INDUSTRIAL ARCHAEOLOGY AS URBAN INFORMER:

The Wellington Destructor

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ABSTRACT

The city identity, city image and the recognition of its industrial past are at question in a quickly developing post-industrial urban context. The voices of industrial archaeology, of obsolete infrastructure, of unintended industrial monument in dialogue between fast developing new urban and past locus are all ingrained in the city's memory. This urban discourse, if allowed to happen, will inform the development of contemporary urban fabric. It is vital that continuity of the built environment structures the contemporary post-industrial city identity

This thesis engages with the Industrial artifact of the Wellington Destructor and suggests a conservation strategy for the obsolete and abundant industrial built artifact that will inspire new development and integrate within the masterplan. It will activate city's past and future dialogue and it will inform the emerging urban development while preserving the continuity of urban heritage with industrial past. Industrial Archaeology becomes agent to changing urbanity.

ACKNOWLEDGMENT

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IN AVANTI

Throughout the years of engaging with the field of architecture and design, I have had a multitude of interests in this multifaceted discipline. Landscape architecture had always been an interest of mine, but I quickly realized that the scope of architecture does not end with a building's facade; it continues throughout cultural spaces. Another deep interest of mine is cultural heritage; the historical interest and nuances of built artifacts fulfils my deep-rooted curiosity.

The topic of my thesis derives from the merging of these various interests of mine and is inspired by the place I grew up, which I have seen undergo vast changes. Toronto's relatively young history of urbanity had resulted in cloudy ideas on where this region's historical locus lies.

I find Industrial Archaeology is a means to address this growing concern of locus in a quickly developing post-industrial area. The Toronto Waterfront, the Portland's, the Railway Corridor and other disused industrial sites are the future of Urban Development. The understanding this thesis provides regarding various loci will aid future urban change.

"For a couple of years now, I have been... bored and irritated, by the current course of architecture forcing people to be extravagant even if they don't want or need that. … I saw an opportunity to use preservation as an antidote to this, I made a commitment not to add anything new but to simply reinterpret" Rem Koolhaas, Interview, 2015

Rem Koolhaas' recent publication Preservation is Killing Us (2016) is a sharp turning point in his career, marking a shifting of focus from large-scale, lavish architectural projects to that of the preservation. It was a way to escape from 'grotesque, exaggerated form of involuntary newness' that plagued the architectural field with its preoccupation with the pursuit of 'instant icons'. Mark Wigley states *"It's no surprise*

that the architect who's done more than any other to address the intelligence deficit in our discipline has increasingly become a student of preservation," (Otero-Pailos, 2014). It is this turning point that created projects like the Fondazione Prada in southern Milan. Rem's push against the cultural norm persists even in the function of the exhibition spaces, straying away from white-washed walls in favor of architecture and material that interacts with exhibitions.

"Koolhaas made a name for himself denouncing contextualism and setting himself apart from other postmodernists...his turn to preservation is not a defeat but rather a retreat, a safe original point of departure for rethinking the question of contextualism in entirely different terms" (Otero-Pailos, 2016)

I introduce my thesis with Koolhaas' retreat into preservation because understanding the changing thought processes involved provides a current example of where architects and conservationists are not in opposition. Having a conservation strategy makes for a contextualized design that opens possibilities that a single extravagant building cannot offer.

Fig.1 *OMA's CCTV Building in 2012*
Fig.2 *Rem Koolhaus' Fondazione Prada*
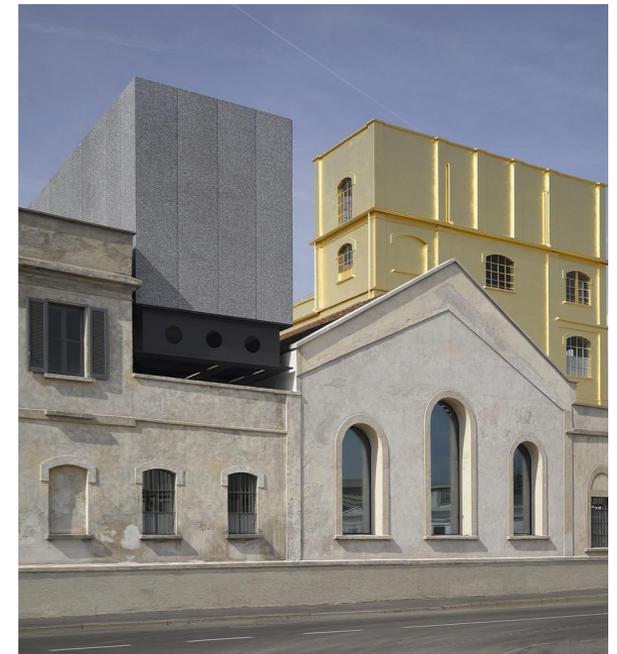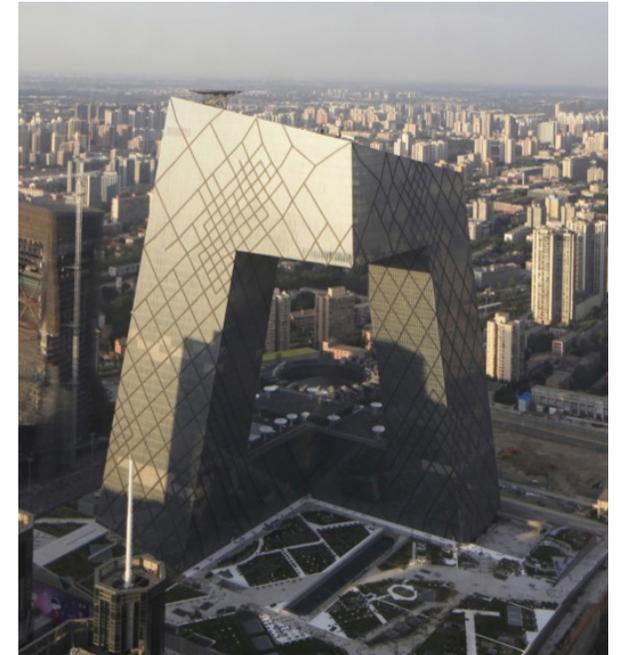
Industrial Archaeology As Urban Informer

1.1 INDUSTRIAL ARCHAEOLOGY

The industrial or infrastructural was always an underlay of our civilization: ensuring good sewage, proper drainage and access to resources is crucial in the establishment of human populations. Rome, for example, is well known for its ancient culture's engineering approach to city building. Unprecedented feats in engineering of roads, bridges, tunnels, sewers, and aqueducts allowed Roman civilization to flourish. Without the solutions that Roman engineers produced, urbanity in Rome would not have been conceived in the same way. These man-made structures in antiquity were simple in comparison to todays, but they were essential for urbanity to flourish.

Industrial Archaeology is a field of study concerned with investigating, surveying, recording and, in some cases with preserving industrial monuments. It aims, moreover, at assessing the significance of these monuments in the context of social and technological history. (R.A. Buchanan, from: Sande, 1978)

For some time now Americans have heard they live in a "post-industrial" age. Factories, mills, power plants, rail and highway grids that are, we are told, of the past, not the future. Yet it is the spread of industry that formed the whole order of our society from the beginning years" (Sande 1978, vii)

The establishment of infrastructural and the industrial-type architecture, although existing as a concept since antiquity, really took a foothold throughout the Industrial Revolution. Our modern concept of infrastructure arose in the machine age when advancements in technology allowed machines to do greater work. Machines in the Americas aided in establishing many settlements since the

locations of labour were in relation to where the machines were located. Whereas in the Old World civilizations developed over centuries, in the machine age, new settlements developed over decades. Machines and therefore industrial towns were located where there were energy, natural resources, and transportation.

Eric Arthur In Toronto: *No Mean City (2003)* describes 1855 Toronto as a "nice Georgian Town with an esplanade; still untouched by railways or industry." The term undefiled is appropriate given Arthur's subject matter in this book. Industry in many ways has a violent and marring effect on the land; places like Toronto are defined by such processes. Besides any visible surface archaeology. In industrial hotspots near waterfronts and railways, Toronto's soil has been stained with industry from the beginning days of the industrial revolution. Similarly, the shapes of rivers, valleys, and the initial city grid are still seen today. In the late 19th and 20th centuries, Industry left its impressions.

"It is clear to us that industrial sites, old and recent, are essential parts of American history. ....they need to be recorded, analyzed, and preserved as carefully as the ancient townsites, artworks and cathedrals of more traditional archaeology. (Sande 1978, p.vii)

Fig.3 *Aqua Claudia; (https://goo.gl/ToJKRt)*
Fig.4 *Toronto in 1893 (Barclay, Clark & Co. Bird's Eye View Chromolithograph, Toronto Archives)*

TORONTO, CANADA WEST.
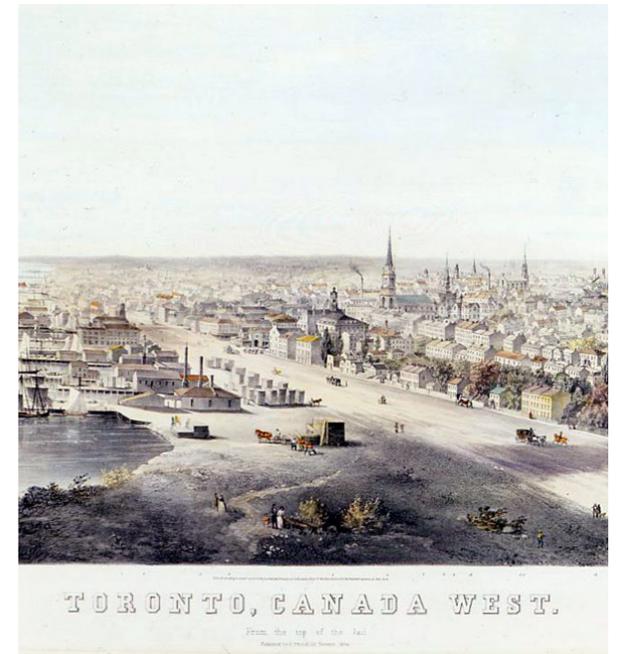
1.2 MODERN ORIGINS OF THE NORTH AMERICAN INDUSTRIAL VERNACULAR

Fig.5 *Roman Sewer System; a revolutionary infra-structure that underlays all urban centres today*

Fig.6 *Roman Aqueducts in Blue; an intrinsic engineering project of Ancient Rome*

Fig.7 *Property development types: 1915; (Toronto Archives Composite)*

In the Roots of Contemporary American Architecture (1952), Lewis Mumford sifts through the origins of the architecture on this continent. An imitation of European colonial values continued in the country until the culture started working within the nouveaux riches[1]. Disaffection with Europe happened with the horrible visions of new industrialization in the Old World. *"To soften the obvious barbarism of the new industrial towns, the genteel architects of the nineteenth century took refuge in the dead forms of earlier cultures."*

(1) Nouveaux Riches – the resources associated with the New World (North America); typically the large quantity of cheap material from an abundant land unaffected by millennia of human population.

(Mumford p7, 1952) In truth, the Americas did not have an architecture that was rooted in long human tradition as in Europe, and stylistically choose borrowed architectural forms.

Displayed are two examples in the Southern Ontario Area. Campbell House in Toronto exemplifies North American architecture of the 19th century, where the Georgian style had been used to define an architecture of the region. The Toronto Power Generation Station in Niagara Falls is an example of the masking of the industrial with a façade. (A copy of the American Style Richardsonian Romanesque,

ROME INFRASTRUCTURE 200CE
AQUEDUCTS
SEWAGE LINES
RAILROAD

TORONTO INDUSTRIAL INFRASTRUCTURE 1900
FRESH WATER DISTRIBUTION
SEWAGE LINES
RAILROAD
INDUSTRY
OPEN GREEN SPACE
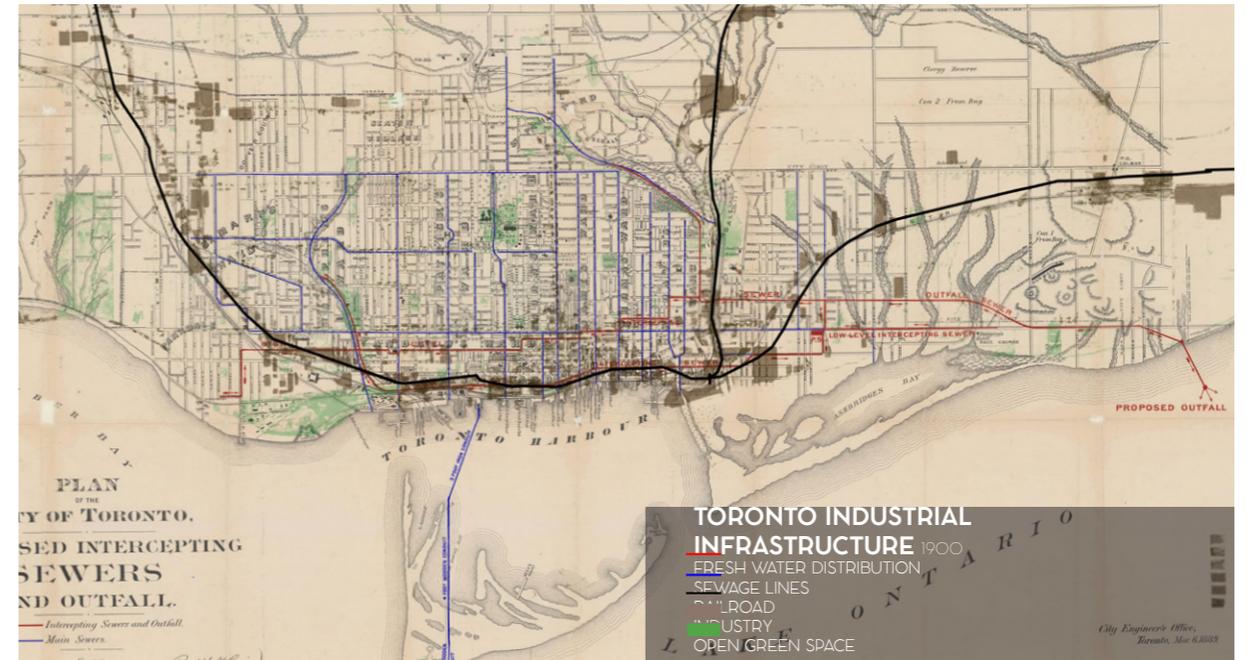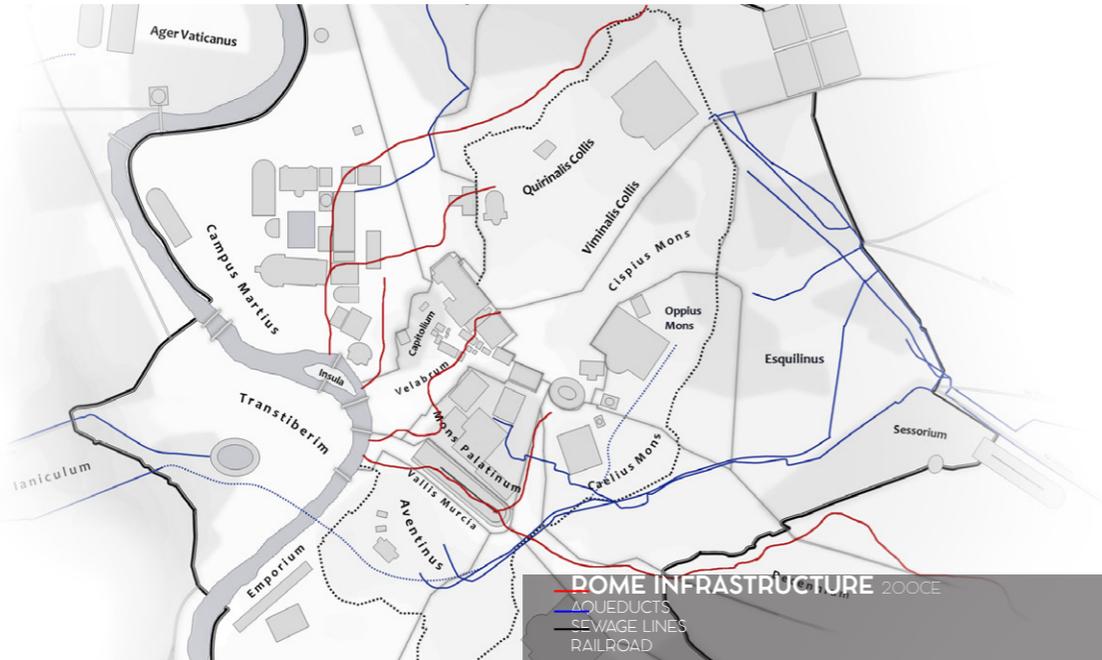
it borrowed it's the aesthetics of masking an interior industrial building from ancient Europe.)

The Americas presented a unique condition with their abundance of resources and undeveloped lands. From the 1840s to 1880, new practices would invigorate American architecture, "most shapely and delicately poised of the new forms, made the sensitive see that the new was not necessarily ugly, nor were the products of machine less beautiful in their own fashion than the more intricate forms of handicraft." These innovative technologies allowed the acceptance of not only a new aesthetic but a new way of thinking. In The Theory and Design in the First Machine Age, Rayner Banham uses the term 'machine aesthetic' to describe the concept behind machines designed for function without aesthetic clutter. Banham describes the leaps and bounds in Americas made in industrial factory architecture in the early 20th century.

"[Germany] was clearly advanced in Europe… But in the motherland of industry, in America, there exist great factory buildings whose majesty outdoes even the best German work of this order. The grain silos of Canada and South America, the coal bunkers of the leading railroads and the newest work halls of the North American industrial trusts, can bear comparison, in their overwhelming monumental power, with buildings of ancient Egypt." (Banham 1960, p80)

Lewis Mumford attempts to highlight the thought processes of the early 20th century. They were not merely the export of European architecture. Mumford implies that the early modern period was the start of what became a distinct North American architecture. The unique conditions of the Americas shaped a 'regional' architecture that took advantage of the technology of new construction methods and materials.

Fig.8 *Campbell House 1913, Toronto Archives,*

Fig.9 *Toronto Power Generating Station*

Fig.10 *Canada Malting Silos, Toronto Archives, 1960*

Fig.11 *Built 1953, Mt Sinai Hospital and example of Mid Century Modern Architecture; derivative of the powerful industrial form of machine language*

"But some of the best buildings of the next fifty years were examples of anonymous architecture, warehouses, factories, grain elevators, whose elemental shapes would in time affect the imagination of Le Corbusier, Gropius, and Mendelsohn". The machine has been rediscovered as a source of form, generation to generation. (Mumford 1952, p23)

Forms demonstrated in early American utilitarian buildings and structures influenced the modern movement. After seeing the raw form of the machine as it was demonstrated in the Americas, pioneers of the movement were now able to define it. .

"To create designs that will respect the logic of the machine and at the same time have regard for the vagaries of human psychology is the problem whose solution will give us a satisfactory modern style." (Mumford 1952, 200)

Influence from the American industrial era supported the development of the modern movement. The functionality and, more importantly, the inspiration of these raw machines to the progression of our civilization has been overlooked. Industrial buildings possess many of the architectural qualities[2]

(2) Architectural Qualities – pertaining to modern architecture and industrial machine language using a similar simplicity; and undecorated form pertaining to the function of the buildings

Antonio Sant'Elia and Corbusier had looked for in the creation of their efficient, effective, and powerful celebrations, what they might have described as the architectural manifestation of the Industrial Revolution. These buildings allowed modern ideas on built form to flourish. Industry and infrastructure are arguably the first regional modern architectures[3]
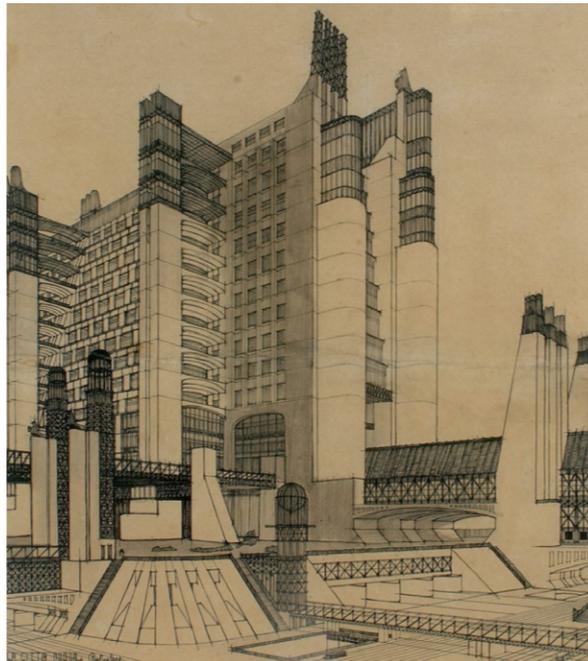
(3) Modern architectures – pertaining to architectural periods since the Industrial Revolution (approx. 1800)

Fig.12 The Power Plant 1914; Antonio Sant'Elia

Fig.13 New City 1914; Antonio Sant'Elia

Fig.14 The University of Toronto College Campus (1966) designed by John Andrews, who had later Toronto's most Iconic structure (CN Tower, 1972) takes inspiration from Antonio Sant'Elia

1.3 REGIONAL INDUSTRIAL IDENTITY

Thomas Jones, an 18th-century artist, painted a series of scenes where the focus is on the derelict and patina-ed Italian vernacular countryside. This subject matter went against tradition, as the derelict, patina, and overgrowth were not seen as beautiful and worth painting at the time.

Bernard Rudofsky states *"By contrast, "vernacular architecture does not go through fashion cycles. It is nearly immutable, indeed, unimprovable … Rather, the vernacular represented the timeless virtues of good architecture and provided lessons for the contemporary world." (Rudofsky, 1965, p1)*. In the book *The Ten Most Influential Buildings in History (2017)*, Unwin describes the word vernacular as being associated with being 'honest', true, local, human, sustainable, even though in the past buildings in this style have been condemned as forming primitive, unfit, slums. This notion has changed. The vernacular is now seen to have a 'hidden intellect' as compared to the buildings of the nobles.

This newfound value associated with the vernacular can be applied to the subject of the industrial in the Americas. Although not in the classical sense[4] 'vernacular', North

American utilitarian buildings are honest and true representations of the progress of our cities. There are many parallels of the ancient vernacular to the industrial style of our contemporary cities. As a contemporary post-industrial society, we can learn of our own vernacular by treating these utilitarian buildings as vital markers of our development and progress.

As with industrial structures, vernacular buildings were simple in their construction and detailing.

(Rudofsky, 1965) includes typologies of regional construction of pre-modern, pre-technological, native architectures/typologies
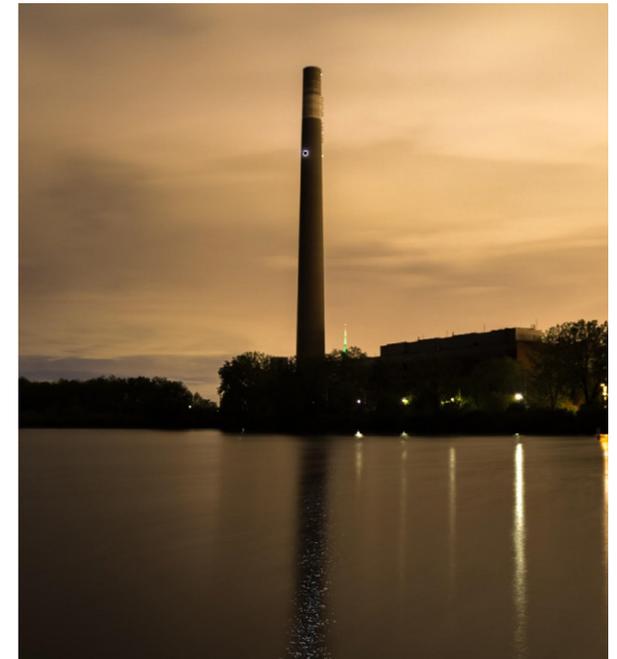
(4) vernacular by contemporary definition

Fig.15 *Thomas Jones (1742–1803) Houses in Naples*
Fig.16 *The Hearn at Sunset*

They were created out of a local condition in their regions. Industrial buildings were created from another local condition: their proximity to resources. Both vernacular and industrial architecture follow a direction from use, they were built as efficiently as possible to achieve a function. Both were also bases on which contemporary cities were created. Vernacular taught next generations the way to build to maximally benefit from local conditions. The same could be said of industrial buildings, as their form and the mindset of their technology and brought about modernity. Rudofsky's title: *Architecture without Architects (1965)* does not directly tie industrial to vernacular, however both vernacular and industrial architectures are examples of architecture without architects.

The Rust Belt Region[5] in the Americas has been originated and defined by modern industrial processes in the last two centuries. In this thesis, I argue the 'vernacular' architecture of the post-industrial region includes the machines created for our progression into contemporary cities. Their forms have influenced the modern movement and in an urban environment. These are crucial signs of the development of our civilization. Thomas Jones's sketches reveal new-found interest in vernacular architecture. History and place can be better revealed with regional industrial subject matter. *"These Structures are landmarks of the past and the present. They provide signposts for us to understand who we are as Canadians."* (Palu, 1999)

(5) Rust Belt – a colloquial term describing a heavily industrialized region found along the bank of the North American Great Lakes

1.4 'RUST BELT' REGION

To understand the importance of industrial architecture to the region one must understand the geography and regional history and morphology of 20th century North American Industry. The Rust Belt / Manufacturing Region is the historic core of industry in the Americas. Situated in a stretch along the Great Lakes, the Rust Belt is a blanket term for the cities and populated areas formulated by the growth of industry in the region. Industry urbanized the region with settlement near ideal industrial sites. The core of industrial-ization in the Americas arose in the region around the Great Lakes due to its proximity to coal for energy in the Appalachia's as well

as easy access to marine transportation. This region is the ideal and most efficient location to place industry in the Americas.

The North American manufacturing belt/ Rust Belt region does not have a definitive border; the region could be compared to a gradient or blob of industrial activity that crosses states; province, and country borders. The introduction of the concept of globalization, along with an exponential increase in mechanical efficiency and the need for supporting processes, created the large region of industry that support one another. Factories would refine raw materials while others would assemble them to form products. Products are moved about continuously amongst various production facilities. These facilities require non-material inputs such as power and workers, and the workers need resources and places to live. Industrial regions such as the North American manufacturing belt act as cogs in a large machine; the region and its surroundings become interconnected and mutually dependent for economic success.

Fig.17 *The Rust Belt/Manufacturing Region in North America. Compiled from Various sources illustrating Manufacturing hot spots in North America*

CANADA

TIMMINS

COLBALT

MINING

SAULT STE MARIE   SUDBURY   NORTH BAY

OTTAWA

OSHAWA
TORONTO
GUELPH   SYRACUSE
HAMILTON   ROCHESTER
WOODSTOCK   NIAGARA FALLS/
LONDON   BUFFALO

TEXTILES   BOSTON

MILWAUKEE   FLINT   SARNIA

WINSOR   SCRANTON
DETROIT   NEW YORK

CHICAGO   TOLEDO   CLEVLAND
METALS   PITTSBURGH   PHILIDALPHIA
FORT WAYNE   AUTOMOTIVE   MINING   BALTIMORE
COLUMBUS   WASHIGNTON

INDIANAPOLIS

CINCINNATI

UNITED STATES

2 URBAN INDUSTRIAL OBSOLESCENCE AND UNINTENDED ICONOGRAPHY

Fig.18 *The Municipal Abattoir(center) and Wellington Destructor (Chimneys to the left) are shown from across the rail-path in 1930 (Toronto Archives) The Photograph displays the concentrations of industry and infrastructure that is planned into the industrial city.*

2.1 MACHINES AND PLANNING

Infrastructural buildings are a foundational necessity to urbanity. Public works projects such as sewers, electricity, trash disposal, and water, etc. are intrinsic emplacements to keep the modern city running; they are autonomous workers in our daily lives. We are not aware of the creation and delivery of electricity, the pumping of water, or the treatment of sewage, except when these services are not working. As we more heavily rely on infrastructure in order for the city to function, we form an inter-dependent relationship with its machinery.

In the 19th and early 20th centuries, the invention and distribution of cheap electricity was a part of this innovative technology push. Electricity with its many uses started becoming a human need and a necessity for the dense modern city to function; dependence on cars, appliances, and industry necessitates the constant flow of electricity for infrastructures, analogically the veins of the city.

Predating electricity, infrastructures related to sewage and trash removal are intrinsic to the function of the city. In preindustrial Toronto, the removal of trash and sewage was accomplished most notably by utilizing the

Fig.19 *Ashbridges Bay Sewage Map 1900 , Red displaying outfall and blue water supply*

Fig.20 *Ashbridges Bay Today*

Fig.21 *1915 Toronto Island Water treatment plant*
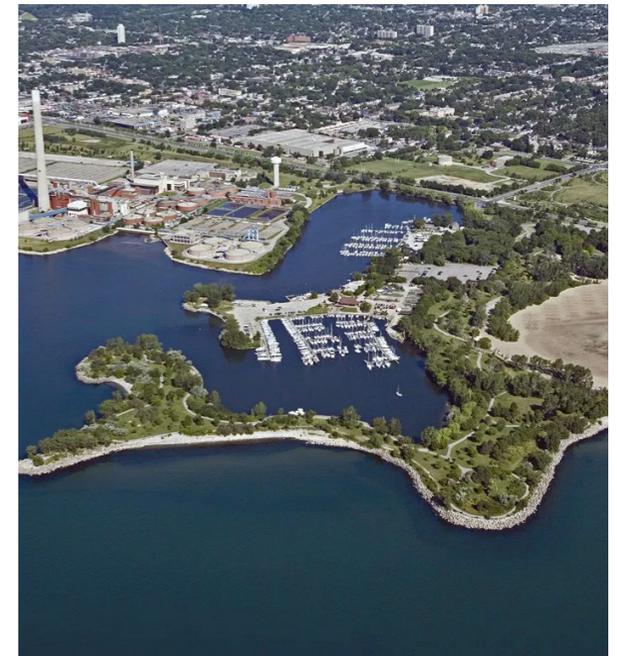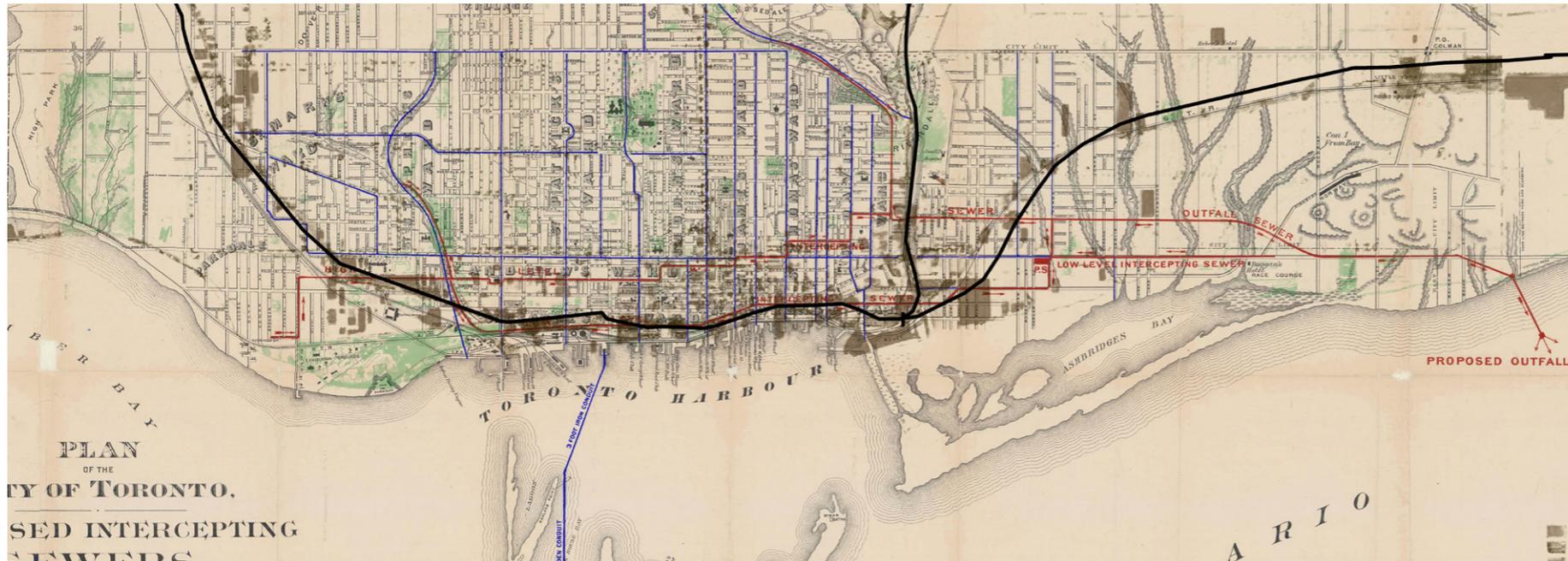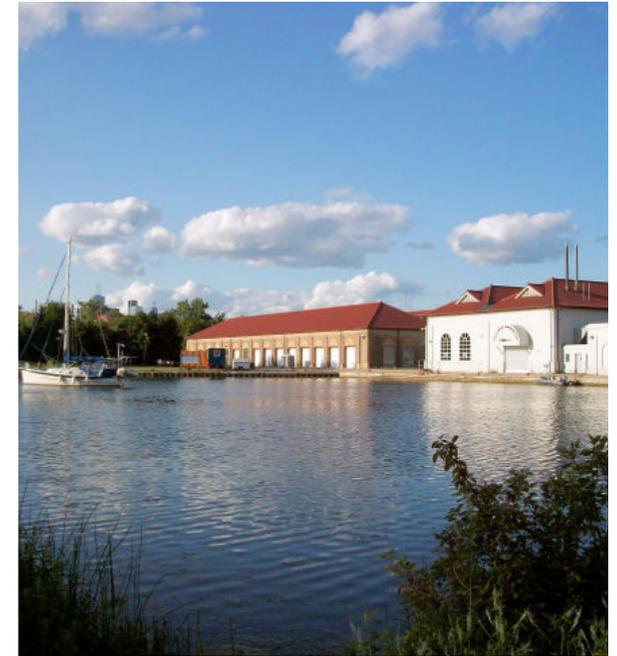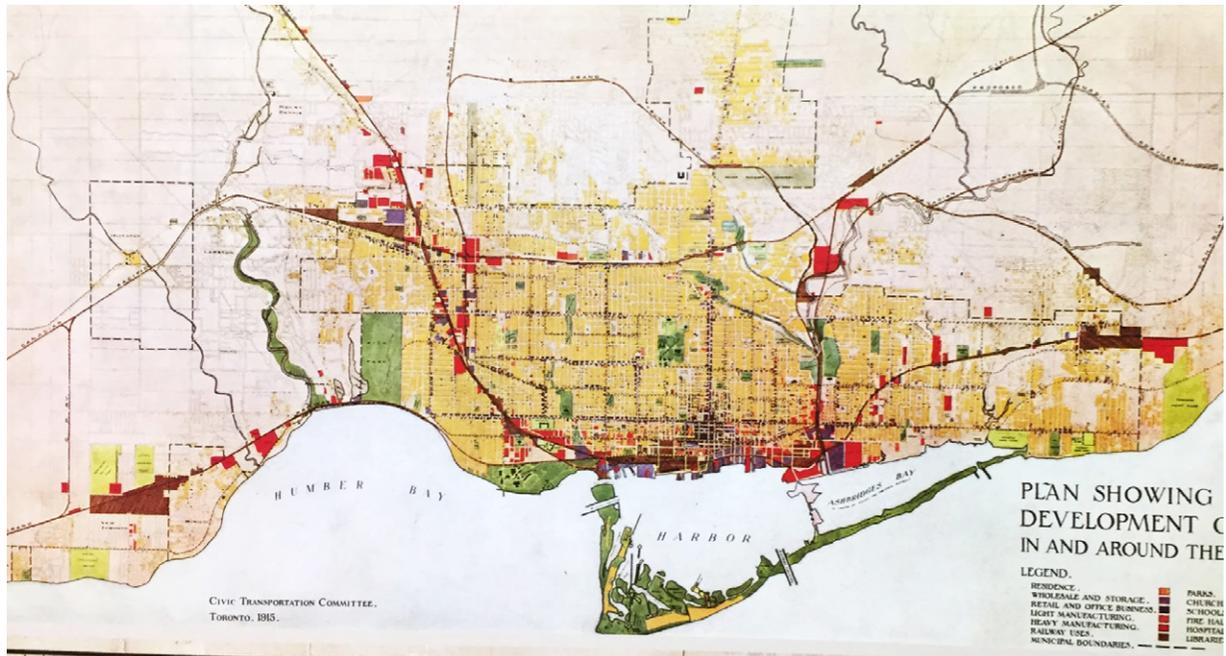
Garrison Creek to transport and dump waste into the Toronto Harbour. With the progression of sewage and garbage disposal methods, the Don Destructor (1917) Wellington Destructor (1925), Symes Road Destructor (1937), and Commissioners Street Incinerator (1953) were built in local and central locations to deal with the growing need for garbage disposal. Garbage and sewage disposal are inconspicuous parts of our lives; these autonomous services humbly work for us in the background.

The Chapter *Metropolitan Area Planning* in Blumenfeld's book *The Modern Metropolis: Its Origins, Growth, Characteristics, and Planning (1967)* uses Toronto as an example of modern planning techniques derived from industrial society. *"Modern industrial society has created a new form of human settlement; the metropolitan area."* The metropolitan area does not have sharp divides of inner city and open country. Instead, varying densities exist. *"The very existence of separate areas for work and for residence is, in itself, something radically new, a product of the industrial revolution." (Blumenfeld 81,)*

The map shown displays Toronto's property types in and around the city in 1915. The railway plays an important impact on the built environment; there is a significant pattern of industry which follows the rail line. Toronto's planning during the last century was dominated by industry.

A comparison of the 1915 map to a 1943 one that is derived for master planning shows that change in industrial site placement is miniscule. Industry still continues to follow the rail corridor and major transportation roads. The entire city south of Queen is industrial. Modern planning principles have resulted in an even stronger divide between industry and other functions. These historical maps demonstrate the industrialized past of Toronto. Since its early conception as an urban centre, the Town of York's entire waterfront area and train corridor created a path for industry. For most of its history, Toronto doesn't seem to be as much a city but machine for production. Today there is little active recognition of this history as Industrial and infrastructural artifacts are seldom saved once they become obsolete. The Maple Leaf Silo/Campbell Flour Mills, an industrial landmark of the Toronto Junction area since1893; demolished in 2014 to make way for commercial/retail development.

Fig.22 *Property development types: 1915; Toronto Archives*
Fig.23 *Toronto 1944 Proposed Master Plan outlining industrial and manufacturing sectors*

2.2 HISTORY OF THE OBSOLETE

Berman describes the modern world as *"an ever-expanding world market embracing, capable of the most spectacular growth, capable of appalling waste and destruction, capable of everything except solidity and stability." (Berman 19)* The constant change modernism has brought forth has created a condition where nothing is permanent and obsolescence is planned for.

The mission of the machine was to universalize simplicity and cleanliness in the interest of efficiency and economy. *"The same factors which have operated to reduce the space of time consumed in the erection of buildings - have operated also to increase the speed of their obsolescence." (Mumford 188)* Ackerman in his essay *"Craftsmen: Machines: Speed"(1933)* proposes that the industrial building is erected with lower quality material because the future value of land will exceed that of the built structure and will eventually need to be torn down. Investment is based on future value; building quickly and cheaply with inferior material became the norm. Defense infrastructures, as well as those for transportation, power generation, production and waste Infrastructure have become obsolete as their functions are no longer necessary or their technology is not up to date.

Fig.24 *Fort York, Toronto Roundhouse, Hearn Generating Station, Canada Malting Silos, Wellington Destructor are examples of obsolete infrastructure in Toronto. Fort York and the Roundhouse transcended its obsolescence by supplementing new functions*

WASTE INFRASTRUCTURE

DEFENSE

TRANSPORTATION

POWER GENERATION

PRODUCTION

Industrial Archaeology As Urban Informer
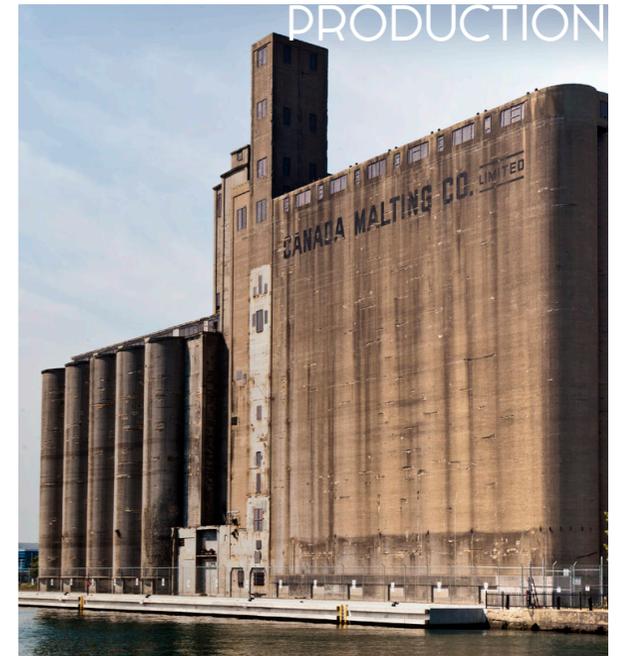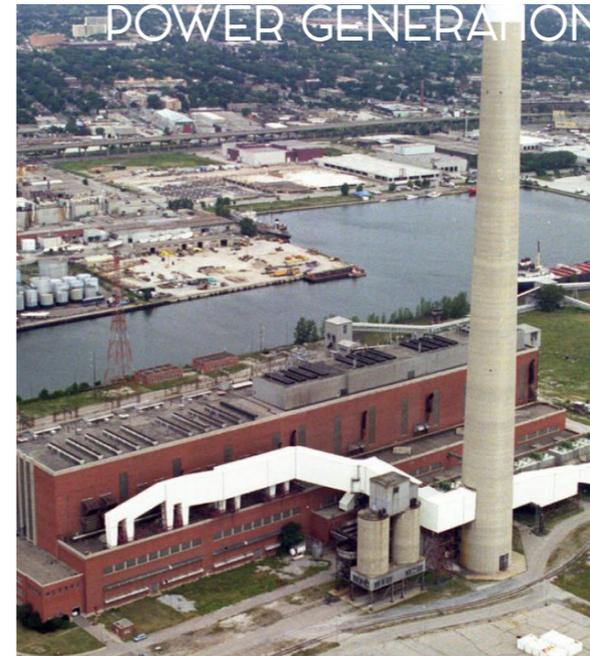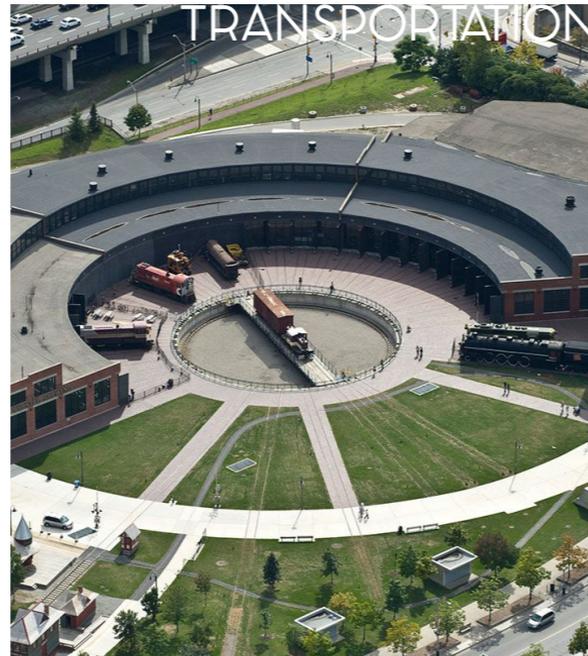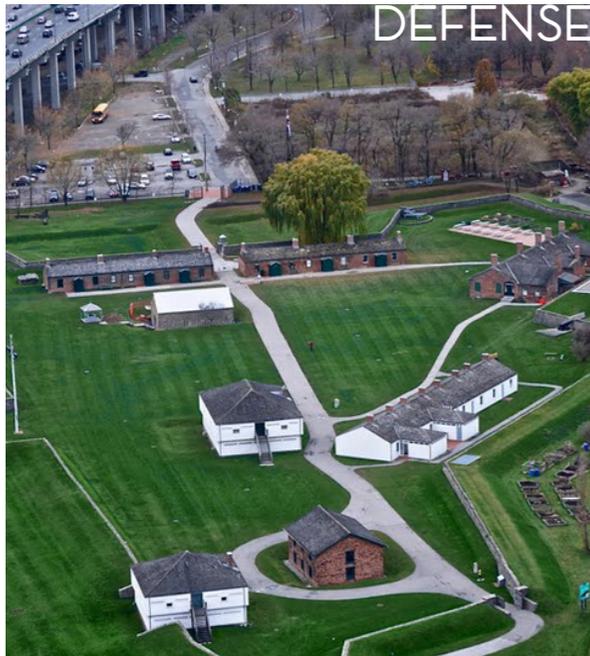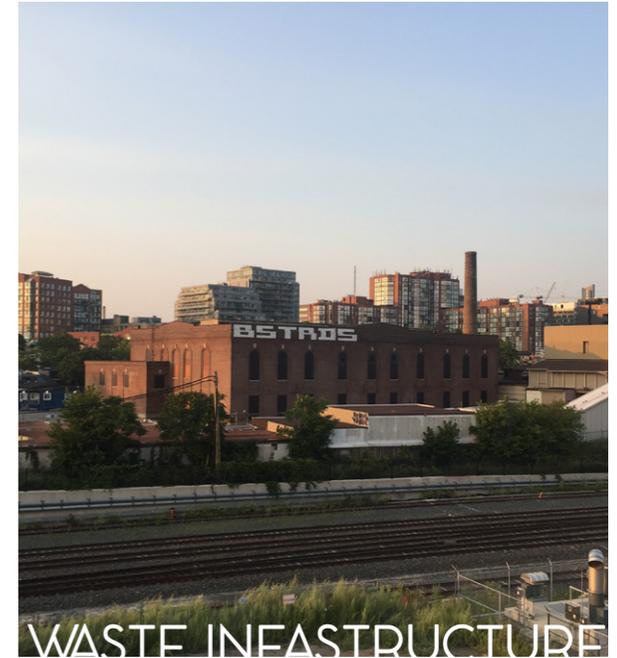
In the book *Obsolescence*, Abramson takes a look at the problems facing obsolescence as evidenced in the American 'throwaway' culture. *"Modern suburbs epitomized this apparent emptiness: cookie-cutter housing, overconsumption, alienation. In contrast, older urban centers once deemed obsolete came to be revalued. (Abramson 109)* Problems of obsolescence became apparent in the 1960s. Artists Bernd and Hilla Becher photographed Europe's fading industrial infrastructures that became obsolete and were being lost. They compared them to a rare and endangered species being photographed before becoming extinct. Ironically, the same buildings that were a source of inspiration to the modernists (industrial form) were not sacred and much of the typology was destroyed by the spread of the movement it helped spawn.

"Koolhaas invites us to acknowledge that one of the fundamentals of architecture is the need for constant supplementation in order to overcome obsolescence" (Jorge Otero-Pailos, Preservation is Overtaking Us, 2014)

What Otero-Pailos means by constant supplementation is formless substitution. Buildings performance values constantly change. The value associated with a building's performance pertains to its ability to achieve a certain task. When technology and building sciences change, existing buildings no longer are competitive as compared to newer buildings with newer technologies. There is a need for constant upkeep to allow buildings to operate without falling into obsolescence. However, constant supplementation is not simply upkeep but a form of conservation. Often it is not the building's material performance that is out-dated but its function and layout. In these cases, more progressive moves are necessary to assist the building in reversing obsolescence.

Fig.25 *Bernd and Hilla Becher, Grain Silos and industrial artifact 1974*

2.3 ICONOGRAPHY: AN UNINTENDED MONUMENT

Think of the word industrial; what does it suggest? What shapes, forms, and elements does it bring to mind? Industry is usually thought to encompass large, simple, strong elemental buildings. The details associated with industrial buildings are tied to the complexities of their machinery. Our culture helped shape this abstraction into the image of the industrial; this is how icons are formed in our collective mind.[1]

The auras possessed by industrial artifacts have been inherited. Their primary function was not to create an image but to be efficient and effective. The strength of the 'Machine Aesthetic' is what makes the industrial icon stand out. Iconic attributes involve powerful, oversized, mechanically-derived objects like silos, mechanical equipment, are all done on an anti-human scale[2]. The smokestack; one of the most iconic industrial elements, is equipment that allows exhaust gases from machinery to escape in a controlled manner; its (visual iconic) function is increasingly important as city grows and changes. Places still dominated by industry, such as Sarnia or Sudbury, are defined by a skyline in which these iconic elements are

prominent. Many iconic structures are strong definers of place. A classic example is Toronto's skyline with the CN Tower. An experiment conducted by Derek Flack, a Blog TO journalist in 2009 involved taking pictures of Toronto and removing the iconic tower (a contemporary equivalent of the industrial smokestack). The conclusion was that the city looked anonymous without the defining building. Industrial artifact in a neighborhood is as powerful monument as a City Hall or church spire is to a preindustrial town. Urban identity depends on both urban development and urban heritage. If urban development is the only consideration, the resultant urban identity will be only development.
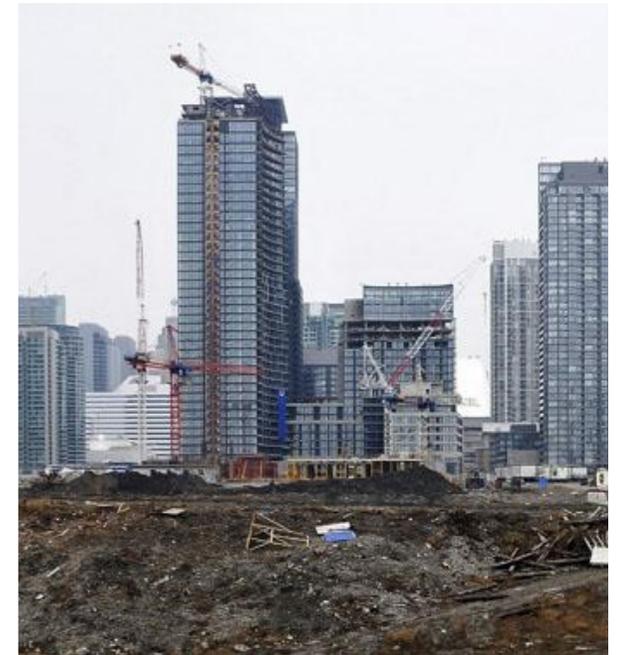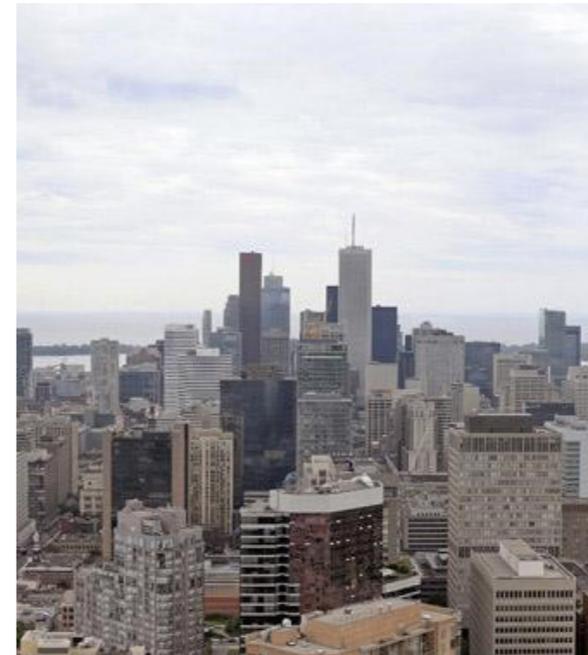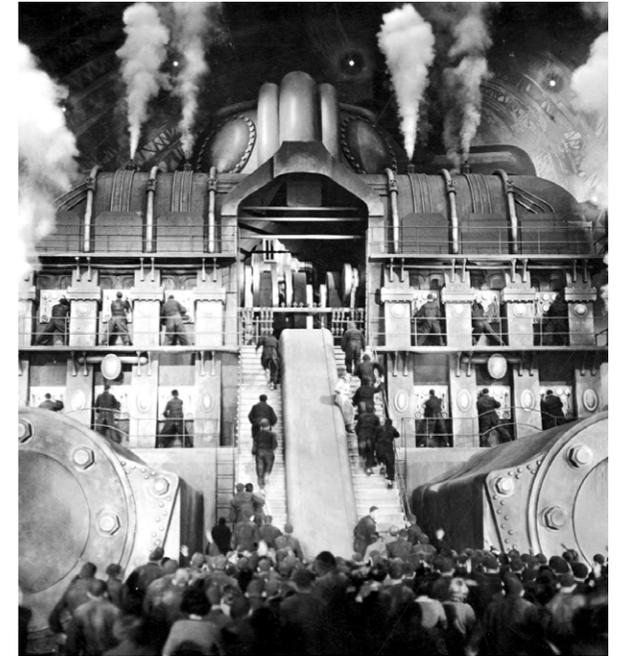
Fig.26 *Still from Metropolis, 1923*

Fig.27 *Derek Flack as a social experiment had manipulated images of the city skyline to remove the iconic Toronto CN tower; revealing the strength of iconic elements (Flack, 2009)*

(1) Collective mind – a changing set of societal thoughts and meanings based on a general and collective understanding of the subject.

(2) Anti-Human Scale – pertaining to a building form derived not for human proportions; comfort, or scale. Anti-human architectural elements are those that present barriers to human activity and interaction(e.g. solid walls)

THE HEARN

2.4 UNINTENTIONAL LANDSCAPES

Industry was designed for and planned from a macro scale to be efficient and close to resources. Industry is usually zoned away from residential areas; their master-planning was not meant to be visual. The term unintentional landscapes refers to leftover landscapes created from industrial artifacts. The compiled photographs are from Toronto Archives and a walking tour that illustrate how industrial buildings are unintentionally framed by sightlines in their respective neighbourhoods. These unintended views are powerful signifiers of place, ones dominated by the unintended icons of Toronto's past.

Industry makes an impact to city grids; streets and neighbourhoods. Their imposing presence have continued in the collective image of the local context. The experiment displays how industrial sectors in Toronto have unintended terminating vistas, similar to how preindustrial towns place spires and clock towers.

Fig.28 *Looking Down Unwin Avenue (Toronto, Ontario)*
Fig.29 *Looking Down Portland St towards Canada Malting Silos (Toronto, Ontario)*
Fig.30 *Automotive building (Toronto, Ontario)*
Fig.31 *Toronto Carpet Factory Toronto, Ontario*
Fig.32 *Bay Street Vista in 1929, Toronto*

CANADA MALTING SILOS

TOWER AUTOMOTIVE

TORONTO CARPET FACTORY

TORONTO CITY HALL
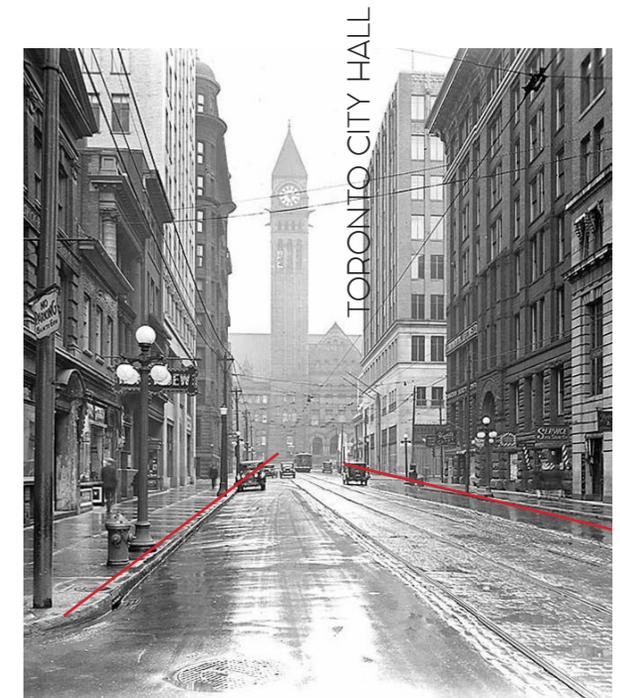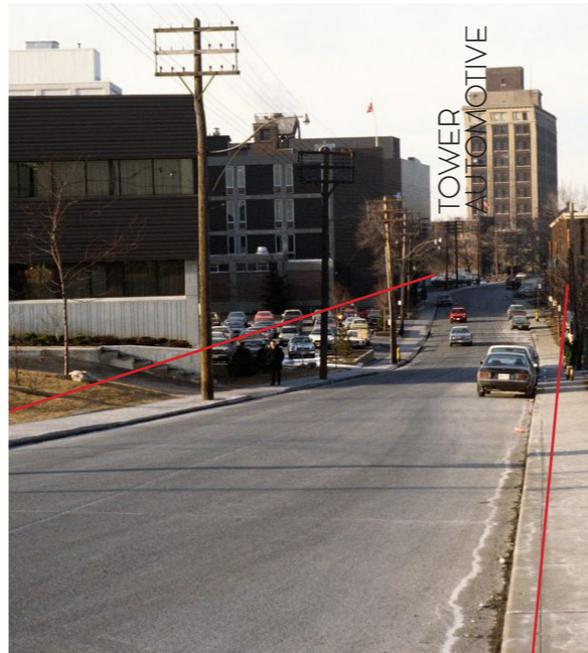
2.5 VALUE OF THE INDUSTRIAL ARTIFACT

"How do they make longtime silent factories into vibrant urban spaces, open to new lifestyles for new generations?... How do they adapt old structures to emerging needs, forging a new identity that incorporates memory and icons of the past?" (Robiglio, 2017)

The Battersea Power Station is a decommissioned power station in London, on the river River Thames. The building became an icon to industrial London; its landmark looks made appearances in many movies and music lovers artworks. Most notably, the band Pink Floyd used the facility's image on their *Animals (1977)* album to refer to the failing economic system of 1970s Britain. Due to the immense popularity of the imagery of this station, it became an icon of the era, and of the environmental and economic crisis of the 60s and 70s.

Modern Culture has brought Pop Art with ordinary objects. Battersea Power Generation Station is an Unintended Icon. It was not built with iconography in mind, but the sheer presence and look of the building made it culturally symbolic. The precedent of Battersea Power Station in London, England through its various appearances in pop culture, became an iconic industrial building with a variety of associations. In its decommissioned state, its image and symbol become more important than its use. Rob Krier's 1974 proposal for Royal Mint Square, as well as a more recent proposal for the area; both of which use the Unintended Artifact to create 'place'.

Fig.33 *Rob Krier's 1974 Battersea Power Station Proposal Sketch*

Fig.34 *Pink Floyd's Cover for Animals, ingrained the imagery associated with the Power Plant into peoples minds and its popularity the reason behind its attention*

Fig.35 *Battersea Power Station Development*
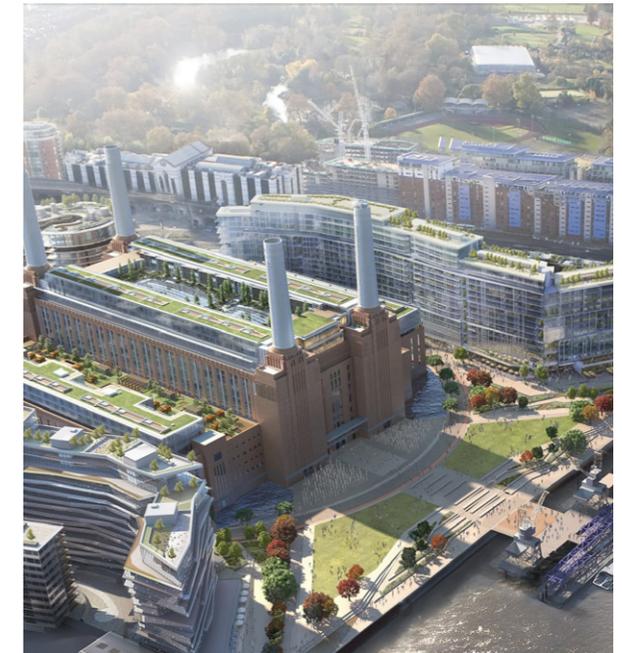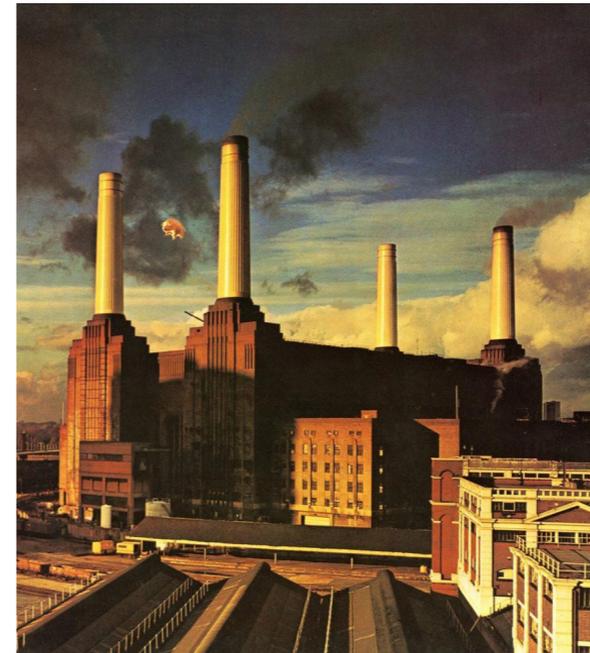
3 URBAN HERITAGE AND GENIUS LOCI
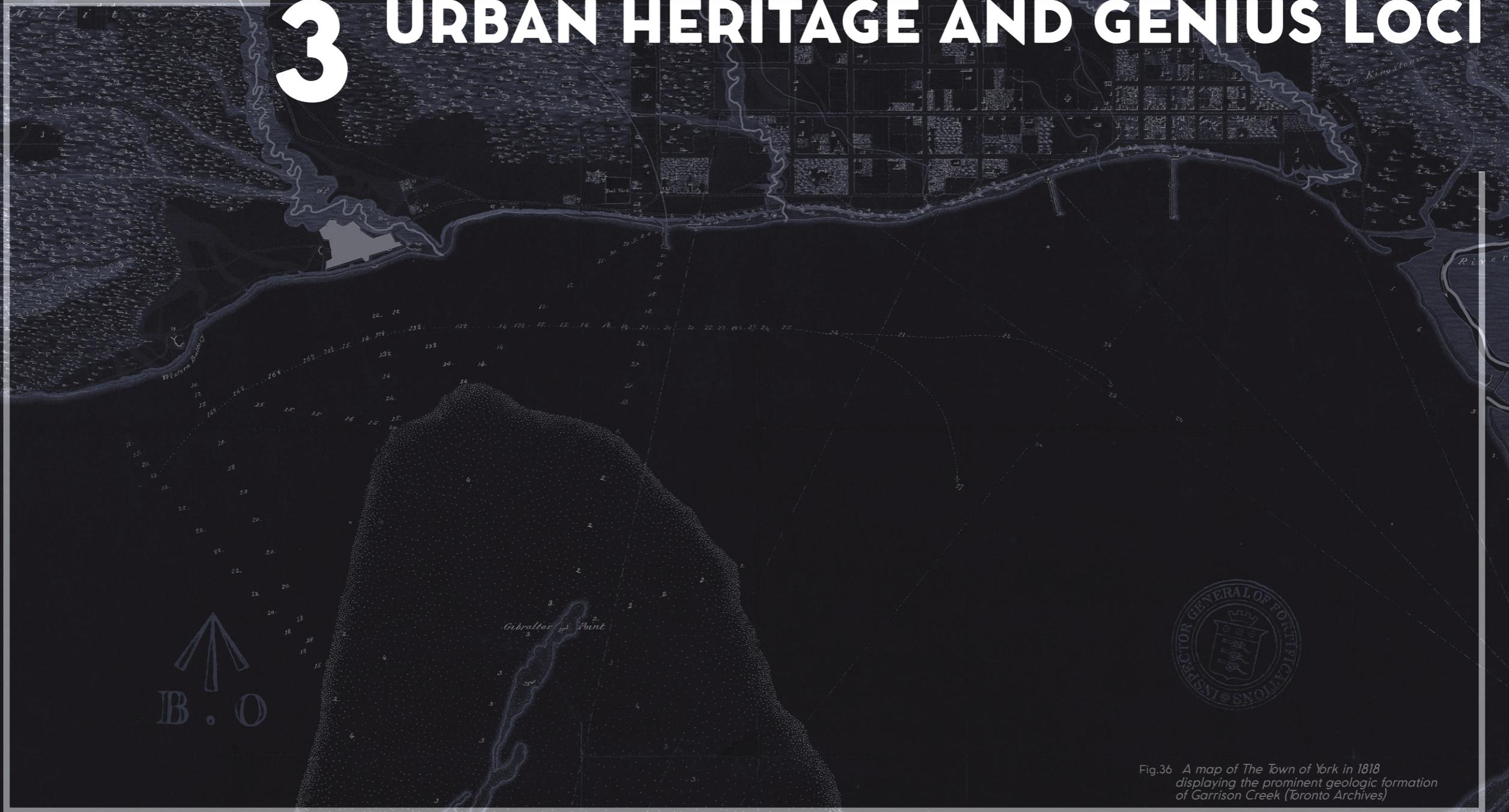
Fig.36 *A map of The Town of York in 1818 displaying the prominent geologic formation of Garrison Creek (Toronto Archives)*

3.1 LOCUS

How can architecture continue the locus of the industrial landscape in relation to the growing urban context?

Locus, as a mathematical definition, is the exact fit of points to an equation that satisfies all points. Locus isn't a fixed point but a constantly changing and evolving set of points. To bridge the concept into city development, Rossi in *Architecture of the City (1982)* defines locus as the representation of the effects of all points of change through history. This includes a city's formation to its defence, growth, industrialization, modernization and urbanity. The ideal representation of locus occurs when all points of history are acknowledged, without severe gaps or displacements of events.

"The appropriate level of intervention needs to be considered on a case-by-case basis to protect a building's heritage value where it has been identified or, at a minimum, to accommodate the features that have design value or provide a sense of place." (Mark Thompson Brandt Architect & Associates, Building Resilience, 44)

In this excerpt from *the Heritage Places of Canada (2016)*; the use of the term 'Sense of Place' is important in that it denotes that buildings are not only functional to society but are intrinsic to the created place or locus of their area. The differences in Icon and Genius Loci must be established to provide a valid argument. The iconic is more intrinsically tied to preservation than locus. Iconic objects need not change; this quality is what gives them their association with certain values. Loci, on the other hand, incorporate iconic elements over time and allow change to occur as time unfolds.

"[Genius Locus]. It resides in the single artifact, in its material, the succession of events that unfolds around it, and the minds of its makers; but also in the place that determines it-both in a physical sense and above all in the sense of the choice of this place and the indivisible unity that is established between it and the work." (Aldo Rossi, 1982, p113)

For this thesis the term Genius Loci is a visual demonstration of entropy[1] in our urban areas. In such thought experiments as the Ship of Theseus[2], Genius loci is the ship that has been repaired over time; and updated parts may be added to correct faults and adapt to changing conditions. Events happen; objects are never frozen in place. Iconic elements can remain; there is no rejection of change. Maple Leaf Gardens is an important historic Toronto site for its re-purpose of elements such as the atmosphere of the hockey rink. Its robust exterior is preserved as a tribute to its iconic status, yet it is a fundamentally different building. Maple Leaf Gardens in its context stands for the conservation of the Genius Loci of Toronto's urban identity.

(1) Entropy – in this thesis meaning the passing of time of an object; and its eventual change as a result of its surrounding external forces.

(2) The Ship of Theseus, a thought experiment originally conceived by Greek Philosopher Plutarch, which describes a ship that has been repaired piece by piece in its history. Is it the same ship or are the original pieces removed the original ship?

Fig.37 *Comparison between 2016 and 1934 Maple Leaf Gardens, Photo by Author | Archives Toronto*

Industrial Archaeology As Urban Informer
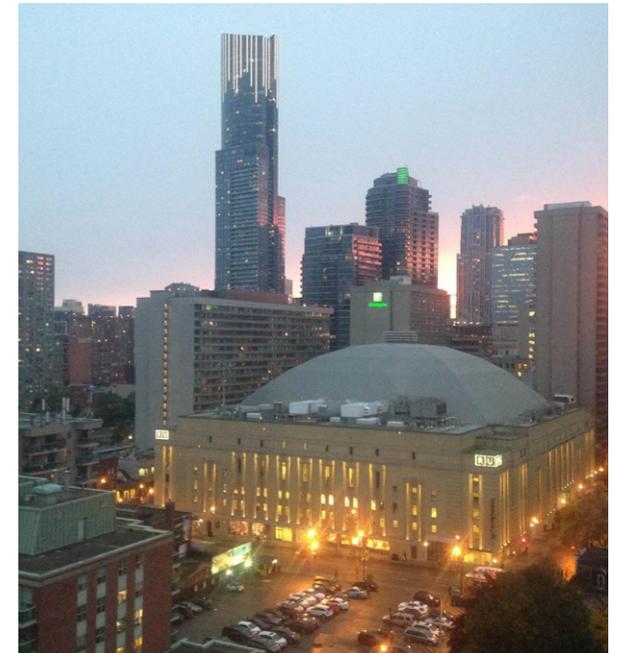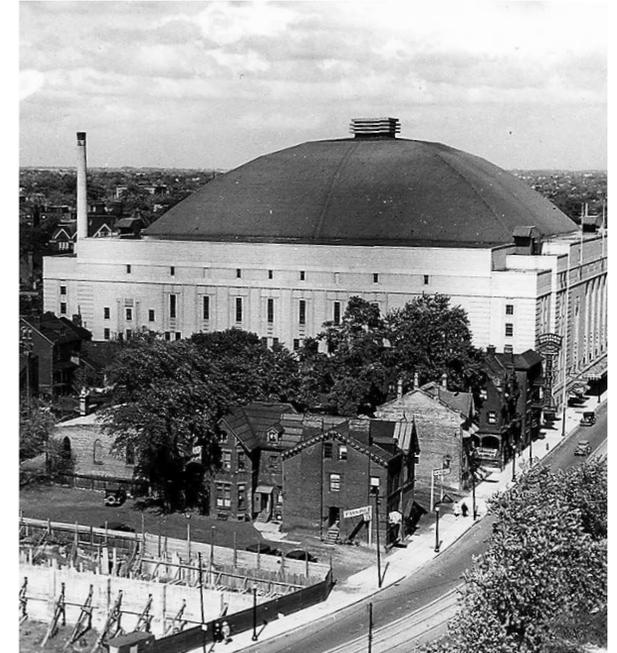
3.2 LOCUS AND CITY MORPHOLOGY
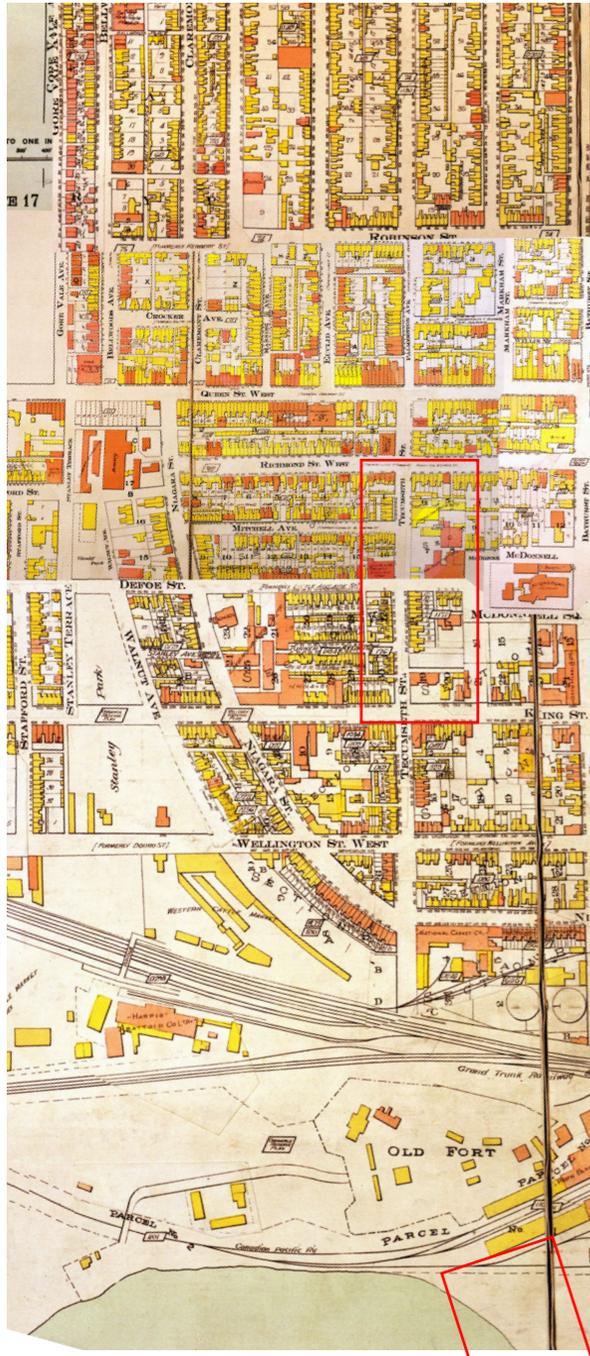
Fig.38 *1913 Fire Insurance Map displaying the Town of York just above Fort York. Note the difference in size of the lots between the North and South. The lot lines change just before the railway*

Fig.39 *Two current (2017) property data maps taken from north and south sides of the previous map. Both areas are now commercial/ residential however the industrial lots near the waterfront retain industrial planning strategies*
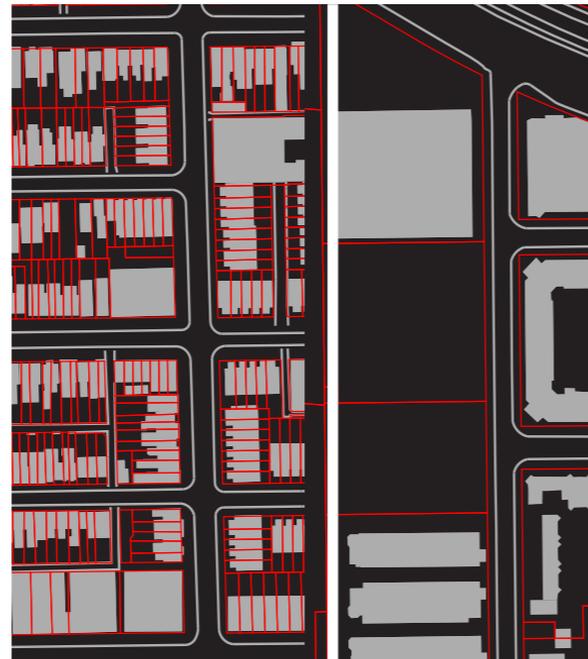
Alex Marshall states *"Cities are often thought of as self-operating Organisms; they seem to have just happened"* (Marshall, 2007, p6) Self-operation organizations are analogous to cities because humans have a narrow view of the four-dimensional space we live in. Self-operation organizations are analogous to cities because humans have a narrow view of the four-dimensional space we live in. In the size and lifetime we encompass, humans only see a narrow and shallow set of time and space. We are not able to see large complex organisms operate such as cities. The complex engineering and planning that goes on in water, sewage, garbage disposal and transportation systems in cities is indicative of a complex history of political planning over a great deal of time, during which workings are invisible to the public. These systems are visuals of the specific planning decisions that the city made through its history and growth.

Urban Heritage has a fundamental role in the Locus of Urbanity. Urban development alone exists without context; it is an economic force with no attachment. What urban heritage does for the city is provide a framework of continuously changing points to locate and inform urban development. Conservation of urban heritage provides continuity to the Locus of the City. Without urban heritage providing a role in current development, we are left with cancerous, mutilated urbanism[3].

The morphology of a post-industrial city is heavily derived from its industrial roots. The early maps display the street layout and building massing of industrial Toronto, in which industrial buildings are organized alongside both the waterway and the railways. Large lot sizes were common and the interest of the plan was clearly geared towards efficiency and production. Fast forward to the 2016 map, we see the morphology of the railway turned highway, and the lakeshore becoming more pedestrian oriented. However, in this hundred-year gap, there still remains an abstract similarity, the carrying of industrial elements into the post-industrial world. In altered street grids and waterways, the locus of industrial efficiency remains.

(3) Cancerous, mutilated urbanism – a type of development strategy common amongst developers; where development of sites occurs without a cognisant awareness of context; where greatest massing is imposed solely for greater floor plate area.

3.3 LOCUS AND CITY GEOLOGY

"The locus is a component of an individual artifact which, like permanence, is determined not just by space but also by time, by topography and form, and, most importantly, by its having been the site of a succession of both ancient and more recent events." (Peter Eisenman, Architecture of the City, p7)

Peter Eisenman's Preface to Rossi's Architecture of the City (1982) considers Locus not only an individual artifact but also as an element that pertains to other sources, such as topography, time and a succession of events. The 1995 Venice Biennale Project: 'Garrison Creek Demonstration Project' was a study by Brown and Storey Architects of the historic Garrison Creek in Toronto and how it relates to urban context. It makes a proposal on how the city *"can reverse the trend of the last one hundred years of disconnecting the city from its landscape and regenerate the open and hidden landscapes of Toronto into a vital and living part of the experience of our communities."* (Brown and Storey, 1996) It makes a case for Garrison Creek being an original and enduring element of, as well as a catalyst for, connected open spaces. The Creek was used differently throughout Toronto's pre-industrial and industrial eras, but its existence continuously informed urbanity throughout the city's history.

1818

Street Grid Lines

1860 Railroad Construction

Lake Ontario Infill

Fig.40 *Model of the Fort York / Garrison Crossing Neighbourhood. The location of Geological events in 1818 including the location of the shore in green and blue and the location of the Garrison Creek is Projected on the top of the model.*

Street Grid Lines

1860 Railroad Construction

Lake Ontario Infill
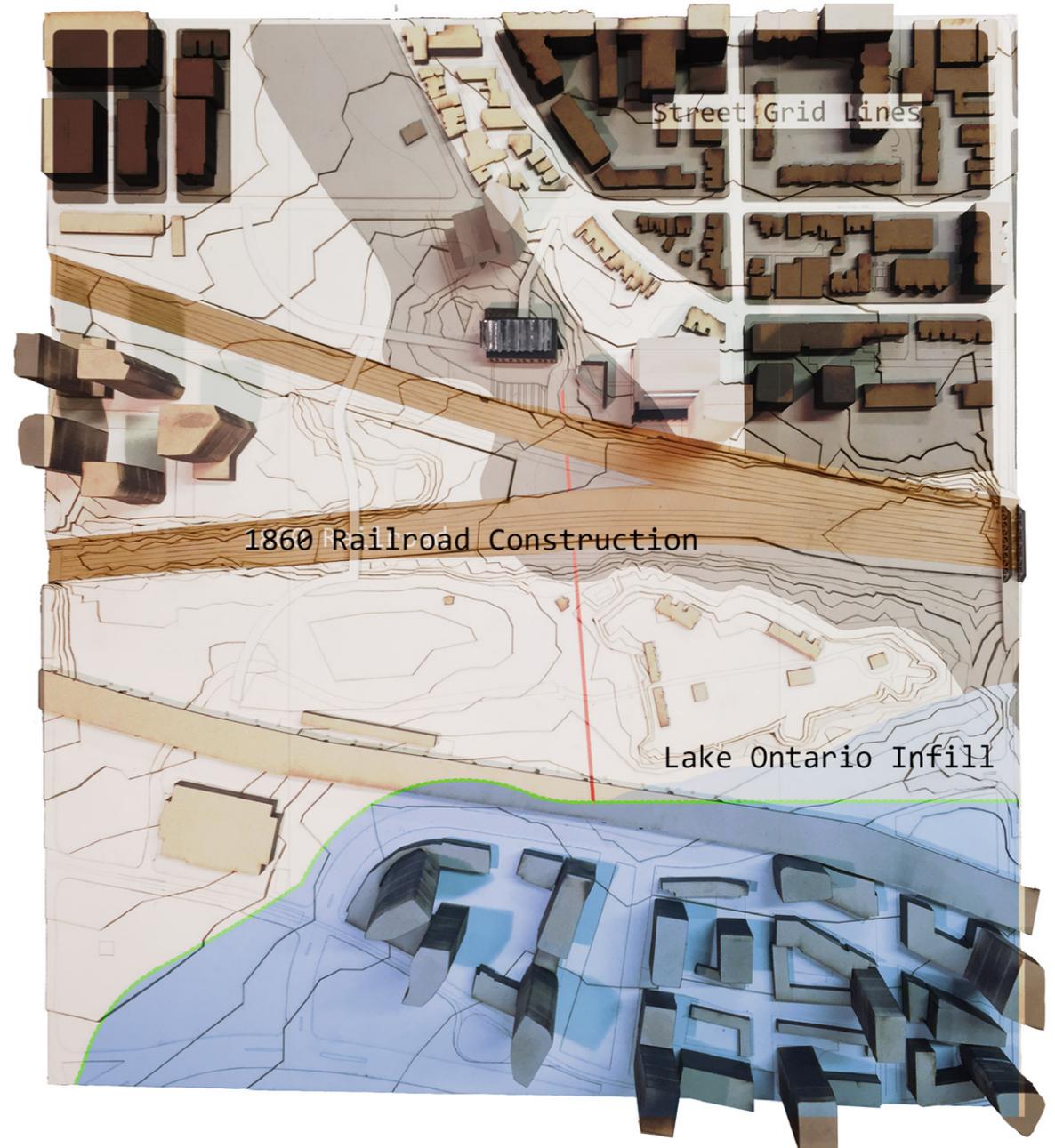
Fig.41 *Model with 1862 projection displaying the creation of thre railroad and the construction of streets to the north*

Cattle / Stables

1910 Sewage to Ashbridges Bay

Rail Station

Garrison Creek Burial to Stormwater
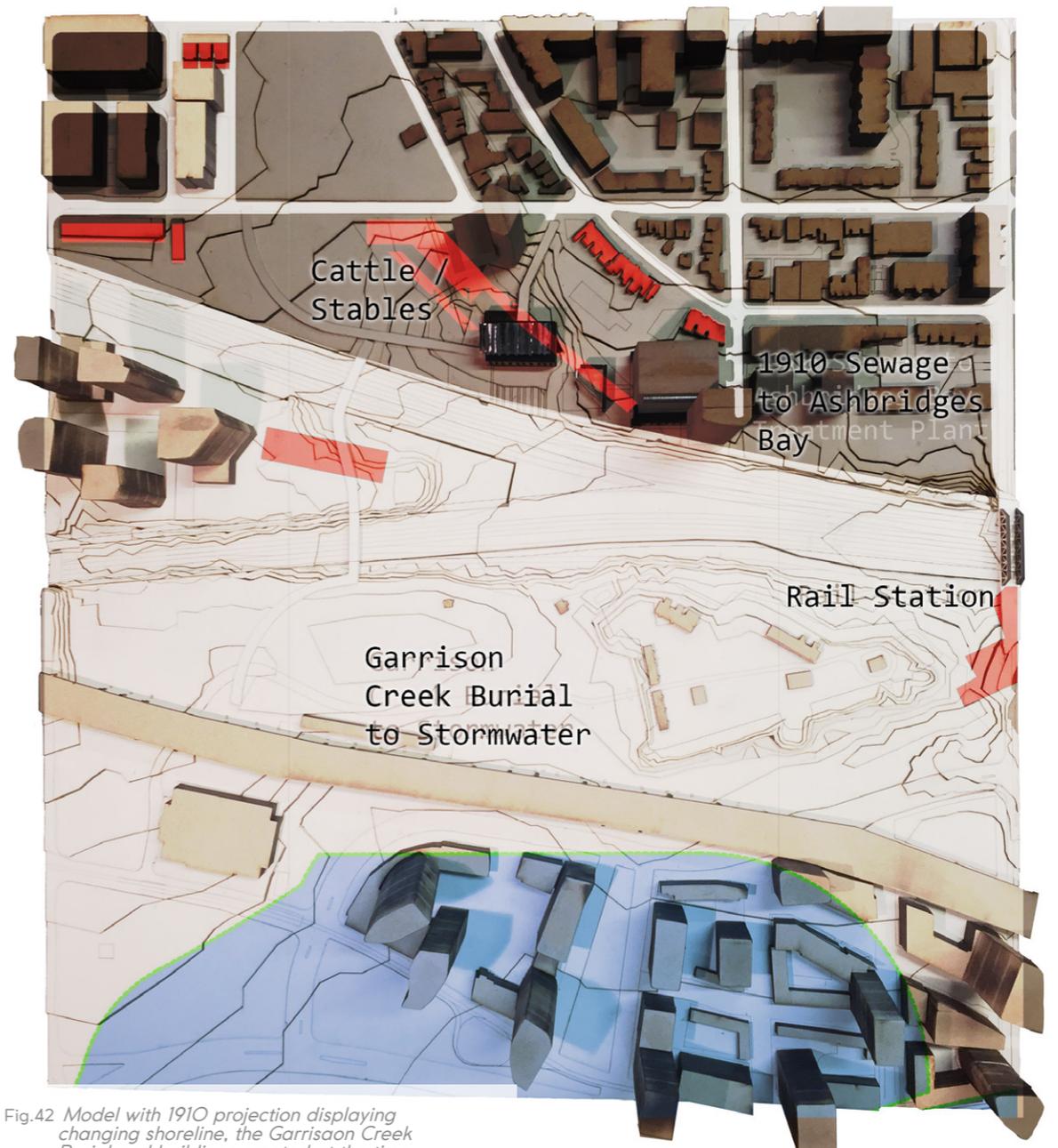
Fig.42 *Model with 1910 projection displaying changing shoreline, the Garrisaon Creek Burial and buildings created at the time*

1956

Destructor and
Abboitoir 1920s

Gardiner Expressway
Construction 1955

Fort York
Designation 1923

Lake Ontario Infill
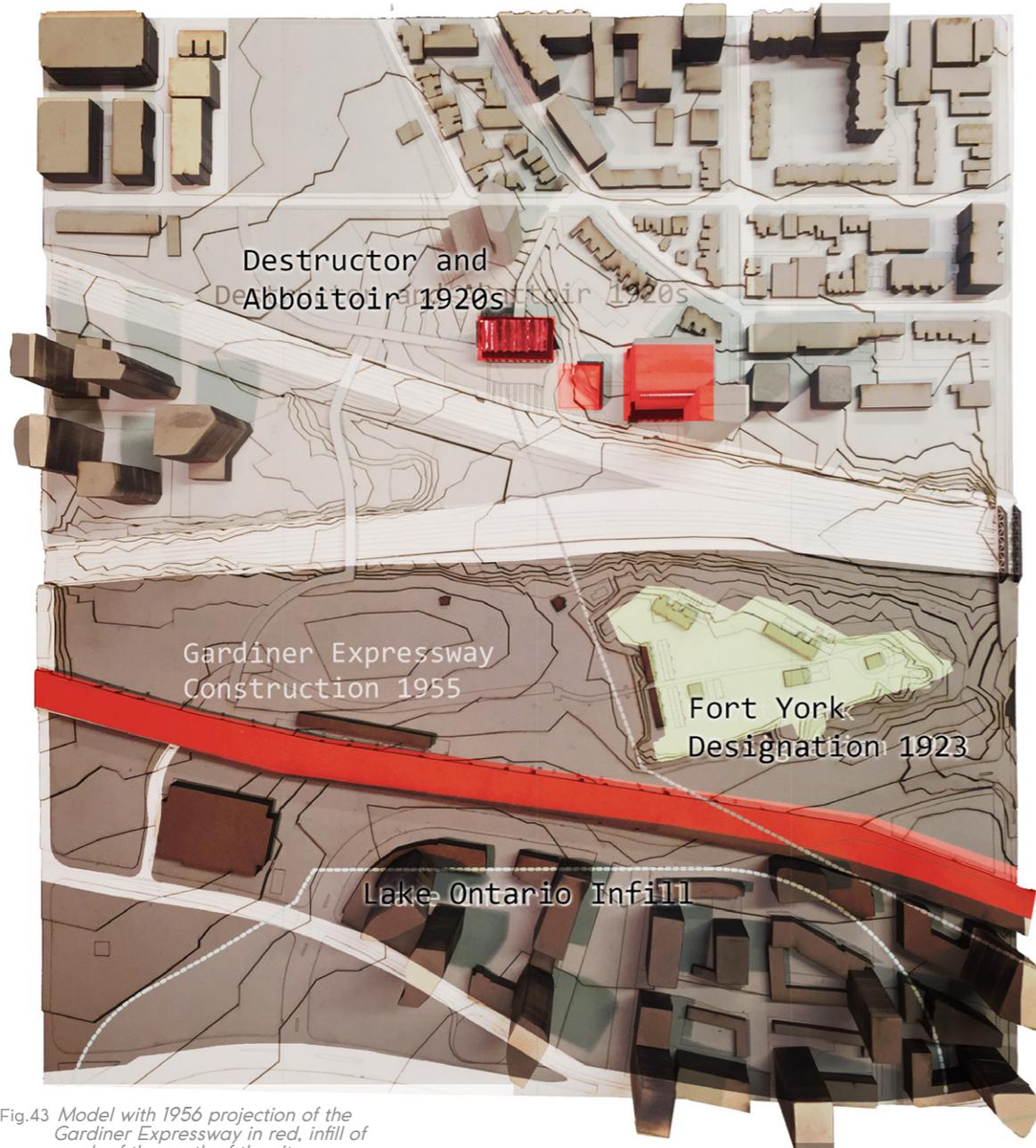
Fig.43 *Model with 1956 projection of the Gardiner Expressway in red, infill of much of the south of the site*

2018

Stanley Park
South Extension
(1910)

Destructor
Heritage
Designation
(2006)

Garrison Crossing
Condos and Park
(2018)

Garrison Crossing
Bridge (2018)

Mouth of Garrison
Creek Park (2019)

Bentway Park
(2019)

Fort York and
Visitor Centre
(2015)

Fort York Neighboorhood (2003)

Fig.44 *Model with 2018 developments including the proposals for the the Stanley Park South, the Bentway, Visitor Centre; and the Fort York Development to the south*

Industrial Archaeology As Urban Informer
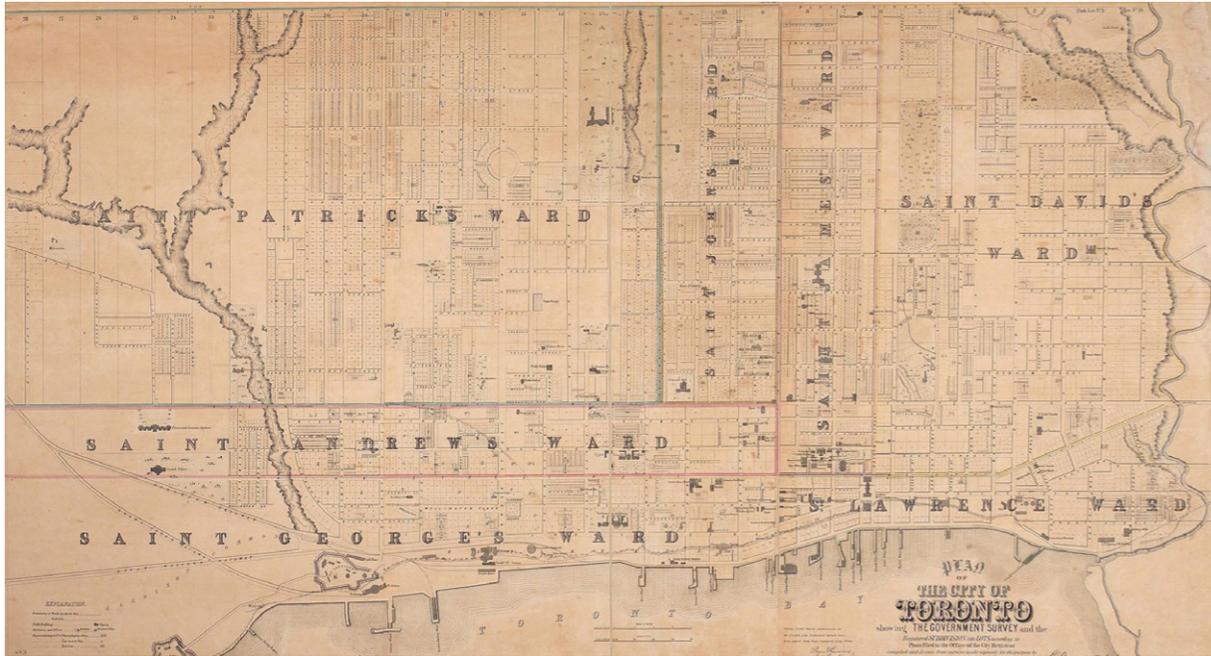
The Creek provided the British Settlers with a secure natural water resource for their initial settlements near Fort York and was a topographic advantage for the Fort's Defenses. The Garrison Creek, during its initial planning and surveying, made up the west boundary of the Township of York. It also provided essential transportation by boat north to Bloor Street.

Even with the overlay of the orthogonal street grid that Simcoe had laid out, and the massive flattening through a variety of human interventions, the creek retains a number of irregularities to the built form. Along the original Creek location, there are a variety of curving roads, park spaces, ravine conditions, and newer curvatures of streets that result from fills of the original ravine. Niagara Street for example, follows the eastern valley of the Creek; the railway which entered from the west followed the ridge of the lake, navigating past the Fort to the north. The mouth of Garrison Creek was elongated because of the shoreline widening. With the introduction of the railway in 1860, and with further industrial intensification along the ravine, Garrison Creek's function became that of a disposal site for both local wastewater

Fig.45 *1818 Map of York displaying the importance the river had to the morphology and development of the City – Toronto Archives*

Fig.46 *1886 Map of York, Garrison Creek Partially Buried and Diverted – Toronto Archives*

and waste. It was convenient for transport into Lake Ontario. The Creek and the later railway corridor allowed local industry both convenient sewage disposal and easy transportation. The burial of the Creek resulted from health concerns related to an open sewer system, and in 1888 the creek was covered and buried in a ten-foot sewer which dealt with sewage and waste for the surrounding area. The ravine of Garrison Creek, although filled in at the base with the covered sewer; was still a visible entity in the 1920s and 1930s. Over the years the ravines were filled with garbage; such as with the Bickford Ravine in 1915.

Brown and Storey Architects state *"The loss of the Garrison Ravine has been not only a loss to the natural environment, but also a diminution of the richness of the urban condition as well."* What they propose is to consider the functioning of the land as a natural watershed. With the filling in of the ravine, open public park-lands were created along the original pathway, and it became conceivable to reinvigorate these park spaces with reintegration of stormwater management techniques.

The interventions utilized an examination of the morphology of the city grid, existing parks, and the original ravine. It also proposed a network of connected parks that would incorporate wastewater management

Fig.47 *Mapping Study of Garrison Creek, Green Spaces, Brown and Storey Architects*
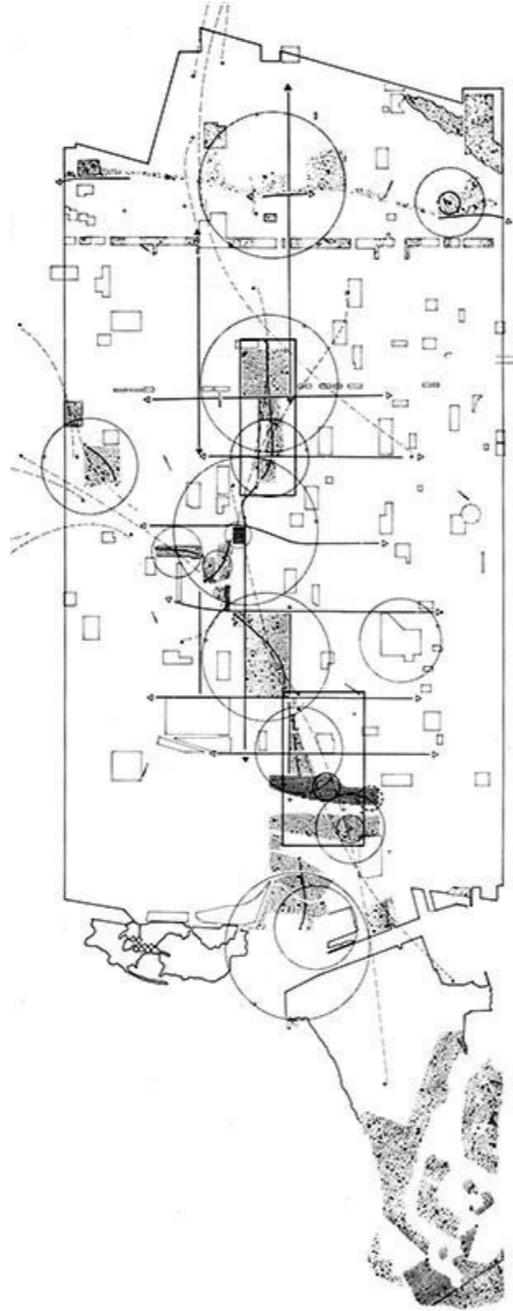
Fig.48 *Trinity Bellwoods Park Proposal - Brown and Storey Architects*
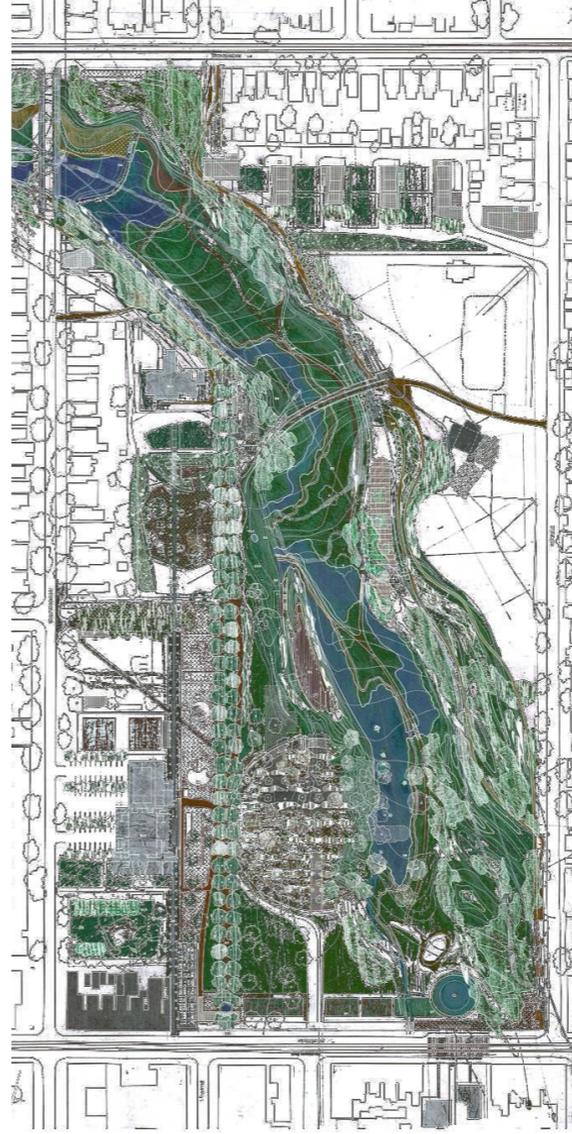
Fig.49 *(far right) Garrison Creek Study based off Brown and Storey (Petrocelli)*
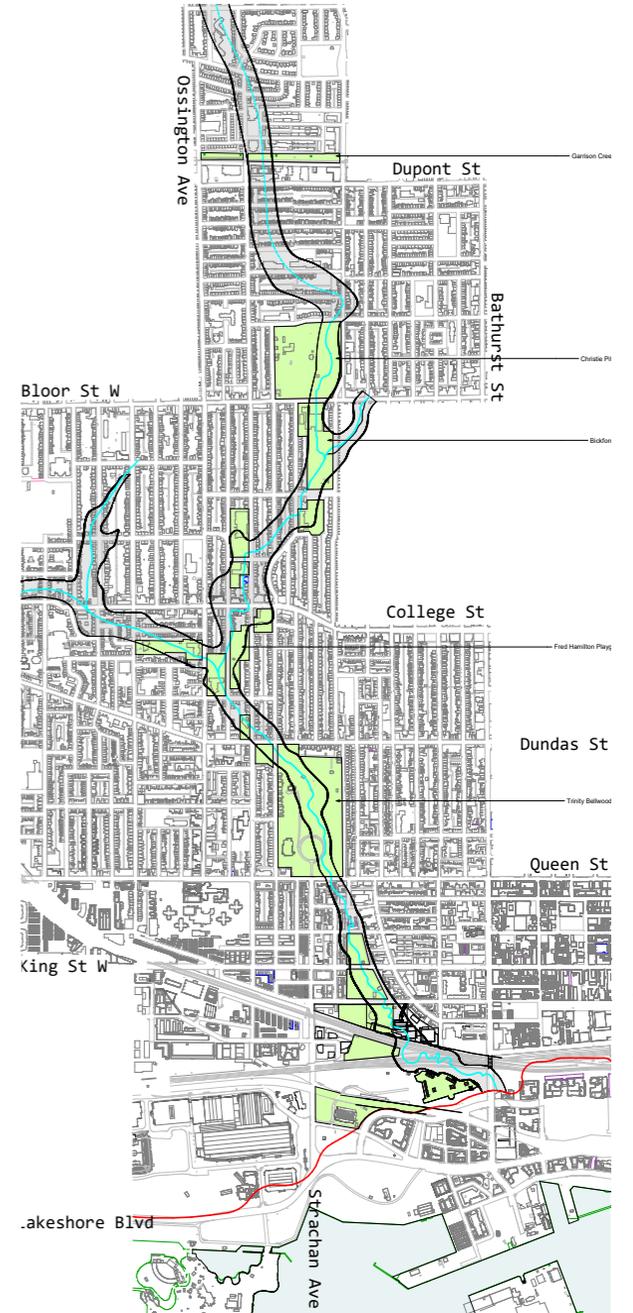
and pedestrian passageway. Their thesis highlights how localized natural stormwater management and urban integration can occur together, as opposed to the current method of going stormwater management in which urbanity and nature are separated.

In an August document entitled *Proposed Downtown Plan (2017)* the City of Toronto started to realize the importance in a quickly growing city of the cultural and historical importance of planning connected parks. In the 'Core Circle' proposal, a ring of historical natural boundaries to the city of Toronto are highlighted; including the former Garrison Creek, Rosedale

Valley Ravine, the Lower Don Valley and Toronto Islands. The planners are seeking to enhance these natural areas and provide a means for cyclists and pedestrians to have access to the amenity created from the ring. There was mention of enhancing Toronto's identity as a city within a park. The relation of great streets to parks is addressed. *"These streets hold cultural and historical significance, provide connections to the Core Circle, and are significant public places. They are destinations in themselves, lined with landmark buildings, historic fabric and Public Spaces"* (Proposed Downtown Plan, 2017)

In March 2018, Public Work, a landscape design firm, was commissioned by the City to create a master plan based on the 'Core Circle' concept. Important guidelines for the establishment of boundaries would be based on consideration of aspects of Toronto geology such as valleys and bluffs, including paths used by native peoples that connect historic fabric. Many unique attributes are included to create a depiction of Toronto 'Locus'.

One important aspect not mentioned in master planning documents is the integration of industrial archaeology. Assets once ideal for industrial development-- access to

East: Don River Valley Ravine / Rosedale Valley Ravine

South: Toronto Islands / Toronto Bay
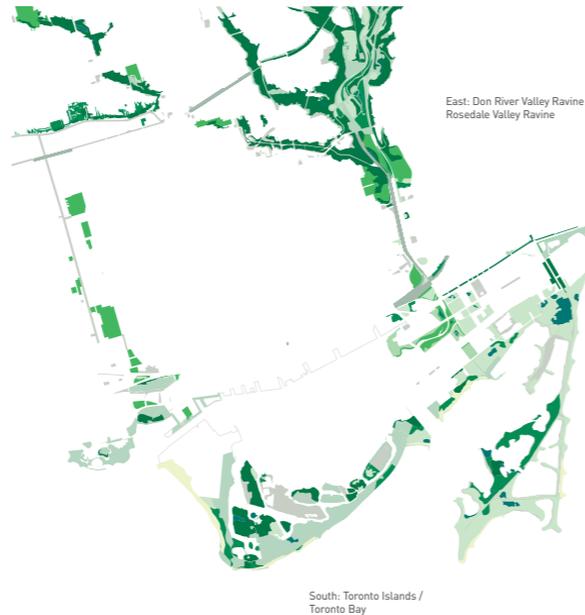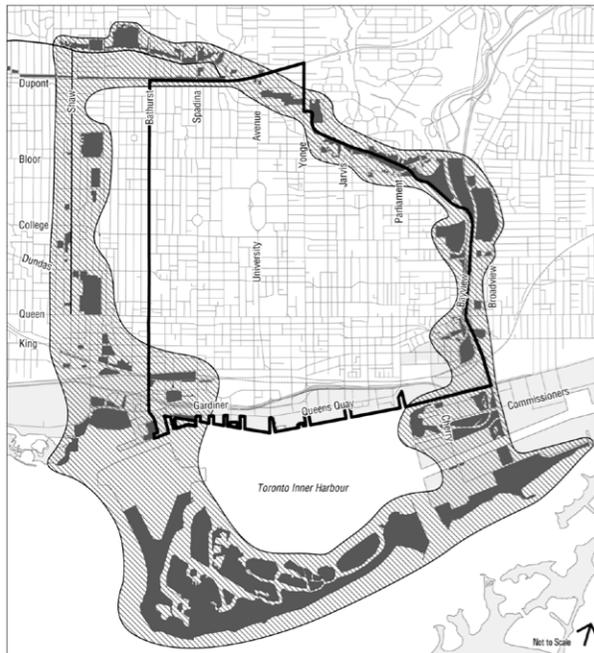
Fig.50 *Proposed Core Circle and Downtown Park Districts, August 2017 Proposal, City of Toronto*
Fig.51 *Core Circle Masterplan by Public Work (2018)*

water, cheaper and less urbanized land, and resource-rich ground-- are shared in city park space development. Since industrial development shares resources with public parks, sites once dominated by industry make perfect park space, and much of what is outlined in the core circle was once heavily industrialized. Rather than have separate narratives; the City of Toronto will benefit by integrating all of the city's Locus into the Core Circle Masterplan.

Fig.52 *Public Work's conceptual drawing of incorporated parks in the 'Core Circle' Plan. The Circle is comprised of four edges of natural landforms, the Toronto Island, Both the Garrison Creek and Don Valley, and the early Iroquois Shoreline.*

The Davenport Bluff / Trail

Spadina Park

Connection to Ramsden Park

Ramsden Park Revitalization

LAKE IROQUIS SHORELINE

The Green Line

Rosedale Valley Road

Don River Valley Park

Bayview Avenue

Riverdale Park East

East: Don River Valley Ravine

Christie Pits Park Revitalization

Connection to Rosedale Valley Lands

GARRISON CREEK

Riverdale Park West

DON VALLEY RIVER

Lower Don River Trail

Corktown Common

Trinity Bellwoods Park Revitalization

Stanley Park Extension

Shaw Street

Fort York and Garrison Common

West: Garrison Creek Corridor

Parliament Slip Bridge, Wavedeck, Boat Launch, and Habitat Node

Lower Don Lands River Estuary

Harbour Landing / Ferry Terminal

Bathurst Quay Boat Launch and Habitat Node

Western Island Access

Water Transport Connection to Port Lands

TORONTO SHORE

Coronation Park Revitalization

Centre Island Revitalization
Improved Toronto Islands Circulation Network

Eastern Island Access

Views to the Inner Harbour

Water Transport Connection to Toronto Islands

Ontario Place Revitalization

TORONTO ISLAND

Water Transport Connection to Hanlan's Point

Views to Lake Ontario

Industrial Archaeology As Urban Informer

West Toronto Railpath Extension and Neighbouring Projects

Legend

Existing West Toronto Railpath	——
Planned West Toronto Railpath Extension	– – –
WTR Extension - Further Studies Required	– – –
Planned Cycling Connection to the North - Further Studies Required	– – –
Existing Bike Lane/Route	——
Proposed Bike Lane/Route	- - -
Proposed Davenport Diamond Greenway	——
Potential Future Connection to West Toronto Railpath	– – –
Rail Tracks	++++
King/Liberty Pedestrian & Cycling Bridge	■
CAMH Cyclist Connection to Richmond & Adelaide Cycle Tracks	——
Existing Trail Access Points	★
Planned Trail Access Points	☆
Potential Pedestrian Cycling Connection Over Rail	■

3.4 LOCUS AND INDUSTRY

As discussed in 2.1 Urban Machines and Planning, the layout of the industrial North American city depends upon efficient placement of industry with regards to transportation. The result is the proximity of the rail corridor to nearby industrial sites. With obsolescence and the urbanity resulting from it, rail corridors are not as necessary as they once were. The imprint across the landscape and the Locus of the city's industrial history can be addressed. Toronto in 2000 started a project involving the conversion of left-over strips of land alongside the Railpath to walking and cycling paths. Since 2000, where there was free land to use, the city along with non-profit communities built up

Fig.53 *The Toronto Railpath is an up-incoming masterplanning strategy that aims to create parkspace and transportation corridor from disused land near the west Toronto railway*

Fig.54 *The Toronto Railpath along Bloor and Dundas*

Fig.55 *The Toronto Railpath utilizing rail infra-structure to define chang in funtion*

a path that incorporates more of the Railpath.
The Railpath provides an ideal situation to
the Core Circle concept first conceptualized
by Brown and Storey (1996) and continued by
Public Work Landscape Architects (2017).

What both designs fail to recognize is the city's
industrial history. Incorporating the Railpath
into the Core Circle adds a significant amount
of potential public industrial archaeology
sites along the route to park space.
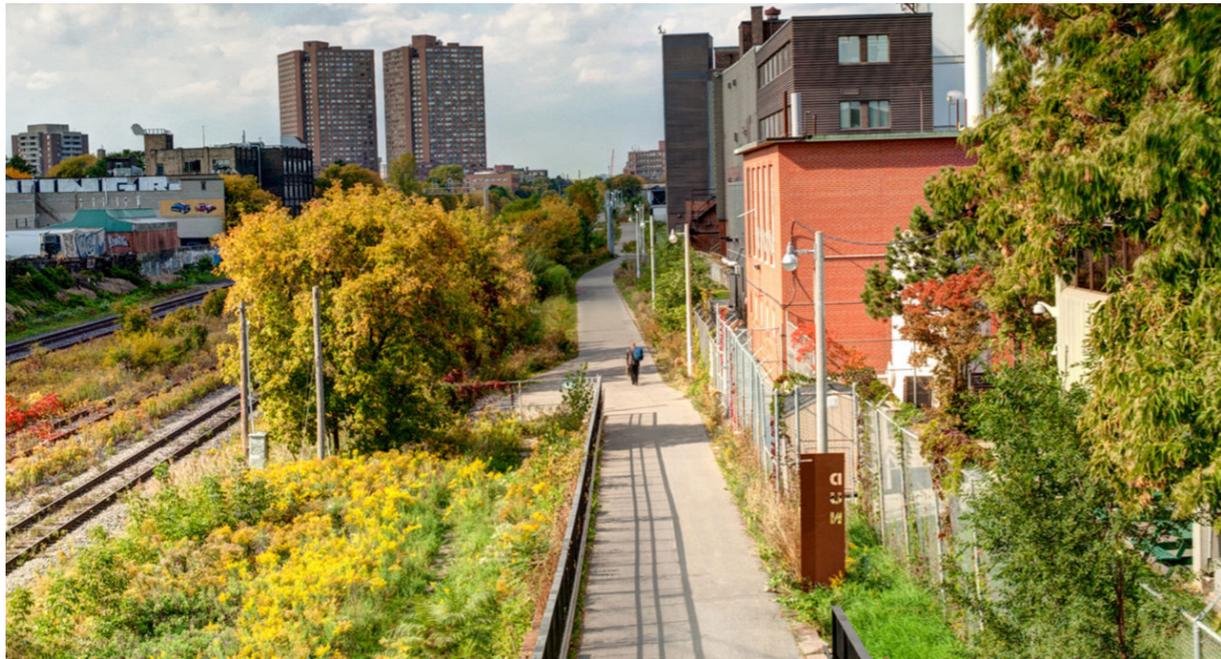
4.1 RUIN

the place as it was intended to be. Ruin is entropy made visible; its effects denote time, events and history passing. Unwin describes destruction as a creative act, a process which visibly delineates a narrative.

"We imbue ruins with great power - the power of historical association. ... Aesthetically ruins may be picturesque, possess a formal complexity born of chance and deterioration applied to products originating in human will and design, and offer engaging phenomenological experiences for visitors wanting to explore their labyrinthine spaces and clamber on their broken walls." (Unwin 2017, p236)

Ruin is a powerful tool, either it is utilized as a portrayal of memory or for architectural effect. Ruin is seen in projects like Carlo Scarpa's Castelvecchio at the point where history collides, or in David Chipperfield's Neues Museum, derelict bombed building with clean white additions. Conservation projects are more powerful when time is displayed, and an urban locus is created from these artifacts. Without the architect's use of ruin, conservation becomes a frozen restoration.

Unwin describes buildings as *"beneath superficial appearances, statements in the common language" (2017, p223).* Objects display elapsed time. Ruin describes the antithesis of architecture, their ultimate decline or failure. To the architect, there is a deep interest in ruin. *"The ruination of a building really is architecture without an architect" (Unwin 2017 p224)* Unwin describes ruin as a framework for our imaginations. The loss of habitation is a far greater story; one must look beyond the destruction to imagine
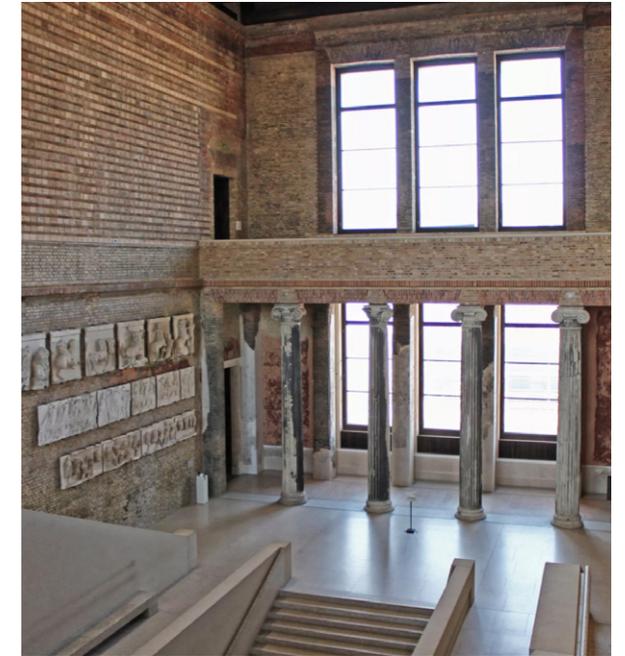
Fig.58 *Neuves Museum by David Chipperfeild (2009) selectively chooses to leavce some layers of the structure as ruin to express its historic relevance, ie new floor, not restored columns (The bombing of the building in WWII)*

Fig.59 *Castelveccio in Verona by Carlo Scarpa merges and reveals layers of history; through various states of ruin, the age of the parts are hinted at*

1350   1973   1700

DEMOLISHED INDUSTRIAL
OPERATIONAL ARCHEOLOGY
CONVERTED INDUSTRIAL
ABANDONED INDUSTRIAL

Fig.60 *Map on status of Industrial Archaeology in Toronto*

Fig.61 *A Chart of data from Registered Toronto Heritage from 2018 Toronto. Notice that Industrial buildings only account for 1.5 percent of the Property designation*

Fig.62 *Toronto's Waterfront 1935*

Walter Benjamin mentions man's desire for fragments of the past[1]. Our need for preservation is an inherent human quality. The start of modernization, the Industrial Revolution, marked the beginning of a discussion of preservation. As Rem Koolhaas discusses in *Preservation is Overtaking Us* "clearly the whole idea of modernization raises, whether latently or overtly, the issue of what to keep." His visual analysis of preservation acts starts from the 1790 Commission for Public Monuments until the present day and is a visual progression of what we believe is important. Preservation initially meant the protection of ancient ruins. Its meaning, however, grew to encompass more modern buildings. At the same time, preservation's subject matter also expanded, becoming primarily focused on important civic buildings such as Churches, parliament buildings, and castles. Progressively we had widened what is deemed important to where *"more sociological substance were preserved, to the point that we now preserve concentration camps, department stores, factories, and amusement rides." (Koolhaas, 2014)*

Heritage Preservation in Toronto has progressed to the point where industrial buildings can be eligible for protection; however, that does not guarantee implementation of protection in all cases. Difficult structures often are demolished (the Maple Leaf Silos, the Don Destructor). The current push towards rewarding buildings like the Victory Soya Mills in 2016 is a growing trend In Toronto. This city, with its heavy industrial past, is finally becoming aware that it is losing many contextually essential buildings and structures to urban development.

The map shown displays these buildings and their status. Many industrial and infrastructural buildings in the city were demolished in the early, mid, and late 20th century. Others had laid vacant for many years, and developers decided their fates as a push for development continued. Many of these buildings continue to operate in their original functions, while more were converted in one way or another. This map is by no means comprehensive as there are many remnants of industrial past; particularly along the shoreline, many remain undocumented. Industrial buildings only make up 2 percent of

heritage properties in the city. This number is disproportionate to the vast amount of industry that was integral to Toronto throughout its history. That there are a few buildings still standing from the era of industry in our city make conserving these artifacts even more critical.

 "History isn't always what's pretty, our industrial history is a foundation of modern Toronto. The existence of the (Toronto Waterfront) silos actually embodies that history. You just can't put up a plaque that this was here." (Mary MacDonald, Toronto Heritage Preservation Services, 2010)

of Toronto's Heritage Property Composition

Finantial 1.8%
Religious 3.8%
Educational 10.2%
Public 14.8%
Commercial 21.7%
Residential 46.3%

(1) Walter Benjamin mentions desire of the past in The Work of Art in the Age of Mechanical Reproduction (1936) and Illuminations (1968)

Industrial Archaeology As Urban Informer

Building	Built	Recognized
Fort York	1793	1923
Old Post Office /Bank Can	1833	1958
St. Lawrence Hall	1850	1967
University College	1859	1968
The Grange	1817	1970
Centre Island Pumping Station	1915	1974
Union Station	1927	1975
North Toronto station	1916	1976
Bank of Upper Canada	1825	1977
Gooderham Building	1882	1977
St James Cathedral	1853	1977
Massey Hall	1894	1981
Eglin and Winter Garden	1913	1982
Old Toronto City Hall	1899	1984
Redpath Sugar	1957	1984
Casa Loma	1914	1987
Go.. and Worts Distillery	1895	1988
Balmoral Fire Hall	1929	1990
John Street Roundhouse	1931	1990
Commence Court North	1931	1991
Toronto City Hall	1961	1991
Commerce Court	1972	1991
Cherry Street Bascule Bridge	1930	1992
Canada Life Building	1931	1997
RC Harris Water Treatment	1941	1998
Mount Pleasant	1876	2000
TD Tower	1968	2003
Tower Automotive Building	1920	2005
Wellington Destructor	1923	2005
Kensington Market	1878	2006
Royal York Hotel	1929	2006
Maple Leaf Gardens	1931	2007
Wychwood Barns	1913	2007
O'Keefe (Sony) Centre	1960	2008
National Casket Factories	1900	2015
Victory Soya Mills Silos	1948	2016

4.3 ALTERING ATTITUDES IN CONSERVATION

Fig.63 *List of Toronto Buildings in order based on their designation. Note that the building type being designated changes from historic to Cultural to modern to Industrial.*

Fig.64 *Two diagrams from Koolhaas' Preservation is Overtaking Us displaying the shift from protecting historic to more contemporary buildings; the advancement of technologies relate to the conservation acts, as technology develops obsolescence creates monuments?*

Fig.65 *Toronto's heritage buildings mapped based on built to designated dates. There is an upward trend of preserving buildings that are younger*

Modernity has historically been a difficult addition to conservation discussion. Jane Jacobs was quoted in the '70s with saying that "Cities need old buildings." Pre-Modern buildings were an easy sell to city planners as appearances fit within preserving 'beautiful' formative history. *** Please re-write. *** Following Koolhaas' diagram on preservation, views regarding which buildings were worthy of conservation shifted.

"Reuse of the expendable reversed the logic of obsolescence and protested the profligacy of consumer society, aiming "to integrate waste into the cycle of use," explained the urban planner Kevin Lynch in 1972." (Abramson

114). Buildings in Toronto such as the Distillery District, or 401 Richmond Arts-and-Culture Hub in the early 1990s had become successful in proving that architecturally insignificant but culturally and contextually important industrial buildings have a future to Toronto. Relevant examples of heritage designations are displayed. Conservation has progressed from historical sites to Victorian heritage public buildings. Modern and mechanical examples of place-making buildings are making strides in the last thirty years with the inclusion of many large projects such as 401 Richmond, Distillery District, and the Don Valley Brickworks, to name a few.

TORONTO HERITAGE PROPERTIES

Cultural Landscapes

1793 F O R T Y O R K 1923

1878 K E N S I N G T O N M A R K E T 2006

Social/Colonial
Architectures

1927 U N I O N S T A T I O N 1975

1817 T H E G R A N G E 1970

1850 S T. L A W R E N C E H A L L 1967

1899 O L D C I T Y H A L L 1984

Modern

1961 T O R O N T O C I T Y H A L L 1991

1968 T D T O W E R 2003

Industrial

1895 GO.. AND WORTS DISTILLERY 1988

1930 CHERRY ST BASCULE BRIDGE 1992

1923 WELLINGTON DESTRUCTOR 2005

1948 VICTORY SOYA MILLS SILOS 2016

I N D U S T R I A L I Z A T I O N

1475 1500 1600 1700 1800 1900 2000 2025

Romanticism

Art Nouveau
Modernity

Futurism

Düsseldorf School of Photograpy

Post Industrialization

1492 — Pope Pius II, Cum almam nostram urbæm
Pope Pius II empowers the papal bull that prevents the plundering of ruins

1519 — Letter from Raffaello Sanzio to Pope Leone X
for the protection and preservation of the vestiges of ancient Rome

1789 — French Revolution
Declaration of the rights of the citizen

Delacroix, La Liberte guidant le peuple

1849 — Turner, Rain, Steam and Speed

1851 — Ruskin, The Seven Lamps of Architecture
"It is impossible, as impossible as to raise the dead, to restore anything that has ever been great or beautiful in architecture."
Great Exhibition of London

1866 — Viollet-le-Duc, Restauration
"Restaurer un édifice, ce n'est pas l'entretenir, le réparer ou le refaire, c'est le rétablir dans un état complet qui peut n'avoir jamais existé à un moment donné."

Levi Strauss & Co. begins the production of the 501

Monet, Train dans la neige

1876 — Great Exhibition of Washington

1886 — Wagner, Puck Building in New York

1889 — Great Exhibition of Paris
Tour Eiffel

1931 — Athens Charter
International Congres of Architects and Technicians of Historic Monuments

1949 Archaeological and Historic Sites Board Ontario

1964 — Venice Charter
II International Congress of Architects and Technicians of Historic Monuments

1975 Ontario Heritage Act

1987 — Concept of Sustainable Development

1989 — The Berlin Wall is opened
IBA Emscher Park is inaugurated

Zucker, Ghost: the loft is stigmatized

1992 — Concept of Cultural Landscape
Earth Summit in Rio de Janeiro
Kyoto Protocol

1997 — Inauguration of Centrale Montemartini in Rome
Concept of Landscape

2000 — Council of Europe, European Landscape Convention
Becher und Becher, Industrielandschaften

2003 —

2012 — Concept of Intangible Cultural Heritage
UNESCO, Convention for the Safeguarding of the Intangible Cultural Heritage

2013 — Paris United Nations Conference on Sustainable Development in Rio de JaneiroClimate Agreement
Officine Fagus in UNESCO's list

2015 — Paris Climate Agreement

2016 — XVI International Congress of TICCIH
Inauguration of the Tate Modern building

4.4 EXPERIMENTAL PRESERVATION

Fig.66 *Impromptu kitchen and bar in the control room of the Hearn at Luminato 2016*

Fig.67 *Luminato 2016 at the Hearn, Toronto*
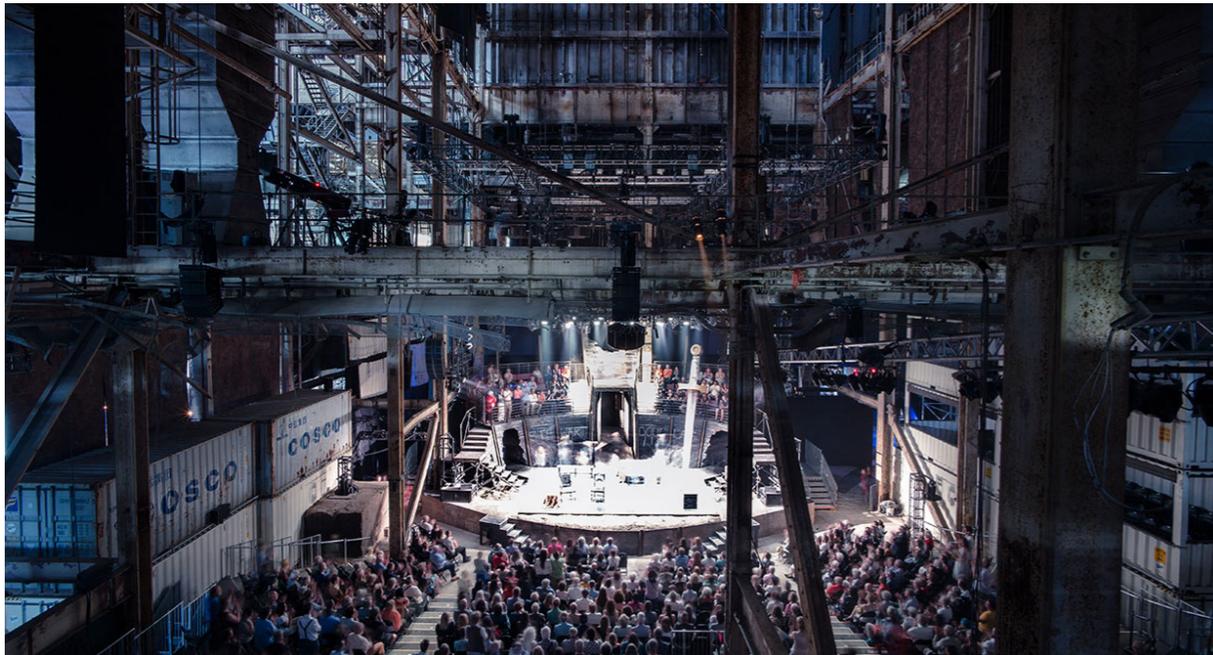
"The fact the experimental preservationists tend to choose objects that are often not considered worthy of traditional preservation raises the question of whether the same old intellectual frames, the criteria, that preservation typically relies upon to establish the value of historic resources [are valid]" - (Otero-Pailos, 2016)

Historic districts did not exist before their conceptual understanding in the early 20th century and were still a very progressive idea in conservation. "Experimental preservation is contemporary, but it has roots in these earlier attempts… " (Otero-Pailos, 2016) Hal Foster argued against Peter Buger's 'Theory of the Avant-garde,' in that the neo-avant-garde was not a meaningless repetition of the past but rather a method of reviving past practices that sometimes served to critique the present.

"Experimental Preservationists choose objects that are already there but for whatever reason have dropped out of contemporary culture. They are stuck in the past. They don't circulate within everyday exchanges. They don't have currency in contemporary culture. Yet, experimental preservationists choose them because they recognize them in the potential to regain cultural currency, to gain value." - Jorge Otero-Pailos, Experimental Preservation

The conservation movement in the past 20 years has revealed that these pieces of infrastructure and industry have some value. Bernard

Tschumi describes the relationship of space to its function in terms of reciprocity, conflict, or indifference. However, his grouping can have varying levels. When the Destructors in Toronto were re-purposed to be transfer stations, they had relative reciprocity; spaces were suitable for conversion without any major changes. Conflict occurs when a building's form is not conducive to its function. Indifference arises when flexible spaces are conducive to almost any function. The warehouse typology in Toronto is a good example of this: lofts, offices, galleries, and commercial uses come out of the same spaces. Industrial buildings have historical, material and contextual value. Now what is the role of industrial heritage in urban development?

Indeed, until quite recently the rule has been for most people to regard objects like the ones that appear in this book as utilitarian embarrassments, to be ignored if possible, but at the very least, despised. (Sande 1978, vii)

Fig.68 *Portland's Naturalization in 1976, after construction of the Large Hearn Stack (Toronto Archives)*

Fig.69 *Glies Clement's Artificial Third Landscape, Constructed of concrete Walls*

Fig.70 *Tommy Thompson Park in 2013; TRCA*

4.5 THIRD LANDSCAPES IN INDUSTRIAL NATURE

Giles Clement in his lecture 'The Third Landscape' describes the third landscape as one that does not fall into the category of human landscapes, such as gardens, or natural landscapes. This third landscape is the space in our built world that is left over and therefore undisturbed for nature to re-inhabit. Gilles Clément's 'Derborence Island' is an example of a human-made Third Landscape, a raised section of land meant to create biodiversity in Parc Henri-Matisse, France. The third landscape is often related to industrial infrastructure. Land in the middle of medians or on-off ramps are examples of these infrastructural landscapes.

Obsolescence has made infrastructural sites outdated; vast stretches of the industrial landscape have been retaken by nature over time. These unplanned landscapes are very tightly related to industrial sites in the post-industrial city. After environmental issues were addressed, aquatic and unplanned natural landscapes started occurring in the Toronto Portland's; flourishing on human-made land and water bodies. With this emerging resource, the city started to utilize land as public parks, bike paths and walkways.

Recreational parks situated in the Portland's of Toronto are examples of industrial landscapes
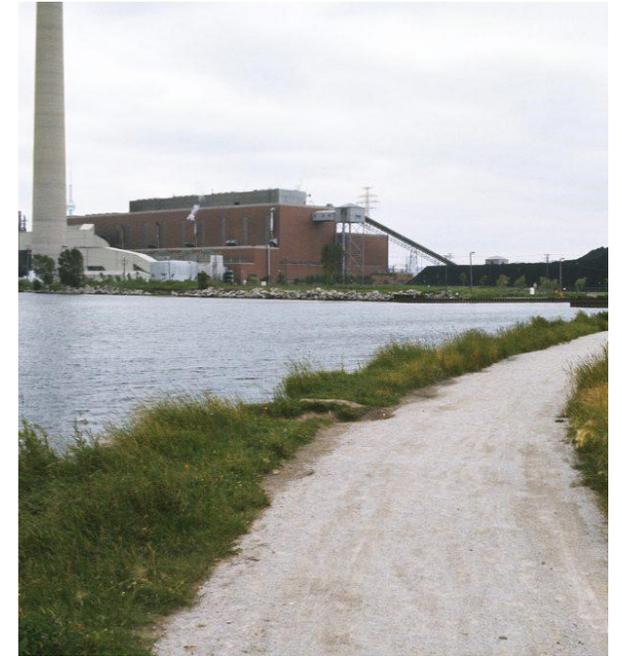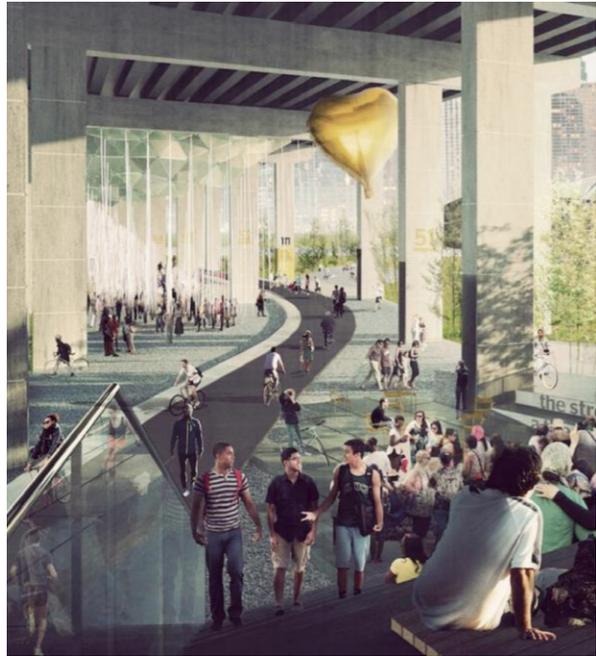
that emerge out of mechanical means. Over a period of time, they develop new functions.

Industrial landscapes create many unplanned spaces. The resultant spaces created from the remaining land of highways, for example, are current issues for a growing city. There has been a moving away from the car in favour of greener, more pedestrian- friendly spaces. Toronto's Gardiner Expressway is a topic of discussion in the urbanization of infrastructure. The Gardiner Expressway East was knocked down bike paths created. Fragments of the city's infrastructure remains in in this project as piers turned to landscape follies.

Through the project Under Gardiner / The Bentway, new spaces utilize leftover 'dead' spaces. This project attempts to re-imagine infrastructures as lively spaces through the creation of pathways and new destinations. Although the intentions of reconnecting communities with each other and with the waterfront are genuine aspirations, the designs raise many questions regarding whether success is possible for retrofitted landscapes. .
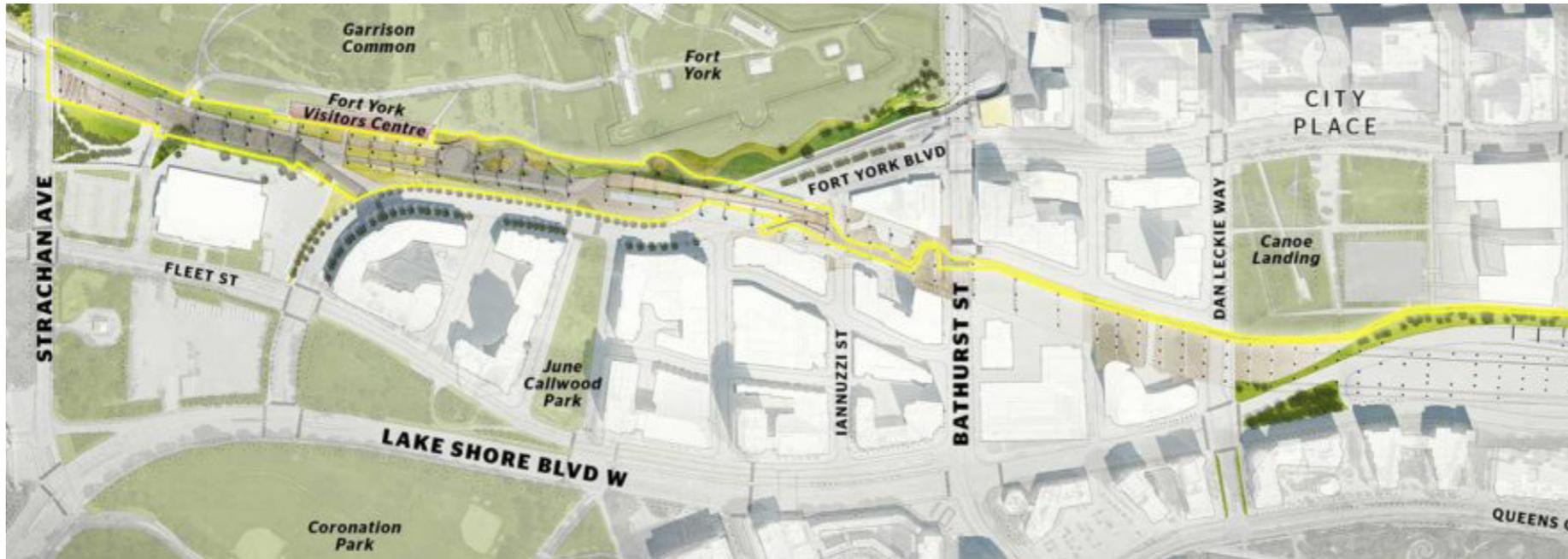
Fig.71 *Under Gardiner project from the Strachan Street bridge, image by Public Work*

Fig.72 *Under Gardiner project floor plan encompasses much of the west side of the Gardiner; which aim to utilize the third landscape underneath the Gardiner to a planned unplanned landscape*

Fig.73 *Photograph by Stewart Churchill. From a series on the Gardiner Expressway*

Fig.74 *Gardiner pillars remaining after the tear-down, image by Sean Marshall*

4.6 IDENTITY AND DEVELOPMENT OF THE 'RUST BELT' REGION

4.5.1 PITTSBURGH RIVERFRONT MASTER PLAN; PITTSBURGH PENNSYLVANIA

"Pittsburgh's identity has long been defined by its industry" The Atlantic, "How Green Riverfronts Transformed Pittsburgh," November 20, 2014

Many consider Pittsburgh the center of steel in the early 20th century. In the post-industrial world, the industrial city declined and transitioned via globalization from industry to technology and service. The industrial mills that shaped Pittsburgh's Riverfront have been decaying as new development eats away at the crumbling remnants of the steel industry. New master plans are being suggested for the integration of industrial artifacts into contemporary developments. Sasaki Associates proposes a connected parkway along the riverfront. Hazelwood Green is one of Pittsburgh's last remaining brownfields, and there are plans underway to create a master plan which incorporates the industrial artifact into the master planning of a new mixed-use development.

4.5.2 ANACOSTIA WATERFRONT INITIATIVE FRAMEWORK PLAN; WASHINGTON, DC, USA MASTERPLAN: NBJJ

The post-industrial era neglected Washington DC's waterfront after de-industrialization. Now with new development looming, the city is seeking to rejuvenate its industrial waterfront. The master plan by NBJJ attempts to reconnect and utilize the land and existing industrial architecture as well as connect with historical DC; and the Washington Capitol Precinct.

Manufacturing is a crucial part of the Rust Belt/ Manufacturing Belt Region. As these cities transition to other forms of economic endeavors, it is imperative that their industrial identity and infrastructures be preserved and celebrated in the future. Master planning projects are powerful tools that help create a wholesome narrative, and it is essential to look at these large-scale efforts.
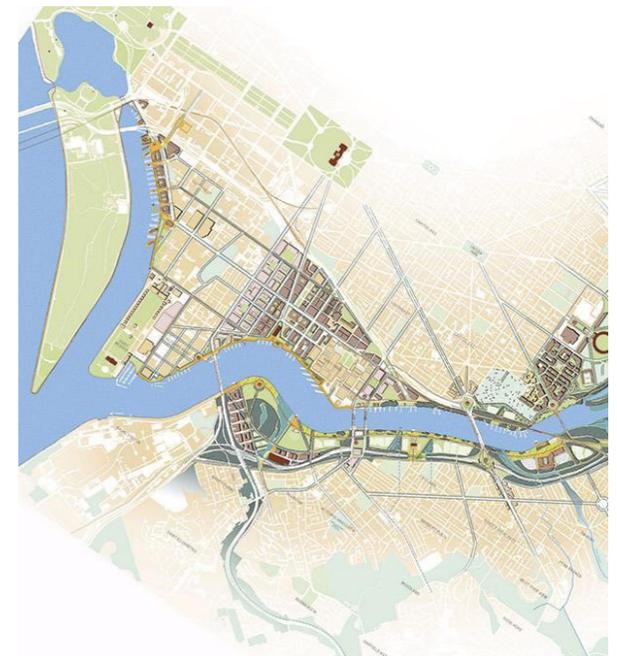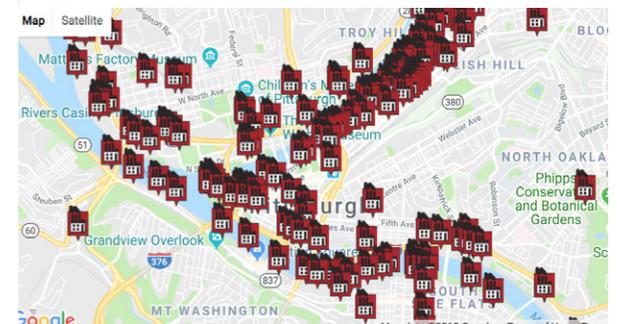
Fig.75 *Pittsburg Riverfront Masterplan development. The right photo displays the various disused industrial sites along the waterfront. Photo by NBBJ Architects*

Fig.76 *The Washington NBJJ masterplan for the waterfront of Washington invites industrial artifacts to remain as development happens around. Master planning is crutial in displaying a wholesome narritive of the city*

5

URBAN DEVELOPMENT AND INDUSTRIAL HERITAGE
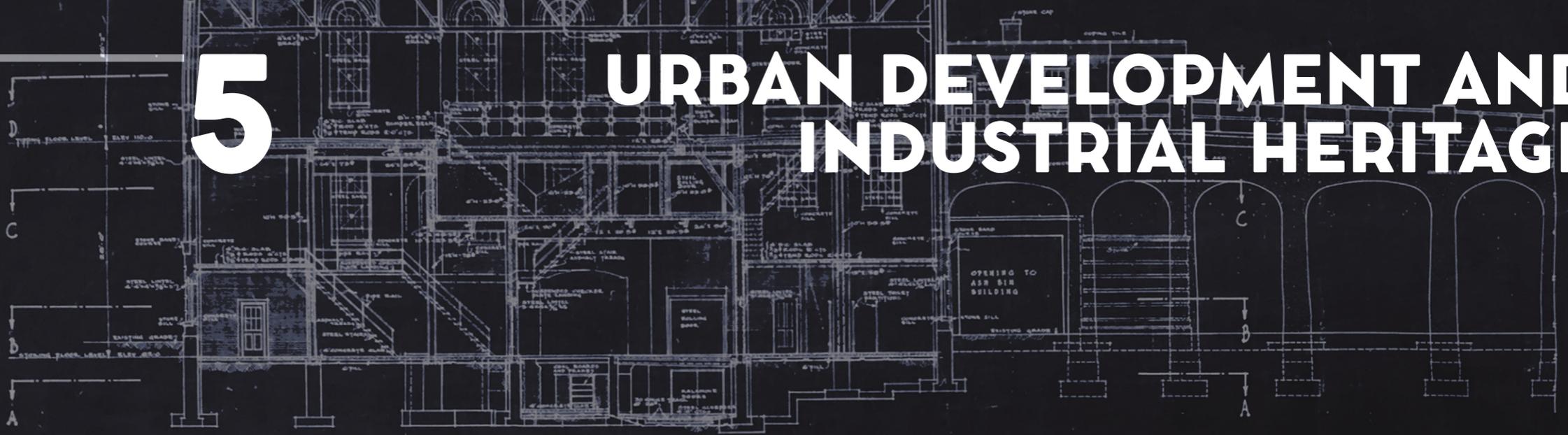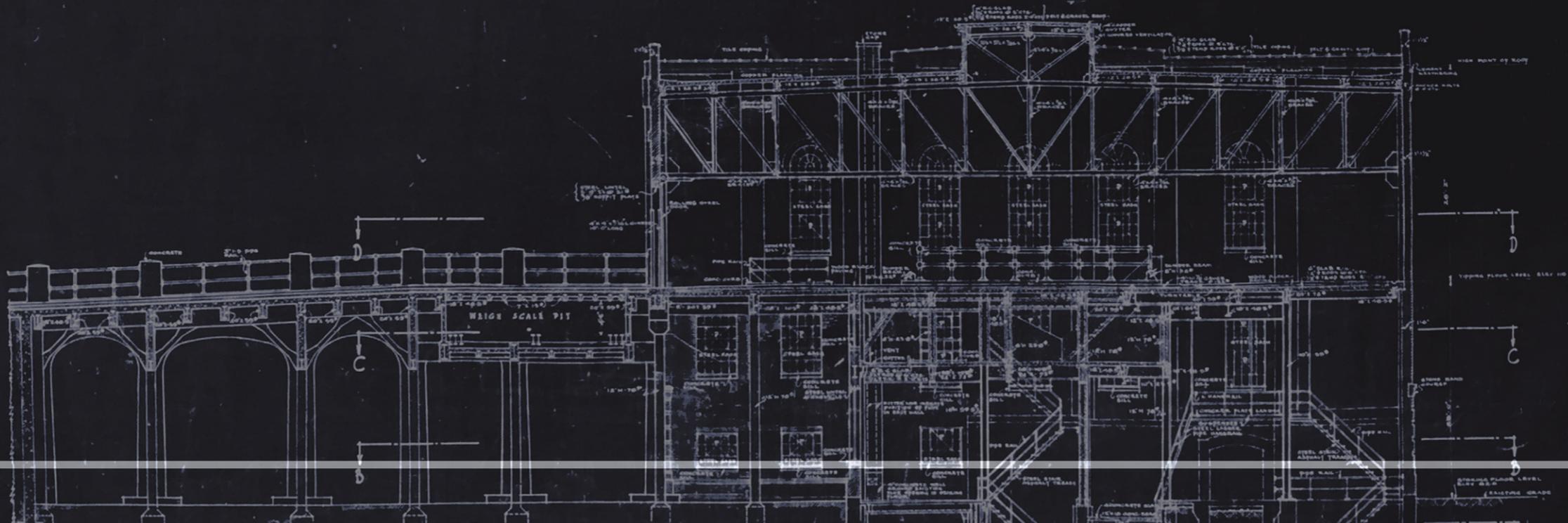
5.1 ECONOMIC FEASIBILITY AND CULTURAL GENERATORS

How does industrial conservation fit with being economically, culturally, and environmentally feasible?

Addressing rehabilitation of the Industrial starts with a consideration of its feasibility compared to new construction. While previous chapters discuss the importance of the industrial to post-industrial cities, there is a daunting pragmatic barrier to working with an existing building. Some do not see the importance of the Industrial as an icon or as an ancestor of the urban space. To the pragmatically oriented, the question is: Does retrofit allow a better building than a new installation?

Skeptics assume that functionally would be more difficult to manage on an existing building compared to new construction. Many cases do not acknowledge benefits. An example of feasibility in a retrofit is the development of lofts in the Toronto area; offering in many cases more massive ceilings, large windows, and similar fitments compared to a brand new condominium.

Sustainable rehabilitation of existing sites allows: Reducing development costs using already

Fig.77 *The Distillery District in 1918 was Victorian Industrial Fabric, not a destination but a place to avoid.*

Fig.78 *The Distillery District 'commodifies decom-modification"Note the means by which the buildings are placed not in the streetscape but over and to the corners of the development*

developed sites; increasing property value through redevelopment; and the Promotion of life-cycle costing. (Building Resilience, 2106)

According to a study entitled Does Adaptive Reuse Pay? A Study of the Business of Building Renovation in Ontario, Canada by Robert Shipley, the returns on adaptive reuse are almost always higher. There was also an increase in higher-paying jobs per million dollars spent on a building renovation compared to a new building. Take for example the Distillery District in Toronto. The business model involved rehabilitating the district's Victorian industrial architecture. The creation of a walkable streetscape allowed for
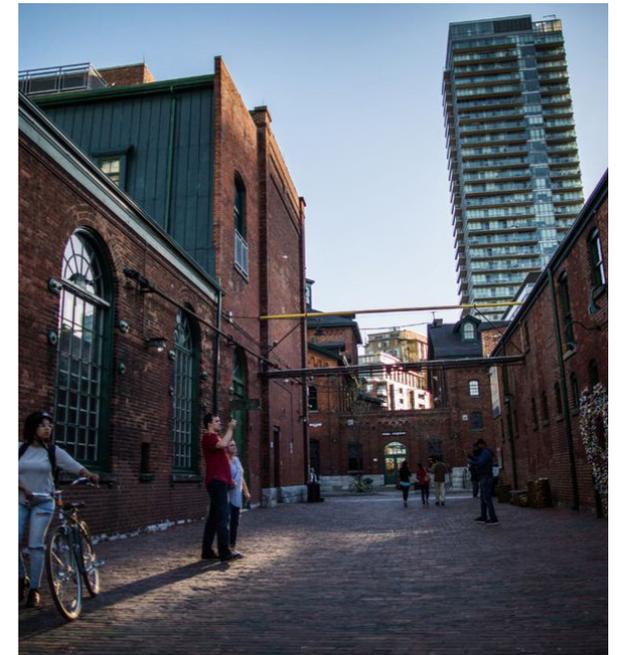
the creation of destinations, thereby drawing in a higher yield of people to the neighbourhood.

Although the retrofit of the Distillery District was initially costly due to heritage considerations, the resultant spaces, place identification, views and culture surrounding the district is continuously paying off for the property owners and for various commercial/cultural stakeholders. The distillery works because it generates culture; it offers the excitement of history and new destinations, all of which in turn generate commodification for economic means.
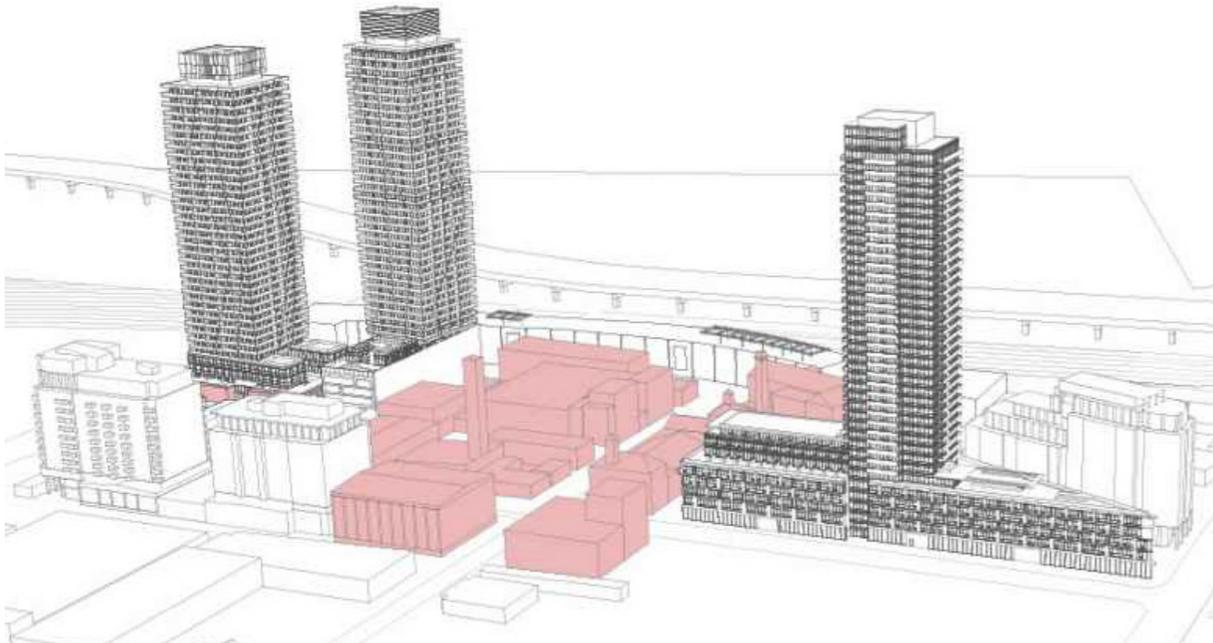
".Whereas typical urban entertainment destinations are places that 'synergize' nationally branded products, chain restaurants, and multiplex movie theatres, the Distillery District is a site for serious theatre, art galleries, and local artisan production. The image promoted by the Distillery District could be described as the commodification of decommodification. Drawing on the concepts of nostalgia and ruin," (Khon, 2010)

Looking at the Distillery District, Margaret Kohn dispels the heritage of the distillery as a simple commodity. She argues that the presentation of industrial history is a natural response to deindustrialization. There are a plethora of Victorian industrial buildings, highlighting the need for organization in urban design. The area has been marketed as a cultural destination with industrial history its magnet.

Heritage must act as a commodity to some extent to validate its existence and for it to be feasible and successful in the ever-changing urban condition. Although not without its problems, the distillery's development has shown that economic and cultural forces

are tied to its industrial past, one that opens to door for architectural rehabilitation. The distillery becomes an agent for urban design, offering a framework on which to create a vibrant new neighbourhood destination.

"Architecture is saved from obsolescence and appears contemporary as it is framed and reframed by preservation as culturally significant." (Jorge Otero-Pailos, *Preservation is Overtaking Us, 2014*) Pailos in *Preservation is Overtaking Us (2016)* acknowledges the cultural significance that occurs in heritage structures. Preservation by its very act shines a light on the architecture, stating 'I am important.' It becomes a cultural magnet to the public, including tourists and locals. As discussed, the important link between the industrial and the development of the contemporary city cannot be overlooked. Considering why it matters to current users, and future use helps us to understand the function of industrial heritage.

Fig.79 *Distillery District Masterplan by Architects Alliance. Note that the density is created not with midrise but towards the edge to the district with point towers.*

5.2
ENVIRONMENTAL PRECONCEPTIONS

"The economy was not "cyclical." The idea that the economy could "return" to its previous state ignored the irreversible consumption of natural resources that was left in the wake of each economic "return." -Jorge Otero-Pailos, Preservation is Overtaking Us, 2014

Quoting Robert Smithson, Pailos suggests that the cyclical economy is self-defeating, purposely undermining the decline in resources that the consumer economy produces. The green movement[1] is a response to the growing concern that the

scarcity of resources and our neglect of the environment presents a significant problem.

The question is in the validity of Green Architecture[2]. Systems such as the Leadership in Energy Efficient Design can prove to be biased towards certain green features over others. *"The LEED accounting system can reward tearing down historic buildings and rebuilding them anew, fuelling the purchase of new green construction materials instead of the preservation of existing resources. (Pailos, Preservation is Overtaking Us, 2014).* The LEED grading system is a start in fostering recognition for energy efficiency; the truth of the matter of building practices hearkens back to the Carl Elefante' saying *"The Greenest Building is the one already standing."*

"Because it necessarily involves the conservation of energy and natural resources, historic preservation has always been the greenest of the building arts." Richard Moe, United States National Trust, 2008

The 2016 document *Building Resilience: Practical Guidelines for the Sustainable Rehabilitation of Buildings in Canada,*

appointed by Historic Places Canada, clarifies the link between sustainable development and historic preservation through rehabilitation. The document stresses the importance of sustainability modifications to all sizes and types of buildings, regardless of their heritage value.

With the recognition of the environmental problem, the public commonly perceives industry as an environmental issue. The common conception is that industrial buildings are horrible, evil machines which pollute and harm us. Their preservation opens up a discussion of this problem. Al Gore's *An Inconvenient Truth* or the precedent of Sarnia, Ontario and its pollution issue imprint industrial iconography with negativity. There is no doubt that industry has created many environmental problems; it is essential to recognize industrial heritage is not celebrated, but also informs us of historic industrial process. Burying Toronto's massive industrial history is doing a disservice to our built environment. Artifacts can educate us regarding wasteful processes of the past.

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(1) Green/Environmental movement – the movement beginning with the famous Apollo 17 Blue Marble picture, 1972; and cementing with the 1973 oil crisis

(2) Green Architecture; not architecture but a building strategy utilizing new sustainable technologies into structures.

Fig.80 *Sarnia Ontario Chemical District;*

Fig.81 *Figure 6.3 Al Gore's An Inconvenient Truth, 2006*

Industrial Archaeology As Urban Informer
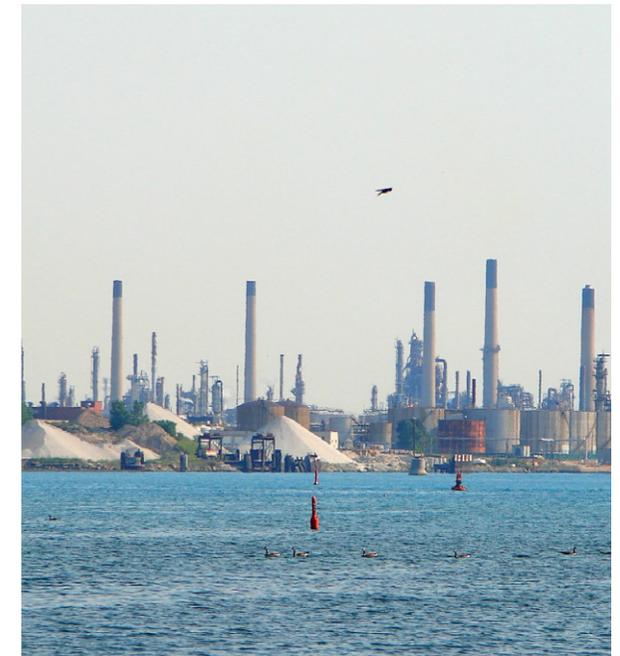
5.3 INDUSTRIAL LANDSCAPE AS AMENITY

"Though Sullivan recognized that, in the form it has taken, the skyscraper was an antisocial conception" (Mumford 21). The skyscraper one of modernism's most influential creation is inherently antisocial; stacking floor after floor in individual buildings naturally creates divides within the city.

Modern Urbanism in the industrial Americas has design flaws Corbusier describes the problem of a heavily urbanized Manhattan as not having any real connection to the waterfront. *"Well, the sea and the vast rivers are invisible, and no one gets the benefit of their beauty, their spaciousness, their movement, the splendid play of light on the water!" (Le Corbusier, When the Cathedrals were White)* New York and Toronto share similar pasts, ones that show what problems can arise when where there is a lack of connection to the waterfront; this is a significant problem that can arise when cities grow from an industrial past.

Corbusier's issues with heavily urbanized places such as New York suggest the need for natural amenities in the city. There is a growing need for the urban population to have access to natural amenities such as lakes, waterfronts, and parks that historically served industry.

As we build more vertically and densely, our need for natural amenities increases. Planning in a developing city makes necessary a balance in

Fig.82 *Sugar Beach is one such industrial landscape in the city that came out of the deindustrializing waterfront..*

Fig.83 *The Amsterdam Brewhouse is a retrofitted 1920s shipping building on the waterfront turned bar. (Amsterdam Brewhouse)*

Fig.84 *The Power Plant Art Gallery was established in the early postindustrial period in 1987 from a 1927 Powerhouse on the waterfront.*
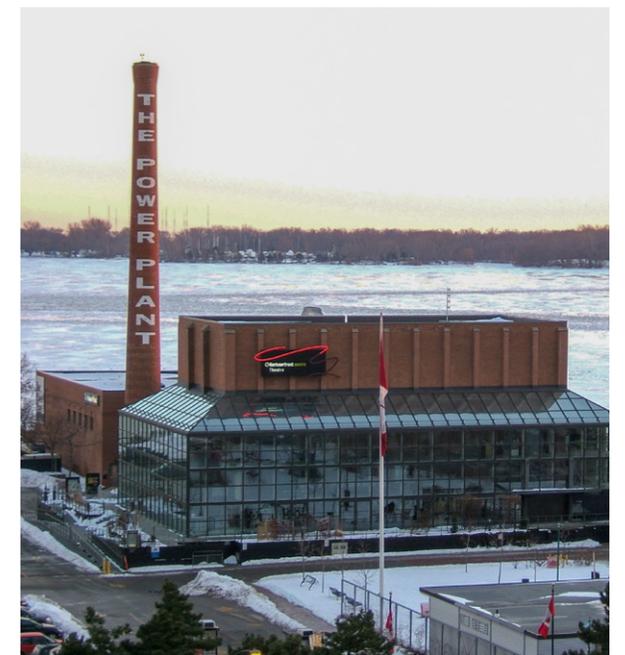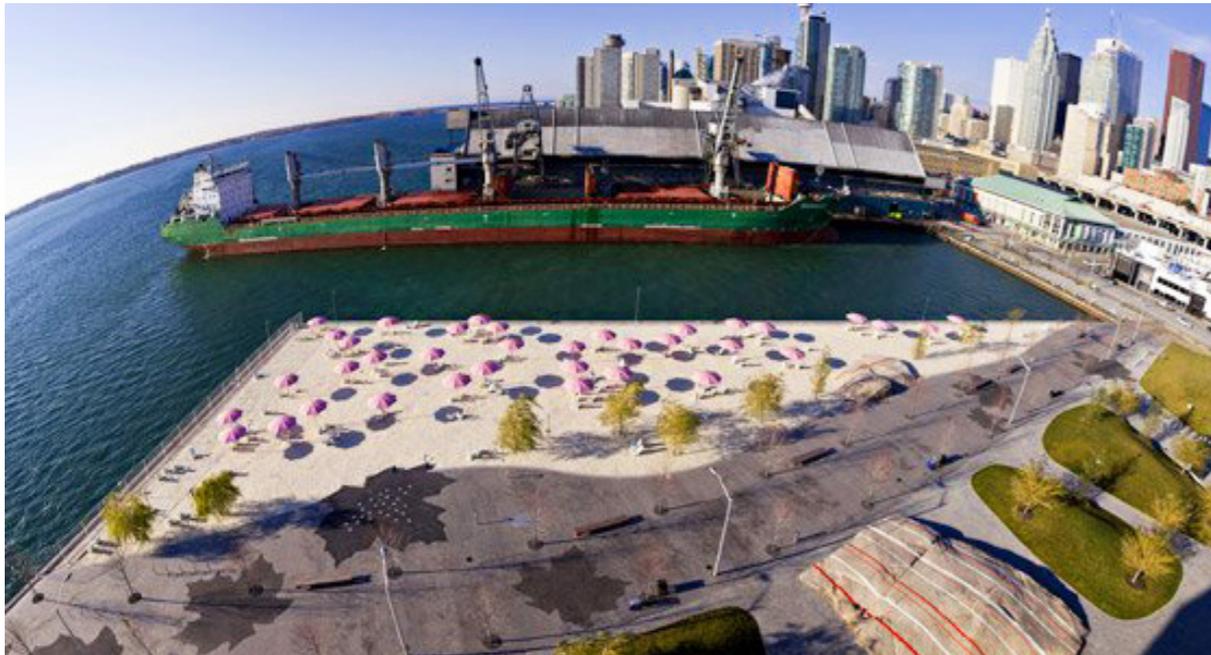
the distribution of space. For example, industrial city thinking proposed the allocation of land to railway and railyards as a productive use of space. Mid-century[3] thinking then came into play, and the need for more substantial infrastructure for the car gave birth to the Gardiner Expressway in Toronto as a valid use of space.

"The condominium boom that started in the early 1980s and continues into the 2000s has altered the face of the city irrevocably." (Hume, 2003)

(3) Mid Century - short for mid-century modern; referred to the era of a technological boom in the 1950s which took emerging technologies in great strides.

The Condominium boom in its second wave currently has been popping up all over the city. With much of the vacant property built up developers sought to use land that was previously for industry and infrastructure. The need for amenity spaces increases when people more densely populate the land. The situation in the Fort York area with Cityplace and other high-rise podium developments has warranted the need for greater park space in a previously industrialized section. Areas that previously had industrial and infrastructural value will play the roles of amenities. The skyscraper might be an anti-social conception, but when subsidized with interesting public spaces, the benefits of having more ground space become clear.
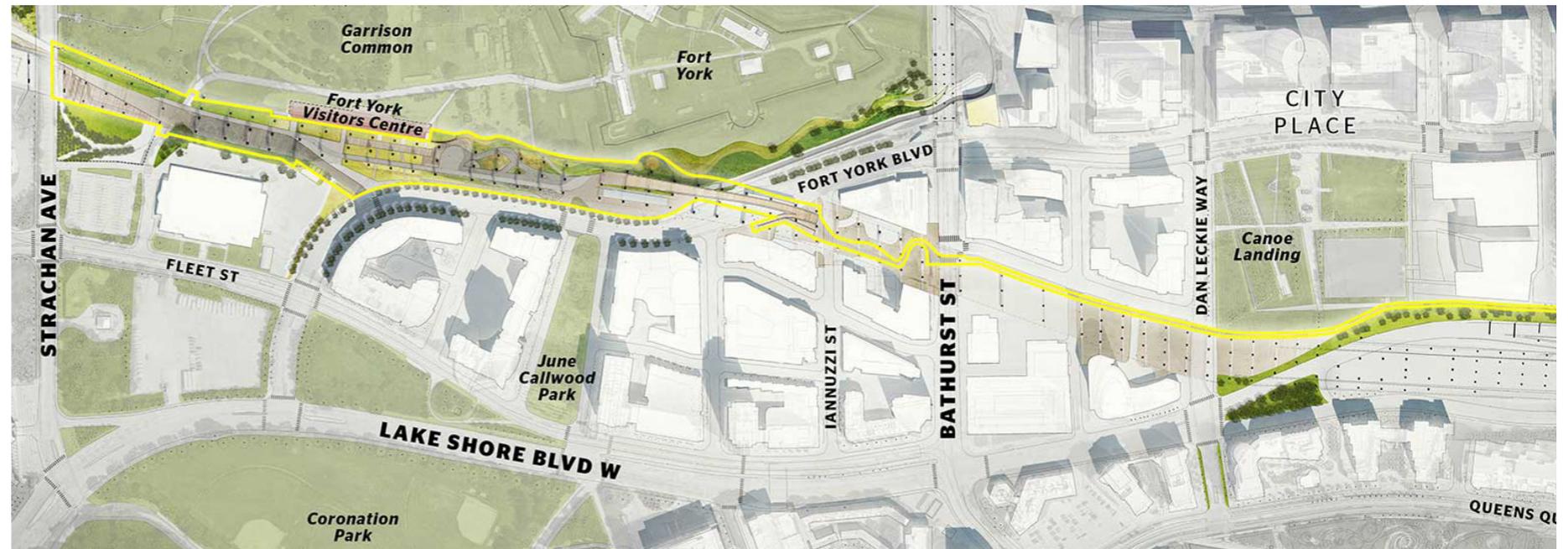
Fig.85 *The Bentway Project map underway in the Fort York/ City-place neighbourhood(http://www.thebentway.ca/about/)*

Industrial Archaeology As Urban Informer

5.4 FUNCTION AND OBSOLESCENCE

This thesis deals with conservation's role in urban development. Research to date has showcased the importance that industrial buildings have to the developing city. Examples such as development proposals at the Battersea Power Station and surrounding condominium buildings, or the Landschaftspark Duisburg-Nord, converted into a park by Peter Latz, offer effective solutions for their particular cases. However, their strong ties to function create issues which may lead to future obsolescence.

"Many obsolete factory buildings have great potential for totally new uses. They are, in fact, a national resource we have neglected for far too long." (Sande, 1978, p118)

Function in architecture is problematic; modern civilization does not hold onto permanence of form or function. *"[the modern world is] capable of everything except solidity and stability" (Berman, 19)* the functions of our cities must be adaptable to unforeseen change. Not deciding on a specific function can allow for a multitude of different uses in the future. Function is a continually changing and adapting variable. Industrial buildings must adapt to change in order to serve the post-industrial city in the 21st century.

"By permanence I mean not only that one can still experience the form of the past in this monument but that the physical form of the past has assumed different functions and has continued to function, conditioning the urban area in which it stands and continuing to constitute an important urban focus" (Rossi, 1979)

Infrastructures allow modern cities to run, and indeed their role is to keep them running; however, continued operation is not achievable with obsolete artifacts. What is the role of the industrial artifact in urban development? Upon examination of the various facets of a disused urban industrial site such as the Wellington Destructor project, it can be concluded that the ideal role the industrial artifact has is:

To provide continuity to a post-industrial city's history. The lack of industrial heritage in Toronto do not well represent the story of Industrial archaeology of the city

Become an agent for urban change. Industrial artifacts exist because they are no longer useful for the work they were designed to do. Utilizing the building as an urban/neighbourhood catalyst is a fitting role in newly developing neighbourhoods that need strong, contextually relevant, iconic artifacts to contribute to their Genius Loci. Structures built for self-sufficiency are able to evolve as needed.

Be an informer for urban design and master planning. New neighbourhoods and districts are tough to design from the ground up to for functionality. Luckily, an existing condition of industrial artifacts provides an excellent context in which to enrich the master planning/urban design of urban development. A connectivity between various industrial sites around the city help strengthen the city's ties to its industrial past and potential future use.

5.5 ENDURING URBAN NEEDS

"Fort York may regain its dignity if plans to bury the Gardiner Expressway and create new parkland around go forward; but it is equally possible that the city's birthplace could spend the next hundred years lorded over by two elevated highways and high-rise buildings." (Nasmith, xii, 2003)

The existence of the Bentway park project ensures that the Expressway will exist above ground for quite some time. The urban growth of context will continue. The City's generic low/midrise model lacks the density required. Original Fort York master planning called for midrise, instead of the array of towers that exist today. The density that exists today helped the neighborhood define itself, and promoted greater interest in public parks, paths and amenity spaces. The Garrison Crossing Bridge might not have been completed if density hadn't justified it.

The mouth of the Creek Park; proposed for the section of land to the northeast of Fort York, expresses the locus that Garrison Creek had played in the formation of the west of the city. In this joint project by ERA and Public Works, there exists an effort to showcase how much the city has changed; this includes the original shoreline and also the growth of the ravine that encompassed Garrison Creek. By scooping out the proportionate ravine and creating a new east entrance to the fort, previously lost historical narratives of the Fort York area are

revived. Urbanity can develop around the park, but the park's features dictate its shape and form. Currently under pre-development; the park extrapolated cultural significance from otherwise unused space in the Fort York district and is a step in the proper direction. The amount of public spaces currently underway is the result of increased population in the neighborhood.

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Fig.86 *BIG's 'Waste to Energy' Plant nearing operation in Sweden. The purpose was to rethink how an incinerator can operate as a public amenity (https://bit.ly/2vWLG1i)*
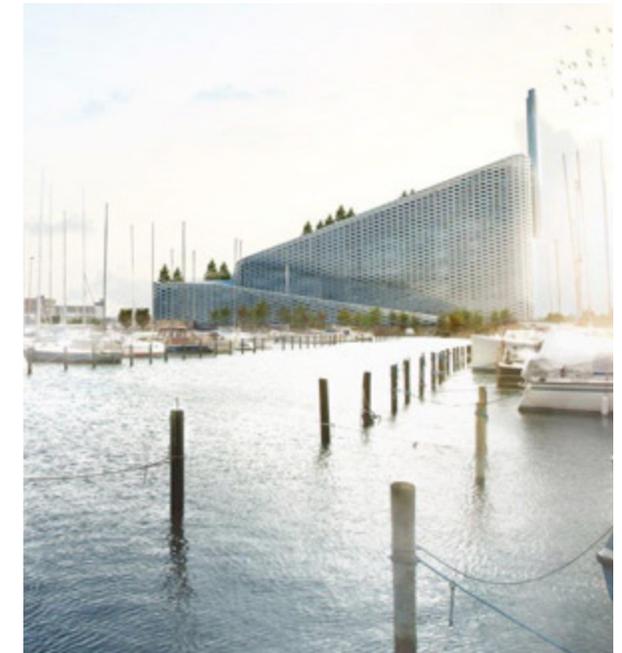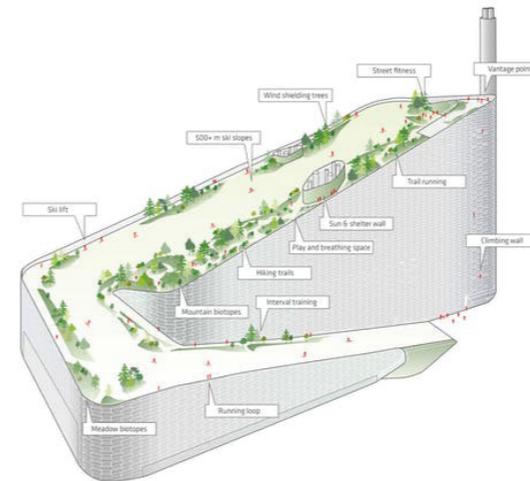
5.6 RE-ATTRIBUTING SELF SUFFICIENCY

The process of recycling is not necessarily a new idea; the City of Toronto has incorporated the blue bin program in our garbage schedule since 1983. However, the growing percentage of online shopping has resulted in higher usage of packaging in contemporary households and condominiums. Localized solutions to paper waste can reduce the need for transportation of recyclables to large recycling facilities and keep the issue local. The showcasing of responsible recycling in an old incinerator visually displays how industrial spaces can adapt

The need for localized methods of recycling is a growing one. China is slowly cutting off its intake of garbage and recyclables from other countries; due to what they say are environmental reasons.(Ives, 2017) Cities will need to find more local means of recycling or face greater recyclables ending up in landfills; their decomposition will contribute to leeches in greenhouse gas emissions. The Destructor may not become a recycling factory; similar to Wychwood Barns, which teaches visitors about methods of food security; the Evergreen Brickworks teaches about sustainable practices. The Distillery District teaches about distilling and the Wellington Destructor can teach about recycling and public works. This thesis explores the site if it repurposed into a hub

for innovation, one which actively engages in innovative ways to deal with local self-sufficiency. BIG's trash Incinerator/generator in Sweden is a valid precedent that combines power generation with a cultural venue.

There are growing problems associated with Urbanity in an increasingly dense world. In the future, the Destructor will once again serve the city's goal of self-sufficiency. The Destructor might host a plethora of innovative start-up companies that aim to make urbanity in Toronto more self-sufficient. The Destructor can be home to experimentation with different technologies that aim to reduce waste, efficiently produce and recycle energy in its locality and demonstrate to the public how these purpose-built structures can benefit the locality. Its function may change with Toronto's changing needs, so the strategy is to create flexible spaces while maintaining historic industrial spaces.

Fig.87 *Wychwood Barns successfully integrates a streetcar facility into a neighbourhood centre.*
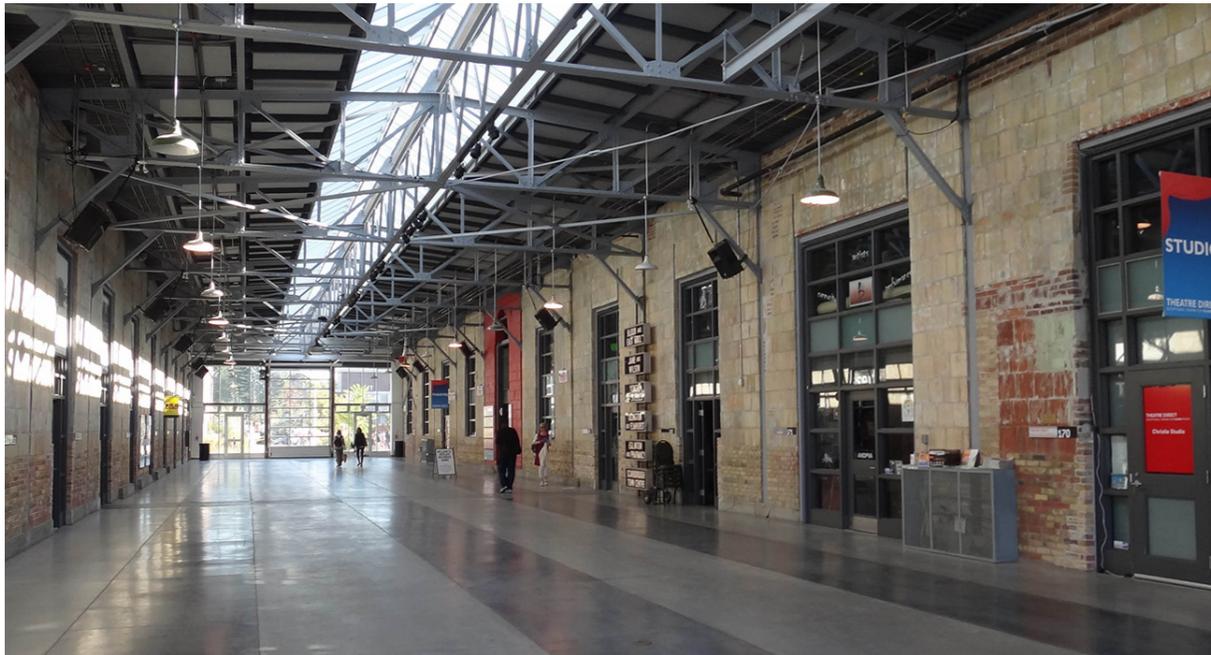
5.7 CULTURAL COLLECTION OF URBAN HERITAGE

"Two projects, one at 401 Richmond Street West and the other at the former Gooderham and Worts distillery, are capturing the energy of Toronto artists and creative industries to revitalize large abandoned spaces." (Nasmith, xiii, 2003) Nasmith's mention of various projects in the third revision of *Eric Arthur's No Mean City* was a foreshadowing of various projects in the coming years. Toronto seems to be have been slowly developing a cultural narrative of historic industrial projects since the '90s. 401 Richmond is a pioneering project where the Macdonald Manufacturing Company Building transformed from an unused warehouse type building to a "restored, heritage-designated, industrial building turned arts-and-culture hub in downtown Toronto. It is home to over 140 artists, cultural producers, social innovators, micro-enterprises, galleries, festivals, and shops." (http://www.401richmond.com/)

During the late 1990s, the Distillery District started to take the form that the city knows now. The complex of Victorian Industrial buildings was converted and retrofitted to art and cultural space; it avoided big-box retail in favour of smaller theatres, events centres, independent retail, and restaurants. Next came the development in the old streetcar repair facility for the Toronto Civic Railway. The site was repurposed as a forum for community functions and artists' housing and studios. Following the success of projects before it, the Evergreen Brickworks reuses the derelict brick manufacturing facility as a natural park and communal centre. It is designed to advocate for sustainable design, local ecologies and active park space. The Roundhouse project creates a variety of spaces: a train museum, a brewery, and a recreation centre.

These projects through their function harkened back to their histories as infrastructural buildings, and their current use is indicative of that historical function. These buildings functions' have partially evolved from their original use. We have the artisan community, a sustainable hub, a community for food security, an entertainment and cultural district, and a multi-functional facility that addresses railway heritage. Toronto does not address its history of garbage and sewage. There are still operating historic buildings such as the RC Harris Treatment Plant, Toronto Island Pumping Station and Ashbridges Bay Plant; however many Public Works structures have not yet been adapted to new uses.

Fig.88 *the Evergreen Brickworks utilizes contemporary function inside the industrial frame, allowing the structure to live past its original design for use; reversing Obsolecense. (Image by Evergreen)*

Fig.89 *401 Richmond; a successful and transformed warehouse to vibrant hub for the artist community*
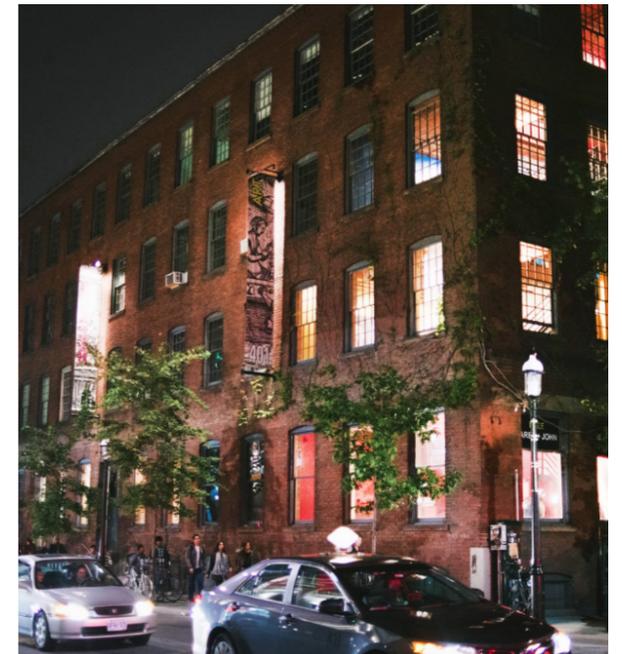
6 URBAN CONSERVATION STRATEGIES

6.1 DENSITY AND URBAN DESIGN

This thesis does not question the amount of development around historic spaces but explores an urban design strategy that seeks to provide appropriate density and development. Responsible development dictate that urbanity will and continue to become denser, and an urban design strategy should address this continual growth

However this density cannot detract from visual access and connectivity to existing heritage artifacts. Acknowledging various external urban design objectives from a macro scale is the first step. Cities are complex and are a product of many design decisions that change as societies thoughts and actions in urbanity change; the strategy should be adaptable to this.

LA DEFENSE MASTER-PLANNING

Napoleonic structures[1] dominate Paris's master-planning through the creation of vistas, and laws governing building heights. The La Defense business district was formed post-WWII to the west of the Arche de Triomphe. The Grande Arche (1989) designed by Architect Otto von Spreckelsen, combined with the Louvre to the East, creates the Axe Historique. The power of vistas throughout Paris connects the city to its historic past but also connects to its future as a city. Multiple Master Plans of the La Defense district aim to develop existing vistas and monuments. This precedent is an extreme example on how design can span distance and time through a city from a macro lens.

(1) Napoleonic Structure – an architectural folly and architectural elements of Napoleon; described by the wide streets, vistas, and aligned architectural elements such as the grand arch.

Fig.90 *Norman Foster's Hermitage Plaza towers rendering in La Defence*
Fig.91 *Napoleonic view of the Axe historique*
Fig.92 *Axe Historique as designed and added to throughout the years*
Fig.93 *Masterplan for La Defense by AWP*

PARIS

Arche   CNIT

La DEFENSE

Seine

Bois de Boulogne

1 km

Palais des Congrès

Champs Elysées

Arc de Triomphe

L'Elysée

Obélisque

Le Louvre

Gd et Pt Palais   *Seine*

6.2 INDUSTRIAL TYPOLOGIES

SUGAR FACTORY LOFTS

TIP TOP LOFTS

Fig.94 *Industrial buildings can be classified in a gradient of two separate typologies. Urbanized industrial spaces are a warehouse typology that are easy to convert into other urban functions. Industrial machines are strong in their function and have a difficult time dealing with changing during function. Many of these structures are either demolished or unused*

401 RICHMOND

ORC WEST

URBANIZED INDUSTRIAL
ADAPTABLE WAREHOUSE TYPOLOGY

60 ATLANTIC

Warehouse-type buildings are straightforward to adapt to changing function. Buildings with very specific purposes are inherently difficult to adapt. A warehouse-type building such the Tip Top Taylors (Tip Top Lofts) is straightforward to convert because of open floor plates. Other industrial buildings require more finesse.

This page places industrial archaeology into two categories of variable levels. On the left, the urbanized industrial spaces. These structures are comprised usually of open floor plate from which a variety of function, industrial or otherwise can occur. The loft typology is a form of this adaptable warehouse type.

DISTILLERY DISTRICT

CARPET FACTORY
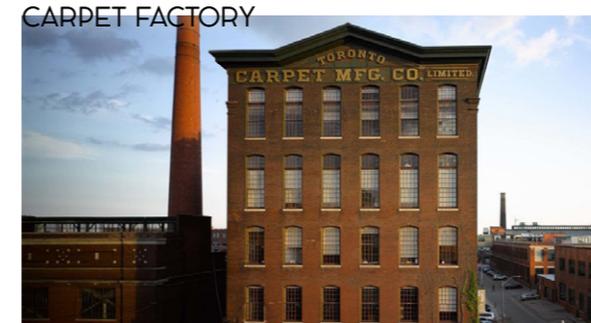
The right side encompasses industrial machines, the purpose built structures designed to fully commit in being the most efficient structure for the specific job. Silos, brownfields, infrastructural projects. These structures are extremely difficult to adapt to other functions; and usually are more susceptible to obsolescence.

The specific typology of some structures leads them to be historically more important than the warehouse. Where the warehouse can be easily converted, industrial machines need major change to aid with conversion. Heritage-defining elements are intrinsically more prominent. The Wellington Destructor is

TOWER AUTOMOTIVE BUILDING (MOMA)

a challenging project, with its ramp, and strong structural functionality meant to efficiently burn garbage. Surviving Industrial machinery such as the furnaces, compactors, pumps, and large industrial equipment are crucial to industrial association. The large spaces are rare and critical for further function.

From a macro lens the historical connection to other cities' industrial history must be maintained. The development of a structure need not be in isolation; various city developments can converge and create a more powerful development. This thesis seeks to address these functional machines - to provide continuity to a post-industrial city's history and future - and to inform neighbourhood development/urban design, thereby becoming an agent for change in the city. Inform is the term used because industrial machines do not blend into urbanity; urbanity must be adapted for them.

REDPATH SUGAR

FORT YORK

WHYCHWOOD BARNS

RIGHARD HEARN GENERATING STATION

VICTORY MILLS SILOS

EVERGREEN BRICKWORKS

THE ROUNDHOUSE
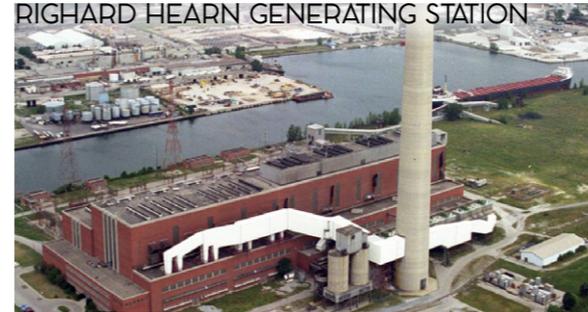
WELLINGTON DESTRUCTOR
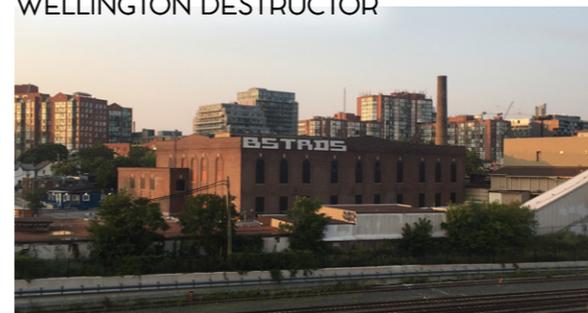
ASHBRIDGES BAY TREATMENT PLANT

INDUSTRIAL MACHINE
PURPOSE BUILT INFRASTRUCTURE

Industrial Archaeology As Urban Informer

6.3 CONVERGING MASTER PLANNING

Fig.95 *Map of citywide Industrial buildings.*

Fig.96 *Selected industrial sites chosen for their importance, historical value and potential for public discourse*

Fig.97 *Downtown PPR Plan-Core circle plan with highlighted industrial buildings in red*

Fig.98 *the combination of the Core Circle masterplan and the connection of industrial buildings along the route. in this design the industrial archaeology function as support spaces and destinations. They also provide a means to reconnect into the local urbanity in that section of the city.*

The Toronto Railpath and the Core Circle are two similar up-incoming urban design master plans in the city. The Core Circle aims to connect park spaces with historic rivers and geologic formations. The Railpath aims to reuse land previously reserved for industry (the railway) for pedestrian and cyclist use. The two schemes for the city are combined in an attempt to provide continuity of history on the macro scale.

The Core Circle (f.89) by Public Work is the latest master planning strategy for Toronto. A map of industrial sites around the city (f.87) attempts to connect geologic history to industrial history. The next map (f.88) shows   a filter that was

created to acknowledge significant historic buildings and ones that are fit for public function. Recent developments such as the Distillery District, the Evergreen Brickworks, Wychwood Barns, the Roundhouse, the Fort York Visitor Centre and plenty other new and up-incoming developments are examples of ideal industrial buildings fit for public discourse. The Core Circle and the Railpath master planning strategy creates connections in significant industrial sites that follow the same pattern. This study displays how these various developments might work on a city scale to enhance the geologic, industrial and contemporary locus.

This Core Circle plus Industrial Archaeology master planning strategy removes the weaknesses in having only a Core Circle or a number of industrial archaeology individually. Any park space that is allocated in the city should have a plethora of auxiliary spaces to be successfully integrated. Design of a great network of parks does not generate activity unless there are destinations, and support spaces. Why would inhabitants go out their way? The industrial spaces enroute function to facilitate events, meeting spaces and other amenities throughout. The structures work better with the core circle than the rest of urbanity, and can function as connectors into their respective neighborhoods

Fig.99 *The Core Circle, The Railpath, and the significant industrial sites integrated within the masterplan. This macro scale of up-incoming masterplanning allows Toronto to be read in terms of Geological and of industrial significance*

Industrial Archaeology As Urban Informer

6.4 URBAN GEOLOGY

The Garrison Creek and the morphology of its topographic form have been studied There is an effort to narrow its scope from city master planning to more local planning. The existing site of the creek had many park spaces dispersed amongst its original topography.

Looking at the history of public works in Toronto gives perspective on influences on function throughout the city's development. The site sits right on Garrison Creek and was firstly used as a source of freshwater during Fort York's heyday in the 1800s. The function of the creek was then that of transporting people, and sewage during the mid-1800s. It

was buried in 1884. The Creek was continually used for sewage until the Ashbridges Bay Water Treatment Plant opened in 1910 and new sewer pipelines were installed. The city then built The Wellington Destructor on a filled portion of the Creek. The Destructor functioned as a local Incinerator from the '20s until the '70s.

The Garrison Creeks function of transporting and disposing garbage had lived on through the Destructor decades after the Creek's burial. To properly analyze the Locus of the Garrison Creek in an urban centre, the master planning principle suggested ways to strengthen the city's plans of a connected series of parks;

Fig.100 *New developments around Fort York, including many parks; the crucial element being the bridge, crossing the Rail.*

Fig.101 *A diagram showcasing the original location of the Garrison Creek in relationship to parks*
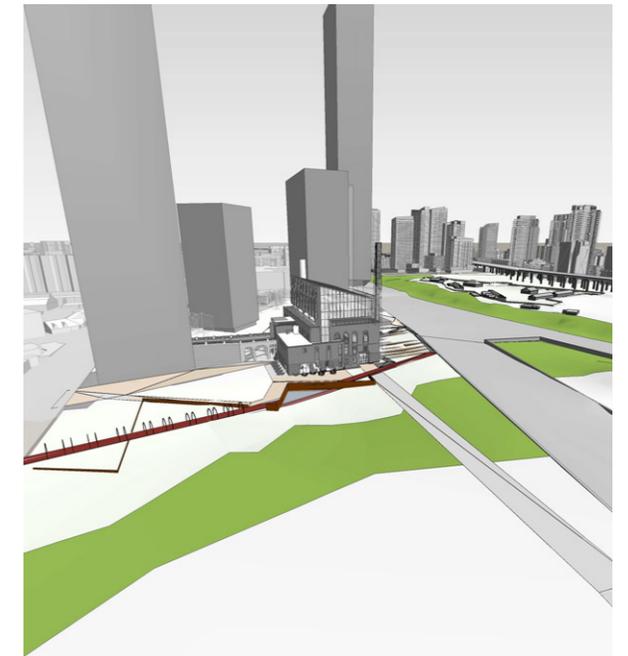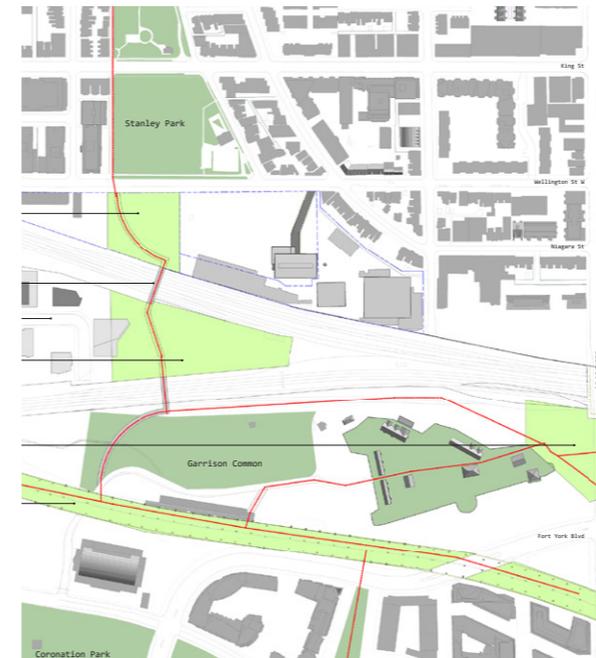
it borrowed the city's Garrison Crossing as
a means to further Toronto Genius Loci.

The location throughout history has been
one of flows, firstly as a water supply, then
for waste and wastewater. The Destructor
is the industrial continuation of this flow.
It is imperative that the urban design of
buildings acknowledge and follow a 'flow''.

Fig.102 *The Garrison Crossing bridge is a strong
connector of the north and south, this path
should have a line of sight to the building*

Fig.103 *The masterplanning displays a variety of
important views to the industrial artifact. The
views are important not only for the industrial
artifact but should aid to connect the city
to the structure and then the Core circle
masterplan, which then connects to other
geologic and industrial sites. The views around
the site were prioritized while bumping up
the density 25% from KPMB proposal.*
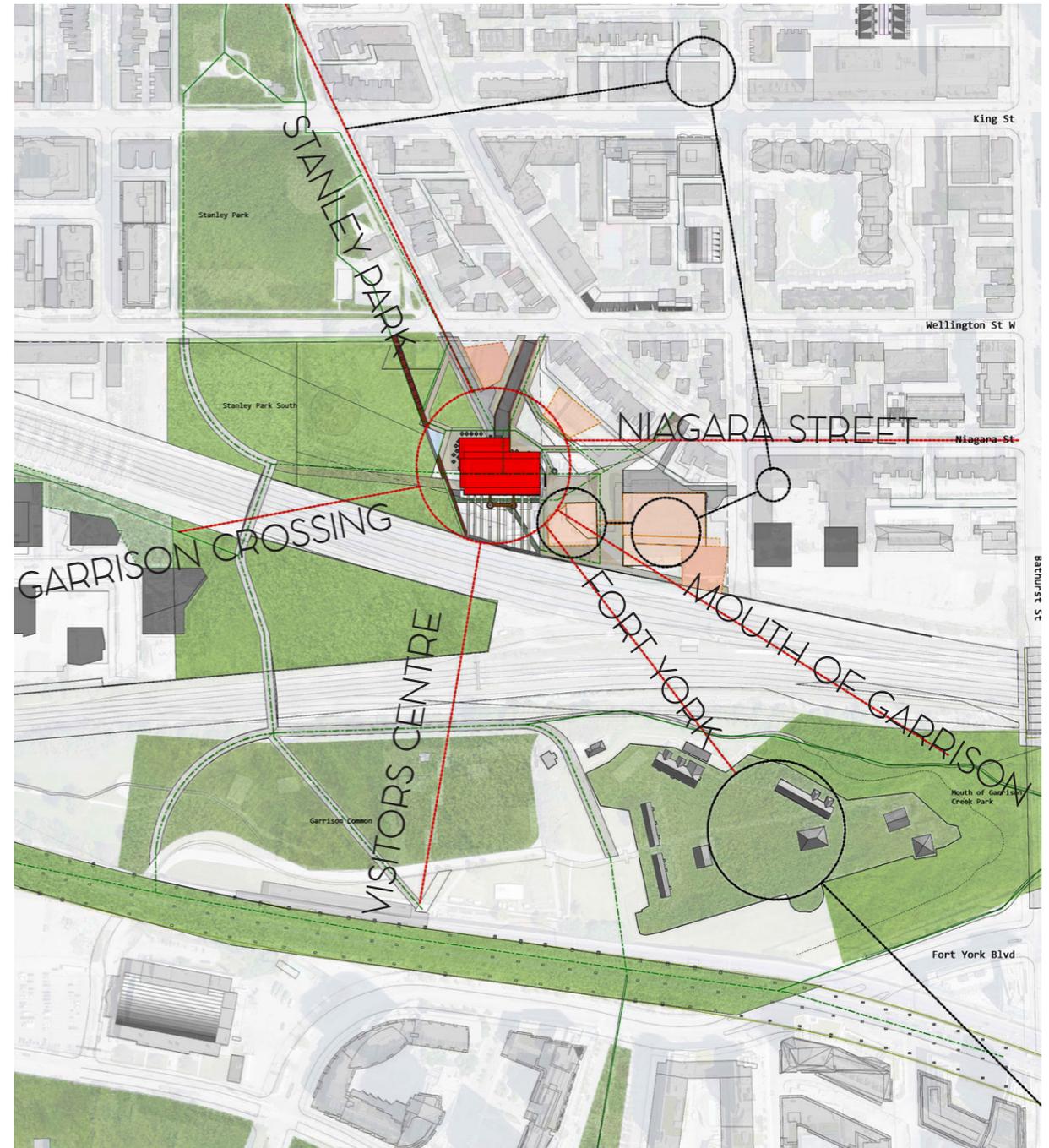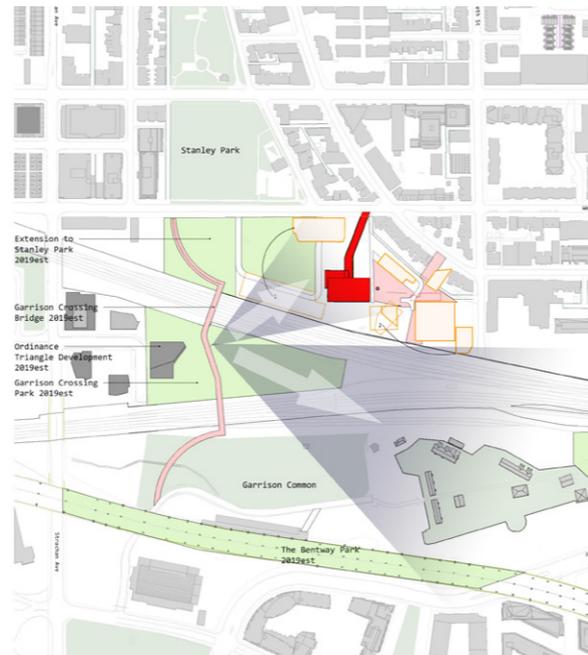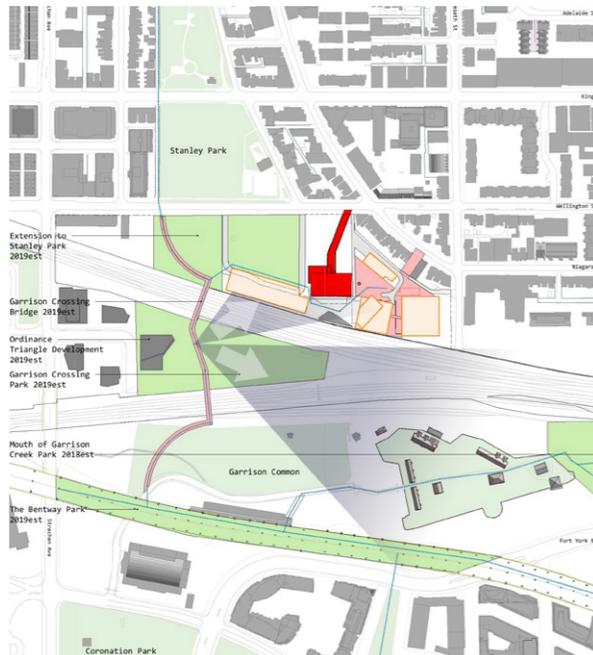
Industrial Archaeology As Urban Informer

6.5 INFORMED DEVELOPMENT

If the surrounding context of the Destructor was emulated (three-story brick building), the tectonics of the emerging surrounding context would provide a disservice to the historic site. A height limit on required buildings would be detrimental. Creating a tectonic quality that is similar to the industrial artifact is not constructive, but rather downplays the importance of the tectonic quality. When tectonics conform, ubiquity ensues. Similarity in scale reduces the distinction between historic and new. When there is contrast, the tectonics and massing of development are more powerful. Height restrictions in Ottawa or Washington, DC make sense when they are enacted to ensure views of surrounding areas. However, even a very historically conservative city like Paris is easing its height restrictions in places like La Defense to increase density while retaining open spaces and views as with Norman Foster's Hermitage Plaza Towers rendering.

Height is not a detriment when used correctly. In Paris' La Defense, the master planning allowed tall buildings to endure, so long as they do not block vista views. Tour Montparnasse (1970) is an example where height was a problem because the design was not done according to the master plan, and its placement looked random.

cipal views to the Fort
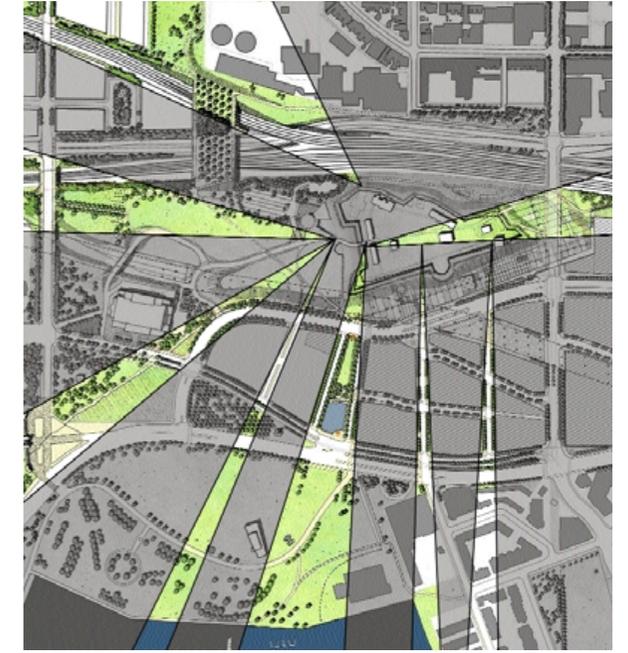
Toronto's history of master planning is full of many half-measures. There have been a few vistas created throughout the city's history such as with Spadina, and Bay Street, but the city's parks remain fragmented. The comparison to the Axe Historique might seem improbable, the Core Circle project creates a unifying park space, and geologic and city history define its borders. Combine this prospect with the industrial archaeology found in the Core Circle: a nodal condition has been created in industrial artifacts and other historic sites through park spaces.
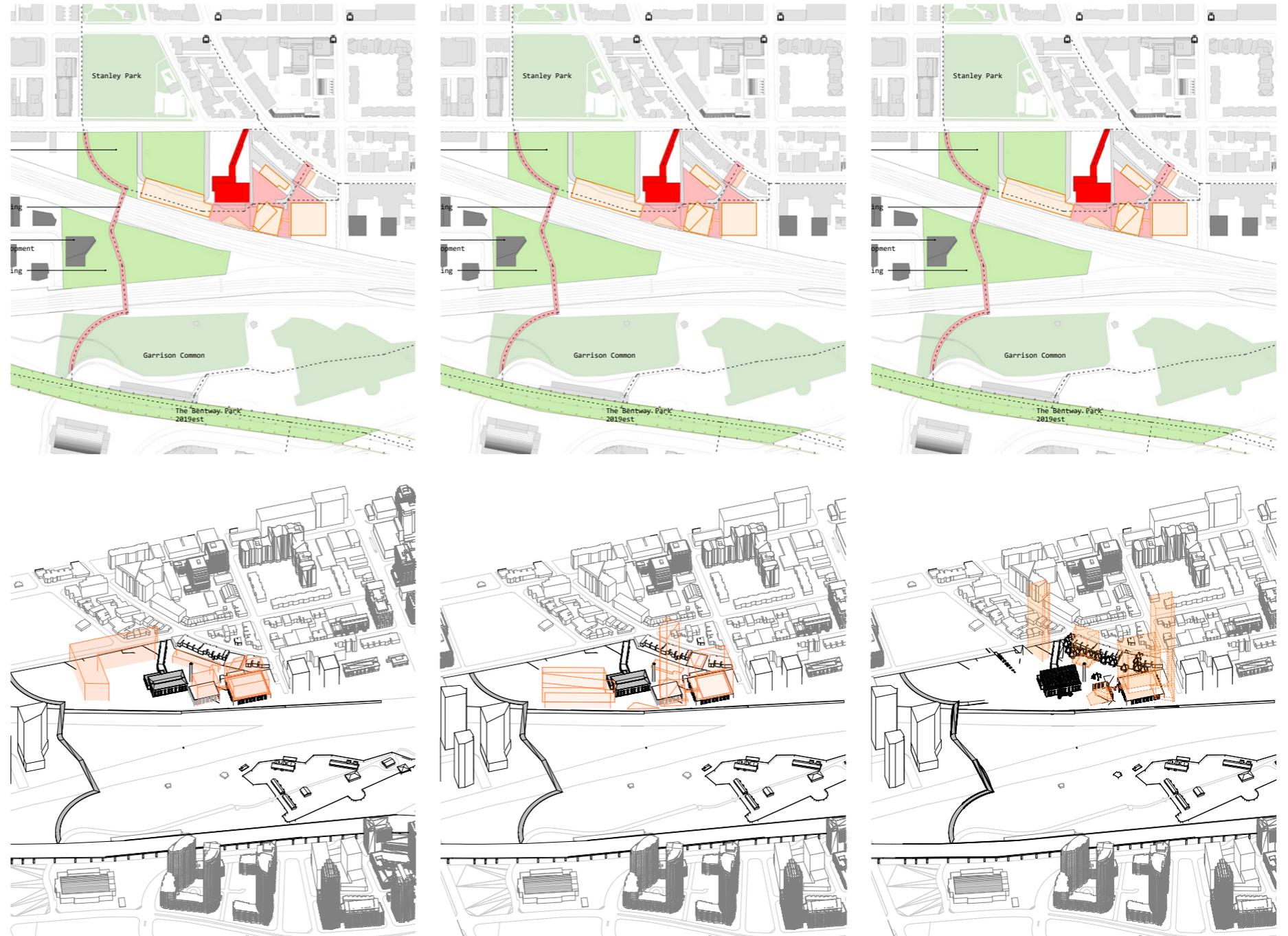
Fig.107 *The three columns display three different approaches to urban development on the site. A study of a midrise development strategy, KPMB's proposal as of January 2018, and an informed development taking into account connections of the park-space. The informed development allows 15% more area than current proposal*

Industrial Archaeology As Urban Informer

6.6 SITE BOUNDARIES

6.6.1 BUFFER ZONES

The Garrison Common North secondary plan addresses the buffering of height and proximity to existing residential buildings on the site and from the railway. Development must adhere to The Urban Design Mid-rise Guidelines along street frontages. In isolation, these mid-rise guidelines are a good starting point to blanket development along a 'generic' street; I question the guidelines and proposals that a more in-depth and contextual development strategy might present.

6.6.2 VISTAS AND VIEWS

Views in the Garrison North Secondary plan are mentioned only twice: one addresses 'potential view impacts on Fort York', and the other the view to Parks. The secondary plan, although sharing a boundary with one of the most important historic sites and vistas in the city (Fort York), fails to address view corridors. The Fort York secondary plan (13) continually mentions views and view corridors and even draws up the historical paths and open spaces created by Garrison Creek.

Vistas and views are an essential master planning consideration in urban design and are intrinsic in conservation projects. Unintended vistas and views of infrastructures, defence and industrial projects, are essential ties to the Locus of the postindustrial city. The above plan and section display an array of views that the newly designed Garrison Crossing Bridge will create to both the Wellington Destructor and Fort York. While it is vital to urbanize, it is also crucial to design for the views that tie the urban locus[2] together. This master plan ensures that the new developments aid in creating views.

Fig.108 *KPMB rendering of 2 Tecumseh*

Fig.109 *Suggested rendering of the massing of Wellington Destructor neighbourhood; increasing the density on site by 15% KPMB's proposal while allowing sightlines to and from significant archaeology.*

Fig.110 *the view from the east of the site (Niagara street) displaying the terminating view of the destructor, and how the massing of the neighbourhood is located. Note the white buildings to the centre left is a condominium development that will arise from the Coffin Factory(centre front buildings)*
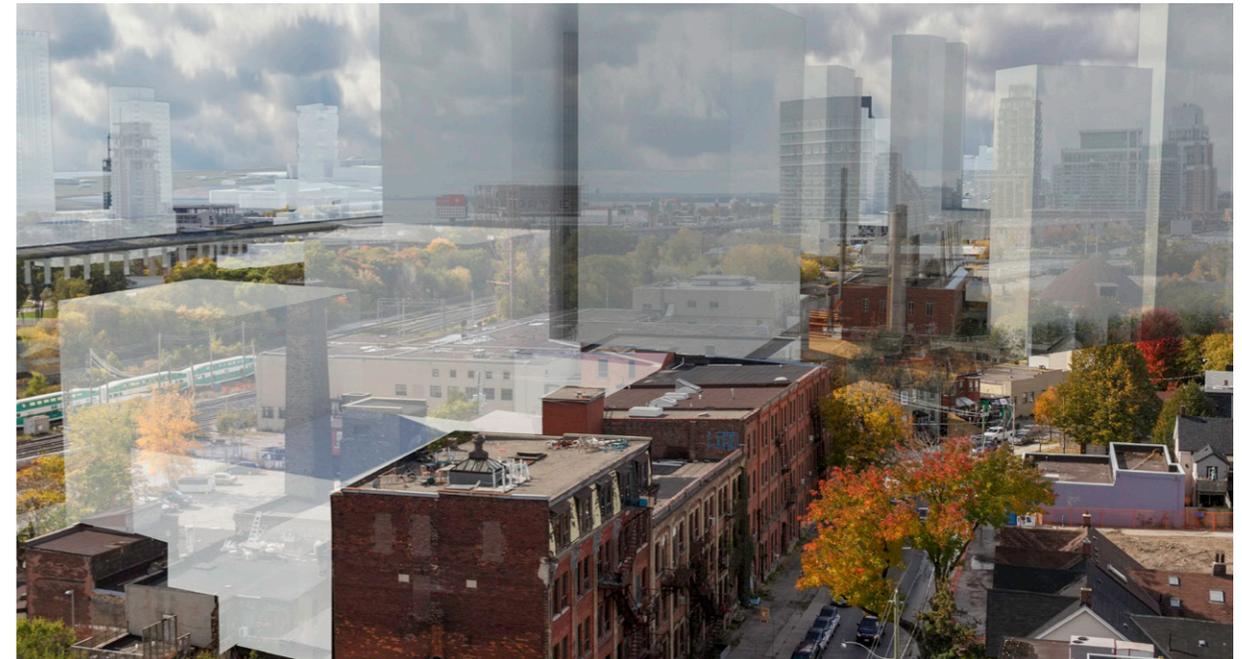
6.6.3 CONTEXTUAL DEVELOPMENT

The context around Fort York in the last ten years has changed drastically. Land value has skyrocketed, and former brownfields have quickly transformed into new neighbourhoods. The ordinance triangle development (above) is the latest high-rise development in this area, and its massing is suitable given that the Fort York development just across the railway has similar heights.

The Fort York neighbourhood and context are rapidly intensifying, as are sites all around Toronto. The need for this density will arise, which is why KPMBs density in the development of 2 Tecumseh is validated. The amount and size proposed on this site compared to Cityplace (East), Fort York Neighborhood (South), and the Ordinance Triangle (West) is appropriate and somewhat conservative given the tightness of the tall condominium towers.

To have mid-rise development on this property and keep the density requires spread-out development, robbing residents of precious park space required for vistas and views. Instead, this thesis explores a border condition of density which places population and urbanity along an open corridor of park space (The Garrison Creek and Core Circle)

Stanley Park

Stanley Park
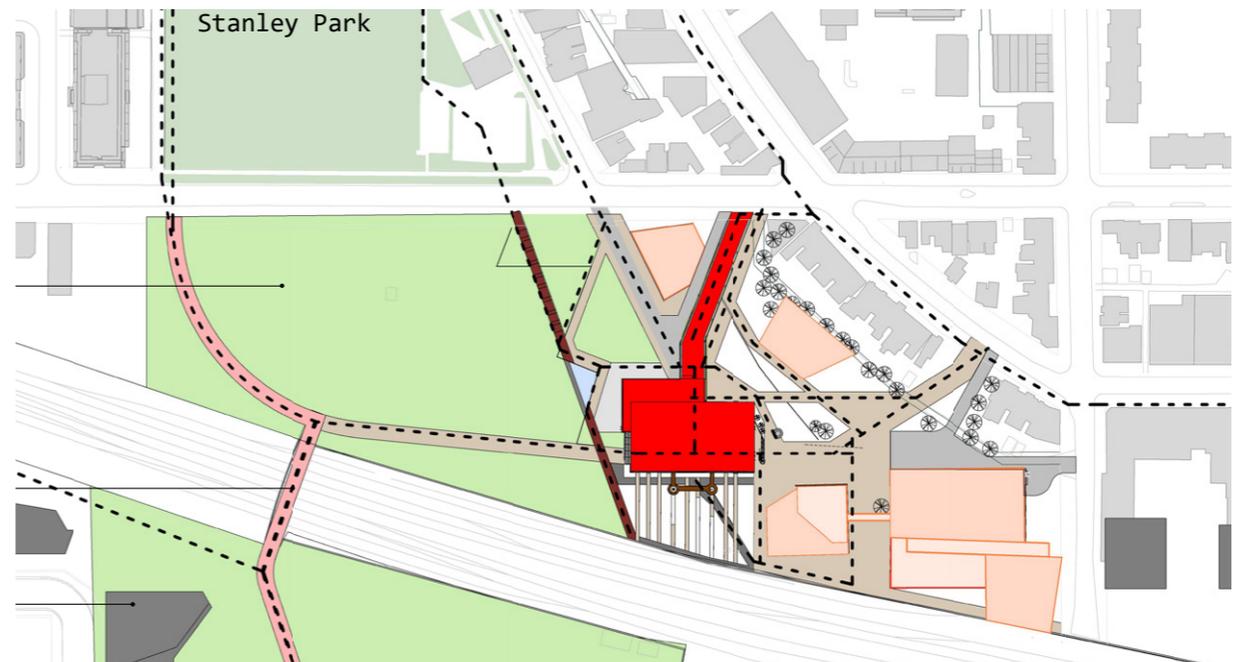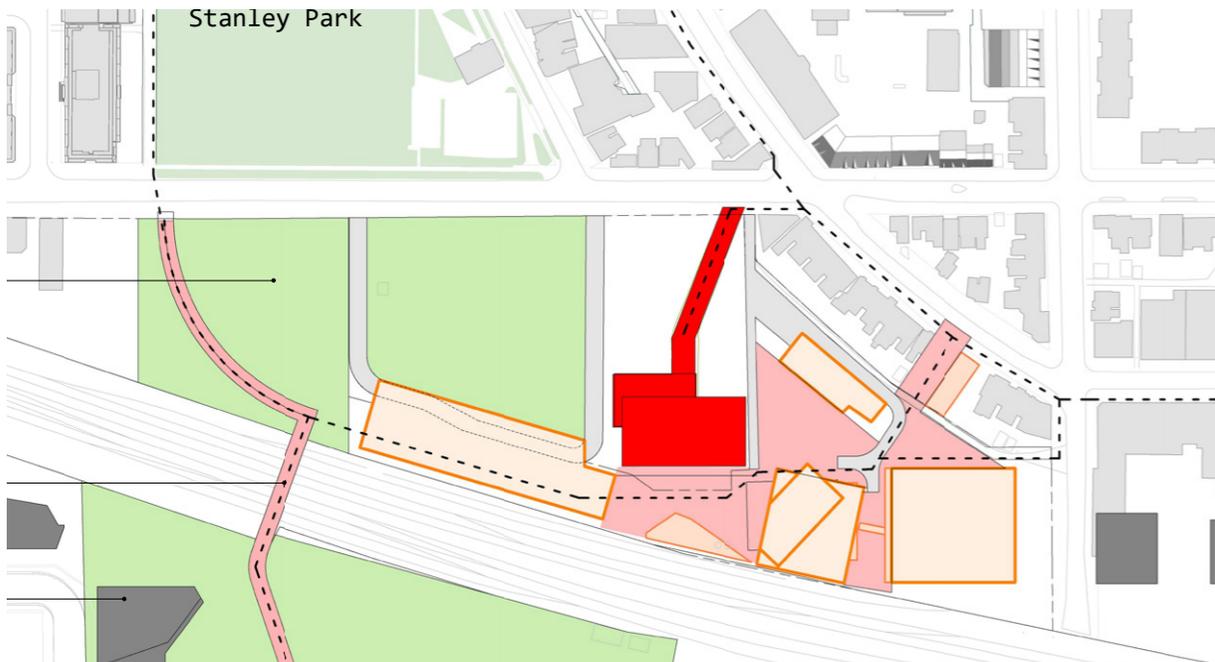
6.6.4 URBAN DESIGN PLANNING CONCLUSIONS

The site is currently developing exceptionally quickly, and high density is required; however, the massing of buildings suggested in the KPMB proposal severely limits access and connections in and around the neighbourhood. Park space is divided heavily by access routes. The utilizing the allocated space to the east to the fullest extent, density occurs around the Destructor at the east and north entrances, and the south and west become public park spaces. This fringe condition between park space and dense development is common around the Core Circle. The method used to address is may work for site designs of other neighbourhoods along this periphery.

LOW DENSITY   FRINGE CONDITION   HIGHEST DENSITY   VEHICLE

Stanley Park

Niagara St

Wellington St W

Stanley Park South

Tecumseth St

Garrison Crossing Park
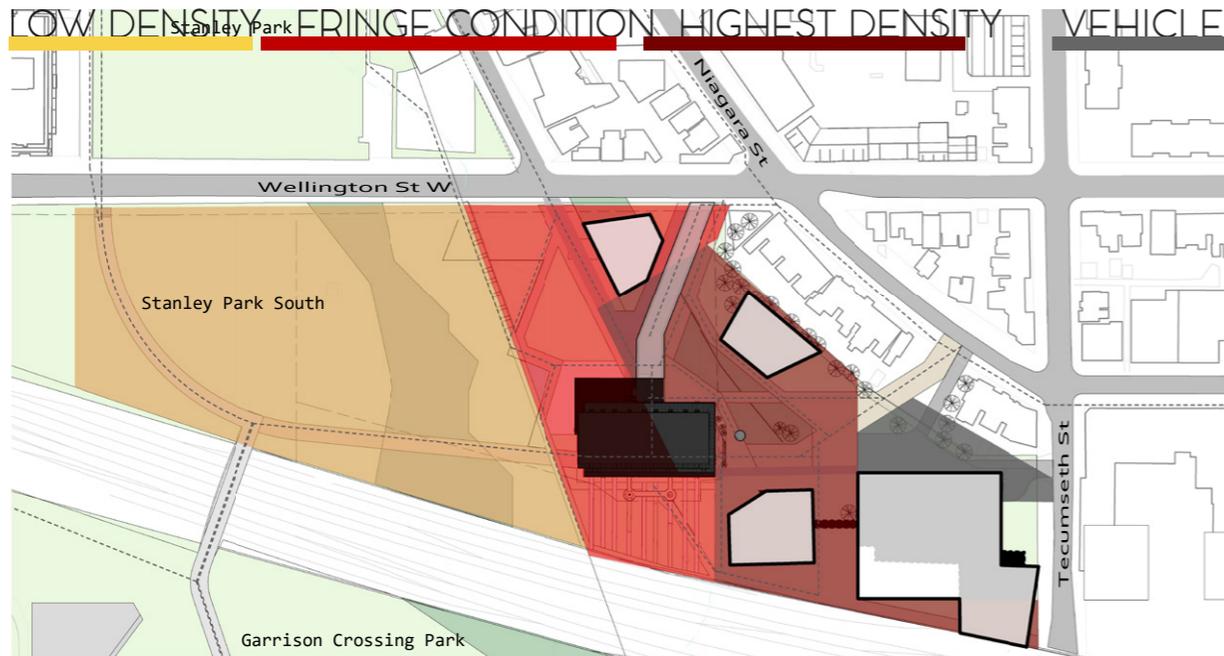
Fig.111 *Pedestrian Circulation Diagram; ensuring direct paths and nodes to the Destructor. The Industrial building serves as the communities entrance and hearth from all directions.*

Fig.112 *Diagram displaying the thought process behind the organization of the site. Moving from least dense in the park space, gradually the density increases until reaching a peak in centre around the buildings. Rather than the KPMB proposal which has multiple access parking around the lot; my proposed plan conglomerates parking to the east where the densest building is located The Wellington Destructor is no longer surrounded by vehicle access, and is free to be accessed by people from every direction*

Fig.113 *a historic photograph of the destructor and abattoir in 1930 overlaid with a model of the proposal*

Wellington St W

ara St

Stanley Park South

ORIGINAL RIVER SHORELINE

STANLEY PARK ENTRANCE

BRICK WALKWAY (FOLLOWING CULVERT)

DE-CULVERTED CREEK TURNED TO WATER FEATURE

1

2

ORIGINAL RIVER SHORELINE

EAST ENTRANCE

VEHICLE

GARRISON CROSSING BRIDGE

RAILWAY

FLEXIBLE PUBLIC SPACE

4

3

3.1

ORIGINAL RIVER LOCATION

PROPOSED DESTRUCTOR/ABATTOIR DISTRICT

#	EXISTING BUILDING	HEIGHT AND FUNCTION
1	___	33 FLOOR RESIDENT/COMMERCIAL
2	___	20 FLOOR RESIDENT/COMMERCIAL
3	1910 COLD STORAGE	20 FLOOR COMMERCIAL
3.1		45 FLOOR RESIDENTIAL
4	1910 ABATTOIR	3 FLOOR COMMERCIAL
5	1923 DESTRUCTOR	6 FLOOR PUBLIC/COMMERCIAL

64

Fig.114 *Site plan displaying the ground floor of the Wellington Destructor and surrounding context. In this layout the location of the Destructor in the middle of the site is emphasized with the layout of buildings facing the building. The ground floor around the site is meant to be a centre of neighbourhood discourse. The Garrison Creek is emphasized by utilizing its original shape in the design of the landscape.*

Fig.115 *The original KPMB rendering displays the issue with their master plan. The Destructor is hidden from view with the centre tower and is covered in shadow.*

Fig.116 *The suggested masterplan displaying the location of towers in relation to the Destructor. The original abattoir is also kept (building 4). Not only is this allowing the Destructor to be displayed more prominently from the Fort York and the rest of the park-space, but concentrating urbanity promotes activity. The public is more likely to congregate around the industrial archaeology, and more functions can occur with them in public view. The Destructor and abattoir Location informs the new buildings.*

Industrial Archaeology As Urban Informer

6.7 ENHANCING HERITAGE AND CULTURAL SIGNIFICANCE

The Zollverein Coking Plant rehabilitation by OMA (f.79) uses pre-existing architectural form (the coal elevator in this case) to create an iconic new entrance to the factory. "Even if the government deemed it historically significant as one of the largest coal mine and coking plants in Europe. OMA was commissioned not to change the buildings but to re-frame how the public perceived them." (Jorge Otero-Pailos, Preservation is Overtaking Us, 2014). The lighting design alludes to the glow produced by the furnaces and its move assists the factory in denoting entrance and strengthening cultural significance.

Luminato 2016 at the Hearn Generating Station similarly alluded to the original function of the building. The slogans for the Luminato festival used the "TurnOnTheHearn" hash-tag to refer to the Power Plant's original function. Enhancing cultural significance through wordplay and architecture are robust strategies that aid in the creation of new identities. Design of Industrial buildings was not for the public entry only and therein lies the architectural problem – architecture in conservation aids to rethink industrial spaces for new uses. In the book "Obsolescence," Abramson describes means to the preservation of a limited life architecture can succeed "To

Fig.117 *Ruhr Museum Entrance by OMA utilizes iconic elements to add to the cultural significance (Thomas Mayer)*

Fig.118 *Ruhr Museum Section showing the various industrial elements/machinery in relation to the building and the current use. The museum carries people in and around the machinery as if they were the raw material being processed*

lighten the structure, broad voids appear in the upper floors, shrinking the historical frame. The past is visibly released. – A limited-life architecture– is honoured unconsciously. ... Embodies preservation, growth, and attrition all at once, treating the past flexibly, not reverentially" (Abramson 148)

The surviving Wellington Destructor and Symes Road Destructor have no infrastructural purpose; however, they maintain robust and well-built shells that are appropriate to architectural intervention. Toronto destructors are fundamentally developmental infrastructures and their typologies and built construction represent a lost and forgotten era.

The Destructor's Chimney is a significant marker for the building's function. Similar to the Ruhr Museum's elevator shaft, the chimney of a destructor represents the function of the artifact. Functions changed in the 1980s so that the Wellington Destructor no longer possessed chimneys. It remains a robust icon, not to be replaced in kind, but referenced.

Fig.119 *The entrance to the Wellington Destructor from the north side. The original ramp brings the public into the 'Tipping Level'*

Fig.120 *The Destructor/Abattoir neighbourhood from the Fort York Visitors centre. The Fort is to the right and the up-incoming Garrison Crossing bridge to the left.*

Industrial Archaeology As Urban Informer

Fig.121 *A view from the Garrison crossing looking east towards the city from the rail corridor. This view puts the proposed neighbourhood in context with the rest of Toronto urban context. From this sightlines the proposed heights and massing of the development are not out of context.*

Fig.122 *A section of the Wellington Destructor combined with a second floor plan to display how the building was designed to work. The tipping level is accessed with the ramp and the garbage is dropped down as it is burned. The proposal aims to keep this movement by driving people to follow the path that the garbage once did.*

PRIVATE ADDITION: ADAPTABLE
    OFFICE SPACE

TRUSS   MEZZANINE

TIPPING LEVEL   MUSEUM
DUMPING LEVEL   GALLERY
PUBLIC STOKING LEVEL   MARKET

Industrial Archaeology As Urban Informer
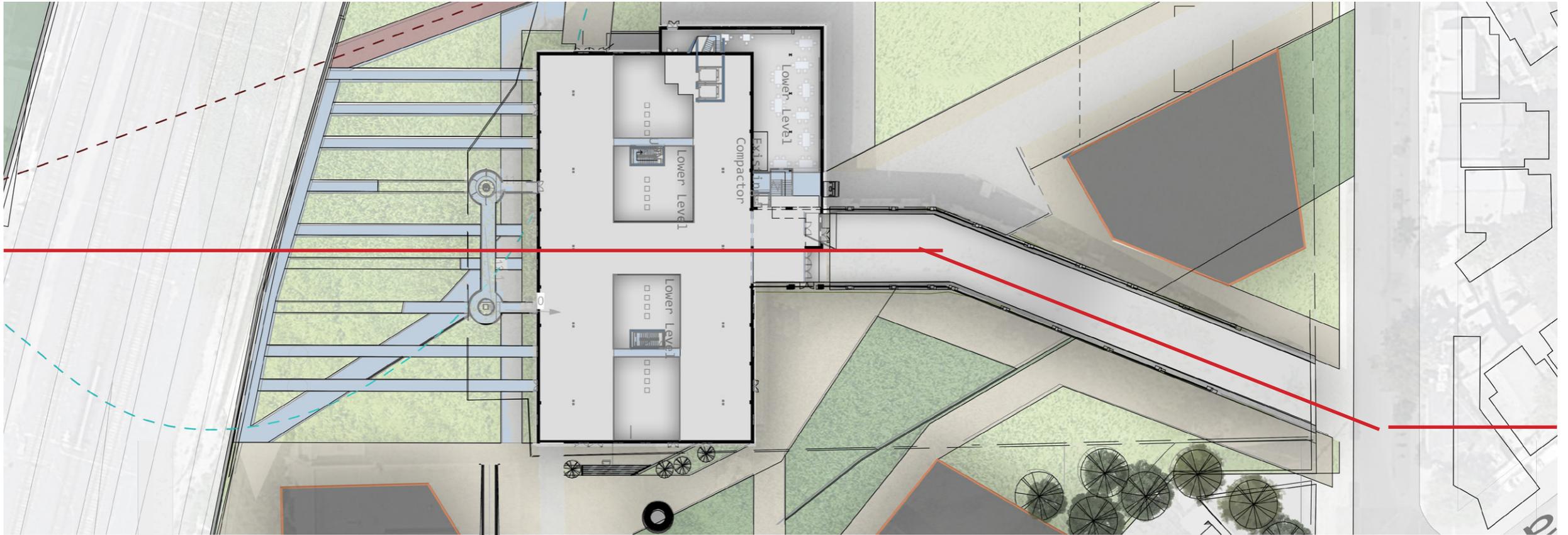
TO WELLINGTON ST W

STANLEY PARK EXTENSION

TO NIAGARA ST

NEW CONSTRUCTION
ACCESS TO ADDITION ABOVE
DEMOLISHED ELEMENTS
NEW BUILDINGS

2 DUMPING LEVEL

Existing Compactor

Storage
39 m²

Washrooms
504 m²

Utility / Storage
130 m²

DN

Dumping Level - Gallery
647 m²

Existing Incinerator Feed Hoppers

3 TIPPING LEVEL

Lower Level

Existing Compactor

Museum Entrance
94 m²

Lower Level

Tipping Level Museum
1615 m²

Lower Level

Industrial Archaeology As Urban Informer
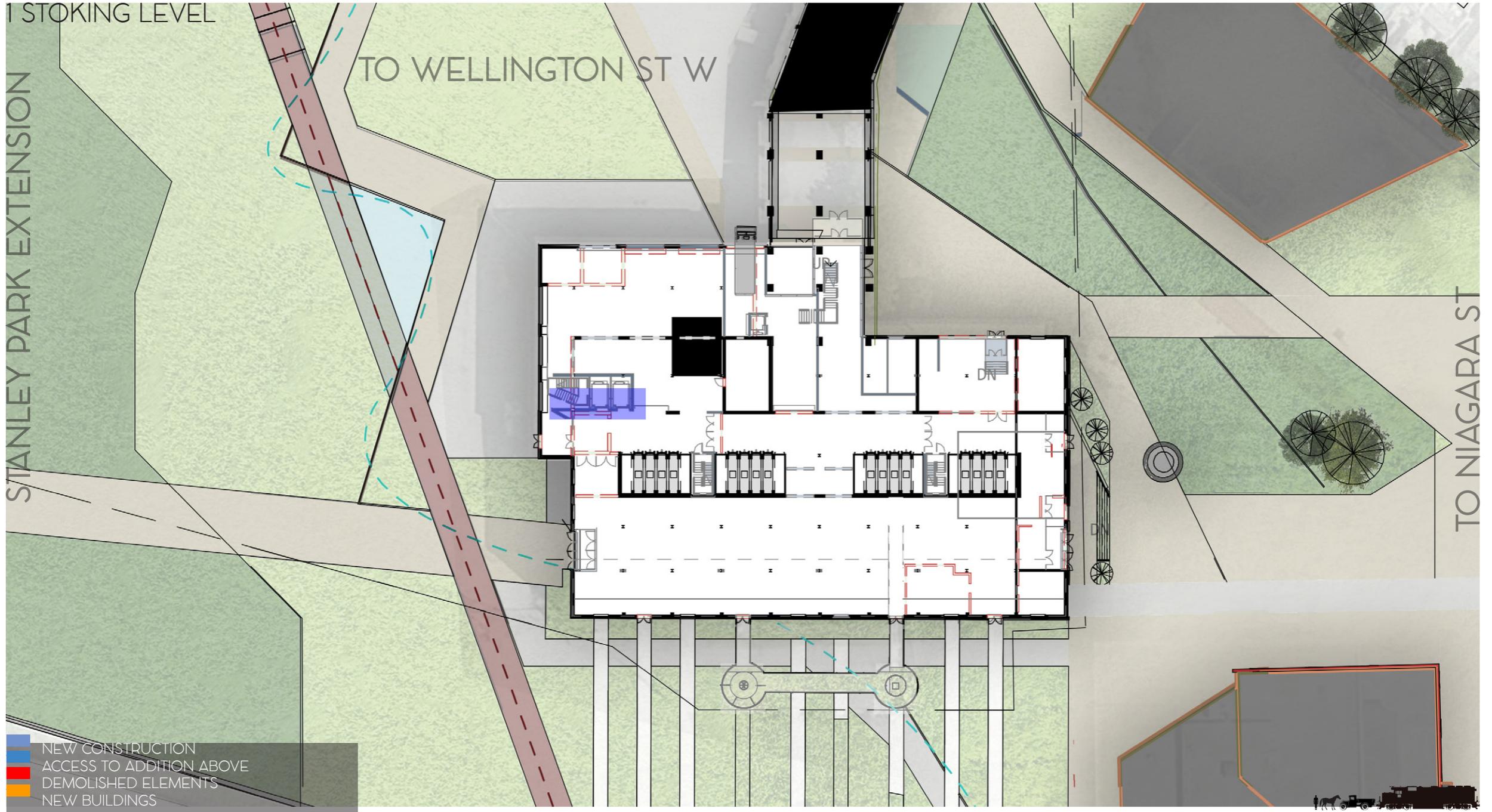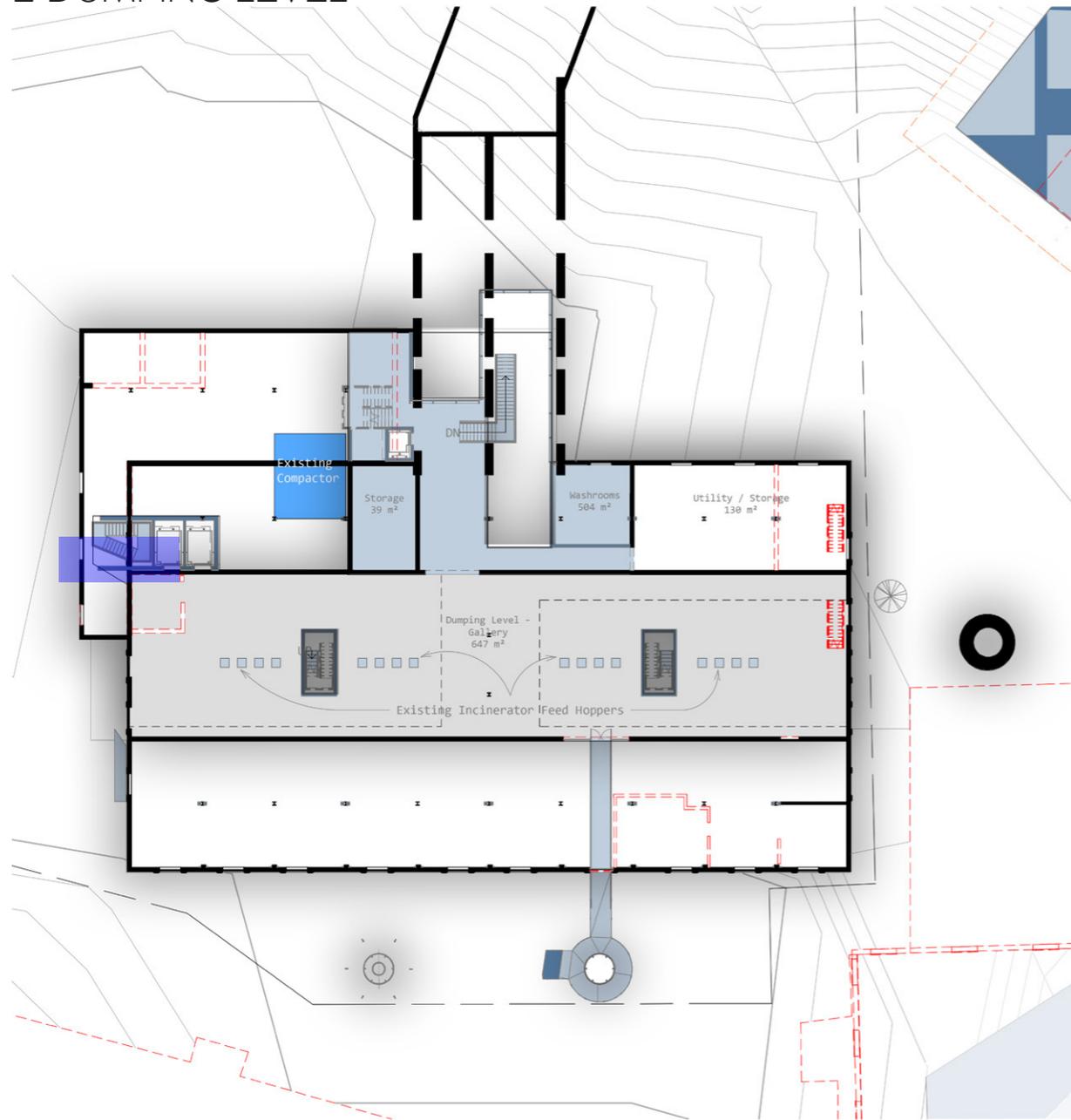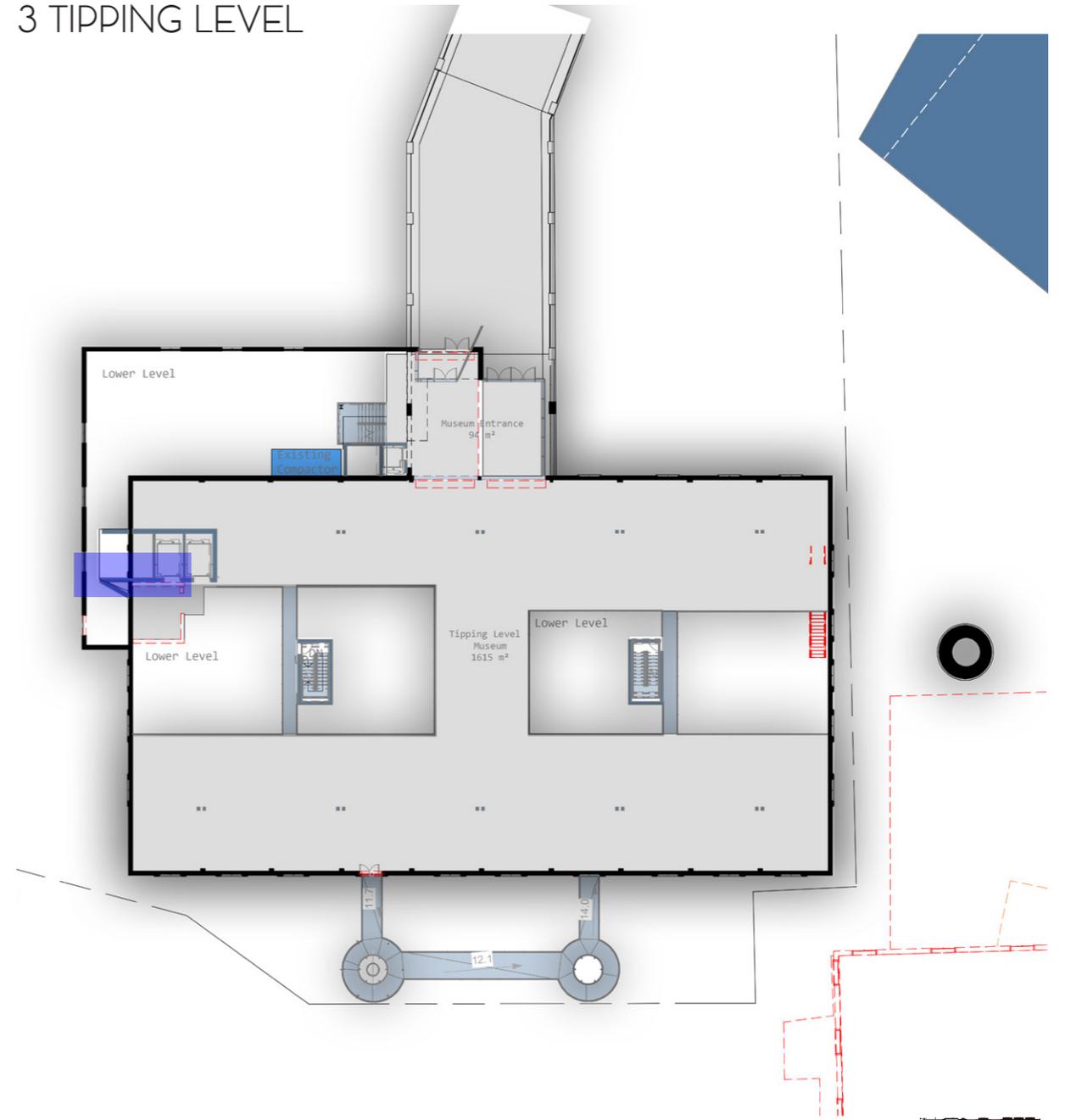
4 DESTRUCTOR ROOF

5

6
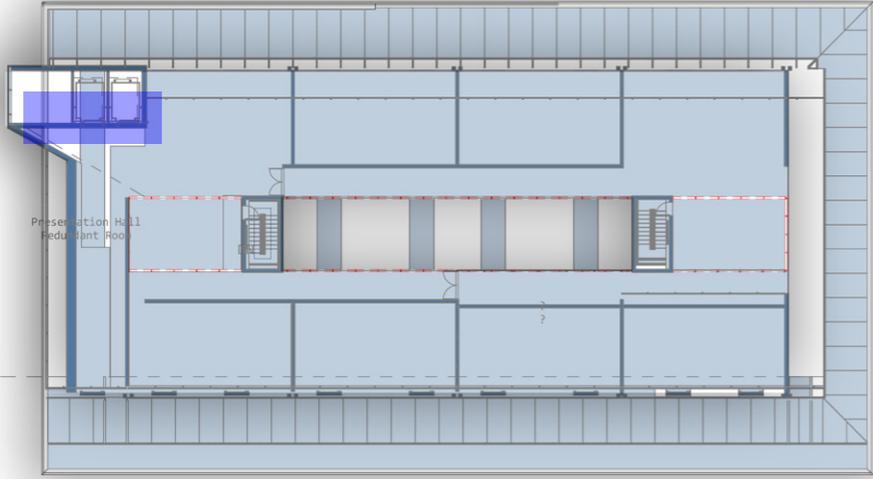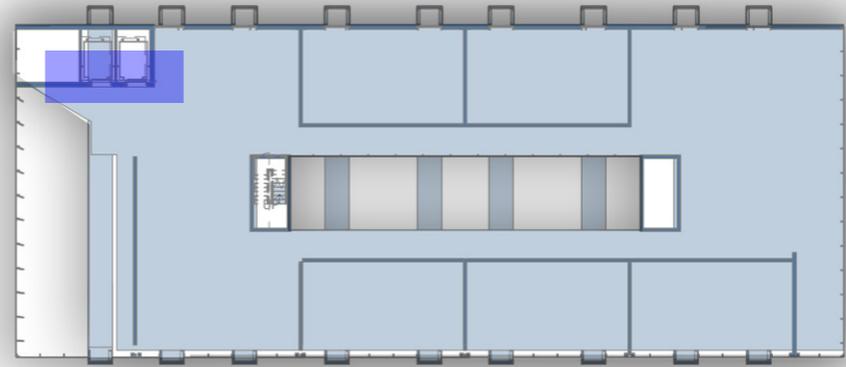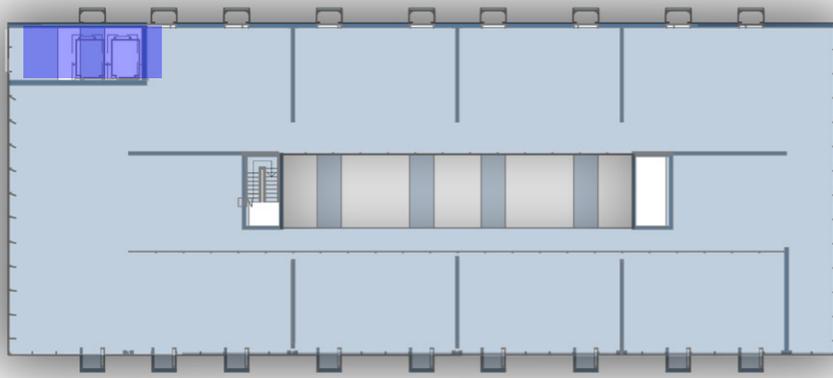
7 MEZZANINE

Fig.124 *Plans of the addition. The design of the spaces is meant to be adaptable and fit within whatever function that might utilize the building in the future. The upper floors setback from the original footprint to distinguish from the original building. The addition also features a center shaft that runs down to the tipping level below that follow the original shape of the clerestories. the shaft is meant to connect the addition to the original building through sightlines.*

Fig.125 *The below section displays the location of the addition in comparison to heritage structure. The buildings function is still clearly visible; the addition was designed to not intrude on the historic space, only add floor area. Although the building has gained almost double the height, the interior floors are all intact, the noticeable change to the historic interior are the fire stairs that run in between the furnaces on the ground floor.*

GARRISON CREEK

Fig.126 *Sectional perspective of the Wellington Destructor, displaying the industrial spaces in the building and its relationships to the addition*

The Toronto Destructors; although constructed in different decades, contain very similar essential elements. Some notable elements are a tiered multi-story construction; a concrete or masonry ramp for vehicles; a simple, symmetric masonry facade with regularly spaced windows' and of course the masonry chimney(s). Each era produced variations based on locations. Architectural style trends and amount of production these fundamental elements aid in providing the building an identity related to function. The three surviving buildings were modified over the years to recycling facilities, with this conversion causing the removal of chimneys and iconography.\

The Battersea Power Station in London had recently rebuilt chimneys. There was weak structural integrity of the chimney but its iconic image led to it being replaced in kind. The chimney as an architectural element can powerfully denote locus, and the architectural design process should be allude to this element. In Renzo Piano's proposed Moscow Power Plant, the existing steel chimney have been adapted into a passive solar chimney for the Arts Building.

Fig.127 *A rendering from the Wellington Destructor as seen from the Garrison Crossing. The industrial archaeology is the entrance to the up incoming neighbourhood*

6.9 CONSERVATION STRATEGY CONCLUSIONS

With industrial heritage, one may classify structures on one or two sides of a spectrum, referencing their original function. They can be generic, (warehouse buildings), easily adaptable to a range of function because of open space and similar to other secular building types. The other end is purpose-made structures that are more akin to a large machine than to a building. These structures are difficult to adapt and require a deeper architectural intervention to work in the changing urban landscape. This exploration aims to consider Industrial archaeology and what it can provide to urbanity.

The conservation strategy of this thesis involves accepting that pressures from urban development are a given. Post-industrial sites in highly developing places in Toronto are under high pressure to become more urban. However, the hindering of development and density for the sake of conservation is not a sustainable strategy. Therefore, we must explore methods for industrial and historical conservation while sustaining emerging development at processes. This design research considers the KPMB proposal: 2 Tecumseh has an emerging density requirement. The proposal aims to increase density by 125 percent in order to 'pay for' more open green spaces needed for the connection

Fig.128 *Sectional perspective illustrating the building and proposed massing in relation to the surrounding context*
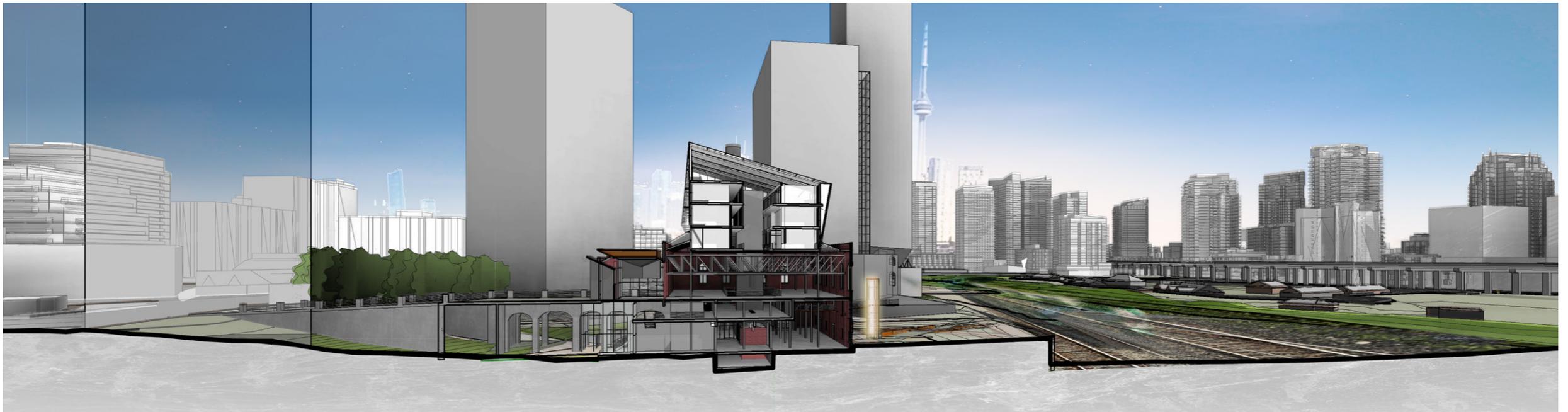
of the Core Circle to its various views. The conservation strategy in this design research involves utilizing and exploring industrial heritage sites their and surrounding geology, with the aim of informing for incoming urban developments.

The current Core Circle with its connection to industrial archaeology encompasses visual connections. Height and density remain without damaging the geologic and historical Locus. Industrial Buildings were created for the city's self-sufficiency and are essential to the continued narrative of post-industrial cities. They possess vast open industrial spaces that a quickly urbanizing city requires as flexible space. The future development of open park spaces for an urban population complements open, rare and variable industrial spaces.
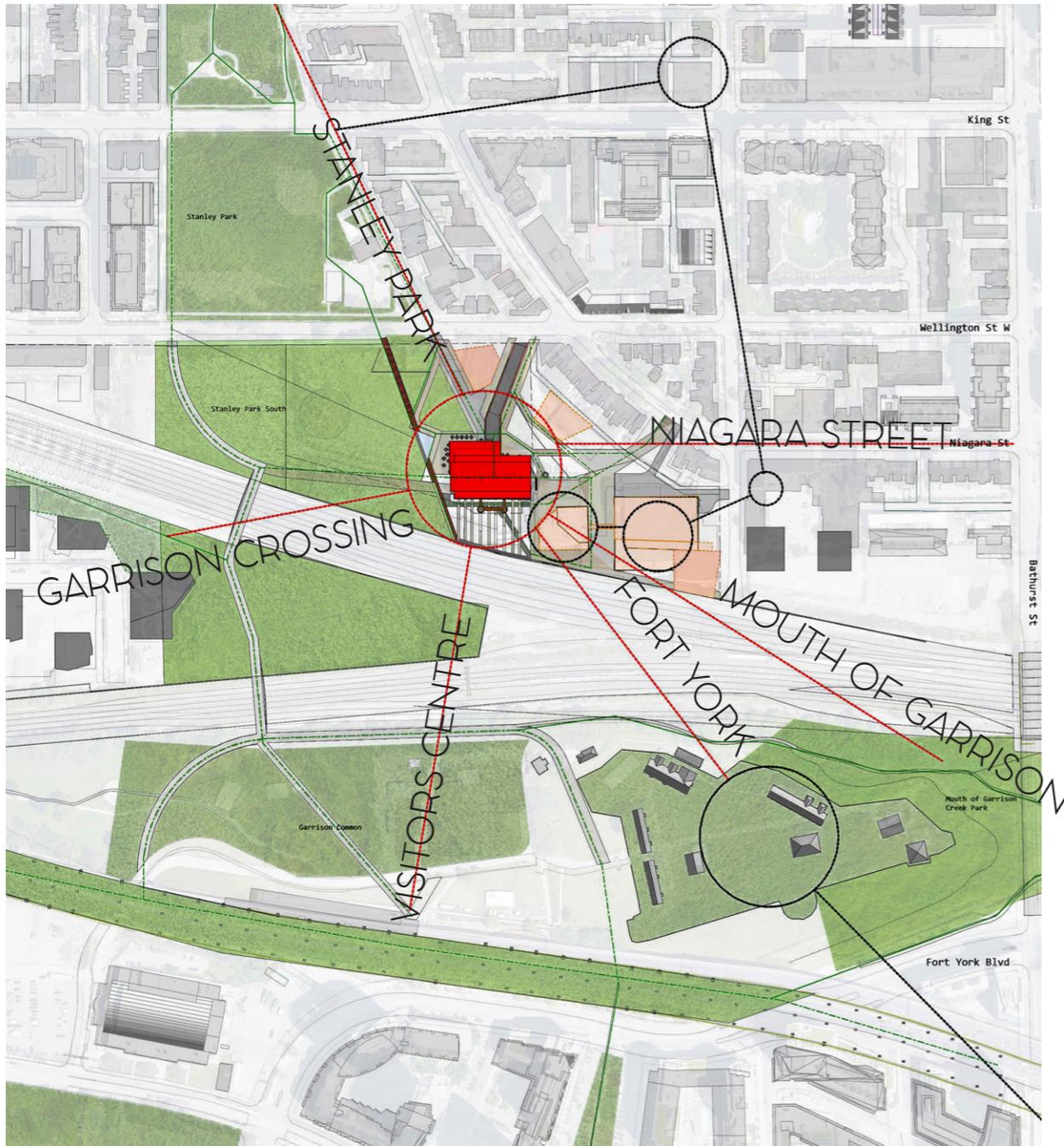
The Wellington Destructor Project aims to examine the problems of purpose-built mechanical archaeology. The connection of historic industrial structures to the emerging Core Circle makes the structures essential in their relationships to one another. The design of these structures will provide historic industrial spaces to emerging communities. Historic industrial archaeology will then be able to inform both urban development and the public through its unintentional iconography and future use. The research involves utilizing and exploring the industrial heritage site and surrounding geology; using it to Inform for this Urban Development. Through the creation of a secondary plan that

encompasses the strategy of vista preservation and incorporates height variation, density can be created without damage to the Toronto Locus. Industrial buildings were created for the city's self sufficiency and are important in the on-going narrative of post-industrial cities. They possess vast open industrial spaces that are needed in a quickly urbanizing city. The future development of Open Park spaces for the expanding urban population are complemented by open and variable industrial spaces.

Fig.129 *The site plan displaying the connective core circle in combination with the other industrial sites. The planning strategy of the Destructor Site was based of this connecting path system*

Fig.130 *View from Garrison Crossing at the proposed site development*

Fig.131 *1:1000 scale model of the Fort York, Garrison Site with proposal for the development on the Destructor site.*

APPENDIX

A.1 STATEMENT OF SIGNIFICANCE FOR THE WELLINGTON DESTRUCTOR

What criteria do we use in the preservation of industrial buildings?

To be designated as a heritage property, the City of Toronto has created a Statement of Significance by which to pragmatically evaluate properties. The following is the Statement of Significance of the Wellington Destructor according to the findings of this Thesis.

Description:
The Wellington Destructor is a City owned Industrial Property, located near the rail corridor just above the Historic Fort York area.
Architect: G. W. F. Price
Built for Toronto Street Cleaning Department for incineration of trash of the city.
Second of four destructors in the city; oldest building of three still standing.

The Wellington Destructor and surrounding context is a city-designated site for meat production and trash incineration in the early 20th century. The 1910 abattoir and meat packaging plant at 2 Tecumseh was created as a means for self sufficiency. The later Wellington Destructor, the second Incinerator

in Toronto, further aided the growing city's waste problem. The site, originally a part of the Garrison Creek, was utilized as a means of garbage removal before sewers were created. The site historically has been used to continually serve the city, adapting as new means and technologies progressed.

Heritage Values
Local Destructors were a common building typology in early 20th-century Toronto. Incineration plants were a necessity in growing industrial cities. Built in 1925 for the Street Cleaning Department of Toronto, The Wellington Destructor was a collection and destruction depot for a portion of the city's garbage. The Toronto Island Destructor, the Don Destructor, the Wellington Destructor, and later the Symes Road Destructor were created to incinerate Toronto's garbage. Wellington was the only surviving example of a public works building in the city's core after the demolition of the Don Destructors in 2006.

Wellington Destructor (1925) and its neighboring Canada Meat Packers (1915) were developments fueled by self-sufficiency as Toronto grew into an urban center. Since the Railway (1850), the corridor has heavily utilized industry.

Character Defining Elements
Concrete Ramp: for ease of delivery of
Waste without significant machinery
Large windows and clerestories for
lighting with minimal artificial lighting
Elements of 'Modern Classicism': brick materiality,
arched windows, industrial simplicity
Second level opening to the first
level for ease of dumping
Four incinerating furnaces were very
advanced in efficiency for their time.
Existing chimney from abattoir to the east
Demolished chimneys: a blatant
gesture to the buildings function

The Destructors built form and materiality with
elements of Modern Classicism give it strong
structural permanence and provided an iconic
motif for industrial Toronto's infrastructure
projects. With the quick erection of towers
by large development companies around
the area, there arose a need for strong,
place-defining buildings. The Destructor as
a piece of infrastructure is an example of a
locality that existed in early 20th- century
public works. Design decisions that utilized
natural lighting, natural topography, and gravity
fed functions that were an important defining
element to industrial buildings of this time
period. Also, the network of local Destructors
in the Toronto area allowed transportation

to be minimized, this minimalism being a
defining planning principle of pre-mobilized
Toronto in the first half of the 20th century.
The Wellington Destructor is a complement to
historic Fort York and represents an important
developmental period in Toronto's history.

Key elements that express the value of the site
can be found in the Wellington Destructor's
tectonics, as they reflect the industrial aesthetics
of their functions. For instance, a ramp was
used for horse-drawn and later vehicle-driven
waste trolleys. The building was constructed
as a machine, with the path of garbage clearly
expressed in spaces from the tipping level to
the ash floor. The details of windows and a
masonry facade over a steel frame express
the building's function: that it was an efficient
and powerful machine meant to last. Large
windows provide enough daylight for workers.

The surrounding open space was used differently
as technology and function changed. First
it was a bank for the Garrison Creek, but
after culverting, it was utilized as stables for
horse-drawn garbage trolleys. After the city
switched to motorized trucks; the site became
a storage location for salt for roadways.

The Destructor and surrounding sites location
were a result of proximity to the city and to the

railway, it was far enough from the city that
the smog and smell overshot residential and
urban areas. The character-defining chimneys
were a common sight in 19th and 20th century
Toronto. Being a part of the North American
Industrial Rust Belt region; industrial buildings
such as the Destructor became defining
artifacts of Toronto's disappearing industrial
past. The Garrison Creek historically was the
west boundary of the town of York, and later was
a crucial natural landform for waste disposal.

Rare Example of a Type
The Wellington Destructor is currently the oldest
Destructor in Toronto. Destructors in Toronto
are rare; only three survive. The Wellington
Destructor is the only building of this type in
a downtown urbanizing area. It is the only
surviving Toronto Destructor to initially be
designed with horse-drawn carriages in mind.

Person and Activity
The Toronto Street Cleaning Department has a
long-standing history with urbanity in Toronto.
The building was responsible for the trash in
all west Toronto. Destructors and abattoirs in
Toronto were pushed in the 1910s as a solution
to making Toronto a self sufficient city.

Community

The Wellington Destructor was the
manifestation of new technologies in
infrastructure. The location is historically
Garrison Creek, a natural backbone of
Toronto's primitive solution for waste removal.
The Destructor builds on this legacy.

Character
The urbanizing neighborhood surrounding
York has been responsible for removing
many industrial sites. A surviving artifact of
Toronto's infrastructure; its powerful character
aids in filling in Toronto's industrial history.

Setting
The setting of The Wellington Destructor is
within view of the Fort York Historic Site. The
Fort has been struggling to incorporate with
the rest of urbanity, and its location near a
proposed pedestrian bridge provides ample view
corridors to the two pieces of Toronto history.

Landmark
The Wellington Destructor provides a strong
industrial presence to the context of Wellington.
It is a visual landmark of industry visible from
Fort York and from the Ordinance Triangle.
Its large, industrial-scale concrete ramp and
entrance on Wellington are a powerful presence
along the rail corridor aid to its iconography.

A.2: PRECEDENT: DISTILLERY + WATERFRONT TORONTO + SILO

Claude Cormier designed a master plan for the new development south of the Distillery District. This aims to control and inform development so that new buildings aid in the continual story and development of place. Utilizing important sightlines aid in the connection of the successful distillery to this new development. The silos on this site are another potential study area for my thesis; any new developments must be informed by the historical context. While connections to the Distillery are made; Cornier

and the secondary plan do not recognize the role of the silo to this development.

A.3: PRECEDENT: TATE MODERN

Tate Modern since its rehabilitation in 2000 by Herzog de Meuron has been a revered architectural intervention to old industrial ruin. The project is considered a huge success; it transformed the old power plant into a modern art museum had altered the public's preconceptions of the function of 20th century industrial/infrastructure architecture. The project has since sparked development within the surrounding area. With the addition of

the Millennium Bridge, and with multiple access paths opening to the rest of the city,
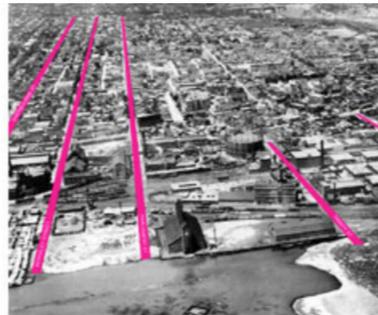
Fig.132 *Claude Cormier's masterplan development*
Fig.133 *Tate Modern's vista with the millennium bridge*
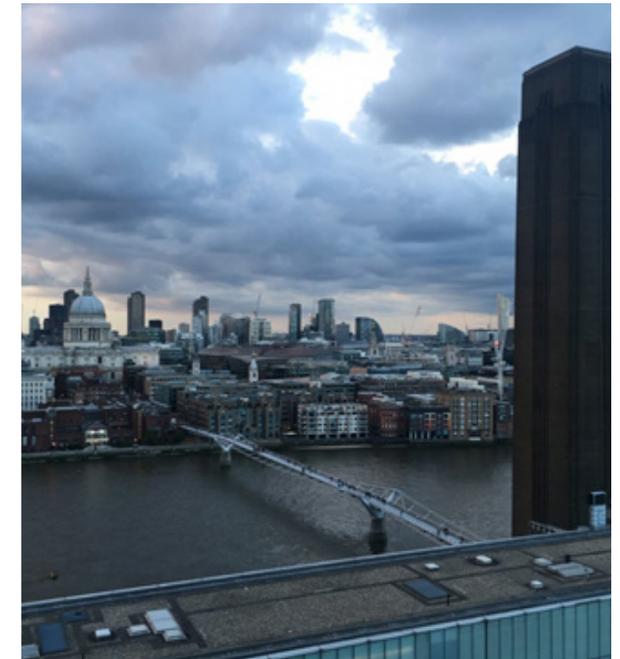
Tate Modern has become a magnet for new development due to its relationships to views and vistas, industrial heritage, and well designed master planning. Squire and Partners has added to the master plan recently, with the approval of mid/high rise buildings

A.4 SALVAGE ARCHITECTURE

What came from the early preservation movement in the 1970s was regarded as salvage architecture, or 'adaptive reuse'; an attempt to reverse notions of obsolescence. "Reuse of the expendable reversed the logic of obsolescence and protested the profligacy of consumer society, aiming "to integrate waste into the cycle of use," explained the urban planner Kevin Lynch in 1972." (Abramson 114). Architecturally, this movement would be regarded as adaptive reuse in areas where spaces were highly regarded specifically for their patina and age. Jane Jacobs was quoted as saying that "Cities need old buildings." Abramson's views on Boston's Quincy

Market is that it "is a malleable palimpsest, an incomplete erasure of the past, still susceptible to change" Abramson (116). Examples of this way of thinking in Toronto are seen in the St Lawrence Market and surrounding St Lawrence Housing Project. Overseen by Toronto Mayor David Crombie, they are a neighborhood adaption of both new and old buildings. The Distillery District buildings were designated under the Heritage Act of 1976; but it wasn't until 2003 that they adapted to their walkable district.

Fig.134 *The St Lawrence market is itself a product of salvage architecture or reuse. The city hall turned market displayed that old buildings meant for one task can preform others.*

A.5: CIRCULAR ECONOMY

Thomas Rau in his lecture Circular Economies discussed the problems in the economy today. Products are not being bought because they are broken per se, but because consumers want the newest model. Products have a shorter performance cycle compared to their life cycle because technology is always getting better. What Rau is suggesting is a circular economy, where products are not consumed but the function is. The product is a raw material bank to be stored until it is returned to the producer. The idea is that the producer is responsible for the product and the consumer only pays for the service.

The raw material bank can be applied to buildings; when the raw materials are stored for a building's lifetime and taken back at the end of its useful life. Alliander HQ, a project completed by RAU is a net-zero building on a very large scale. Its important note is the roof, which was made with the help of a roller-coaster company that designed the structure to deliver minimal performance requirements. Materials aren't bought so much as they are 'rented'.

A.6 LOCUS AND PUBLIC WORKS

Marshall ranks the importance of certain infrastructures based on their value to human survival. Water delivery is perhaps the most important service, followed by sewage, stormwater and waste systems. After these systems come transportation, such as subways and expressways. All are important layers of the without which the city does not function.

The political, environmental, and geological conditions of a city will inevitably create different infrastructures. Public works will have a uniqueness resulting from the many decisions and strategies implemented throughout their city's development. It is fair to acknowledge that a city's public works possess a Locus-specific to the history and conditions of the region of human development. Figure ... is an image of a compiled series of diagrams of cities that Marshall addresses; along with an interpretation of the underground Toronto Condition. Toronto although lacking in a vast subway system does recognize and is developing an extensive underground PATH network. Unique in its vastness, it will require a considerable amount of planning by private landowners for implementation and maintenance. The Western Beaches Tunnel system, a 2002 recent addition to the stormwater management system of the Toronto area, has as its goat the purification and management of stormwater entering Lake Ontario.

Underground infrastructure projects include the recent addition of a Deep Lake Water Cooling System. It involved Toronto's water supply is taken from deep under Lake Ontario and fed to a heat exchanger, which in turn cooled down a variety of buildings in the city's core before being processed as potable water. This system was implemented easily because of the unique natural gully formed by the Toronto Island and the original and still operating 1912 Toronto Island Water Filtration Plant location; as well as various private and government-operated programs seeking to fully utilize incoming energy sources. The system provides buildings in the financial district with conditioned air, saving 75% on energy when compared to existing technologies. Enwave's system of cooling plants and cold water delivery was not the cheapest means by which to supply Toronto with fresh water. However, the idea of a private corporation aimed at maximizing revenue being willing to try an innovative solution demonstrates that long-term economic and environmental benefits can come about through the advancement of new technologies. Toronto's public works combined with innovative solutions allows the Locus of the most utilitarian of structures to adapt and change.

All historic images, architectural plans, and
newspaper articles below are referenced from
City of Toronto archives. Newspaper articles
and publicly accessible plans were used in the
creation of accurate 3d models of the building
without physically taking measurements
or being able to enter the building
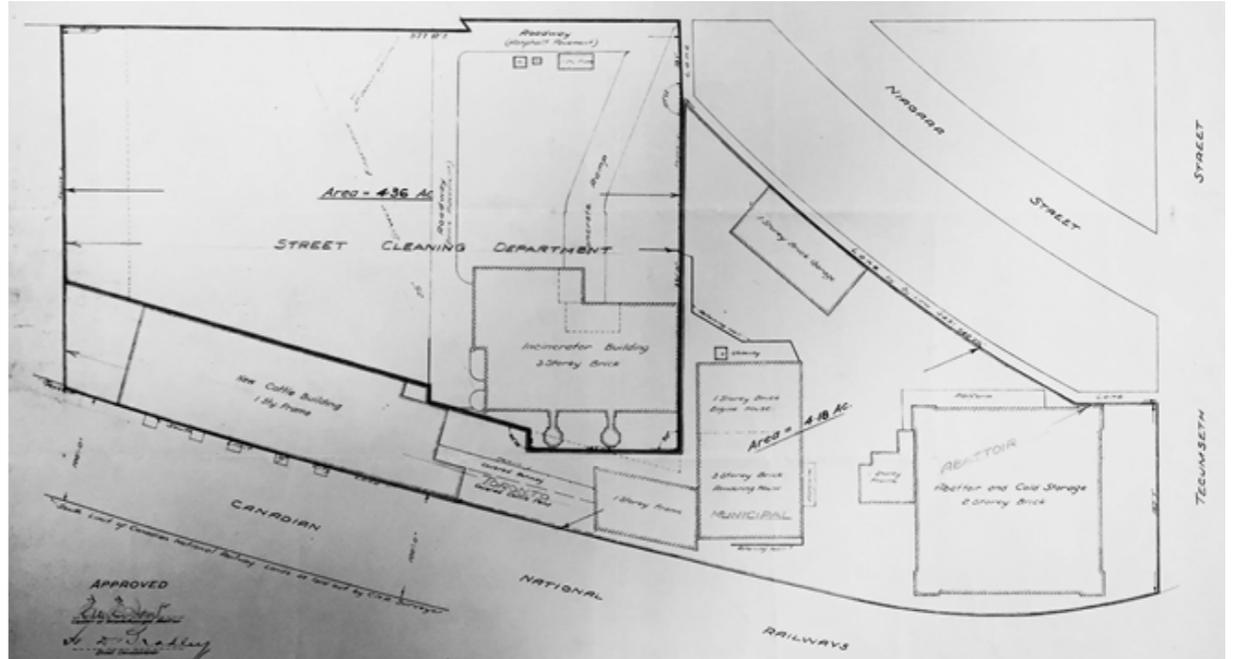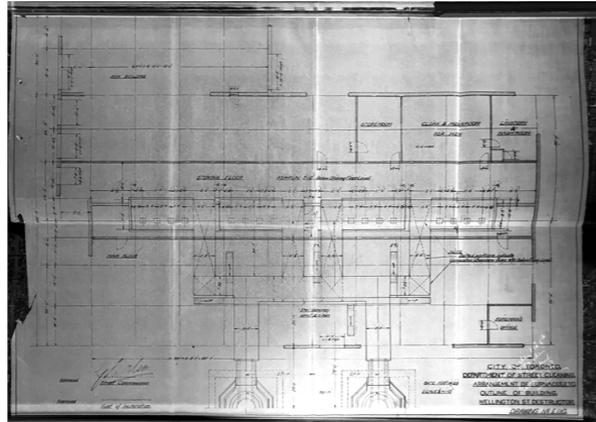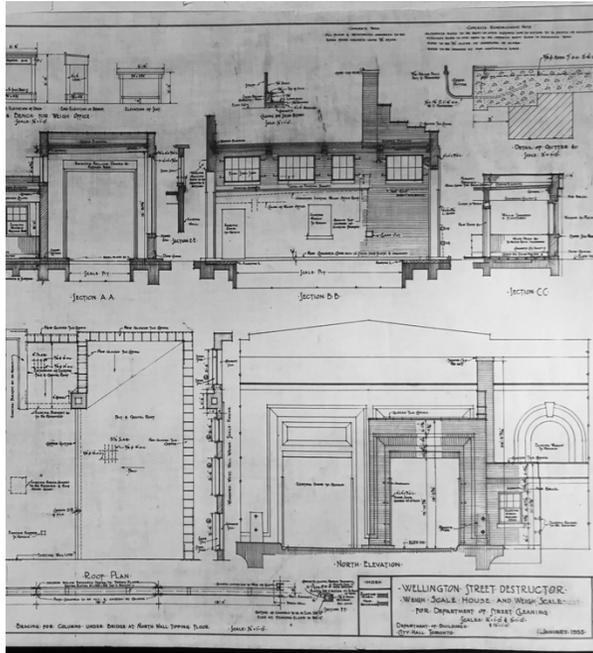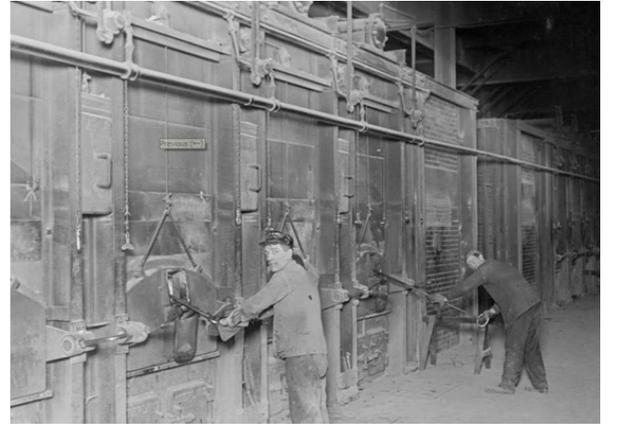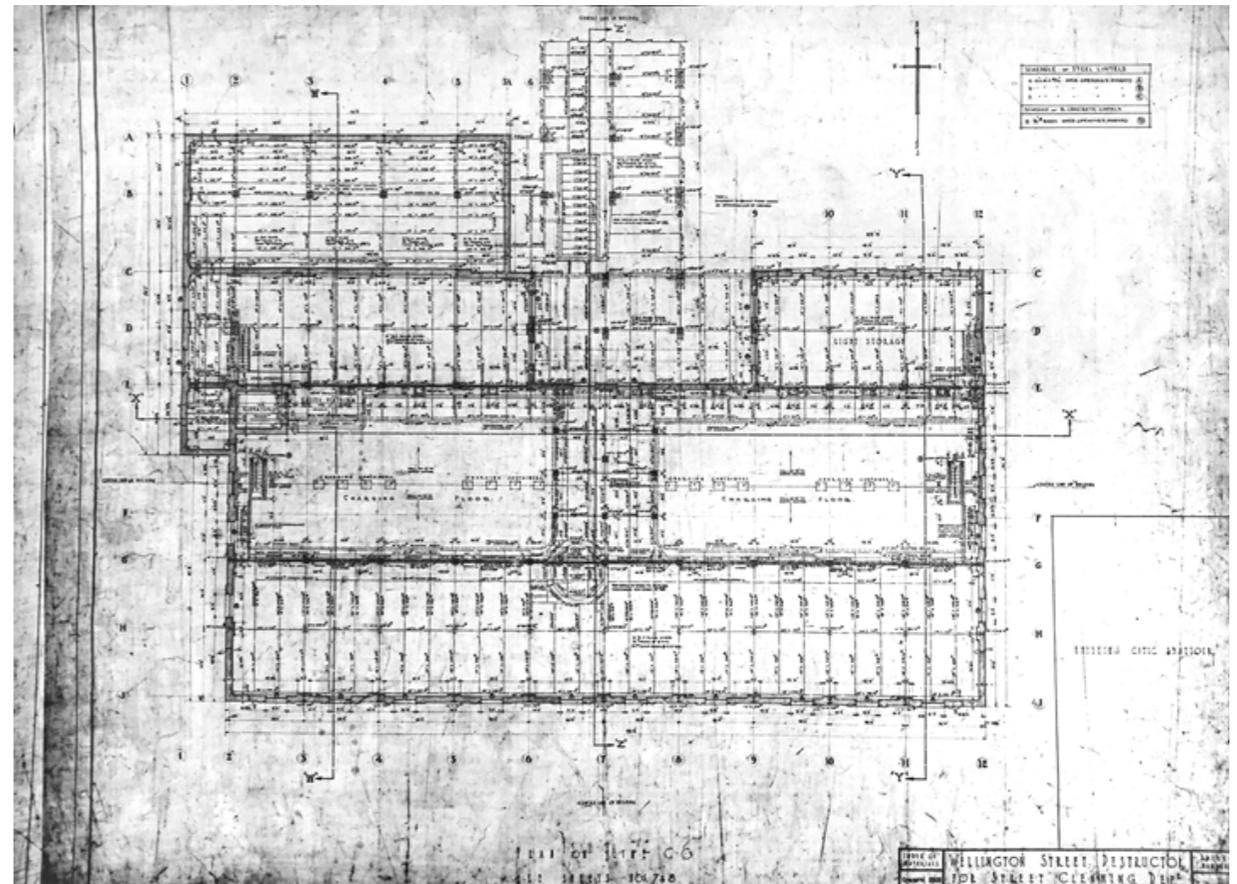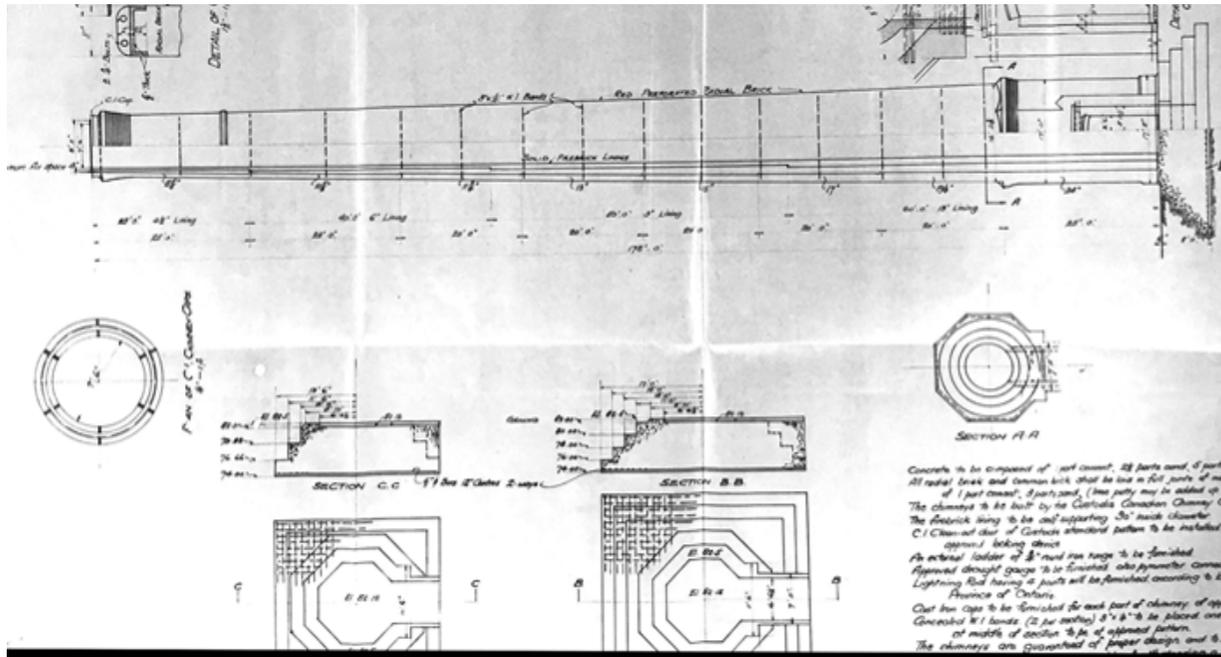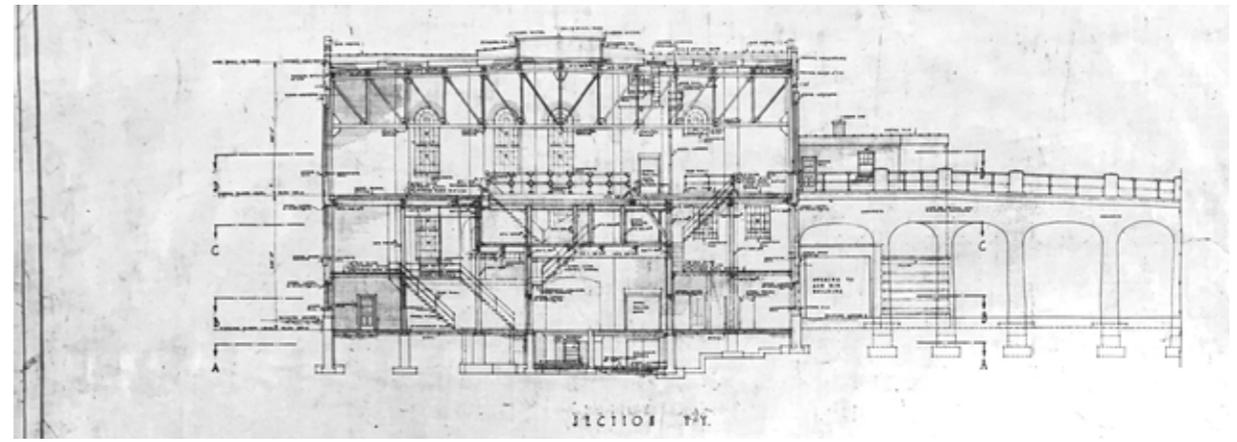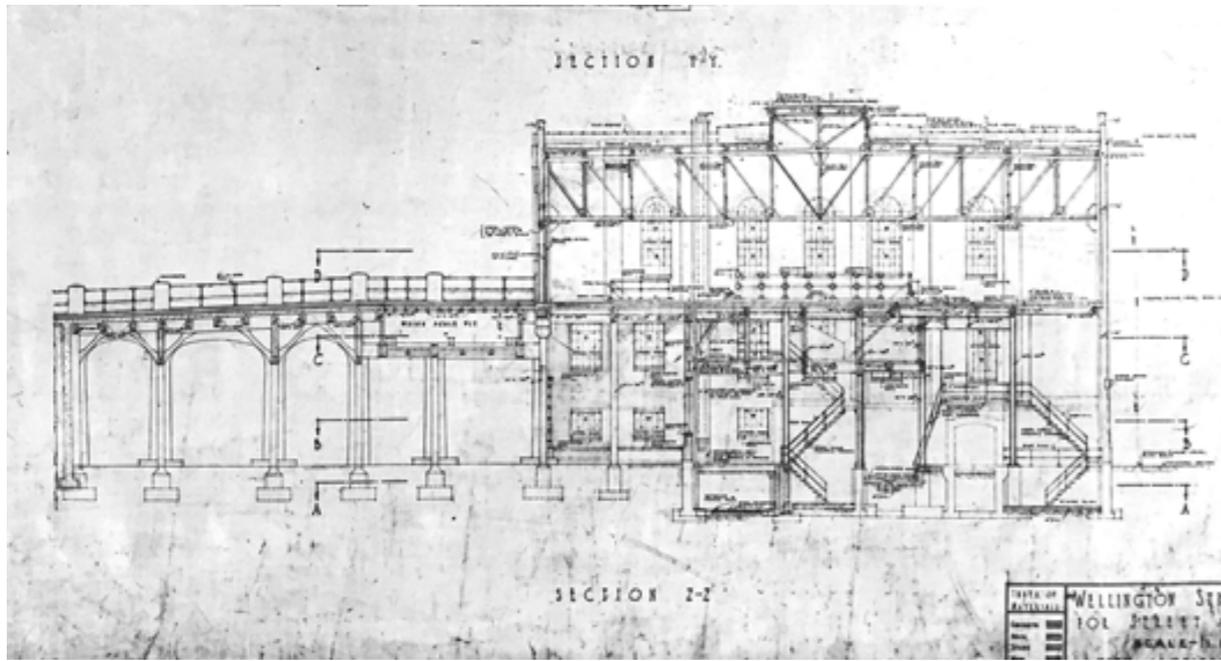
(City of Toronto 2006 Heritage
report photographs) 2012
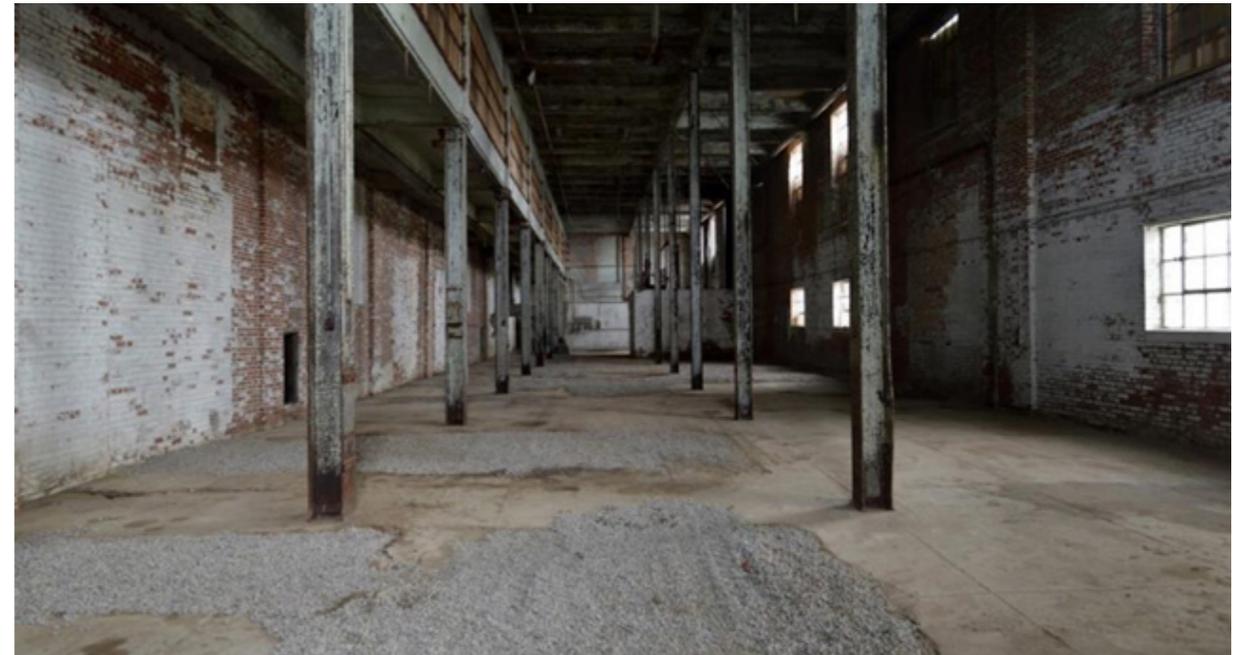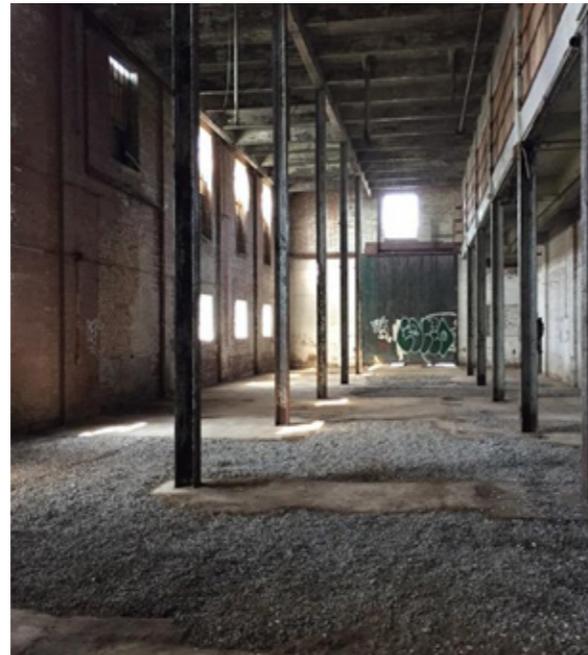
TRANSFORMATIVE IDEA 1. THE CORE CIRCLE

The Core Circle re-imagines the valleys, bluffs and islands encircling the Downtown as a fully connected 900-hectare immersive landscape system

The Core Circle seeks to improve and offer opportunities to reconnect the urban fabric of the Downtown to its surrounding natural features using the streets, parks and open spaces found around the natural setting of Downtown Toronto including the Don River Valley and ravines, Lake Ontario, the Toronto Islands, Garrison Creek and the Lake Iroquois shoreline. Connecting these large landscape features will create a continuous circular network of open spaces surrounding the Downtown, accessible from both the core and the broader city. The Core Circle re-imagines the Downtown's framework of valleys, bluffs and islands as a connected 900-hectare landscape system and immersive experience, building on Toronto's strong identity as a 'city within a park' and providing opportunities to acknowledge our natural setting and connect to the history of our natural landscapes.

Historically, the natural landscape features that form the Core Circle were used by Indigenous peoples as village sites, travelling routes and hunting and gathering lands. They are regarded as sacred landscapes and places for spiritual renewal. The Core Circle seeks to re-establish our connection to these landscapes. Taking an ecological approach, the Core Circle challenges us to push boundaries and explore the types of landscapes we can achieve in a 21st century city, including landscapes that enhance the resilience of our city, and those that contribute to reconciliation with Indigenous communities. It offers opportunities to create landscapes that can provide absorptive, productive, and other infrastructural and ecological functions, and provides space for restoring Indigenous identity, social structure and kinship with the land.

N
E
W
S

North: Davenport
Road Bluff

East: Don River Valley Ravine /
Rosedale Valley Ravine

West: Garrison
Creek Corridor

South: Toronto Islands /
Toronto Bay

Diagrammatic representation of the diversity of species and vegetation communities including forests, wetlands and meadows that comprise the Core Circle landscapes, Toronto, Canada

1   *North: Davenport Road Bluff*
2   *East: Don River Valley Ravine and Rosedale Valley Ravine*
3   *South: Toronto Islands and Toronto Bay*
4   *West: Garrison Creek Corridor*

*North: Davenport Road Bluff, Toronto, Canada*

East: Don River Valley Ravine and Rosedale Valley Ravine, Toronto, Canada

South: Toronto Islands and Toronto Bay, Toronto, Canada


West: Garrison Creek Corridor, Toronto, Canada

Fig.135 *Public works Core Circle Masterplan released 2017, under the cities instruction for the development of the 'Core Circle' concept*

West: Garrison Creek Corridor

Re-interpreting Garrison Creek in a connected Garrison Creek Parks System, Toronto, Canada

The West Core Circle provides an opportunity to explore the interpretation of Garrison Creek within the series of parks, open spaces and schoolyards along its path. Re-surfacing Garrison Creek offers a chance to rediscover a landscape of significant scale and create a connected Garrison Creek Parks System. The system of parks provides opportunities to reveal the lost waterway, connect and improve the natural environment and active transportation network, and support Indigenous placemaking and interpretation.

CONCEPTUAL RENDERING

Evergreen Brickworks

Bayview Avenue 'Great Street' Trail Segment
Re-allocate East Lane to Pedestrians and Cyclists

Re-align or Elevate Rail at
Don River Valley Park

Primary Lower Don Trail

Snow Drop Park

Bloor Street East 'Ravine Portal
Overlook and Access Passage

Future Don River
Valley Park

Rosedale Valley Road
Approved Cycling Trail

Riverdale
Park East

Wellesley Park New Accessible Connection
to Rosedale Valley Road
Explore New Accessible Connection at
Necropolis Cemetery

New Accessible Ramp from
Bridge to Lower Don Trail

Riverdale
Park West

Bayview Avenue Future Linear
Riverside Park with New Access Points

River Street New Accessible
Connection to Bayview Avenue

Leverage Bridges as
Access Points

Promote Water-based Recreation
on the Don River

Connect the Core Circle
through Corktown Common

Lower Don Lands
River Estuary

ANSFORMATIVE IDEA 1. THE CORE CIRCLE

CONCEPTUAL RENDERING

Christie Pits Park
Revitalization

Trinity Bellwoods Park
Revitalization

Queen Street

Walnut / Stanley Terrace
Park Route

Stanley Park
Revitalization and Expansion

2 Tecumseth Street

28 Bathurst Stre

Mouth of the
Creek Park

Toronto
ath Extension

Fort York

Ordnance Triangle and
Garrison Crossing

The Bentway

June Callwood Park

Ingus Lands

The Gore

Bathurst Quay
Revitalization

Connection to Port Lands

Coronation Park Revitalization
and Martin Goodman Trail

The Toronto Inukshuk Park

Centre Island
Revitalization
Improved Toronto Islands
Circulation Network

Views to the
Inner Harbour

Ontario Place
Revitalization

Eastern Island Access

Water Transport Connection
to Toronto Islands

Water Transport
Connection to
Hanlan's Point

Views to Lake Ontario

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