting, a composition of a man-made space on the land.[1]

As these sites have continued to proliferate in recent decades so has the architectural discourse on the subject of their redevelopment. As Burtynsky's photography suggests to us, these areas are a part of human history. Moreover, according to Alan Berger, professor of urban design at MIT, they are a normal part of the cycle of the city: "Contemporary modes of industrial production driven by economical and consumerist influences contribute to urbanization and the formation of waste landscapes – meaning actual waste (such as municipal solid waste, sewage, scrap metal, etc.), wasted places (such as abandoned and/or contaminated sites, or wasteful places (such as oversized parking lots or duplicate big-box retail venues)." A "'Waste landscape'" he continues, "is an indicator of healthy urban growth." [2]

Berger further argues that, drosscape, as a concept, implies that dross, or waste, can be "scaped" or resurfaced and reprogrammed for adaptive reuse. Using different languages Berger and Burtynsky, are offering similar insights: that the manifestation of a manufactured landscape or a drosscape should now be considered a naturally occurring setting, and that it

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1   Pauli, *Manufactured Landscapes,* 10-11

2   Berger, *Drosscape*, 13

Fig. 10 - Sikorsky Helicopter Scrap Yard, Tuscon, Arizona, USA
Burtynsky, E. (photographer). (2006). Retrieved from http://www.edwardburtynsky.com/site_contents/Photographs/Oil.html
Fig. 11 - Shipbreaking #9b, Chittagong, Bangladesh
Burtynsky, E. (photographer). (2000). Retrieved from http://www.edwardburtynsky.com/site_contents/Photographs/Shipbreaking.html

Fig. 12 - Packard Plant #1, Detroit, Michigan, USA
Burtynsky, E. (photographer). (2008). Retrieved from http://www.edwardburtynsky.com/site_contents/Photographs/Oil.html
Fig. 13 - Packard Plan #2, Detroit, Michigan, USA
Burtynsky, E. (photographer). (2008). Retrieved from http://www.edwardburtynsky.com/site_contents/Photographs/Oil.html

is up to us, as similarly natural beings, to remake these sites into socially, environmentally and economically sustainable landscapes.

This natural occurrence of the manufactured landscape, beginning in the mid twentieth century, has lead design professionals to critically examine these areas and propose unique solutions. The importance of manufactured landscapes, as sites of former industry in cities with manufacturing legacies, has encouraged conservation or adaptive reuse of post-industrial buildings as heritage sites that are important to the collective memory of the people of the place.

One of the earliest examples of a manufactured landscape in the sense that I intend it here is the post-industrial site of Gas Works Park in Seattle. In 1903, prior to the site being selected for the development of a gas refinery, the Olmstead Brothers suggested developing it as a park. They thought that its proximity to Lake Union, a popular recreational area, combined with the vistas across the lake to downtown Seattle made the site a perfect location for a picturesque green space. Instead, the land was purchased by Seattle Gas Light Company in 1906 and was developed into an industrial complex for the manufacturing and refinement of gas. The Gas Works plant operated until 1956 when it closed its doors. A plan by the City of Seattle to purchase the site began in 1962, but it wasn't until a decade later that the site was acquired and a plan was in place for its redevelopment as a park[3].

The design was produced by landscape architect Richard Haag, who recognized the heritage significance of the surviving structures of the last coal-to-gas plant existing in the United States. His plan therefore focused on the remediation of the surrounding landscape, with a park designed around the existing structures, thereby preserving them as a surreal landscape (figs. 14-15). It has been suggested that the actual experience of being in Gas Works Park is less engaging and interesting than the original concept suggested. UC Berkley professor Marc Treib argues: "Haag's principal accomplishment at Gas Works Park was less its specific design and more its very existence – that is, maintaining a fragment of available land as a publicly accessible open space. That in itself was an epic accomplishment at the time."[4] The industrial

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3   "Friends of Gas Works Park". accessed September 22 2015, http://fogwp.org/

4   Treib, Spatial Recall, 204

Fig. 14 - Gas Works Park, Seattle, Washington.
(n.p). (2012). Retrieved from http://mapandmenu.com/gas-works-park/

Fig. 15 - Festival at Gas Works Park
(n.p). (n.d.). Retrieved from http://fogwp.org/

artifacts at Gas Works are effective as a visual composition in the landscape that acts as a trigger for the collective memory of the place by its people. It therefore sets an important early precedent for the project here proposed.

The Development of Industrialism and the Architectural Response

Industrialization in Europe and North America happened as a transition from the traditional agrarian economy to the new manufacturing processing economy. The first industrial revolution, occurring around 1820 – 1840, was a transition from hand production methods to machine production, made possible by the development of steam power. The second industrial revolution, from 1840 – 1870, included the increasing use of steam transport by rail and water. It was this period in particular that saw the development of large-scale manufacturing as a major feature of the landscape.
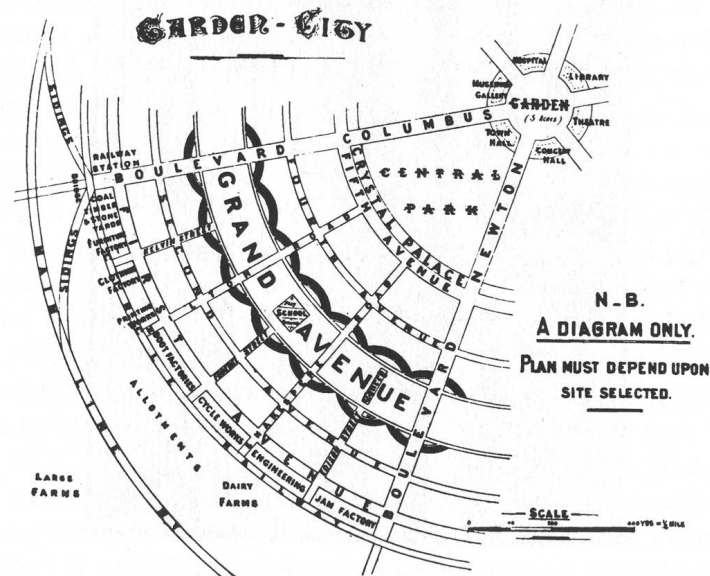
Fig. 16 - Garden-city. Grand Avenue in Garden Cityies of To-morrow.
(1902). [diagram]. Ebenezer Howard. Retrieved from http://www.morrissociety.org/worldwide/agregation.boos.fig.3.jpg

The working and living conditions in the early industrial centers were deplorable. Work in factories was dangerous, and working class living quarters were crammed with run-down housing. Recognizing these urban and social issues associated with industry inside city limits, architects and urban planners began to examine these problems more closely and to attempt to design solutions to enable industry to succeed in the urban environment. The Garden City Movement was a utopian urban planning concept by Sir Ebenezer Howard, which sought to address the pressing issues of overcrowding and the deterioration of cities due to manufacturing practices. In 1898 Howard published To-morrow: a peaceful path to real reform (fig. 16). Later republished as Garden Cities of To-morrow, this text proposed concentric satellite cities that were intended to combine the very best of town and country living. It was thought that this would create healthy living conditions and vibrant communities around industry, while simultaneously eliminating disadvantages such as high rents and prices, fogs and droughts, foul air, murky skies, excessive work hours and overcrowded slums.[5]

Letchworth England was the first Garden City to be built according to Howard's principles.

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5   Howard, *Garden Cities of To-morrow*, 47
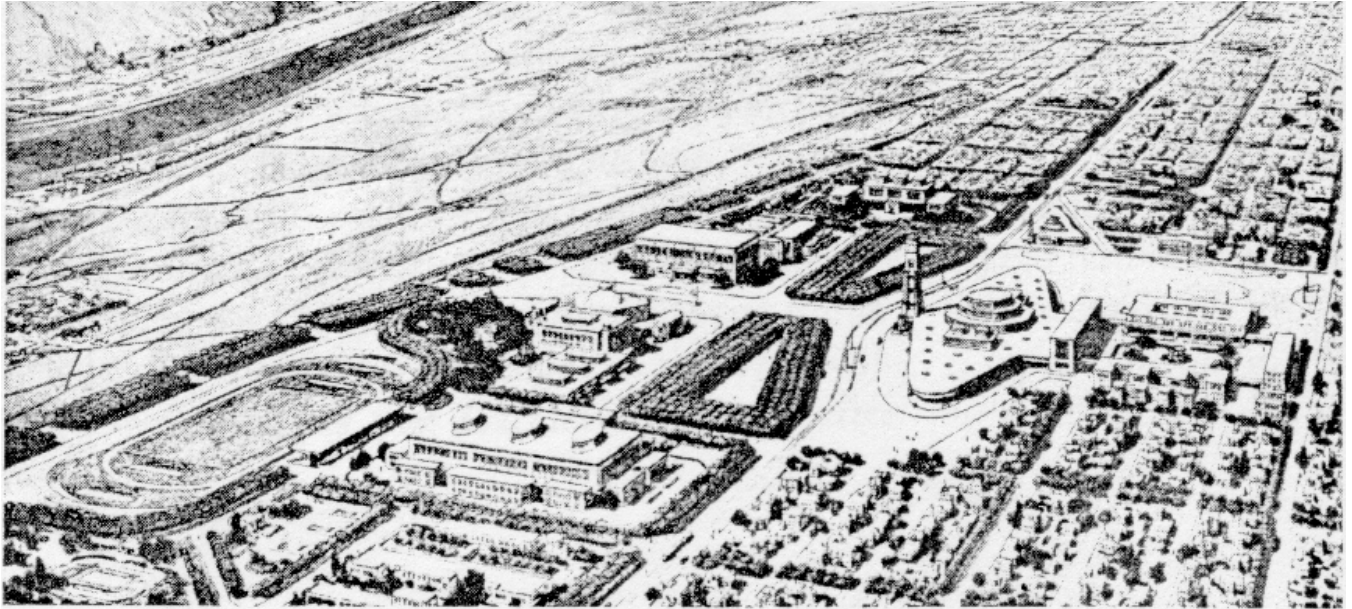
Fig. 17 - Square of the Public in the Cite Industrielle.
(1917). [rendered image]. Tony Garnier. Retrieved from http://ds.cc.yamaguchi-u.ac.jp/~okutsu/GeddesHomepage/P_G_photo&fig(web)/biopolis/
biopolis-c8-p17.html

It was a planned, self-contained community surrounded by greenbelts that centered on a shopping center. Civic and cultural complexes including the city hall, a concert hall, a museum, a theatre, a library and a hospital would also be centralized. Six broad, main avenues radiated out from this center. Further from the center were residential areas and the outer edges were zoned for industry, which was itself surrounded by agriculture and radiating towns and villages. This design concept became widely influential around the turn of the century with model cities being planned in Europe and North America. In Canada, Hiram Walker used the Garden City principles developed by Howard to plan his industrial town of Walkerville[6].

Noted French architect and city planner Tony Garnier's unbuilt Cite Industrielle (1904-1917) was a project for an ideal city that was developed around four main principles: functionalism, space, greenery and light. Accordingly, the Cite Industrille created a type of zoning model for its vision of the city (fig. 17)[7]. Gernier's work became influential through the interest Le Corbusier took in it. Le Corbusier acknowledged Garnier's work as being important in shaping the idea

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6   Price and Kuliskck, *Windsor 1892-1992: A Centennial Celebration*, 19
7   "Tony Garnier: Une Cite Industrielle (1917), last modified November 15, 2010, http://architectureandurbanism.
         blogspot.ca/2010/11/tony-garnier-une-cite-industrielle-1917.html

for his 1924 project Ville Radieuse (fig. 18). These plans, in turn, would become a significant influence in the design of many urban environments in the developed world such as the St. Jamestown neighbourhood in Toronto, the largest high-rise community in Canada.

These plans demonstrate the early-twentieth century desire for a rationalized organization of society – the city as a machine. This desire for "rational" organization also made its way into architectural discourse and style. Arguably, its reflection in architectural style began with the Packard Plant, constructed on Detroit's east side between 1903-1911. The Packard plant is a 325,000 square-meter complex dedicated to manufacturing the luxury Packard automobile. Like many other industrial monuments, today only ruins remain. Designed by local architect Albert Kahn, Packard factory building #10 - completed in 1905 - was the first industrial building to use the then-new style of reinforced concrete. This liberated the design from the constraints placed on it by conventional wood construction techniques, thereby and transforming its spatial possibilities. The Kahn System and the Kahn Truss Bar were engineered and patented by Kahn's younger brother Julius (fig. 19). This type of steel reinforcement, which used bent up angled steel bars to distribute stress through compression, was more effective than other reinforcing methods at the time. By improving the strength of the structure in this way, Kahn was able to produce large volumes of unobstructed interior space, and to greatly improve fire protection. The rational design was able to provide other essential improvements required for mass production and maximum efficiency, such as flexible floor plates to accommodate future changes in production methods and products, open floor plates without dividing walls between various production departments, and greater total square footage, allowing all departments to be located under one roof[8].

The Packard Plant was distinct from its contemporaries in its pragmatic and practical design, which was barren of any ornament and Beaux-Arts architectural expression. An exposed concrete skeleton infilled with large glazed openings and red brick characterizes the design. Kahn's distinct architectural expression became the industrial vernacular for countless industrial buildings in the region and thousands more internationally[9].

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8   Dieter, *Albert Kahn Architect of Modern Times*, 1993, accessed from http://vimeo.com/89577085
9   Hildebrand, *Designing for Industry: The Architecture of Albert Kahn*,
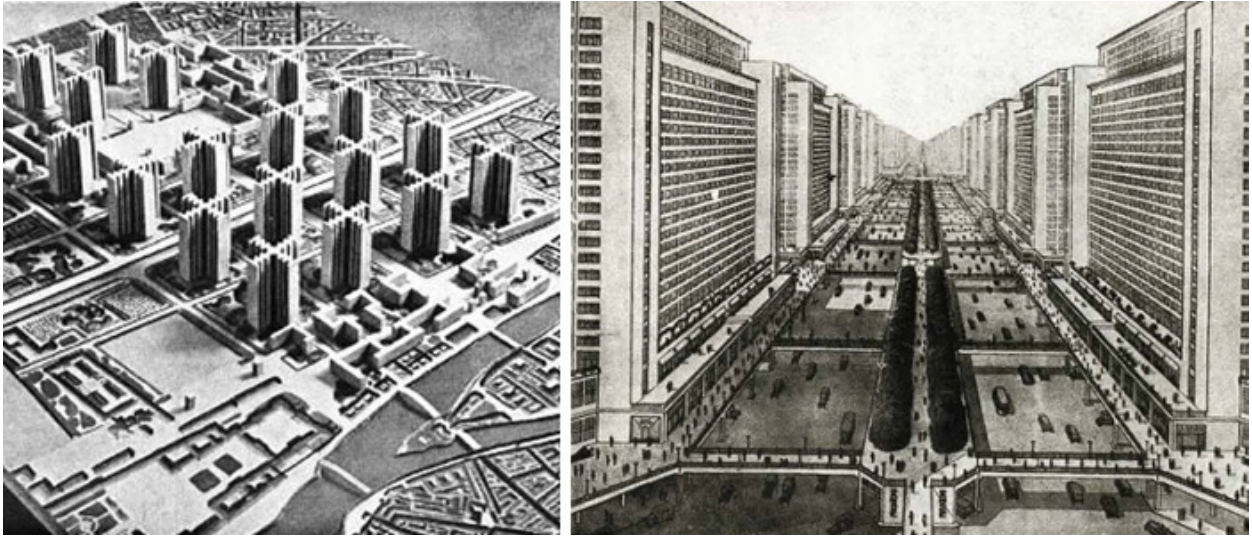
Fig. 18 - Model and rendering of Ville Radieuse
(1924). Le Corbusier. Retrieved from http://apex-architect.com/wp-content/uploads/2013/10/gaiaurbanist3.jpg
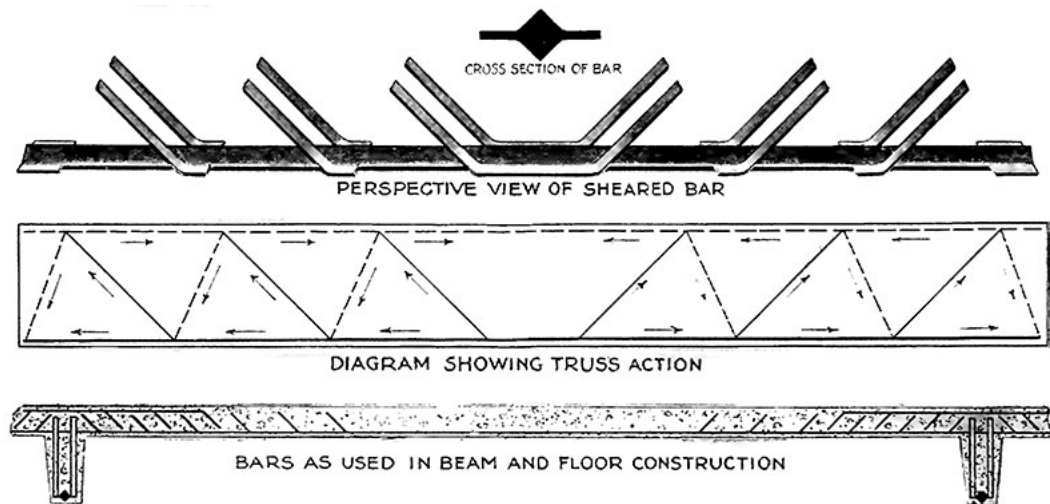
Fig. 19 - Kahn Trussed Bar System
Kahn System of Reinforced Concrete. (1913). Retrieved from http://www.structuremag.org/?p=401
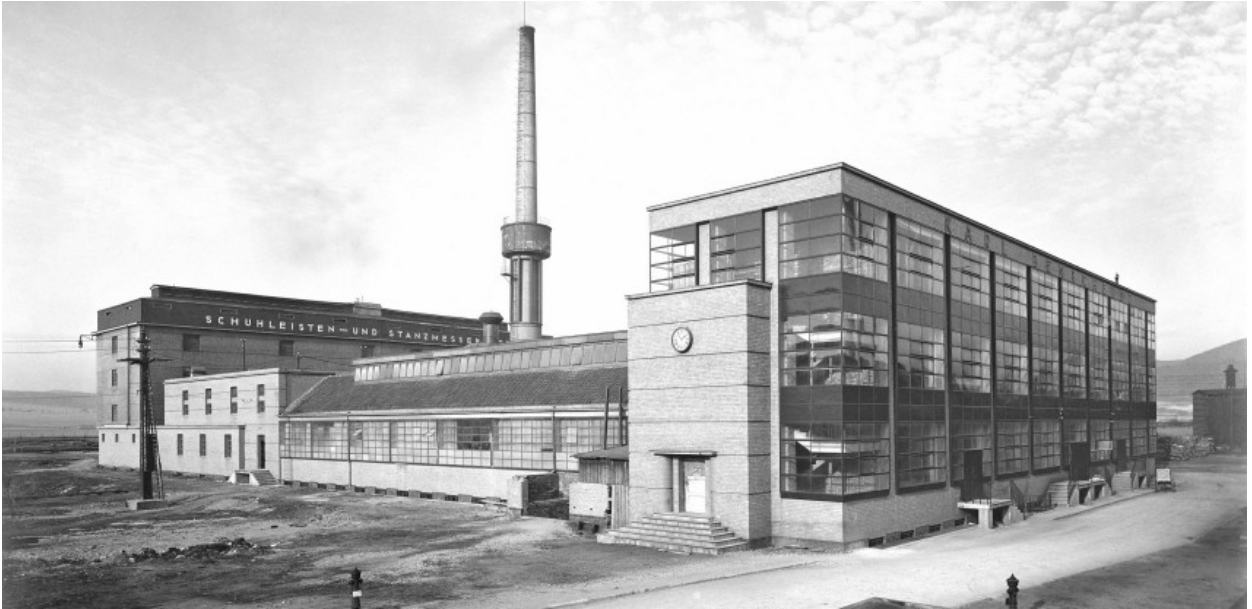
Fig. 20 - Exterior photograph of Das Faguswerke in Alfeld Germany
(n.d).(1913). Retrieved from
http://www.sueddeutsche.de/reise/deutschland-erster-gropius-bau-in-alfeld-reise-zum-ursprung-des-bauhauses-1.1110433-4

But the influence of the Packard Plant was not confined to industrial architecture. In Europe, the architectural response differed in materiality and expression. Das Faguswerke in Alfeld Germany (1911) is, in most opinions, the first building of the Modern Movement. Architects Walter Gropius and Adolf Meyer were commissioned to design the building with the intent to produce a radical structure that would express the company's innovative solutions (fig. 16).[10]   The 'factory aesthetic' was first seen at the workshop block at Faguswerke with the very advanced treatment of the façade presented there. The composition mimicked the modular façade of the Packard Plant in Detroit, but this time with a steel and glass structure. The Faguswerke building is protected by UNESCO as a World Heritage site, as a living monument to architecture and production. This provokes the question: why make a world heritage site out of the Faguswerke and not of the Packard Plant?

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10   Banham, *Theory and Design in the First Machine Age,*

Fig. 21 - The Lackawanna Valley
(1855).(George Inness, painter). Retrieved from
http://shass.mit.edu/news/news-2013-symposium-honors-50th-anniversary-machine-garden

The Sublime in Industry

With rapid industrialization, the notion of progress became palpable. For the first time in history "improvements" were visible to everyone: humans were creating a technological landscape that inspired the awe and reverence of the kind once reserved only for the Deity, and later for the untamed natural landscape. These new technological and industrial landscapes were sublime. They impressed the mind with a sense of grandeur and power that was awe-inspiring, to the point of terror. They were "sublime" in the full Kantian meaning of the term:

> The sublime must always be great; the beautiful can also be small. The sublime must be simple; the beautiful can be adorned and ornamented. A great height is just as sublime as a great depth, except that the latter is accompanied with the sensation of shuddering, the former with one of wonder. Hence the latter feeling can be the terrifying sublime, and the former the noble. The sight of an

Fig. 22 - South wall (detail) Detroit Industry murals
(1932-33).(Diego Rivera, painter). Retrieved from
https://www.khanacademy.org/humanities/art-1010/art-between-wars/latin-american-modernism1/a/rivera-detroit-industry-murals

Egyptian pyramid as Hasselquist reports, moves one far more than one can imagine from all the descriptions; but its design is simple and noble. St. Peter's in Rome is splendid; because on it frame, which is large and simple, beauty is so distributed, for example, gold mosaic work, and so on, that the feeling of the sublime still strikes through with the greatest effect; hence the object is called splendid. An arsenal must be noble and simple, a residence castle splendid, and a pleasure palace beautiful and ornamented[11].

The picturesque, the pastoral and the sublime had already become European aesthetic categories by the late eighteenth century, but the emerging technological landscapes provided a new form of sublimity. The notion of the sublime in industry and technology was starting to be observed as early as the 1830s when the excitement of the railroad was a national obsession in developed countries (fig. 21).

In the Americas, the raw landscape was an ideal setting for technological progress. Technology and the pastoral ideal was introduced by Leo Marx in The Machine in the Garden where he

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11   Kant, *Obervations of the Feelings of the Beautiful and Sublime*, 48
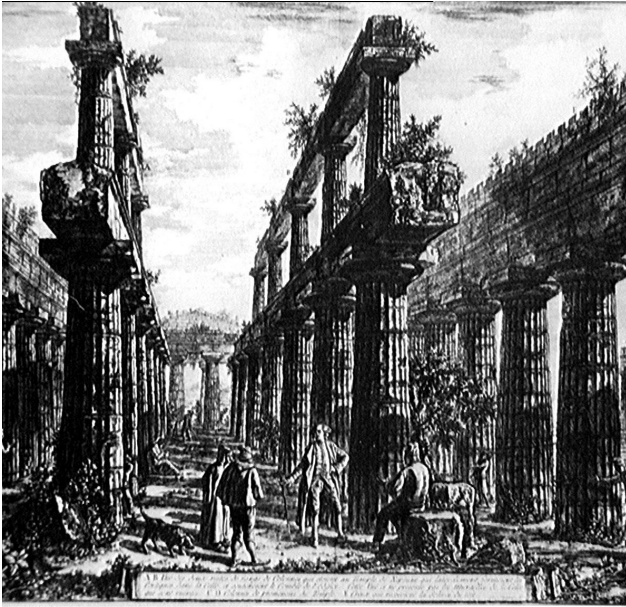
Fig. 23 - Temple of Neptune: ruins of the lines of columns
(1778).(Giovanni Battista Piranesi,engravings). Retrieved from
http://rubens.anu.edu.au/htdocs/bytype/prints/piranesi/display00090.html

Fig. 24 - Roosevelt Forest Summer, Detroit
(c.2000).(Scott Hocking, photograph). Retrieved from
http://scotthocking.com/pictures.html

identifies the dialectical tension between the pastoral ideal in America and the rapid and sweeping transformations wrought by machine technology as major themes in nineteenth century literature. "The transition from a wild and barbarous condition to that of the most elaborate civilization... [was not] gradual, but instantaneous."[12]   America was seen as the first example of the struggle between civilized man and uncultivated nature. "A rustic and in large part wild landscape was transformed into the site of the world's most productive industrial machine. It would be difficult to imagine more profound contradictions of value or meaning than those made manifest by this circumstance. Its influence upon our literature is suggested by the recurrent image of the machine's sudden entrance onto the landscape."[13] Marx was not merely interested in the historical changes to the physical landscape, he was instead exploring "the landscape of the psyche" – the interior landscape – which he believed was best reflected in the literature of the time.

On his first visit to the new world, months following the end of the First World War, Le Corbusier marveled at the strong rich cities of the United States of America. The Americans were building

12   Marx, The Machine in the Garden, 203
13   Marx, The Machine in the Garden, 343

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sublime landscapes in the grand form of skyscrapers in New York and the vast and efficient factory complexes of the Ford Motor Company in Detroit (fig. 22). Le Corbusier described the industrial architecture as 'new cathedrals': infinite-seeming spaces, which evoked awe and marked the skyline, not with clock towers or steeples, but with tremendous smokestacks. The factories of the Detroit-Windsor region became a defining feature of the urban fabric, and a locus of place. The triumphs of the Eastern American States were contrasted by Le Corbusier with the post-war landscapes of Europe, "its fields ravaged by four years of war, emptied and robbed, in ruins, covered with dirt and eaten with rust; found broken windows and nerves on edge, exhausted bodies and tenacious morale."[14]   Much like post-war Europe, North America eventually saw its own devastation in post-industrial urban centers. Le Corbusier words could easily be paraphrased to describe the conditions of workers in American manufacturing cities.

Ruins also provide many forms of sublimity. Large ruins produce the elemental sublimity of size; but time, too, may conjure the feeling of the sublime. Time overwhelms the work of humans, and thus time, like space, becomes a source of grandeur. The fascination with this aspect of the sublime is best illustrated by Giovanni Battista Piranesi in his series of etchings on the ruins of ancient Rome (fig. 23). Today, the lens is often focused on Detroit, where "ruin porn" is a recent movement in photography that objectifies the decline of the built-environment and captures the urban decay and decline in post-industrial zones (fig. 24). Is the image of an abandoned building and ravaged landscape in Detroit every bit as poignant as the ruins of Rome?

The Development of Post-Industrialism

During the mid-twentieth century, a socioeconomic shift began as industrialization lead to the development of a larger more prosperous middle class. As the working class developed a combination of factors lead many industrial corporations to start to look to under-developed areas to expand additional operations. Industrial migration made three major moves away from the urban centers: moving within the country, moving to the outskirts into suburban environments, or leaving North America for an international expansion effort. By the 1960s the number of manufacturing jobs began to decline and the service industry began to take its

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14   Le Corbusier. *When the Cathedrals were White*, xi
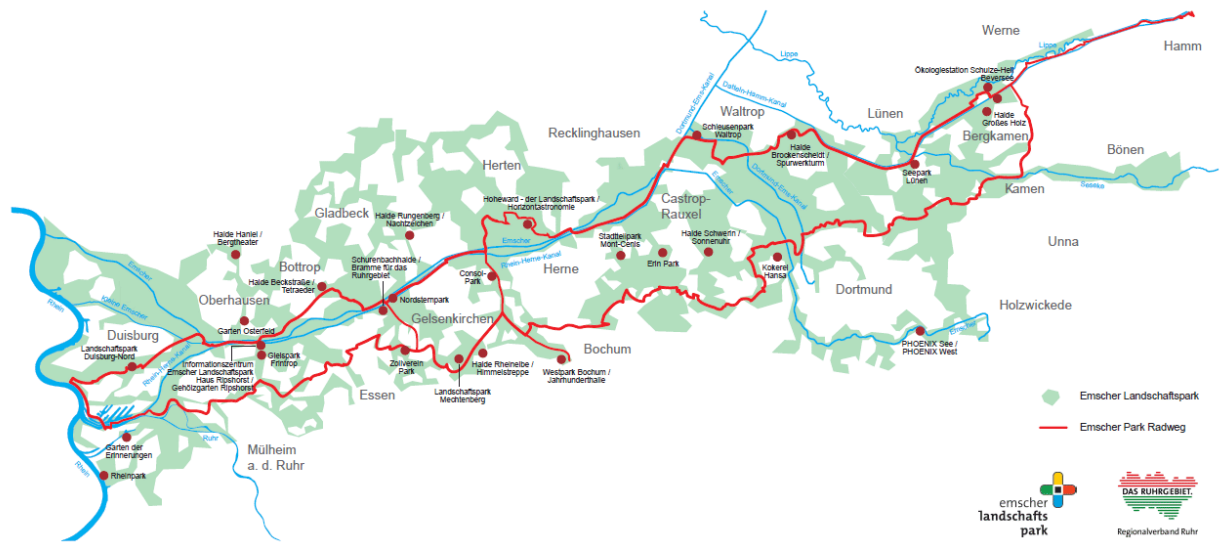
Fig. 25 - Emscher Park System Map, Germany
(n.d.). [digital image]. Retrieved from http://www.emscherkunst.de/riverscape-emscher/emscher-landscape-park.html?L=1

place as the dominant industry in the developed world.

The term post-industrial, originally spurred by the decline in manufacturing, eventually developed as a sociological concept. During the 1960s, the idea of an information-based economy was a popular topic with sociologists. Harvard professor Daniel Bell was well known for his interest in this new concept, and published The Coming of Post-Industrial Society in 1973. The book effectively predicted the rise of consumerism and businesses based on technology, information, and services. Bell contested that this was the next step in the evolution of industrialized countries.[15] Many predictions from Bell and his contemporaries have become a part of our present reality.

There is a distinction between the sociological term 'post-industrial' and the architectural meaning of that term. In sociology, the term 'post-industrial', when applied to society, describes the stage of development where the service sector out-performs the manufacturing sector in that economy, as well as describing less tangible, "cultural" aspects of this shift. In architectural discourse, the term is used to describe the physical attributes of an area or a

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15   Veysey, *A Postmortem on Daniel Bell's Postindustrism*, 49-53

Fig. 26 - The Works Swimming Pool, Zollverein Coal Mine, Essen
(n.d). (Thomas Mayer / Stiftung Zollverein). [photograph]. Retrieved from https://www.zollverein.de/service/english-page

building that is left abandoned or vacant of industrial use. This difference can be explained by the lag in visible shift from the initial concept and its predicted effects on the urban environment. The physical evidence of this shift was not to be seen at a large scale until the late twentieth century and early twenty first century.

Once one of the most polluted areas in the world, the Ruhr District in Germany started its transformation into an ecologically, economically, and culturally rich park system along the Emscher River (fig. 25). In the early and mid-twentieth century, the area was home to hundreds of Germany's industrial coal mines and steel foundries. Due primarily to economic challenges, industry began to leave the region when the steel plants and the coke facilities that serviced them were deemed unprofitable. By the late 1980s most of the sites were abandoned. In 1989, the concept of the Emscher Park System was conceived as a partnership between local government, and local and national agencies. A ten-year plan was devised by the International Building Exhibition (IBA) to create an ecologically sustainable system along forty miles of abandoned industrial towns and through a large system of parks

Fig. 27 - Courtyard, Landschaftspark, Duisburg Nord
(n.d). (Christa Panick, Photographer). Retrieved from http://www.landezine.com/index.php/2011/08/post-industrial-landscape-architecture/

Fig. 28 - Skating Rink, Zollverein Coal Mine, Essen
(n.d). (Frank Vinkin / Stiftung Zollverein). [photograph]. Retrieved from https://www.zollverein.de/service/english-page

and greenways. The entire plan was made up of 120 separate projects that recognized the regions lack of natural and open space.[16] The neglected industrial artifacts of the region have been transformed to serve new recreational uses while still preserving the area's rich heritage (figs. 26-28). In his essay Remembering Ruins, Ruins Remembering, Marc Treib challenges the positive critiques of the park and poignantly questions the influence of the industrial artifacts on its users:

> All of this has been described in considerable detail in numerous publications on this unquestionably landmark work. But what has been addressed to a far lesser degree is the basic reason – other than the enormous costs complete demolition would have entailed – just why these industrial structures have been retained. Yes, they represent a manufacturing structure that had long provided basis for the Ruhr's economy. Yes, they illustrated processes of extraction and production now non-vital and discarded. Yes, we have learned to preserve historic structures as tangible evidence of our past, a collective

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16   "New Landmarks", accessed on March 20, 2015, http://en.landschaftspark.de/the-park/evolution/iba

memory externalized in individual buildings and collectively in cultural landscapes. But one wonders about the precise effect these buildings have on the psyche and memory of the current generation, and will have on those to come. This is the question that vexes any interpretation of the Gas Works Park as well.[17]

Two better-known parks from the Emscher Park System are Landschaftspark, Duisburg Nord and the Zollverein Coal Mine in Essen. The former project, by Latz + Partners, offers a scheme that retains a significant number of the former steel and coking facilities. The decision made sense economically and offered a sympathetic regard for the heritage significance of the site. The winning entry entirely made over the site and was as rational as it was romantic, since many of the artifacts were cleaned and reused as monuments in the landscape. Trees and plants accompanied purposeful seeding's, as a remediation strategy. More so than a park, the designers saw the post-industrial site as an area of wilderness within an urban setting.

The Zollverein Coal Mine also offers a scheme that retains significant industrial artifacts and remediates a polluted landscape. The mine closed in 1986 and was immediately purchased by the local authorities, which declared the complex a part of the industrial heritage of Germany. Architecturally and technically the center piece of the complex – Shaft 12 – was built in the Bauhaus style and is considered a masterpiece, earning it the reputation as "the most beautiful coal mine in the world".[18] In contrast to the park in Duisburg Nord, in Essen, the complex is commercially utilized with a focus on arts, culture and entertainment, with the coal-mine facilities as the back drop for performances, swimming, skating among many public functions. The 100ha OMA master plan (2001-2010) respects the site's original identity and reinforces its historical context through the contrast of modern use. The development of the location in terms of tourism sees 500,000 visitors to the site, attracted by the wide range of art and cultural projects and varied program. It is listed as a UNESCO World Heritage site for its outstanding universal value. The Emscher Park

17   Treib, *Spatial Recall*, 209
18   "World Heritage Site Zollverein." Accessed March 18, 2015, http://www.erih.net/nc/anchor-points/germany/
        detail.html?user_erihobjects_pi2%5Bpointer%5D=0&user_erihobjects_pi2%5Bmode%5D=1&user_erihobjects_
        pi2%5BshowUid%5D=15343&user_erihobjects_pi2%5Bcountry%5D=1&user_erihobjects_pi2%5Bregion
        alroute%5D=0&user_erihobjects_pi2%5BanchorOnly%5D=1&user_erihobjects_pi2%5BmembersOnly%5D=0

System's redevelopment as a whole has given the region a greener image, created a more interconnected community and sustained the area's identity – improving the urban ecology of the region.

03 Collective Memory and Industrial Heritage:
Weighing in on the Preservation Debate

Contemporary architectural discourse frequently views heritage conservation as an obstacle to progressive ideas. The polarity of the debate evokes the questions: is preservation antithetical to new ideas and built forms? Do all buildings merit preservation? And, if not, then which buildings should stand for future generations, and for what purpose?

Architect and author Charles Bloszies argues, "Architectural diversity is critical for a livable city" which is thereby "enriched by the resulting mixture of old and new." Furthermore, "without change, cities will stagnate, but with too much change urban character will be lost. As culturally and socially diverse cities are most desired, so are architecturally diverse cities. This leads to a textured and robust urban fabric."[1]

Within the context of Walkerville, and the Detroit-Windsor region more generally, early twentieth century factory buildings, until recently, have been disregarded for their cultural significance. They have been allowed to deteriorate through weathering and environmental secession over time, succumb to arson, or sadly, be demolished. The building stock of the structures is endangered, and the time to preserve them is now or they risk being completely eradicated. These robust structures are part of the architectural ecology of the place. "Motown" would not have garnered its name – and fame – without these well-oiled buildings. The typology was born from this place out of need for innovative building materials and methods to allow for the smooth operation of the assembly line and allow for the safest possible working conditions. As a historically blue-collar economy, these structures represent the memory of industry that defines the place. Moreover, given their perfunctory aesthetic and status as a remain rather than a monument, like the Fagus factory, the possibilities for intervention for the Kahn-style factory building is open to the designer for creative re-imagining. In order to make this case, in this chapter I first outline the history and current status of the current conservation debate. I then weigh in that debate with a discussion of the social and and architectural importance of cultural memory and industrial heritage. The chapter closes with a consideration of the most important features of Walkerville, from the

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1   Bloszies, Old Buildings New Designs, 30

perspective of cultural memory and industrial heritage.

Designing with Built Heritage: The Modern Conservation Movement

Early conceptions of the conservation of built heritage focused on traditional preservation practices of maintaining and restoring monuments and religious relics to their original condition. By contrast, the modern conservation movement acknowledges a gradient of interventions and is more pluralistic in its understanding of the types of artifacts that can be considered to have heritage value. Conservation is recognized as an essential part of the responsibilities of modern society.

From the sixteenth century to the nineteenth century a series of fundamental changes occurred that marked the modern world, and with it modern concepts of history and cultural heritage. During this period the French Revolution and the Age of Enlightenment shook the foundations of Old Europe. The Enlightenment was an intellectual movement, fomented through developments in European culture, politics, sciences and economics. In Western culture, new concepts of historicity led to the consideration of works of art and historic buildings as unique and worthy of preservation as an expression of a particular culture and a reflection of a national identity.[2]

The Athens Charter for the Restoration of Historic Monuments was the first of its kind, enacted in 1931 by the First International Congress of Architects and Technicians of Historic Monuments. The seven-point manifesto established a vision for preservation within the European continent prior to the Second World War. The question of what to keep has expanded to buildings with sociological substance ranging from the preservation of concentration camps to department stores, amusement rides and factories. Degrees of intervention outlined by the Charter range from traditional preservation, which makes no

2   Jokilehto, *A History of Architectural Conservation*, 17

intervention at all, to rehabilitation, which may include modifications of the original use and the introduction of new elements.

In more recent developments over the past twenty years, the approach to the subject of restoring and reusing old fabric has become even more open-minded. For example, most historic preservation boards in the United States have adopted the Secretary of the Interior's Standard for Rehabilitation (fig. 29). This widely used North American Standard, first published in 1977, applies to historic buildings of all periods, styles, materials, types and sizes. It takes into account interior as well as exterior interventions and related landscape features. Key to these standards is the minimal change to defining building characteristics required to justify conservation.[3]

The leniency within these standards demonstrates that as a culture we are redefining our relationship to the past through a shift in attitude toward how and why we preserve buildings and landscapes. This shift is also evident in the general nomenclature that is used. The language of 'preservation' is being replaced with 'heritage conservation' in an attempt to express the accepted gradient of interventions being employed on heritage structures. Nevertheless, this shift in language still doesn't capture the extent to which exciting new architecture is being created in the name of preservation. According to Francois Astrog-Bollack in her 2013 book *Old Buildings New Forms: new directions in architectural transformations*, new kinds of interventions have design strategies that include juxtapositions to, weaves through, grafts on to, wraps around and insertions into a heritage building. Regardless of the intensity of intervention, the new building or structure created through the act of preservation should draw its importance from its relation to the old. As a culture, we can acknowledge that not every building merits preservation. The ones that do are those that are significant within their context, and which exhibit the qualities of their particular place.

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3   "Rehabiliation Standards and Guidelines", accessed March 23, 2015, http://www.nps.gov/tps/standards/rehabilitation.htm

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.

2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.

3. Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.

4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.

5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a historic property shall be preserved.

6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.

7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.

8. Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.

9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.

10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

Fig. 29 - Secretary's Standards for Rehabilitation
Retrieved from http://www.nps.gov/tps/standards/rehabilitation.htm

The Preservation Debate

The question of what to do with old buildings remains a highly debated topic, and differences in opinions around appropriate modes of conservation and degrees of intervention pose challenges for contemporary design. There are complexities on both sides of the preservation debate, because old buildings tend to evoke nostalgia and have an emotional appeal to the general public. Nostalgia and emotion, in turn, generally inform the polarization of opinions around the degree to which heritage buildings should be 'preserved'. Many people develop emotional attachments to old buildings because are visually familiar and therefore not threatening. However, more importantly, buildings may develop an emotional stronghold on segments of the public because of their capacity to reflect attributes of the culture in which they belong. For some, the threat of the new stems from a reaction against forms they do not find appealing and theories they have difficulty accepting or understanding. On the other side, the monetary value of a property or the land on which it sits overshadows the cultural value of bringing these buildings with us into the future.

Collective Memory

Collective memory is defined as the memory of a group of people, passed from one generation to the next.[4] In order for collective memory to endure communities keep artifacts and accounts, both written and oral, to pass along to future generations. Included in this are the built artifacts that have sociological and architectural significance and, which demonstrate the heritage of a place. This is why municipalities have heritage registers to conserve heritage at a local level, and the UNESCO World Heritage List to conserve heritage deemed of global significance. The value of these sites comes from being an outstanding example of a type of building, architectural or technological ensemble, or landscape that illustrates a significant stage from global or local history. The Manufactured Landscapes discussed below, such as the Landschaftspark and industrial heritage buildings like Das Fagaswerke in Europe, have been recognized on a global level by UNESCO as cultural resources and have been either redeveloped or restored for the purpose of conserving the collective memory of manufacturing as well as architectural feats that the structures

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4   "Definition of Collective mameory in English", access March 23, 2015, Oxford Dictionary. http://www.oxforddictionar ies.com/definition/english/collective-memory?q=collective+memory

represent. Projects akin to the Landscaftspark and the Zollverein Coal Mine also, reconnect post-industrial lands with the active urban environment by including public spaces that embrace the constantly changing physical environment while appreciating the collective memory in their master plans. These projects set a precedent for which manufactured landscapes are important to keep, and why. Similarly, the industrial and sociological significance of Walkerville, the Kahn-style Walker Power Building, and the urban ideals of the Garden City Movement that the neighbourhoods design embodies, should be conserved for the collective memory of the Detroit-Windsor region.

Memory is closely related to time and space. Since the ancient periods architecture has been used to preserve the memory of a person, event, idea or knowledge. For example, the ancient Egyptians built pyramids as monuments to house the tombs of their Pharaohs and Stonehenge was constructed to preserve the knowledge of astrology and as a tool to remember mathematical principles. Today, the pyramids and Stonehenge symbolize two exceptional and unique ancient cultures, protected by UNESCO as a World Heritage sites. The protection of those sites by UNESCO allows for the collective memory of those civilizations to continue for our generation and for future generations to come.

Maurice Halbwachs (1877-1945), a French philosopher and sociologist, was the first to develop the concept of collective memory. Halbwachs understood collective memory as the shared memories of a community or culture passed from one generation to the next. He argued: "every collective memory requires the support of a group delimited in space and time." [5] Collective memory is therefore not a given, but rather a socially constructed notion. There are as many collective memories as there are groups and institutions in a society: social classes, families, associations, corporations, armies and trade unions all have distinctive memories that their members have constructed, often over long periods of time. However, it is not these groups that remember but rather the individuals from a specific group context that draw from that context to remember or recreate the past. Halbwachs specifies, "While the collective memory endures and draws strength from its base in a coherent body of people, it is individuals as group members who remember."[6] Collective memory is thus distinguishable from both traditional historical knowledge and individual, personal accounts.

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5   Halbwarchs, *On Collective Memory*, 26
6   Halbwarchs, *On Collective Memory*, 48

Fig. 30 - Walkerville, Ontario, Canada. The home of "Canadian Club" whisky. One of the bottling rooms.
(1910).(Corp. Detroit Publishing Co.). Retrieved from http://static.torontopubliclibrary.ca/da/images/MC/pcr-1719.jpg

The notion of collective memory suggests the multiple ways in which the memories of individuals in the collective are affected by the social groups that they has encounter or take part in, throughout their lifetime.

The passage of time can be kind or cruel to the collective conscious. Where the passage is cruel, heritage is either little known or misunderstood by generations of descendants and newcomers alike. This is likely because the milieu of the place has been too quickly altered. Carl Morgan, former editor of the Windsor Star explains in his book Birth of a City: "fire, recessions, depressions, human carelessness, thoughtlessness, shortsightedness and a host of events, natural and otherwise... all played a part in erasing too many traces of the past [in Windsor]. As custodians of our heritage, we have not carried out our responsibilities well."[7] His book commemorates the Windsor centennial of 1992, and is a combination of anecdotal notebook and photo album focusing on a selection of events from Windsor's past. In it, he calls attention to the collective memory of the place, as distinct from its history: "The story of Windsor is more than a textbook recitation of dates and places and times. The real story

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7   Morgan, *Birth of a City*, ix

Fig. 31 - Bathing beach, Bob-lo Island Park, Canada
(c.190s0).(Tim Baxter postcard collection). Retrieved from http://www.walkervilletimes.com/43/3A-photo-issue.html

is of the people who walked its river banks, its meadows and its streets (Figs 30-31); people like Sir Isaac Brock; Tecumseh, the Shawnee Indian Chief; Henry Bibb, publisher of the first black newspaper in Sandwich; Alexander Mackenzie, Canada's second prime minister; Mary Ann Shadd, a remarkable, single-minded black activist who became Canada's first female editor/publisher; Hiram Walker, distiller, grain merchant, businessman, entrepreneur; Oscar Fleming, first mayor of the City of Windsor."

Memory in Architecture and Landscapes

In *Between History and Memory: Les lieux de memoire*, French historian Pierre Nora illustrates how he defines memory through what he calls les lieux de memoire – sites of memory – and milieu de memoire – environments of memory.[8]

Environments of memory become a trigger for recollection. For example One World Trade

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8   Nora, *Between Memory and History*, 7

Center, also known by its early name "Freedom Tower", and the new World Trade Center complex will forever mark 9/11 and the lives lost in the terror attack on the United States. For the people of New York and the rest of the country these buildings represent a collective memory of the tragedy. Design for the new complex started almost immediately after the attack, and construction started only five years later. The place was thus transformed from *un lieux de memoire* to *un milieu de memoire* in a very short period of time. As Halbwachs explains: "A society's current perceived needs may impel it to refashion the past, but successive epochs are being kept alive through a common code and a common symbolic canon even amidst contemporary revisions."[9]

For collective memory to endure it requires society to assure the continuity over time and at least some cohesion over the ages. This may take place through the organization of festivals, commemorations, museum or artistic exhibits, and the erection of monuments. The built environment, which includes architecture and landscape architecture, is also a key site for the sustenance of collective memory, functioning as a repository of memory where individual and communal deposits and withdrawals may be transacted. Furthermore, some architectural styles lend themselves to the transmission of collective memory. In *Architecture and the City*, Aldo Rossi, a proponent of post-modernism, argues that the International Style threatens the workings of memory. In a chapter on collective memory he writes that actualization and interpretation are important facets of architecture that "depend of time, culture, and circumstances." Moreover, because these factors "together determine the modes themselves, it is within them that we can discover the maximum reality. There are many places, both large and small, whose different urban artifacts cannot otherwise be explained; their shapes and aspirations respond to an almost predestined individuality."[10] This argument , that there is a collective memory of traditional forms of architecture that was neglected by modernism, and thus alienated the general public, was a popular one in the early days of postmodernism. In his text Rossi quotes Halbwachs to support his view that the city is the locus of the collective memory; that there is a certain idea of the city, an intentional idea, and that relationship of the collective to its place is essential to collective memory. Architecture and landscapes serve as grand memory-laden spaces that contribute to a collective memory of a group of people. The significance in architecture and landscapes lies in their unique qualities that manifest in a particular place as experienced by its people.

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9   Halbwachs, *On Collective Memory*, 26-27
10   Rossi, *Architecture and the City*, 131

What to Keep?

Modern ideologies advocated for a tabula rasa approach for rebuilding the post-war wasteland in Europe. It is easy to see the destructiveness of modernization on the built environment for its erasure of the old structures. However, it also could be argued that the idea of modernization supported preservation by provoking the idea of what to keep. It was at this time that preservation expanded to buildings and larger landscapes with sociological substance such as concentration camps, vernacular architecture, industrial complexes and buildings, etc.

Much like post-war Europe, North America eventually saw its own devastation in post-industrial urban centers. The wastescapes that are the product of the collapse of manufacturing, such as, and most notably, the decline of the automotive industry in the Detroit region, provoke the question of what to keep? What value, in terms of our collective memory, do the built structures of our industrial heritage possess? The industrial relics in places like Windsor and Detroit continue to be demolished or allowed to deteriorate in a landscape quickly succumbing to natural succession. By erasing these structures are we missing out on an opportunity to capitalize on the manufactured landscape as a cultural resource for the collective memory of an important aspect of our heritage?

Industrial Heritage as a Cultural Resource

At both local and global levels, current discourse in historical preservation is not solely about the past, it is about the future. For example, UNESCO describes cultural heritage as "the legacy of physical artifacts and intangible attributes of a group or society that are inherited from past generations, maintained in the present and bestowed for the benefit of future generations."[11] Heritage is therefore a potent and democratic planning tool for communities: it gives them the opportunity to examine their histories and determine what is appropriate to bring into the future. With this understanding, the profession of preservation is experiencing a shift in nomenclature from 'historic preservation' towards 'heritage conservation'. This

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11   Tangible Cultural Heritage, accessed march 24, 2015, http://www.unesco.org/new/en/cairo/culture/tangible-cultur al-heritage/.

terminological rebranding is an effort to better reflect international attitudes and to remain relevant to the diverse realms of cultural landscape, architectural design, and historic interpretation that people may wish to remember and conserve.[12]   The Zollverein Coal Mine Industrial Complex is an example of a UNESCO World Heritage Site that demonstrates current international attitudes to landscape remediation, adaptive reuse, and the potential for future collective memories of the site to be produced. "The collective evidence of the past activities and accomplishments of people. Buildings, objects, features, locations, and structures with scientific, historic, and cultural value are all examples of cultural resources."[13]   The Zollverein site is defined as a cultural resource because of its architectural value as an exemplary design of the Modern Movement in an entirely industrial context, and a crucial period in the development of traditional heavy industries in Europe.

The Evergreen Brickworks in Toronto is an example of a local heritage site that was redeveloped in a way that successfully capitalizes on landscape and architectural heritage as cultural resources (figs. 32-34). For more than a century the Brickworks was home to one of Canada's most significant brick manufacturers, producing more than 43 million bricks a year. The complex borders a major watercourse–the Don River–and lies in the heart of the city's ravine system. By the 1980s the natural resources that gave the site its industrial purpose had largely been depleted, and the owners chose to close operations and sell the land. At the time, a recession hampered the potential for the local government to purchase the environmentally sensitive property. Notwithstanding its location in a flood plain, the site was sold to a developer who planned a large housing development that would have stripped the site of its cultural heritage. Public opposition ultimately convinced the Provincial Government and the Conservation Authority to purchase the property, which was then acquired through a lengthy expropriation process. Prior to its redevelopment the site largely consisted in a collection of brick industrial buildings fronting the quarry. Interestingly, however, the historic collection of industrial buildings was not a significant aspect of the public debate at the time, which focused instead on environmental sustainability within the ravine system.

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12   Michael, "Why Preserve?", http://www.vincemichael.com/
13   "What are cultural Resources?" accessed September 12, 2015, https://www.nysm.nysed.gov/research/anthropology/crsp/crm_faq.html

Fig. 32 - Aerial of Evergreen Brickworks after redevelopment, Toronto, Canada
(n.d).(Vito Riccio, photographer). Retrieved from http://www.claudecormier.com/en/projet/evergreenbrick-works/

Fig. 33 - Courtyard at Evergreen Brickworks after redevelopment, Toronto, Canada
(n.d).(Chris Hillier, photographer). Retrieved from http://www.claudecormier.com/en/projet/evergreenbrick-works
Fig. 34 - Evergreen Brickworks after redevelopment, Toronto, Canada
(n.d).(DTAH). Retrieved from http://dtah.com/project/evergreen-brick-works/

The first phase of the Brickworks redevelopment addressed the restoration of the brick quarry to a more natural state. Within the walls of the quarry, the creation of the new park was achieved through the introduction of a series of ponds and meadows. This phase also included the extensive planting of native species of trees, shrubs and wildflowers. Phase two focused on the adaptive reuse of the factory buildings. Through a design methodology of discrete interventions, the structures were maintained, but opened to new interpretations, with the objective of bringing new meanings to the site. The design was described as "a combination of discrete interventions, including the elevation of new structures above old, attaching new spaces as appendages, inserting new linings into old shells, and establishing a network of bridges and walkways that interconnect the buildings, allowing for landscape to penetrate the site while maintaining its original character."[14] The Brickworks' new incarnation has served as a catalyst for emerging ideas on the relationship between heritage conservation and landscape urbanism. The multidisciplinary design team transformed the brownfield site into an environmental education center focused on interweaving themes of nature, culture and community. Evergreen Brick Works is thus literally a living demonstration of how past and present can work together to create greener models for urban living.

The Industrial Heritage of Walkerville

Early settlement in the region, 1750-1850s, was mainly the French, who farmed the rich soils on the southern bank of the river, known as *de troit* (fig. 35). The introduction of the Great Western Railway to the Windsor region in 1854 set in motion the infrastructure required to attract American entrepreneurs to the southern banks of the river. The first to arrive was Hiram Walker. A grocery merchant who had experience distilling and selling vinegar, he was looking to apply these skills to the production of whiskey. At that time, opening a distillery anywhere in the United States was risky business because the Temperance Movement was putting pressure on the US government to pass prohibition laws. Wary of this threat, in 1856 Hiram Walker purchased 468 acres of farmland east of Windsor on the Canadian side of the river, where prohibition was not a concern. In 1858 Hiram Walker and Sons Ltd. established a distillery and a flourmill.

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14   Lobko, *Toronto Brownfield Redux*, 16

Fig. 35 - Survey of the French Ribbon farms along the Detroit River at the end of the American Revolutionary War.
(1796). (George Henry Victor Collot). Retrieved from https://commons.wikimedia.org/wiki/File:Detroit1796.jpg

Walker transformed the lands surrounding the mill and distillery into a company town (fig. 36), personally financing and commissioning the construction of worker housing, a church, and a school, as well as establishing a fire brigade. Old postcards of Walkerville depict a perfect turn of the century industry town. Inspired by the Garden City Movement, Walkerville was clearly divided into three sub-precincts for industrial, commercial and residential use, which were in turn surrounded by agricultural use (figs 37-42). Walker's intention to have a town that would be the envy of both the region and the continent was realized, complete with tree-lined streets.[15]

The towns other industries of livestock, cattle, and farming were supported by distilling products and byproducts. For example, an obvious byproduct of the distilling process is mash. This can either be seen as bothersome waste or valuable livestock feed. Seeing the potential to create new industry in his town, Hiram Walker built pens to house 500 hogs adjacent to the distillery. Later, a cholera outbreak forced him to quit the hog business and enter into cattle raising, and swill from the distillery fattened his livestock as well as his pockets. A

15   Morgan, *Birth of a City*, 67
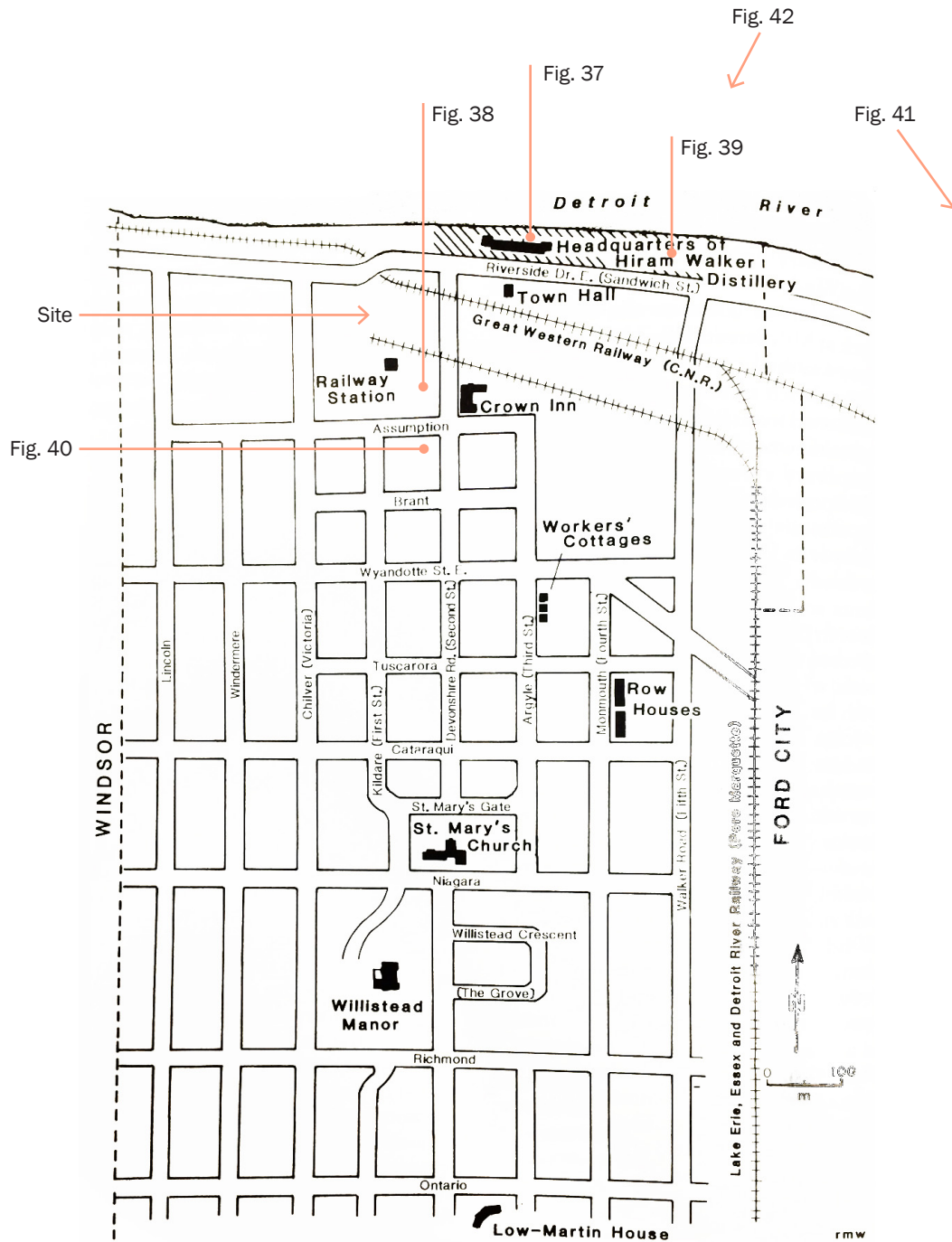
Fig. 36 - Early map of Walkerville, Windsor, Canada
(n.d).(Ronald M. Welch, Cartographer). From: Price & Kulisck. Windsor 1892-1992 A Centennial Celebration. Canada: Chamber Publications, 1992. [Annotations by Author, 2015]
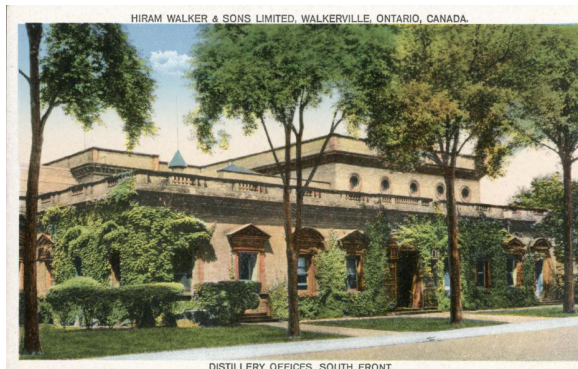
Fig. 37 - Headquarters of Hiram Walker & Sons Limited, Walkerville, Canada. Distillery Offices, South Front
(1935).(Novelty Mfg. & Art Co. Ltd.). Retrieved from http://swoda.uwindsor.ca/content/202
Fig. 38 - Pere Marquette Railway Station, Walkerville, Canada
(1925).(Valentine & Sons). Retrieved from http://www.canada-rail.com/ontario/w2/walkerville.html#.Vh_Ed_IViko

Fig. 39 - Hiram Walker & Sons Limited, Walkerville, Canada. Maturing Warehouses
(1935).(Novelty Mfg. & Art Co. Ltd.). Retrieved from http://swoda.uwindsor.ca/content/204
Fig. 40 - Devonshire Road, P. M. Station, and Ferry, Walkerville, Canada
(1916).(C. A. Lanspeary, Druggist). Retrieved from http://swoda.uwindsor.ca/content/192

Fig. 41- Ford Motor Co.'s Plant, Ford, Ont., Canada, Near Windsor
(1920).(Valentine & Sons United Publishing Co.). Retrieved from http://swoda.uwindsor.ca/node/794
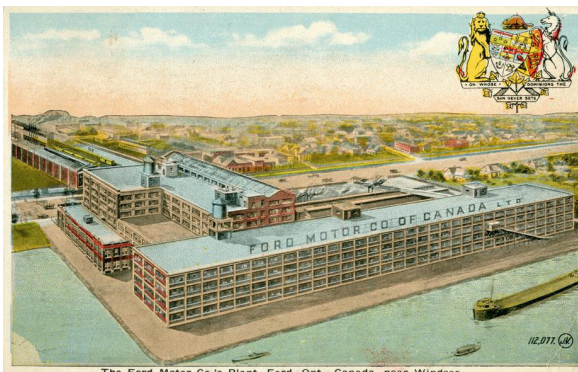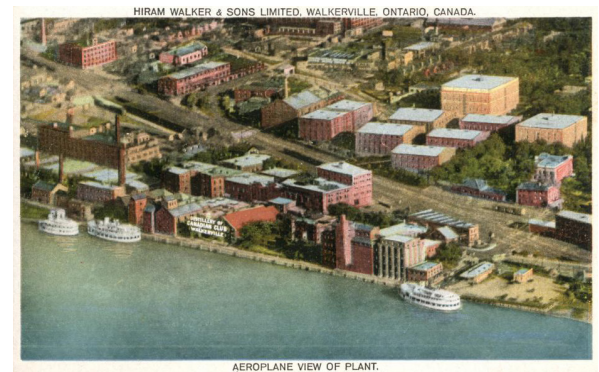**Fig. 42 - Hiram Walker & Sons Limited, Walkerville, Ontario, Canada. Aeroplane View Of Plant**
(1939).(Novelty Mfg. & Art Co. Ltd.). Retrieved from http://swoda.uwindsor.ca/content/201

byproduct of cattle is ample of manure, which was used to fertilize acres of field of tobacco, hops, wheat, oats and barley. The grain was then used in his distillery to make whiskey. The town was self-sufficient and business was booming. The success of the products, and Hiram Walker's Club Whiskey, later renamed Canadian Club Whiskey, in particular, was relatively quick and by 1890 it became a global brand.[16]

In 1904, Edward Walker, son of Hiram Walker, sold a piece of property he owned next to the distillery to his friend and industrialist, Henry Ford. Ford had been experimenting with gasoline engines and auto design since 1896 and had only one year earlier incorporated as the Ford Motor Company. The Ford Motor Company of Canada was established in 1904 and by 1912 it was the incorporated village of Ford City. Ford Plant no. 1 (1912-1914) was constructed using the Kahn industrial vernacular, a simulacra of the recently built Packard Plant, on a piece of reclaimed land on the Riverfront.

Several other industrial buildings of the Kahn vernacular were being constructed in Walkerville and Ford City around the same time, notably the Walker Power Building (1911-1913) and the attached Peabody Building, designed by Windsor Architects Stahl Kinsey & Chapman. Many non-industrial works of Kahn, and his former employer Mason & Rice, can also be found along Devonshire Road in old Walkerville. These include the Walkerville Town Hall and the Bank of Commerce, both of which are located directly adjacent the Walker Power Building. Kahn was actively working for Ford in Detroit at around the same time, where he was designing the Highland Park Ford Plant (1908-1910) and the Ford River Rouge Complex (1917-1928). In Windsor Kahn was commissioned by Ford for one additional industrial project in Ford City. This was the Ford Powerhouse, the design for which was constructed in 1923.

Of the extensive industrial fabric that was built in the first half of the twentieth century in these two neighbouring towns, few monuments remain. The industrial legacies of Walkerville and Ford City have thus left vast areas of the City of Windsor underutilized, unproductive and disconnected. Buildings that contribute to the regions cultural heritage, such as the Walkerville Power building, are destitute, having been abandoned and forgotten for decades. Now they stand only as a reminder of the economic devastation created by the loss of

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16   Morgan, *Birth of a City*, 67

industry (fig.43). But the problem is not confined to industrial heritage – even civic buildings are under threat. For example, the Walkerville Town Hall, also known as the Barclay Building, came under this risk in the 1990s. At that time, citizens came together to form a Windsor chapter of the Architecture Conservatory of Ontario (ACO) and were able to save the building from destruction by raising enough funds to relocate the building from Hiram Walker land onto a city owned site adjacent to the Walker Power Building.[17]

The destruction of cherished buildings can be a traumatic experience. As Ester Da Costa Meyer explains "architecture plays a crucial role in self-definition, giving – or denying – stable points of reference, havens which citizens can call their own and where they feel protected." She poignantly argues "precious links to history are slowly severed from consciousness unless they reverberate powerfully in the collectivity"[18] The preservation of architecture is a social commitment. Built heritage is conserved because there is a responsibility to sustain the stories of the past, which live as much through these buildings and landscapes as they do through written works or images. When culture is considered a resource we can more clearly see this responsibility to maintain old memories for the present; and to maintain the built environment for the production of future memories.

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17   The Architectural Conservatory of Ontario, *80 for 80*, 169
18   Da Costa Meyer, *The Place in Place of Memory*, 184

_1796_

_1812_

PAST

_1750s-1850s_

Agricultural Landscape
An Active section or expanse
of land altered by man for
the purposes of agricultural
production. (Ribbon Farm Plot
+ one family homestead)

_1812_
Military Landscape
Civil War Grounds

Fig. 43 - Site Morphology Diagram
(2015).(By Author.)

1909

1984

2020s

1850s- present

‖‖‖ **FUTURE** ➡

Manufacturing Landscape
An Active section or expanse of land altered by man for the purposes of industry. (ie. railway infrastructure, distilling+ manufacturing, etc.)

Manufactured Landscape
An inactive section or expanse of land once altered by man from its previous state for the purposes of industry. Presently unused, for any purposes.

Re-manufactured Landscape
A reactivated section or expanse of land under remediation from its previous purpose of industry. Presently used by many, for public purposes, and possibly including new spaces for industry in the 21C.
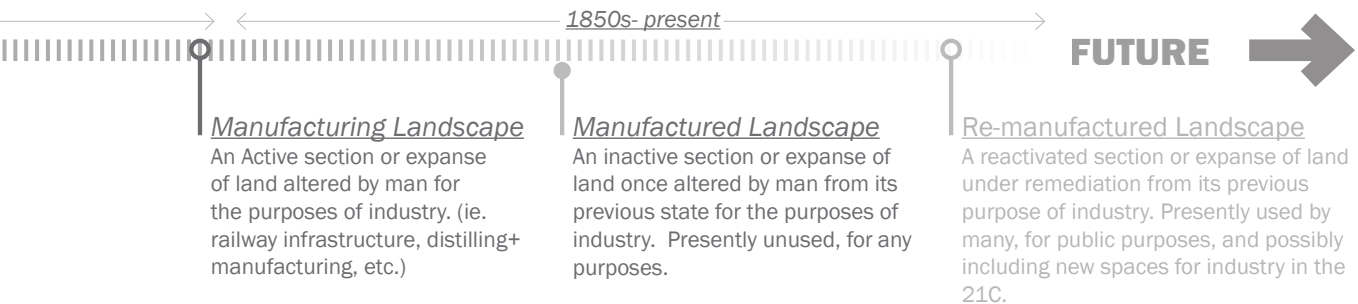
<u>05</u> Proposal

Context

The chosen site for this project is found along the southern bank of the Detroit River in the neighbourhood of Walkerville, in Windsor Ontario (figs 44-45). The area along the river-bank was historically home to the majority of Detroit and Windsor's river industries and was notoriously over-polluted.   In recent decades, the Detroit River has been recognized as an American and Canadian Heritage River, which has prompted both countries to acknowledge its ecological importance. Actions to conserve, interpret, enhance, and appreciate the cultural and natural heritage, as well as the recreational value of the Detroit River, have therefore been implemented in the wake of the Heritage designation. The Central Riverfront Plan is a key piece of this new Heritage movement, and is the largest civic planning project the City has undertaken in downtown Windsor. To date, it has revitalized in excess of five-kilometers of land on the Canadian side into civic and open green space. In conjunction with this remediation efforts have been made to restore the natural river-bank and create fish habitats in some sections of the river.[1]

Part of the development includes The Great Western Park, named after the Great Western Railway that was active in the area for 100 years. When the trains stopped rolling along the waterfront the area was left to stagnate as a spectral industrial wasteland. The City of Windsor gained possession of the property in 1993 and began decommissioning and demolishing the industrial infrastructure that for a century was the identity of the waterfront. The City converted the open space into a park with walking and cycling paths with the intent to link downtown Windsor and Walkerville. The Great Western Park is made up of nine sections, eight of which have been completed to date.[2] The final section for the Plan has been selected as the site for this thesis (fig. 46).

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1   "Detroit River – A Canadian Heritage River." Accessed February 8, 2015. http://erca.org/about-erca/the-detroit-riv

         er-a-canadian-heritage-river/

2   Brook McIlroy Inc. + The MBTW Group, *Central Riverfront Implementation Plan*, ii

Fig. 44 - Historic Aerial, Walkerville neighbourhood in Windsor, Canada
(July 1979). Aerial photograph, Municipal Archives Windsor Public Library PC/4612

Fig. 45 - Project site Aerial, Walkerville neighbourhood in Windsor, Canada
(2015). Google Earth image.

SITE

Windsor

Segment 9
**Grain Field / Hiram Walker /
Walkerville**

Segment 8
**Bert Weeks
Memorial / Hatch
Wildflower
Garden**

Segment 7
**Marina / Children's
Water Playground**

Segment 6
**Civic Terrace /
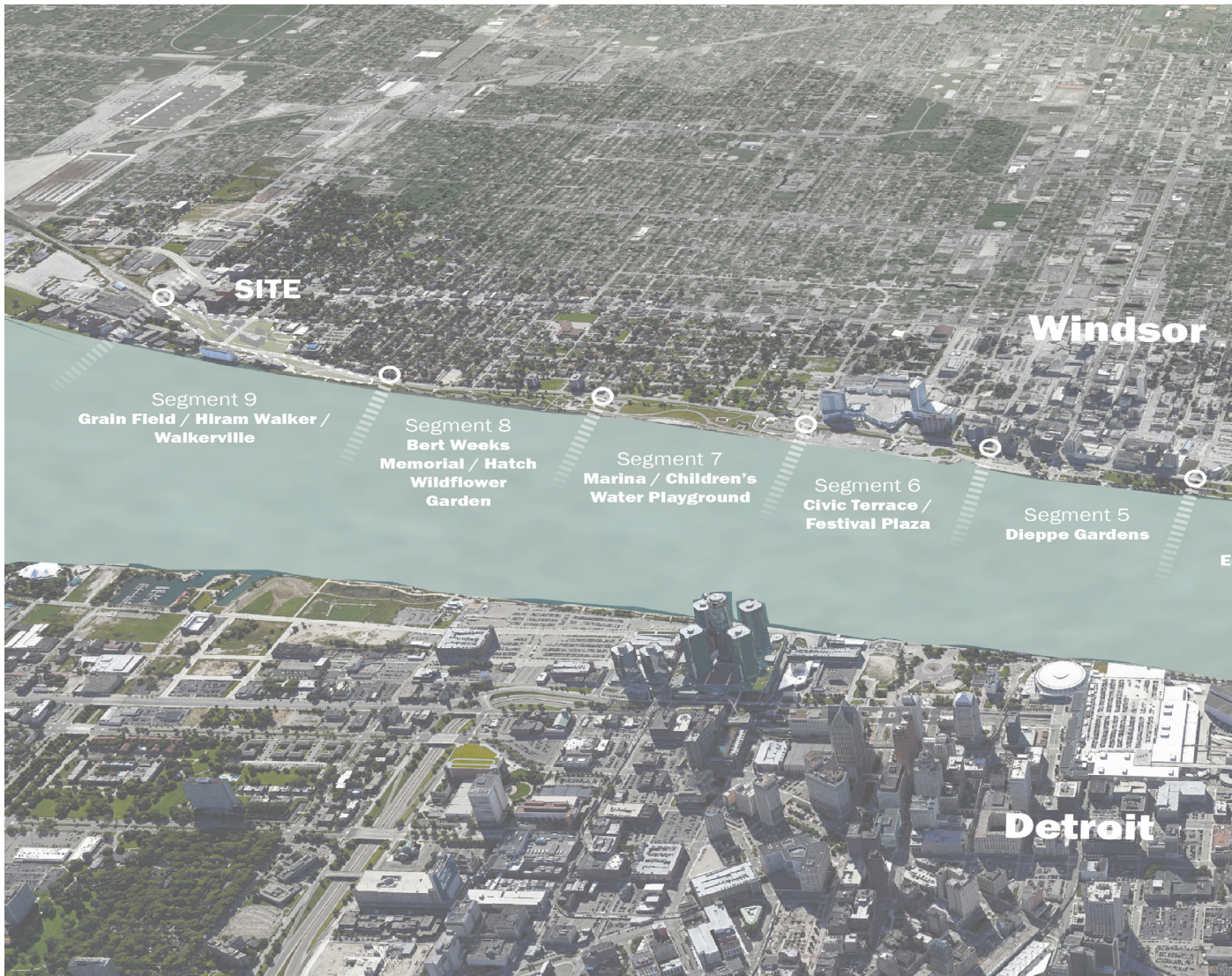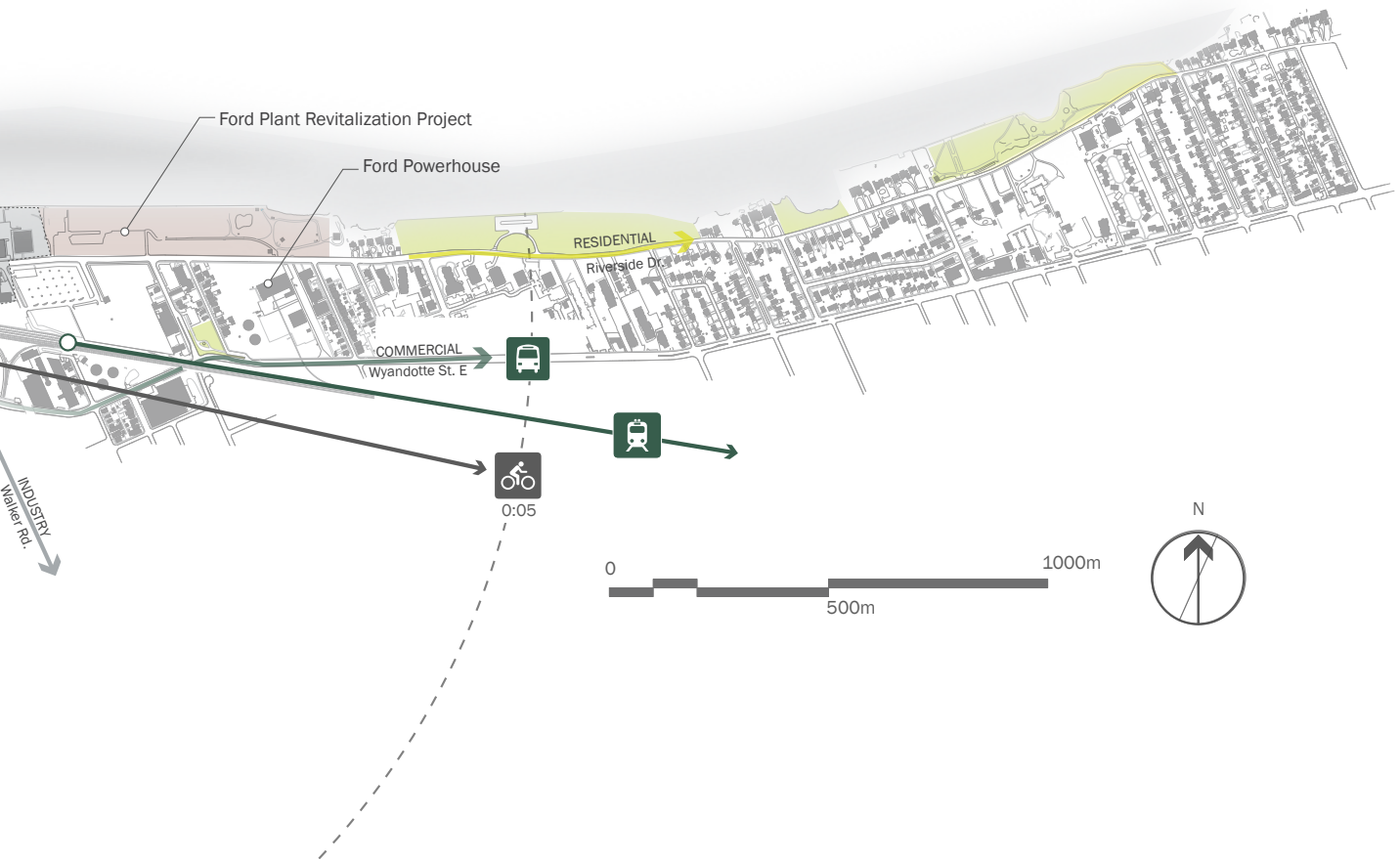Festival Plaza**

Segment 5
Dieppe Gardens

Detroit

Fig. 46 - Aerial of Windsor's Central Riverfront Plan - Great Western Park
(2015).(Google Earth aerial Image, notations by Author.)

Segment 4
cological Museum /
Steamboat Wharf

Segment 3
International
Garden

Segment 2
Assumption / Centennial Parks

Segment 1
Sandwich Community /
Ambassador /
Assumption Parks

Fig. 47 - Context Plan
(2015).(By Author.)

The site is directly adjacent the historic Hiram Walker Distillery, Windsor's oldest active industry. This property has yet to be developed because of the lack of value currently associated with post-industrial buildings in the city. As well, many property owners in the city are waiting for property values in the city to increase before they redevelop. This leaves many swathes in the urban fabric of the City of Windsor underdeveloped. Yet without this last section of the Central Riverfront Plan, the Distillery, a popular tourist attraction, will remain disconnected from downtown. By proposing a long term remediation and redevelopment plan I believe this site will be able to serve as a key piece within the overall project, connecting the neighbourhood of

Ford Plant Revitalization Project

Ford Powerhouse

RESIDENTIAL
Riverside Dr.

COMMERCIAL
Wyandotte St. E

INDUSTRY
Walker Rd.

0:05

0   500m   1000m

N

Walkerville back to the Detroit River and to downtown Windsor.

The Walker Power Building is a derelict Kahn style industrial building that anchors the site. The 60,000 square foot building was used to power the sprawling Hiram Walker Distillery when it was first constructed in 1911. It is listed on the municipal heritage register, but is not yet designated. The Walker Power Building is surrounded by empty lots on it's east, south, and west sides. These gaps and openings in the urban plan are where more modest records of urban history can be found. In the built environment, as Francoise Choay points out, there

are no voids that do not indicate meaningful annals of micro-history: "All non-built areas are nonetheless signifying elements."[3] The gap to the south was once the location of the Pere Marquette rail station with its rail lines coming in from the east. A concrete pad on the site covers the last remnants of the train station. To the west the open space marks the place where the Peabody factory that abutted the Walker Power Building stood. The Peabody factory was demolished in 1985 after hosting many companies and associations over the years. The northern border of the site is constrained by Riverside Drive, a busy transportation artery within the city. Behind the Drive, Hiram Walker's white grain silos still tower. These distinct attributes of the site offer great opportunities for innovation and adaptive reuse of the Walker Power Building as a post-industrial building. Furthermore, the site merits redevelopment strategies that are more appropriate to the unique character of Windsor's industrial past than other nearby developments have been to date.

Assets and Constraints

In addition to its waterfront location, direct connection to downtown, and the existing heritage building, the site has many assets in the form established neighborhoods and community centers nearby. Wyandotte Avenue is a flourishing commercial strip in the vicinity with a variety of heritage buildings, many of which are prime real estate for small businesses. Within a block of the site there is also a Via Rail station and several public transit stops that service the neighbourhood. There are various large parking lots within a five-minute walk of the site as well as street parking that allows for the minimal parking required by the site (fig. 47).

Another major asset is the proximity to adjacent industrial heritage buildings of the Hiram Walker complex; and a little further to the east, the heritage designated Ford Powerhouse, also designed by Albert Kahn, and the Ford Plant Revitalization Project. A further phase of the Central Riverfront Plan could therefore connect these sites to the Great Western Park, while encouraging the eastern section to capitalize on existing industrial heritage in the form of revitalization rather than erasure of these artifacts at the end of their functional lives.

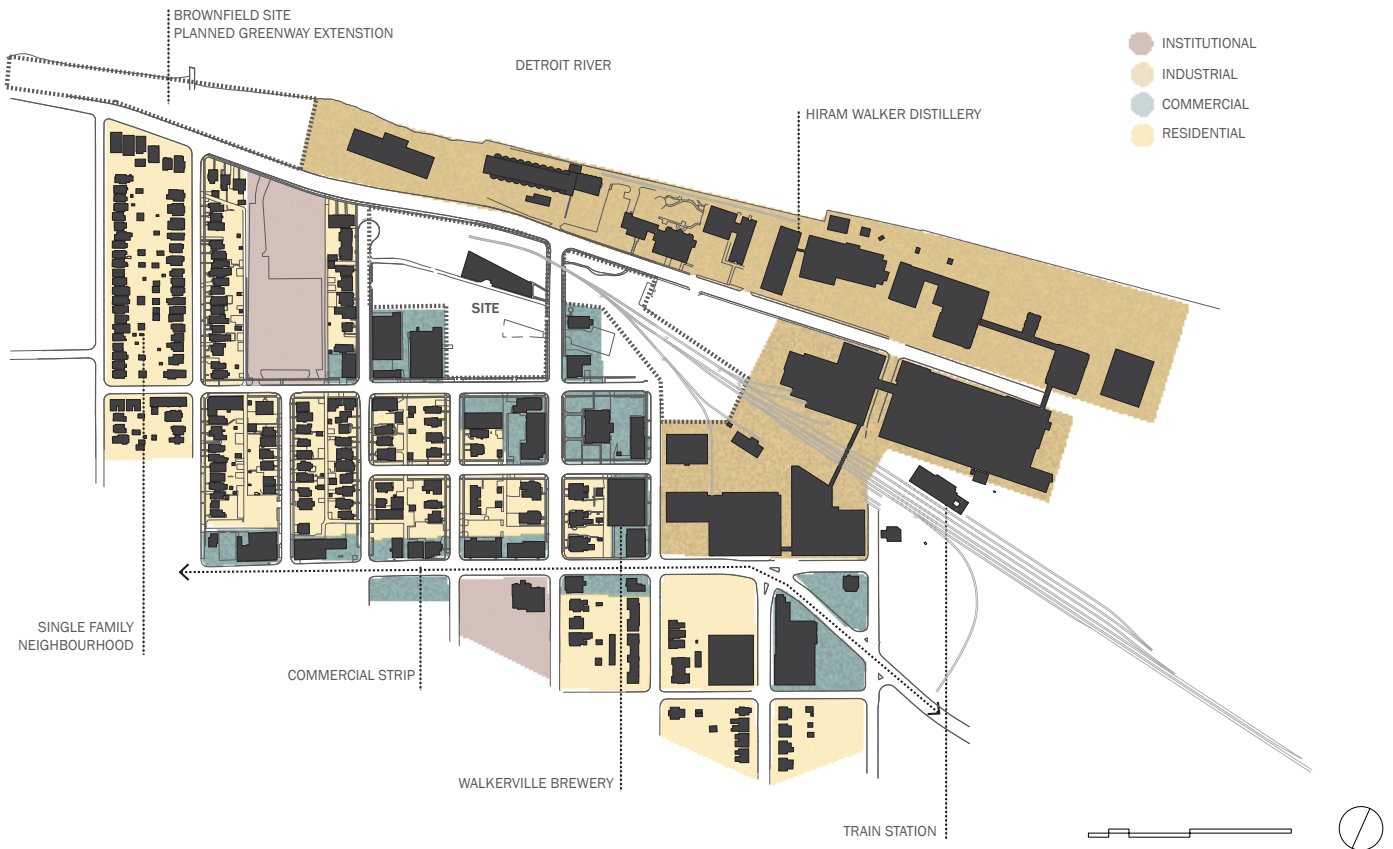3   Da Costa Meyer, *The Place in Place of Memory,* 183

Fig. 48 - Land Use and Assets
(2015). [digital image]. By Author.

A major constraint is Riverside Drive, which severs the site from the existing greenway. A strategy to bridge the northwestern portion of the site with the Walker Power Building so that traffic flow is uninterrupted and pedestrians can cross safely will be considered below.

Forming

For this site and program I chose to preserve and accentuate the form of the original building as much as possible, not only for the economic benefit but also as an homage for its former use. The architectural approach to designing with the existing structure for this particular project draws on the horticultural technique of grafting where tissues from one plant are inserted into those of another to encourage new growth (fig.49). This strategy is intended to "lightly touch" the original structure so that it remains completely legible. The existing building is the carrier of memories and emotions and the new addition provides new sensibilities and relevance for the existing structure, which it reanimates and revivifies. This strategy reclaims the hidden value of the old building and re-presents it as a living contemporary object.

A dialogue is thus created between the old and new structures through massing and form (fig. 50). The palimpsest of the former Peabody building logically informs the siting and volumetrically gives a modular framework for the new form. The new volume is offset from the existing structure and rotated to align with the street axis, creating a courtyard condition that further distinguishes the new from the old. This creates a pavilion condition that houses the large copper vats of the brewery and highlights the processing of the product. Selectively subtracting the modular bays creates a continuous open space that increases daylight exposure and views between the old building and the new pavilion. It also creates a spectacular space for the centerpiece of the new brewery: the bar and tasting room. Selectively adding to the southern façade extenuates the entrance and creates continuity between the new and the old.

The addition of the new grafted objects offers a clear and simple exterior gesture: a 'green' veil. Contemporary construction materials are placed in contrast to the aged surfaces of the building to provide a rich and evocative palette that neither new nor old could easily achieve on its own. New surfaces are designed to support the production of hops; and the hops in turn create a second skin for the building that is its identifying feature. The intention of the veil is to create an ephemeral feature where users and visitors of the building are reminded of the passage of time and of the seasons.

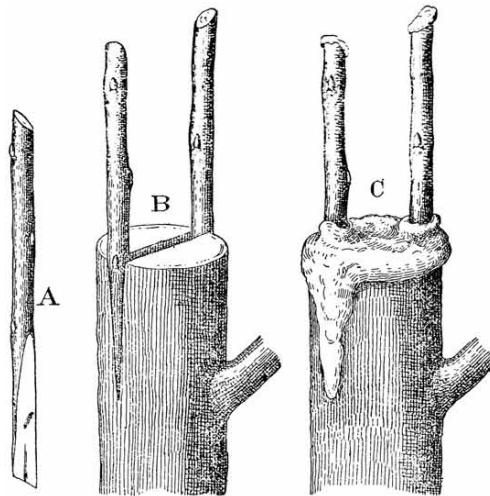The reuse of existing structures and materials also has economic benefits. The more that

Fig. 49 - Cleft Grafting
*Retrieved from http://etc.usf.edu/clipart/23600/23677/cleft_graft_23677.htm*

existing structures are reutilized the more natural resources and energy are saved. The embodied energy of a site means less energy is spent on demolition, and on disposing of building waste, as well as less energy spent on new building materials and construction.

Reconnect, Reclaim and Remediate

To reclaim the industrial identity of the site from a "waste landscape" into a compelling site for brewing, the intervention relies on the character of the industrial sublime through the juxtaposition of vast agrarian landscapes and the massive factory aesthetic. The remediation of the surrounding landscape is an exercise in demonstrating how an agricultural landscape can become part of the urbanized environment, and how cultural identity and collective memory can be created through an ordinary productive landscape. The concept therefore ties in the new program of a brewery, and brewery crop production with the historical use of the site as French ribbon farms. The planting scheme will use crops related to brewing and distilling
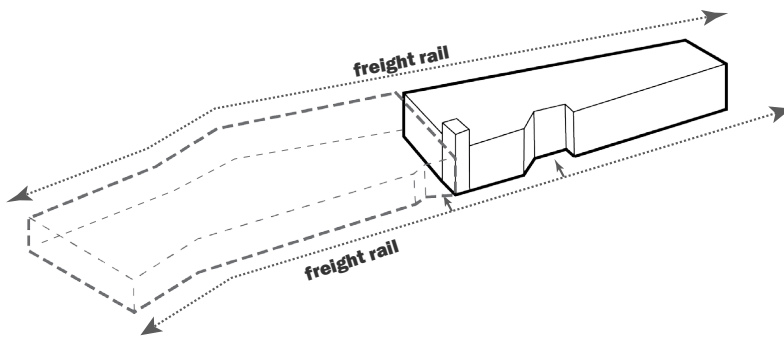
The former Peabody factory building was once abutted to the Walker Power Building, both constructed in the modular Kahn industrial typology. The irregular shape of original building was informed by the railway lines that enclosed the site.
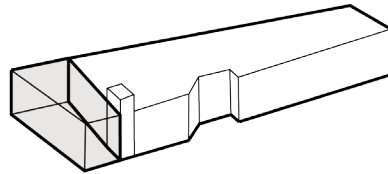
The palimpsest logically informs the siting and volumetrically gives a modular framework to the new form. These cues initiate a dialogue between the new and old architectures through a familiar form.
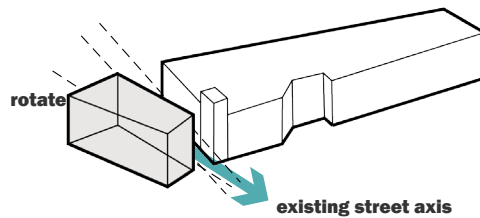
The new architecture is offset from the existing building and rotated to align with an existing street axis. The move establishes a connection to the existing city fabric and distinguishes the new object from the old.

Fig. 50 - Forming
(2015). [digital image]. By Author.

Selectively subtracting modular bays creates a continuous open space that increases daylight exposure and views between the architectural objects. The addition creates a clear entrance to the building
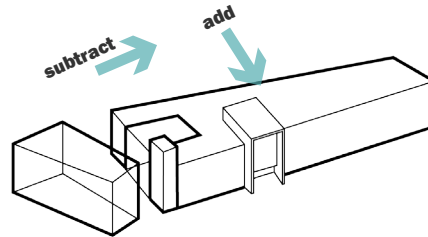
Light contemporary materials - like channel glass - contrasts the old and highlights material advances. To mitigate sun explore a veil of translucent channel glass wraps the new architecture.
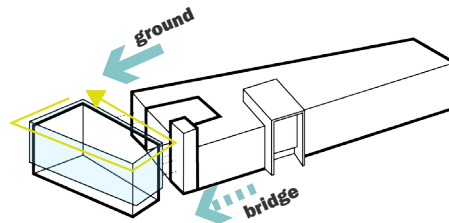
The veil supports an ephemeral screen of hops, a climbing plant primarily used as a flavoring and stability agent in beer. The additional layer acts to coalesce the landscape and new architecture. Functionally, it acts to cool the facade in the summer.

LEVEL **4**

LEVEL **3**

LEVEL **2**

LEVEL **1**
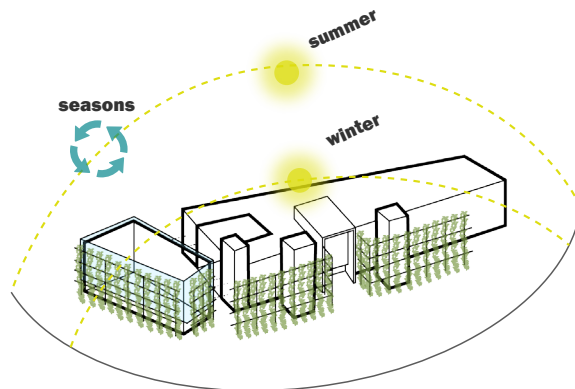
Fig. 51 - Exploded axonometric showing user groups
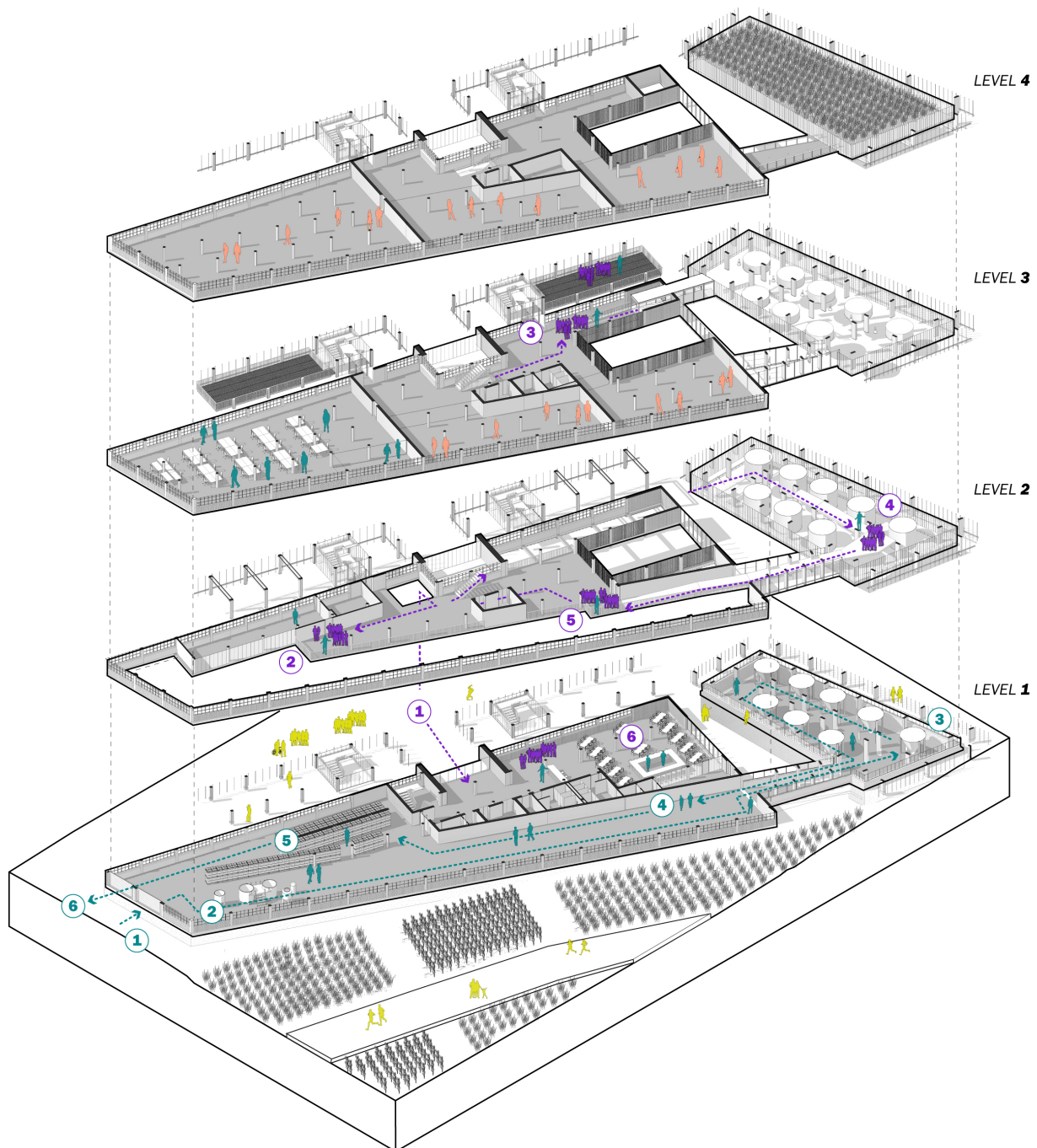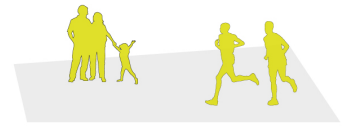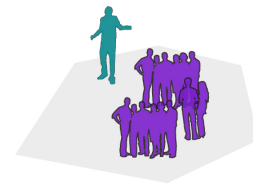*(2015). [digital image]. By Author.*
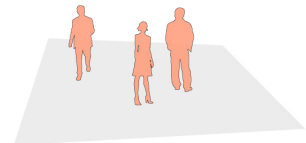
Public Space Users

Brewery Tour Group

Brewery Employees

Leased Business Space Employees

(1) *Entrance + Reception.*

(2) *To begin the tour the group is lead up to the mezzanine level where they can overlook the brewhouse. The group is also able to see where the bottles and kegs are stored before they are picked up for delivery. Adjacent on the mezzanine the group can peek into the lab, where the quality of the product is controlled.*

(3) *From the mezzanine the group is lead up to the third level where they have an excellent view of the grain fields + new public space from the outdoor platform before they are lead down the ramped catwalk...*

(4) *...into the cold processing pavillion where the brew is cooled and sent off to fermented + conditioned.*

(5) *Continuing down the ramped catwalk the group is lead back down to the mezzanine level where the brew is ready to be bottled and canned. Back on the second level the group is brought to the brewery store where the beer and other products can be purchased.*

(6) *The tour concludes in the bar and tasting room that doubles as an event space and has views into the cold processing area across the outdoor courtyard.*

(1) *Grains are delivered and stored in our large silo before they are processed in the mill.*

(2) *The first processing area is called the brewhouse where the grains are milled and the brewing water is prepared before they are combined in the mashing and brewing tanks. The product is then sent by pipes to...*

(3) *...the second processing area called the cold processing pavillion where the brew is cooled and sent off to frement in large tanks and then sent for conditioning.*

(4) *The conditioned producted in sent to the bottle and canning area where the product is prepared for consumption.*

(5) *Bottle, keg and general storage area.*

(6) *Service and delivery bays.*

remediate the soil, while fulfilling its new role as an environment for recreation. Barley, wheat and rye crops will be planted in a series of gardens fields, each with their own character, associated with vastness and scale. The gardens are designed to raise awareness of land and farming amongst city dwellers, and seek to demonstrate how an inexpensive and productive agricultural landscape can become, through careful design and management, a fascinating and usable space.

Perhaps the most captivating crop related to the production of brewing is the hop plant with its soaring verticality that can reach great heights. The proposal introduces this vegetation as a material for a dramatic spatial construction in two unique applications. The first is in the form of a plaza, the main entrance to the site. Here the hops are grown around a series of circular follies, reminiscent of the adjacent grain silos. The hop follies become a forest that users can weave around and within. The scale of the vegetation and the unique arrangement and beauty of these productive crops creates a sense of awe.

The second application is a screen on the south side of the existing building that extends around the new addition. As the dense vertical hops grow and extend up the screen, the sight of the heritage building and its new addition are obstructed from the primary perspective. When the growing season concludes the buildings reappear allowing for the circular time of the seasons to be experienced. The hop screen also acts as a living wall that provides a thermal barrier, reducing the overall temperature of the building in the summer. The intensity and characteristics of the quality of light, especially in the translucent brewing pavilion, change as the hops grow to full height, providing spectacular shading within. It therefore proposes an alternative to traditional green walls that are not suited for the climate of the region.

Reclamation of the site also involves creating a physical connection to the river and recreational paths that tie into the Great Western Park. The connection prioritizes pedestrian movement at ground level, so rather than bridging over the existing roadway, the roadway appears to pass underneath the pedestrian connection. As visitors approach the site they encounter the sheer scale of production. Linearity and scale shape the manufactured landscape, offering framed views of the building.

The bioremediation of a site can include one or more of several standard methods. The most typical method includes removing all contaminated soil, sending it to a landfill or toxic waste site and replacing it with new clean soil. However, removing contaminates does not solve the larger problem of pollution, since current methods of clean up merely move the polluted material elsewhere. Another option is to cover the polluted soil completely, typically with pavement or concrete, to prevent human contact with any toxic materials. Both of these solutions are quick fixes that do not consider the long-term issues. These solutions do not reduce the pollutants or keep them from leeching into ground water and affecting surrounding ecosystems, including human habitats. This is why I have selected a time-based strategy for remediation. The long-term solution proposed here uses phytoremediation facilitated by the hearty roots of the crops as a time based strategies for remediation. Phytoremediation involves filtering water through a mass of roots to remove toxic substances or excess nutrients. The path to remediation therefore involves several cycles of harvest. However, this is beneficial since it is a treatment method that may be conducted in situ, with plants being grown directly in the contaminated soils. This is also a relatively inexpensive procedure with low capital and operational costs. After harvesting, the crop may be converted to biofuel briquette, a substitute for fossil fuel.

A Model for Industry

Many North American cities that developed around blocks of industry are taking the steps to reclaim these now post-industrial sites. Industry was the backbone of the City of Windsor's development and it is important that the redevelopment process take into consideration the reuse and conservation of the regions industrial heritage and the character of the place. The role of architecture vis-à-vis industry now, should be a provocative effort to resolve the negative effects of industry and connotations of the post-industrial site. By retaining the artifacts left by industry, and transforming its sites into centers of activity the existing perception of an area can be altered while maintaining a link to the past. In Detroit, the restoration of the Ford Rouge Center transformed the historic manufacturing complex into a model of twenty-first century industrial sustainability. The project relied on landscape-based infrastructure to clean up toxic storm water and meet new water quality mandates from the US Environmental

Fig. 52 - Site Plan
(2015). [digital image]. By Author.

Northern Entrance
to brewery
(fig. 67)

section through board walk,
grain fields & urban orchard
(fig. 54)

green veil
(fig. 58)

Southern entrance
to Brewery
(fig. 67)

Pere Marquette
Foundation Garden
(fig. 61)

Oast Houses
& red maple allée
(fig. 63)

Constructed
Wetland
(fig. 55)

Hop follies, front plaza
(fig. 59-60)
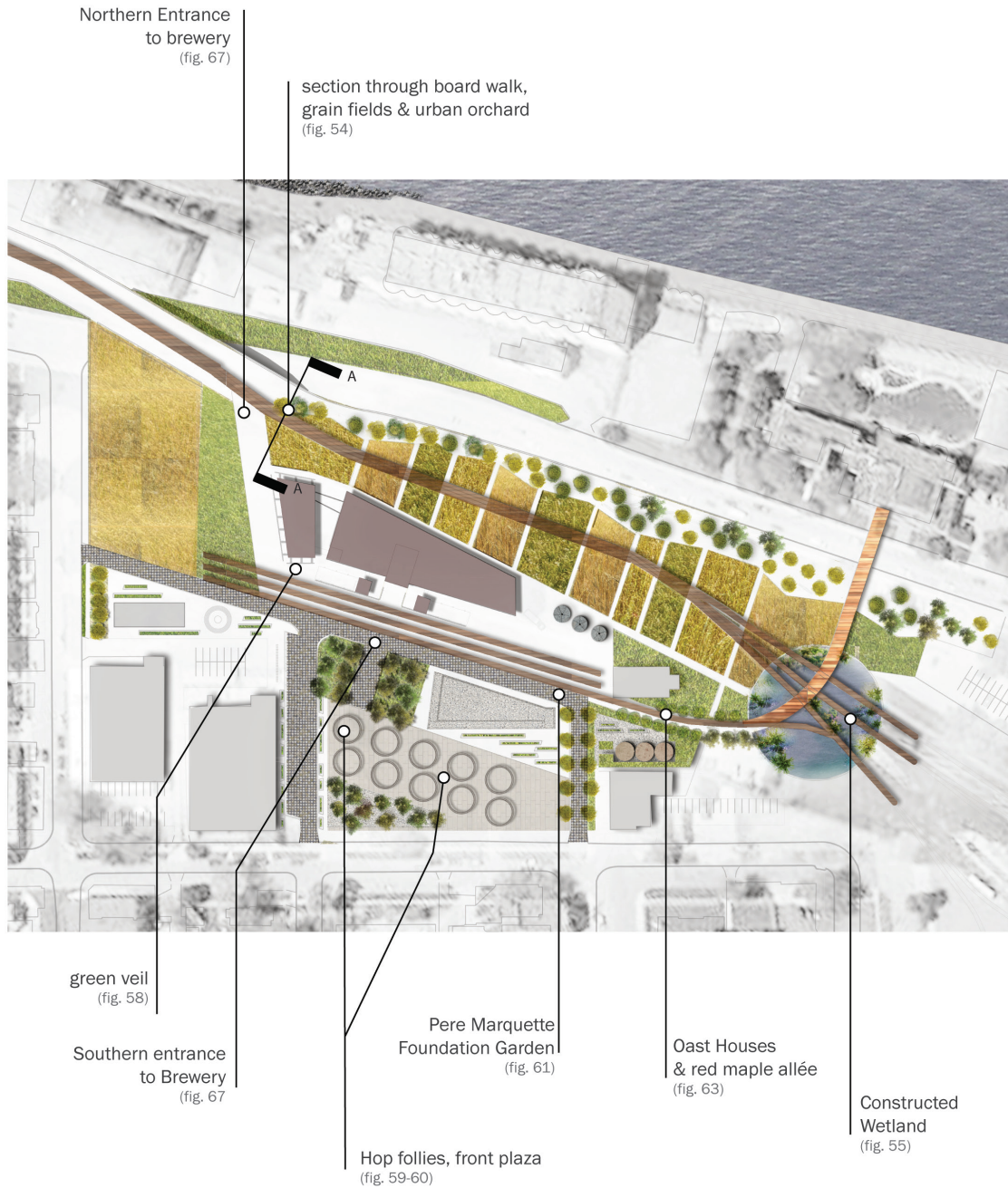
Fig. 53 - Enlarged Site Plan
(2015). [digital image]. By Author.

Sidewalk is expanded and paved with a porous pavement material made from recycled tires and planted with native Sassafras trees selected for their showy bloom and other properties.

Existing rail right of way planted with grain fields for phytoremeditation

Former rail line connects to existing greenway

Lighting is integrated in seating

Existing road is regraded to allow for greenway connection to continue at grade.
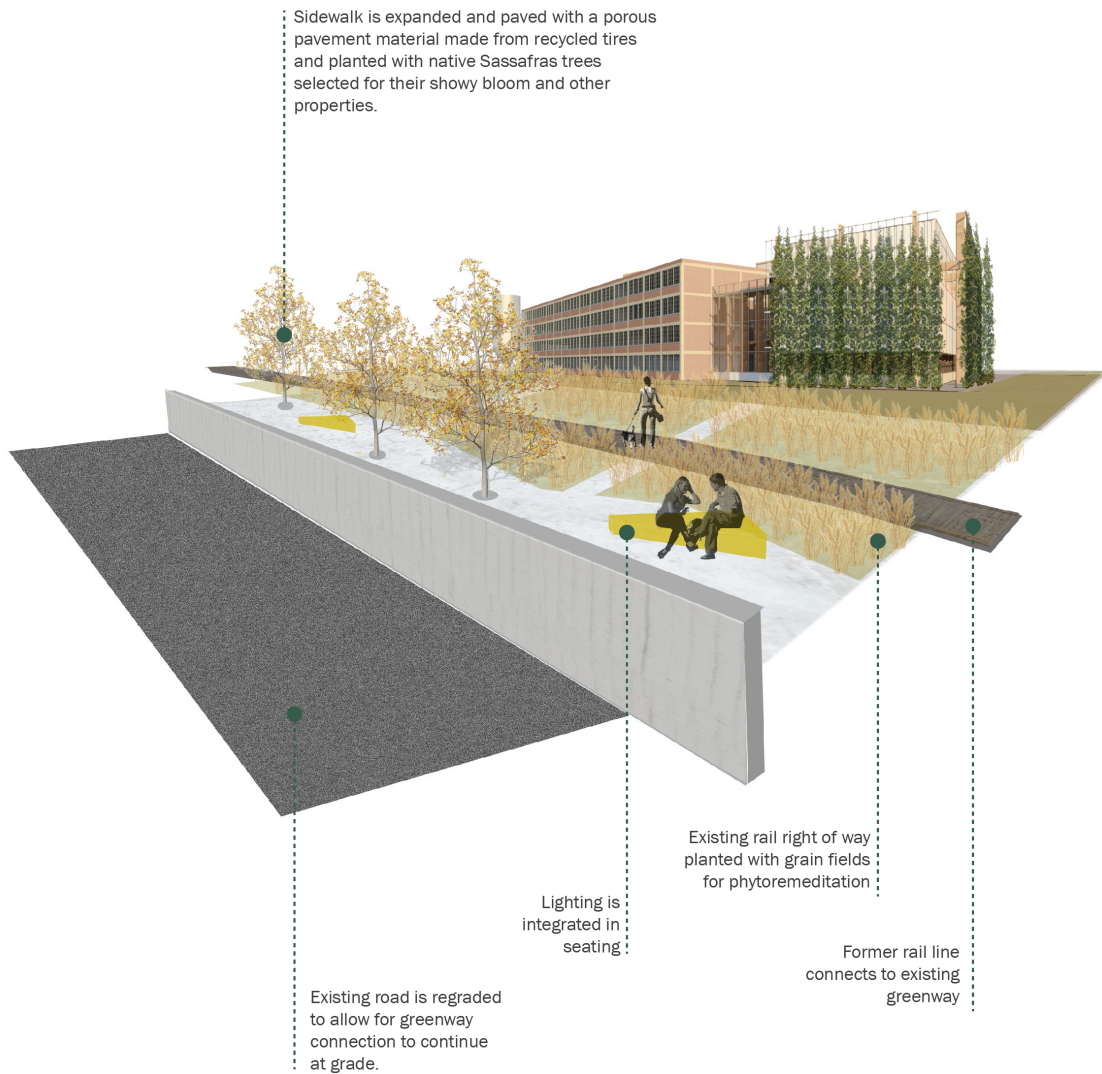
Fig. 54 - Section a-a through boardwalk, grain fields & urban orchard - Site as remediation tool diagram (2015). [digital image]. By Author.

Fig. 55 - Constructed Wetland
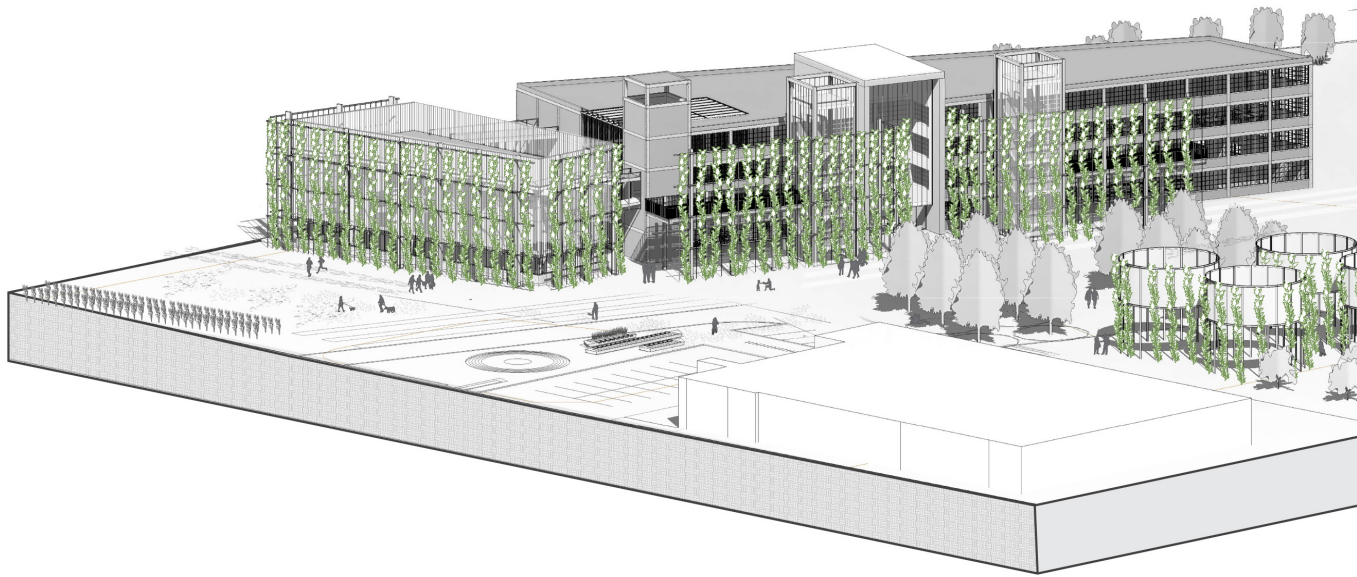*(2015). [digital image]. By Author.*

Fig. 56 - Digital Site Model looking North-east
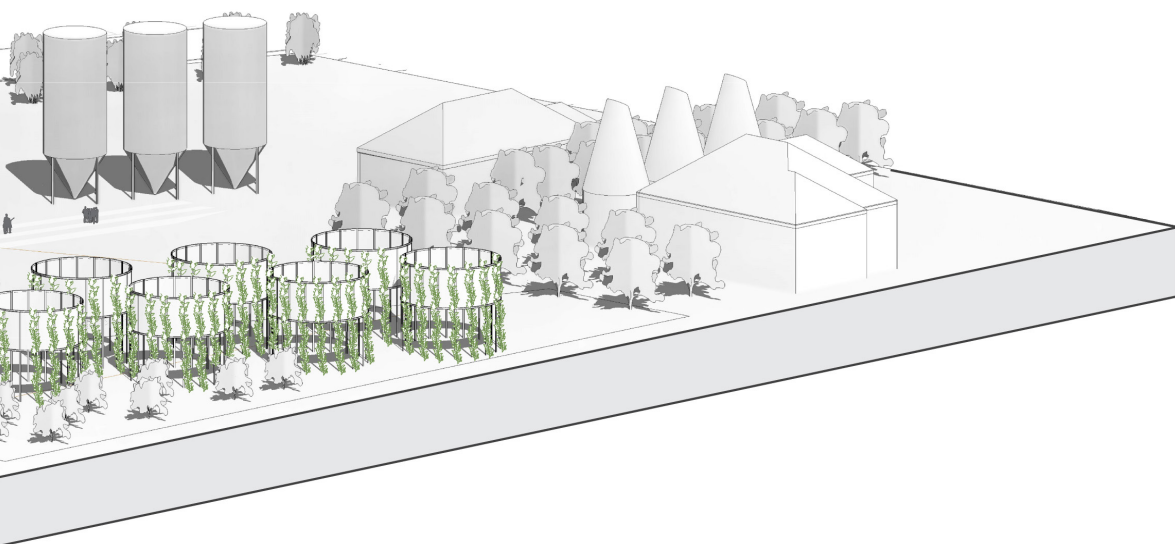*(2015). [digital image]. By Author.*

Fig. 57 - Brewery Entry, summer
(2015). [digital image]. By Author.

Protection Agency (EPA). The project transformed the surrounding landscape into a system of wet meadow gardens and retrofitted the roof to make it North America's largest living roof. In so doing, it created a dynamic ecosystem, which is sustained around the manufacturing process. This type of greening of industry has introduced ecological diversity back into the site as well as invited the general public to experience its surrounding gardens.

Theoretically, for the prototype for a factory building any program is conceivable. However, some uses are more acceptable or more appropriate when considering a specific site. Moreover, there are several types of possible interventions, such as weaving, grafting, and juxtapositions, so the decisions made should be based both on what is appropriate for a certain site or program, as well as the architectural intentions behind those choices.

The design strives to put forth a conceptual approach for the site which goes beyond its evident heritage values to encompass ideas of growth and renewal focused on the Walker Power Building as a site that will become a model for industrial and cultural sustainability. A multi-use program was chosen as an appropriate and necessary resource for the neighborhood. The program is therefore a combination of a new industrial use, an operational micro-brewery, along with commercial and public amenities that will encourage ecological and cultural diversity on the site. The brewery program is well situated to this site, adjacent the Hiram Walker Distillery, and will support and complement the existing tourism industry.

Maintaining Collective Memory

References to the past add to the overall experience of a place whether they are subliminal as in the reference to the ribbon farms or physical reminders such as the adaptive reuse of the factory building or maintained traces of the rail line. The perspective of the factory building within an agrarian setting creates an unusual environment of human intervention that offers a transformative experience that future generations can reflect upon.

Fig. 58 - Looking at green veil
(2015). [digital image]. By Author.

Fig. 59 - Around Hop Follies
(2015). [digital image]. By Author.

Fig. 60 - Within Hop Follies
(2015). [digital image]. By Author.

Fig. 61 - Pere Marquette Foundation Garden
(2015). [digital image]. By Author.

Fig. 62 - Pere Marquette Foundation Garden - wedding procession
(2015). [digital image]. By Author.

Fig. 63 - Oast Houses and red maple allée
(2015). [digital image]. By Author.

N-S

E-W

COLD
PROCESS
AREA

E-W Section
(fig. 63)

E-W

N-S Section
(fig. 62)

N-S

BOTTLE & PACKAGING

BAR

BREWHOUSE

ENTRANCE

KEG + BOTTLE
STORAGE

5   20

5   20
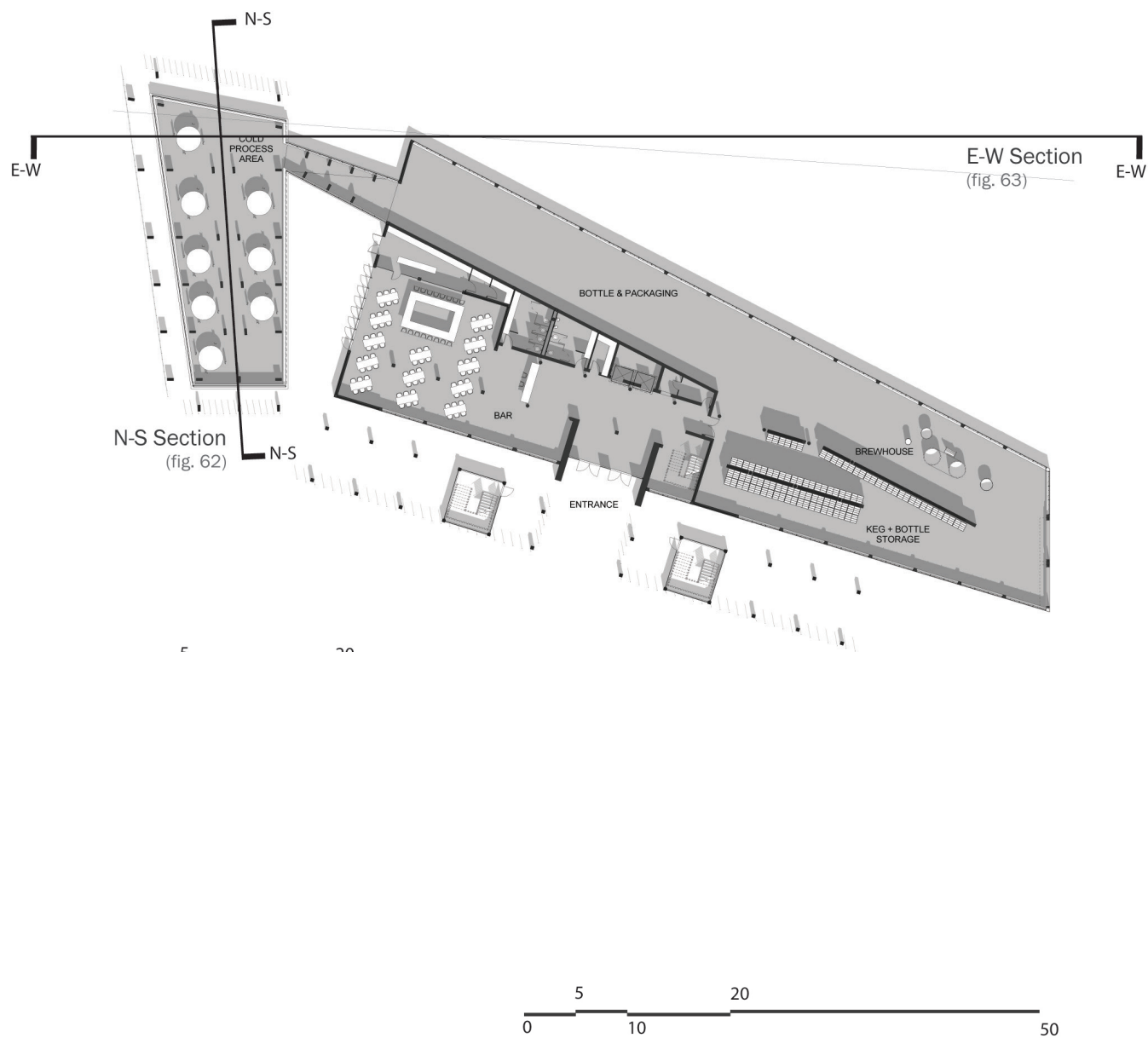0   10   50
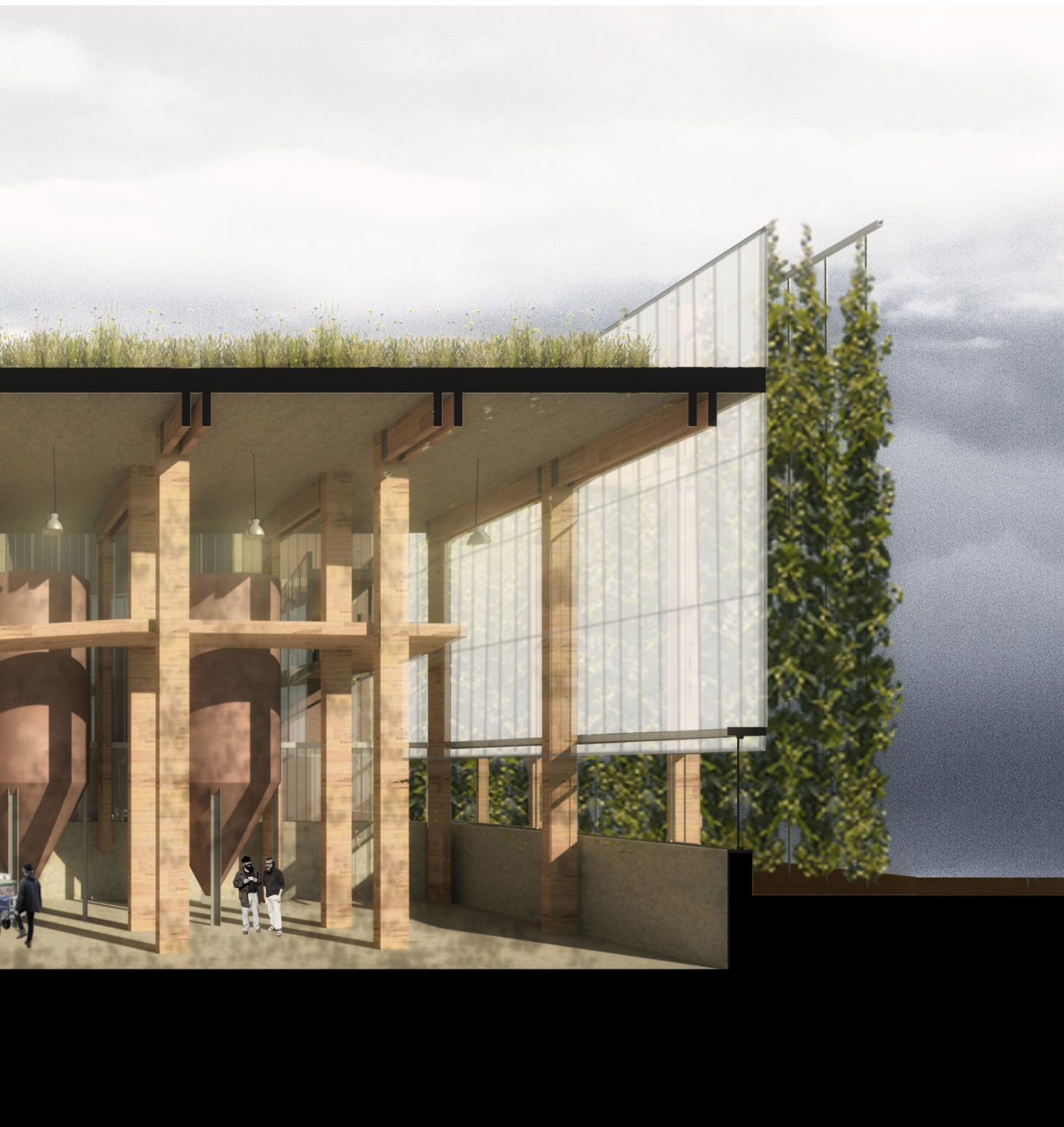
Fig. 64 - Ground Floor Plan
(2015). [digital image]. By Author.

Fig. 65 - N-S Section through Pavilion with Green Veil (looking east)
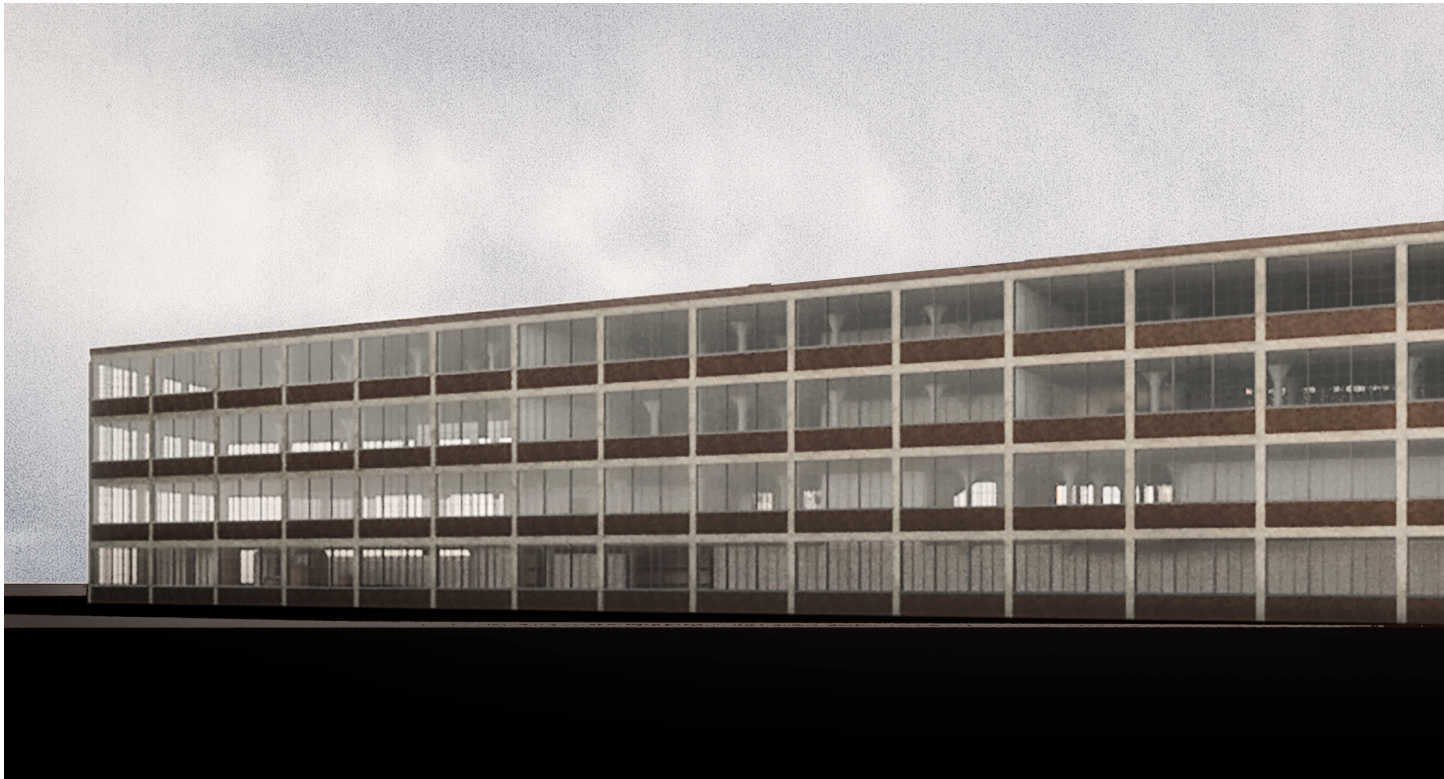*(2015). [digital image]. By Author.*

Fig. 66 - E-W Section through Pavilion with Green Veil (looking south)
(2015). [digital image]. By Author.

Fig. 67 - Northern entry to brewery - winter
(2015). [digital image]. By Author.

Fig. 68 - Interior View - Brewery Bar and Tasting Room
(2015). [digital image]. By Author.

<u>06</u> Conclusion

This thesis has argued that the post-industrial artifacts of Windsor's auto-manufacturing and distilling past, and their surrounding landscapes are worth conserving. I have shown through selected case studies that adaptive reuse of industrial heritage structures in an urban context, and the reimaging of their surrounding infrastructure, are conserved as an homage to the past, are a catalyst in the present, and offer long-term repurposing strategy for the future. Redevelopments like the Emsher Park System and Evergreen Brick Works have been used to reconnect post-industrial sites back into the active urban environment, remediate surrounding landscapes and maintain the industrial identity of the place.

For the specific proposal, the opportunity for industrial heritage to serve as a cultural resource maintains the industrial character of the place that is unique to the context of the post-industrial of Windsor and specifically the neighbourhood of Walkerville, who's identity is firmly tied to its manufacturing legacy. The industrial relics in places like Windsor and Detroit continue to be demolished or allowed to deteriorate in a landscape quickly succumbing to natural succession. By erasing these structures, this thesis argued that we miss out on the opportunity to capitalize on architecture and landscape as cultural resources for collective memory.   Without the visual cues to the past, I have argued that the collective memory of the people of the area cannot endure. The intervention relies on the character of the "industrial sublime" that highlights the scale and monumentality of early twentieth century industry that is the identity of the Detroit-Windsor region and reinterprets it through compositional strategies, materials and form, and through the re-imagining of the classic Garden City principals of marriage of town and country.

In chapter two, "Manufactured Landscapes" defined and contextualized the term in relation to adaptive reuse and the proposal from the perspective of Canadian photographer Edward Burtynsky who photographed large-scale landscapes provoke his audience to contemplate postmodern humanity's global situation of production and consumption and who considers the manufactured landscape as a naturally occurring setting in nature. In this chapter I inves-

tigated into the development of industrialism and the early architectural response, specifically in the form of city planning. I explained the notion of the sublime in industry in the full Kantian meaning of the term and how this notion has transformed from when the industry was new to its current state of detritus. Finally, I unpacked the development of post-industrialism and explored in the form of case studies how post-industrial sites are being redeveloped into active public spaces that sustain the area's identity.

In Chapter 3 I described the connection between the terms 'collective memory' and 'industrial heritage', and focused on the value associated with each term. I answered the question of what to keep when it comes to heritage conservation and why the industrial heritage of Walkerville, as a model garden city in Canada, is a significant cultural resource for the region and should be conserved.

To support these ideas, in chapter four I began to discuss how we got to the modern conservation movement and the state of the current preservation debate. I argued that progressive tendencies in recent decades has led to a broad range of design strategies for re-building with heritage structures.

The final chapter introduced the proposal in the neighbourhood of Walkerville. The selected site was utilized to demonstrate how concepts discussed in previous chapters would be applied in a way that is specific and contextually appropriate for the redevelopment of the neighbourhood, city and region within its given assets and constraints. I discussed my specific approach to forming a design with built heritage and how the opportunity to subliminally recall references to the heritage of the site fortifies the notion of collective memory. Finally, I went into depth about the three main objectives of the design proposal. First as a model for industry in an urban setting in the twenty-first century; second as scheme that reconnects to the urban environment, reclaims the identity of the place and remediates the surrounding landscape; and lastly how the proposal maintains the collective memory of the place and its people.

References to the past add to the overall experience of a place whether they are subliminal as in the reference to the ribbon farms or physical reminders such as the adaptive reuse of

the factory building or the traces of the former rail line. The perspective of the factory building within an agrarian setting creates an unusual environment of human intervention that offers a transformative experience. The textured surfaces change with seasons as the crops are planted, grown and harvested. The investigation of recent attitudes towards adaptive reuse of heritage buildings – and in particular to this thesis – old industrial buildings demonstrates a new attitude towards building with these structures that allows for new and old architecture to interact in.

The program of a brewery is a great opportunity to create a model for industry in the twenty-first century that transforms negative connotations into constructive parts of the public realm. The program does this by going beyond a private enterprise to include public amenity spaces in the form of passive recreational and gathering spaces for the public along the former rail line and adjacent open spaces. The program is site specific and as a heritage industry it considers the manufacturing identity of the place. The scale and monumentality of agricultural production necessary for the production of beer is the inspiration for the landscape strategy and is used didactically to demonstrate how an agricultural landscape can become part of the urbanized environment and how cultural identity can be created through an ordinary productive landscape.

"Human society and the beauty of nature are meant to be enjoyed together...the town is the symbol of society – of mutual help and friendly co-operation, of fatherhood, motherhood, brotherhood, sisterhood, of wide relations between man and man – of broad, expanding sympathies – of science, art, culture, religion. And the Country! The country is the symbol of god's love and care for man. All that we are and all that we have comes from it, and by it are we warmed and sheltered. On its bosom we rest. Its beauty is the inspiration of art, of music, of poetry. Its forces propel all the wheels of industry. It is the source of all health, all wealth, all knowledge. But its fullness of joy and wisdom has not revealed itself to man. Nor can it ever, so long as this unholy, unnatural separation of society and nature endures. Town and country must be married, and out of this joyous union will spring a new hope, a new life, a new civilization."[1]

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1   Howard, *Garden Cities of To-morrow*, 48

References

Albert Kahn Architect of Modern Times. Directed by Marcello Deiter. Germany: Dieter Marcello Projekt Film. 1993. Film. http://vimeo.com/89577085

The Architectural Conservatory of Ontario. 80 for 80: Celebrating 80 Years of the Architectural Conservancy of Ontario. Guelph, Ontario: Log Cabin Press, 2013.

Astrog Bollack, Francoise. Old Buildings, New Forms: New Directions in Architectural Transformations. New York, New York: Princeton Architectural Press, 2006.

Banham, Reyner. Theory and Design in the First Machine Age. 2nd ed. Cambridge,, Mass: MIT Press, 1980.

Berger, Allen. "Drosscapes" In The Landscape Urbanism Reader, 197-217. New York: Princeton Architectural Press, 2006.

Bloszies, Charles. Old Buildings, New Designs: Architectural Transformations. New York: Princeton Architectural Press, 2012.

Brook McIlroy Inc. + The MBTW Group,. 2000. Central Riverfront Implementation Plan. Windsor, Ontario: The City of Windsor. http://www.citywindsor.ca/residents/planning/Plans-and-Community-Information/Major-Projects/Central-Riverfront-Implementation-Plan/Pages/Central-Riverfront-Implementation-Plan.aspx.

"Definition of Collective Memory in English".Oxford Dictionary. Accessed March 23, 2015. http://www.oxforddictionaries.com/definition/english/collective-memory?q=collective+memory

"The Detroit River – A Canadian Heritage River." Essex Region Conservation Authority. Accessed February 8, 2015. http://erca.org/about-erca/the-detroit-river-a-canadian-heritage-river/

"Friends of Gas Works Park." Accessed September 22, 2015. http://fogwp.org/.

Halbwachs, Maurice, and Lewis A. Coser. On Collective Memory. Chicago: University of Chicago Press, 1992.

Hildebrand, Grant. Designing for Industry: The Architecture of Albert Kahn. Cambridge, Mass.: MIT Press, 1974.

Howard, Ebenezer. Garden Cities of To-morrow. London: Farber, 1965.

Jokilehto, Jukka. A History of Architectural Conservation. Oxford, England: Butterworth-Heinemann, 1999.

Kant, Immanuel. Observations on the Feeling of the Beautiful and Sublime. Translated by John Turner Goldthwait. 2nd ed. Berkley: University of California Press, 2003

"Landschaftspark Duisburg-Nord - International Exhibition Emscher Park (IBA)." Landschaftspark Duisburg-Nord - International Exhibition Emscher Park (IBA). Accessed March 20, 2015. http://en.landschaftspark.de/the-park/evolution/iba.

Le Corbusier. When the Cathedrals Were White. New York: McGraw-Hill Book Company, 1947.

Lobko, Joe. "Toronto Brownfield Redux." Lecture, ICOMOS Symposium, Paris, January 1, 2011.

Marcello, D. (1996). Albert Kahn Architect of Modern Times. Germany: Dieter Marcello Projekt + Film. http://vimeo.com/89577085

Marx, Leo. The Machine in the Garden: Technology and the Pastoral Ideal in America. New York: Oxford University Press, 1964.

Michael, Vince. "Why Preserve." Vince Michael. http://www.vincemichael.com/.

Morgan, Carl. Birth of a City. Windsor: Border Press, 1991.

Nora, Pierre. "Between Memory and History: Les Lieux De Memoire." Representation, no. 26 (1989): 7-24.
http://www.jstor.org/stable/2928520

Pauli, Lori. Manufactured Landscapes: The Photographs of Edward Burtynsky. Ottawa: The National Gallery of Canada, 2003

"The Place in Place of Memory." In Spatial Recall: Memory in Architecture and Landscape, edited by Marc Treib, by Ester Da Costa Meyer. New York: Routledge, 2009.

Price, Trevor, and Larry Kulisck. Windsor 1892-1992: A Centennial Celebration. Windsor, Ontario: Chambers Publications, 1992.

RCI Consulting,. 2010. Brownfield Redevelopment Strategy & Community Improvement Plan. Windsor, Ontario: The City of Windsor. http://www.citywindsor.ca/residents/planning/Plans-and-Community-Information/Know-Your-Community/Community-Improvement/Pages/Brownfield-Redevelopment-Community-Improvement-Plan.aspx.

"Rehabiliation Standards and Guidelines—Technical Preservation Services, National Park Service." National Parks Service. Accessed March 23, 2015. http://www.nps.gov/tps/standards/rehabilitation.htm.
Rossi, Aldo, and Peter Eisenman. The Architecture of the City. Cambridge, Mass.: MIT Press, 1982.

"Tangible Cultural Heritage | United Nations Educational, Scientific and Cultural Organization." Access March 24, 2015. http://www.unesco.org/new/en/cairo/culture/tangible-cultural-heritage/.

Thompson, Carolyn. 2015. 'Windsor Has Been Canada's Most Unemployed City For More Than Five Years'. The Windsor Star. http://windsorstar.com/business/windsor-unemployment-rate-falls-to-8-9-per-cent.

Treib, Marc. Spatial Recall: Memory in Architecture and Landscape. New York: Routledge, 2009
"Tony Garnier: Une Cite Industrielle (1917)" . Last modified November 15, 2010. http://architectureandurbanism.blogspot.ca/2010/11/tony-garnier-une-cite-industrielle-1917.html.

Veysey, Laurence. "A Postmortem on Daniel Bell's Postindustrialism." American Quarterly 34, no. 1 (1982): 49-69. http://www.jstor.org/stable/2712790

"What Are Cultural Resources?" New York State Museum. Accessed September 12, 2015. https://www.nysm.nysed.gov/research/anthropology/crsp/crm_faq.html.

"World Heritage Site Zollverein." European Route of Industrial Heritage. Accessed March 18, 2015. http://www.erih.net/nc/anchor-points/germany/detail.html?user_erihobjects_pi2[pointer]=0&user_erihobjects_pi2[mode]=1&user_erihobjects_pi2[showUid]=15343&user_erihobjects_pi2[country]=1&user_erihobjects_pi2[regionalroute]=0&user_erihob