A Sense of Place, Setting, People & Design

D9B - FINAL THESIS DOCUMENTATION

FINAL REPORT

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1. ACKNOWLEDGEMENTS

This document represents a culmination of four years of the research, study and design of my Architectural Thesis. This project sought to explore the ideas of human and contextual place making within the realm of urban renewal.

If not for the support of many, this journey would not have been completed. I would like to acknowledge the following individuals for their guidance and support:

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But most importantly, I would like to acknowledge my wife and children for their understanding, patience, and support.

2. THESIS STATEMENT

Through the investigation of the ideals of community, theories of good city form, and the study of the inter-relationship between people and the urban space that surrounds them, this thesis will prove that a strong sense of place can be created employing good urban solutions coupled with contextually sensitive architecture to successfully rejuvenate a decayed, underdeveloped Edmonton inner city neighbourhood. This thesis will establish an area redevelopment strategy for the urban renewal of an important piece of Edmonton's downtown into a vibrant mixed-use residential community, a character neighbourhood and showpiece for the city. The Architectural interventions that result will connect live, work, play and public space together through the integration of the urban fabric that binds them.

The setting of this thesis is the Jasper East Village area located immediately east of downtown Edmonton between 97th street to 95th street and Jasper Avenue to 103A Avenue. Low property values, high vacancy rates, large amounts of surface parking, physical neglect, crime, prostitution and vandalism, and a general negative public perception of the area as a whole characterize the Jasper East area. The Jasper East area features one of the last and largest continuous streetscapes of traditional, human scale commercial buildings in downtown Edmonton and includes six municipally designated historic properties.

Exhibit 1
The Urban Condition.
Source - newurbanism.org

3. INTRODUCTION

What makes a lively street or a city liveable? The answer is two-fold. First, people do. Provide for people and a city will come alive at all hours of the day and night. Great cities are about streets and squares, parks and esplanades. Places for people to gather and for celebration as a community. Secondly, a mixed-use, hi-density urban environment that creates the stage for all aspects of life - a city that allows its citizens to live, work and play in one area opposed to the live-here, work-there, and play-somewhere else conditions found in most of today's cities. London, Paris, Rome, New York, these types of cities are known for these attributes. Without people, community or events, architecture is meaningless.

Why does everyone typically refer to the European city when describing lively streets or a liveable urban environment? Is it possible to find that quintessential lively urban street in today's sprawling North American cities? Sure, there are great North American cities like New York or Chicago, but are there neighbourhood scaled environments, ones that can be applied in general to any city suffering from what most new urbanists call "placelessness" syndrome. Most North American cities have traditional ethnic quadrants, such as a "Chinatown" or a "little Italy". In areas like these, we typically find markets, vendors, restaurants, artisans - and all

possible forms of retail environments enlivened with people, sounds, smells, and traffic - creating an exciting energy on the street from morning to night. In these city neighbourhoods, one is more likely to find building types in which shops are on the ground floor and residential living is on upper levels, all mixed into an urban context of buildings, cafes, parks, and possibly performance spaces like public squares. In these neighbourhoods, city life successfully co-exists and is compressed into concentrated areas.

Is there a lesson to be learned from a "Chinatown"? Well, yes. What is described here as an area of exciting energy on the street, is a high density, mixed use environment, a centuries old Asian and European planning paradigm and a hot topic of today's new urbanists. This will require further investigation which will be discussed in subsequent sections of this paper.

In Edmonton, the backdrop for this thesis investigation, this city is considered a festival city, the city of champions. So what makes Edmonton great? Is it liveable? Has it got energy? Sometimes, perhaps, but, for the most part, Edmonton is a typical Canadian prairie city - possessing a lot of unencumbered land and an almost limitless amount of space to grow. Over the last 40 years, the land-development and house-building industry expanded the functional boundaries of this city well beyond what the population of some 800,000 really needs.

Typical urban sprawl has affected Edmonton like so many other urban centers. What's urban sprawl? All major Canadian cities have experienced rapid economic, demographic and physical growth since World War II. During this period of unprecedented growth, cities have dispersed - city centres have lost ground relative to the increased suburban developments that surround them. Specifically, the city's outward physical expansion has far exceeded its demographic growth. This has been labelled urban sprawl. Automobile ownership and its increased usage has made sprawl possible and has raised serious environmental questions regarding air quality, land use and habitat protection in many of today's Canadian cities. With every new subdivision, we need to build and maintain roads, schools, shopping centers and utility infrastructure to service it all.

So when is Edmonton at its best? Where is the energy? Well, during the city festivals: when the city planners temporarily suspend the planning bylaws and allow events like the Fringe festival to take over the streets of Old Strathcona, or consume the river valley slopes for the folk festival. It comes back to people, lots of people and public events confined to small geographic areas – or, increased density and defined urban edges. This brings us back to the initial question then, what makes a city great? Well on the surface, it appears that people do. And what keeps people interested? Places and events do, which seems to be fostered more by high density, mixed use environments than typical urban sprawl. This research paper will investigate urban form and why high density, mixed use living is a healthier response for the human condition.

Exhibit 2
Today's uncoordinated transportation and land use planning have created sprawling urban form.
Source - urbanism.org

4. URBAN SPRAWL: UNCOORDINATED TRANSPORTATION & LAND USE PLANNING

4.1 The Current Urban Condition

Why is it that the typical North American city appears to have an ad-hoc urban order compared to older urban environments found in Europe or other non North American cities? One could suggest that it has more to do with the urban fabric that surrounds our buildings than the buildings themselves. Although North American cities clearly contain many well-designed civic monuments, public, and private buildings, we have come to overlook the role of urban space between buildings and how its non-use has defined the modern North American city. In his book *The Spaces Between Buildings*, Larry Ford defines urban space "as more than the open space found in parks, squares, and gardens"[1]. Ford uses the term urban space "to include all kinds of space between and immediately around buildings, both at ground level and upper stories"[2]. Building facades are also included in his definition, as "space in the city is often defined and given character by the look of the building façade that surround it"[3].

Until the close of the 19th Century, urban settlement featured tightly interwoven land use patterns, in which residents could easily access their entire community on foot. The industrialization of the 20th Century changed that. More so, the post war era of prosperity saw a rise in automobile ownership and housing construction, both of which fuelled rapid suburban development. This change re-defined the character of the urban landscape and the space between buildings. This is more typically

the case in North America than in Europe. Decades of uncoordinated land use and transportation planning has produced a common pattern of urban growth in North America now known as Urban Sprawl. Environmentally, economically, and socially unsustainable, sprawl has created city environments dependent on the automobile and has rendered public transit ineffective and cost prohibitive. The primary characteristics of sprawl include:

- Dispersed suburbanization resulting in an outward urban expansion exceeding demographic growth;
- Traffic congestion;
- Segregated land uses (i.e.) work here, live there, play elsewhere;
- A filtering down of neighbourhoods from old to new creating class segregation;
- A loss of farmland/natural ecosystem to city expansion;
- Large amounts of under-utilized inner city land due to outward urban expansion.

4.2 Urban Centre Development - A Look at the Past

To understand the development of urban space and its relationship to people, urban setting and its surrounding architecture, I think it important to understand the history of city development. One need only study the development of city form from medieval, the renaissance, to the 19th Century North American and contemporary city form, and it will become clear as to how and why city form is now unsustainable. As Ford explained, these four time periods can be placed "along a continuum, from the medieval city, whose built environment was punctuated here and there by open, to the modern American city, whose space is punctuated by the occasional building"4 and can clearly indicate that space as much as architecture has defined the character of past and present urban fabric.

4.2.1 THE MEDIEVAL CITY - URBANISM & MONUMENTALITY

The schematic division of European History is traditionally accepted as a three-part sequence in time - the classical civilization of Antiquity, the Middle Ages (Medieval), and the modern times. To understand how the role this time period played in the development of urban form, it is important to understand the socio-political influences of the time and how these "human" issues impacted urban development. This section is not meant to be an in-depth analysis of the medieval culture, but the information presented helps to define the thought process of this research.

From a socio-political stand point, the beginning of the middle ages was marked by the decline of both cultural stability and political unity of the Roman Empire in Western Europe in the 3rd Century. Safe conditions for trade and manufacturing deteriorated, as did the unified roman culture and educational lifestyle. Centralized roman rule was replaced by regionalization and local potentates. Between the 5th

and 8th Centuries this regionalization developed into a new political and social order known as the feudal system. By this time, the demographic landscape was de-urbanized in nature which left the power of a central government powerless and ineffective. Feudalism was a form of governance in which the governing authority responsible for military protection, taxation, and general law and order was left to local lords on behalf of the church or state. These regional representatives supported themselves directly from the taxes collected from the populations under their authority in return for protection and regional governance as already discussed. In some instances, feudalism created a confusion of territorial sovereignty "since allegiances were subject to change over time, and were sometimes mutually contradictory"[5].

Exhibit 3
Streets where irregular and often dark narrow passageways defined by tall buildings. Source - pg 21 Streets and The Shaping of Towns and Cities.

Architecturally, castles and fortifications dominated the medieval landscape. The socio-political climate created by feudalism was physically embodied by a network of castles and fortified townships across Europe. Although castles were important icons symbolic of military protection and regional law and order, they served mostly as defensive structures. This political unrest and need for fortification and protection also created the need to enclose and protect medieval cities. The wall stood as both a military device and an organizational device for the urban population within the city. Functionally, the wall created a division between city and countryside; and socially, it differentiated between insider and outsider. Not only did the wall protect city dwellers from nomadic robbers and invading armies, but also had an economic purpose, ensuring toll payments were collected from those using the markets or services provided within the city.

The wall also determined the shape of the medieval city, and marked a sharp division between urban and rural. A medieval city is characterized by patterns of narrow pathways and a nearly solid mass of building form with very little void space between them. Historically three city planning types can be traced through the medieval time period. The first was a linear configuration, a walled clustering of buildings organized parallel along a main road with gates at either end. The second, known as a circular-plan city, was somewhat round in form with the city's wall enclosing the settlement based on topography and real estate interests. The third type was square or rectangular with a grid-like street pattern in contrast to the irregularity of the previous two types.

PRECEDENT STUDY

The Medieval City:

The Tuscan Town of San Gimignano, Italy, is an example of a type one Medieval Town. *Laid out in a linear form, the Town's single main street is framed at either end by a gate in perimeter wall. Found at the center of this main street are two large piazzas carved out of the dense urban framework. One, a market place and the second, a civic center with cathedral, town hall, public loggias and seat of Justice all forming its enclosure.*

Siena, Italy, is an example of a type two Medieval Town. *Built on three hills that meet to create the town's center. It has a circular plan with perimeter wall surrounding the Town. The Town square found at the intersection of the three hills, slopes and is theatre shaped with a dense mix of housing and palaces on three sides. Considered the town square stage, the early 14th Century commercial palace, Palazzo Pubblico, presides over the entire Town and encloses the Town square on its fourth side. The Palace's tall slender bell tower stands "on guard" over the entire Town, and this main square is the only public open space found in what can be considered a dense circular interwoven urban plan.*

An excellent example of a type three Medieval Town is Florence, Italy. *Although more commonly connected to the Renaissance, the Florentine contribution to that time period was primarily socio-economic in the development of art and science. From an urban perspective, Florence is a Medieval City and to this day,*

is primarily a creation of the late middle ages, dominated by an urban structure and architectural monuments medieval in design. The core of Florence is Roman in its origin and its layout, is square. The City retained this outline throughout the middle ages and into the early Renaissance. In the Medieval time period, the City's core was a dense fabric of tightly knit pattern of irregular streets. By the end of the 14th Century, two architectural centers had evolved. One ecclesiastical at the Piazza del Duomo, and the other secular at the Piazza della Signoria. Both centers were communal efforts due to strong linkages between church and state. Each center included monumental buildings sited with open space and both were connected by the Via dei Calzinoli. Although similar in importance and visual "weight", each square is very different in form. The Piazza della Signoria was the civic center - with the Palazzo Vecchio (city hall) and the triple-arched Loggia dei Lanzi creating the edge of a large simple L shaped piazza. The cathedral precinct of the Piazza del Duomo comprising the Baptistery, free standing bell tower and cathedral are the focal points and placed within the piazza itself.

Lesson Learned from this Time Period:

As medieval cities began to experience concentrated growth in population during the ninth and tenth centuries, overcrowding became a serious urban problem. Surrounded by defensive walls, a city's building expansion tended to encroach upon the street and the sky. "Confined by existing defensive walls, buildings grew higher, and without public controls over construction and land use, individuals encroached on the street space" [6]. This increase in population along with the poor sanitary conditions it created, began to develop an unhealthy urban condition: "as late as 1372, Parisians were permitted to throw waste from their windows whenever they chose" [7].

By the end of the medieval period, the popularity of cities with their citizens created intense loyalty and pride, which led to city centers being reshaped with expanded street systems, squares, public buildings and monuments.

4.2.2 THE RENAISSANCE CITY: PURE GEOMETRY & THE URBAN GRID

In keeping with the concept of the three-part schematic division of European History - the classical civilization of Antiquity, the Middle Ages, and the modern times; the renaissance is considered the beginning of the modern age. The renaissance represented a shift in the socio-political landscape, which in turn, affected urban growth. The birth of the renaissance is universally agreed to as central Italy and in particular the city of Florence. As early as 1300, the Florentine public had a civic culture, which identified with their city as "daughter and creature of Rome", and several classicising groups began to develop including monks, citizens and the beginning of an upper class. The Florentine population of this time period was an extremely literate population in contrast to earlier medieval societies and was

very aware of "it's city and place in the political landscape". By the early 15th Century, the Florentines were an educated, cultural group, which sought to re-live the republican ideals of ancient Athens and Rome. With education and knowledge came an appreciation for the arts - statuary as well as canvas

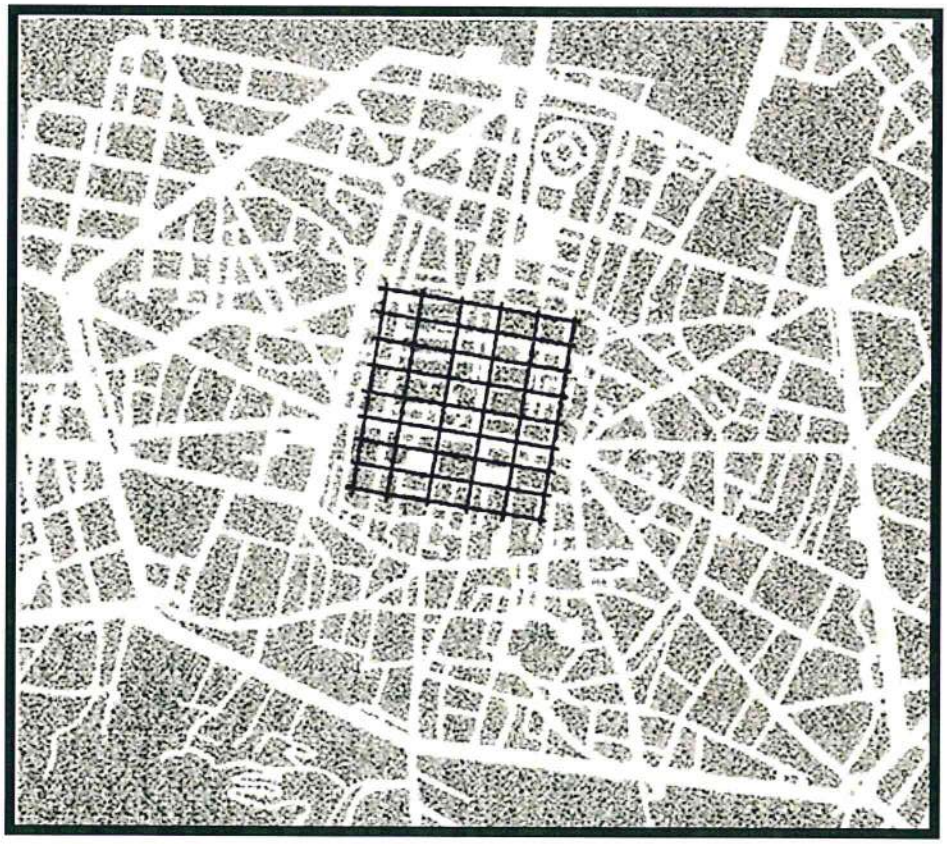


Exhibit 4
The regular Roman grid deteriorated in the middle ages but are the basis of the rebirth of the Renaissance. Source - pg 22 Streets and The Shaping of Towns and Cities.

Again, in contrast to the Middle Ages, the early renaissance can be quantified as an era of collaboration in which the artisans were involved in the development of their city, and where committee's were responsible for most city building projects. Historians now refer to the renaissance as that of an era of civic enlightenment rather than the rise of a singular great man.

The renaissance movement spread beyond Italy and modified as it moved. In the mid-15th Century, the renaissance ideology appeared in France imported by King Charles VIII. By the late 15th Century, Italian humanists had reached Poland and Hungary. From France, the renaissance spirit spread to the low countries, Germany, Spain, Portugal, England, and central Europe all by the late 16th Century.

During this time, artist's learned the new rules of perspective and studied human anatomy to create more accurate figure paintings. Architecturally, the renaissance movement and its renewed interest in the monuments and designs of antiquity began to address and improve the medieval city quality of life. European architects such as Alberti and Palladio advocated the importance of a well laid out street system.

Alberti sought to improve the social and urban conditions of the time by studying classical architecture. "For him (Alberti), good architecture and city planning worked together, and encompassed skillful (building) sitting, regard for health conditions, adequate water supply, efficient construction techniques, thoughtful street layouts, and harmony of design"[8]. Alberti suggested two approaches for street design - street layouts for city design were to be straight and broad to symbolize the strength, majesty, and civic pride associated with the renaissance city; street layouts for the smaller urban centers and fortifications were to "wind about" in a maze like pattern to ensure the safety of its inhabitants. Cities began to see the addition of space between buildings, the most obvious being the monumental plaza. The renaissance fostered "both a new artistic and civic spirit". This "new" architectural vocabulary expressed an emphasis on rational clarity and the regularity of parts, all arranged in mathematical proportion. Often identified as a revival of Roman architecture, classically-styled columns and geometrically-perfect designs formed the basis of the architectural movement in the Renaissance.

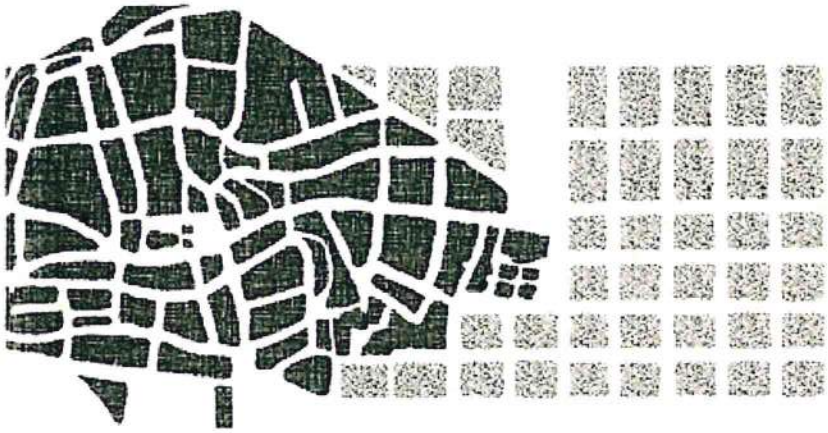


Exhibit 5
As cities grew in the Renaissance, new suburbs in gridiron patterns extended the Medieval City. Source - pg 25 Streets and The Shaping of Towns and Cities.

This new artistic spirit led to a new architecture that was required to be seen in the proper perspective requiring broad streets and grand plazas. The pure geometry of straight streets and regular urban grids "appealed to the renaissance architects for its pure form, as well as its potential for opening up dramatic perspectives to civic or religious landmarks"[9]. Thus, renaissance urban renewal featured straight streets carved into the existing medieval urban fabric.

The Cathedral, Palace, and other civic buildings could now be viewed from a distance increasing their importance to the new social fabric.

The civic spirit of the time required places where the "drama of the city could be played out in full - places to gather, meet and talk". The social life of the city became concentrated in the plaza, in which beautifully detailed building facades enclosed. Similarly, new streets were cut into the existing urban fabric and lined with individually detailed facades. Well into the 20th Century, most European cities could still be characterized as a solid mass of buildings punctuated with a few important open spaces and streets.

PRECEDENT STUDY

The Renaissance City:

Campidoglio, Rome, Italy - typical of many renaissance architectural interventions, Michelangelo's reconstruction of the Capitoline Hall in Rome applies a series of urban planning ordering principles developed during the renaissance time period. In 1538, Michelangelo was faced with a non-balanced, unplanned composition between the medieval Palazzo del Conservatori and the Palazzo del Conservatori. Using a newly defined central axis to organize and create an ordering device for the square, he repeated the angle created by the existing edge of the Palazzo del Conservatori symmetrically on the other side of the new axis with new infill construction. Michelangelo then built new classically ordered facades on all buildings as well as redefined the public space within. The paved area of the newly defined square served as an ordering device as well, by creating a vertical oval shaft of space which references the overall urban square deferred by the surrounding buildings. The completed project is considered one of Michelangelo's great all time masterpieces.

Florence, Italy - the renaissance created a new rational basis for city growth. The image on the left shows the Duomo as the central element of the physical relationship to the Piazza della Santiissima Annuniziata and the visual extension of Piazza della Signoria an on to the Arno river. The plan also shows the network of newly interconnected streets, squares, and churches. This demonstrates the beginning of a new urban design ideology not seen on the large city scale of earlier time periods.

Lesson Learned from this Time Period:

Renaissance Cities created an urban dialogue of geometric order, civic pride, and redefined sense of place in the form of public plazas and outdoor space.

4.2.3 19TH CENTURY URBAN DEVELOPMENT

As the modern age continued to develop, the industrialization of cities in the late 18th and early 19th Centuries continued to create over crowding first experienced in the early renaissance, as well as polluted conditions due to the rise of coal burning industry. The urban response to these social issues was the development of the early residential suburb. The social elite of the time began to move to the rural-urban edge to escape the increasing harshness of the industrialized center. "The origin of the urban edge suburbia may be traced to late 18th Century and early 19th Century London"[10]. The mixed class neighbourhoods and poor physical conditions led the wealthy in search of class segregated, purely residential environments. "The London elite began to abandon their combined homes and offices in the heart of the city, moving their families out of town to large villas in the agricultural fringe that ringed the city"[11].

The concept of the idyllic suburb can be traced through the art, philosophy and literature of the 17th and 18th Centuries idealizing rural social values and picturesque landscapes. By the end of the 18th Century, designers began to

incorporate rural and picturesque ideology in their work, which came to be known as the Picturesque Movement in Britain. John Nash can be credited with the development of the ideal suburb applying concepts of the picturesque movement to his work. Nash's Park Village avoided the typical 18th Century urban pattern of solid streets and open squares by setting individual houses within the landscape. "All of the elements of the picturesque movement are contained in the scheme: a winding street with sidewalks, houses of varied styles, unfolding views, and landscape features such as water elements, trees, and changes of terrain"[12].

North American 19th Century city's developed with industrial land uses located linearly along railways, rivers, canals, ocean or lakeshores and commercial/ residential districts located within close proximity. These early urban communities had predominately tightly interwoven land use patterns and employed a typical recti-linear grid iron town planning ideology. Generally, local residents could easily access their entire community by foot. With the advent of transportation systems such as the streetcar and suburban railway lines, high-income residential areas developed beyond the city centre along such transportation routes.

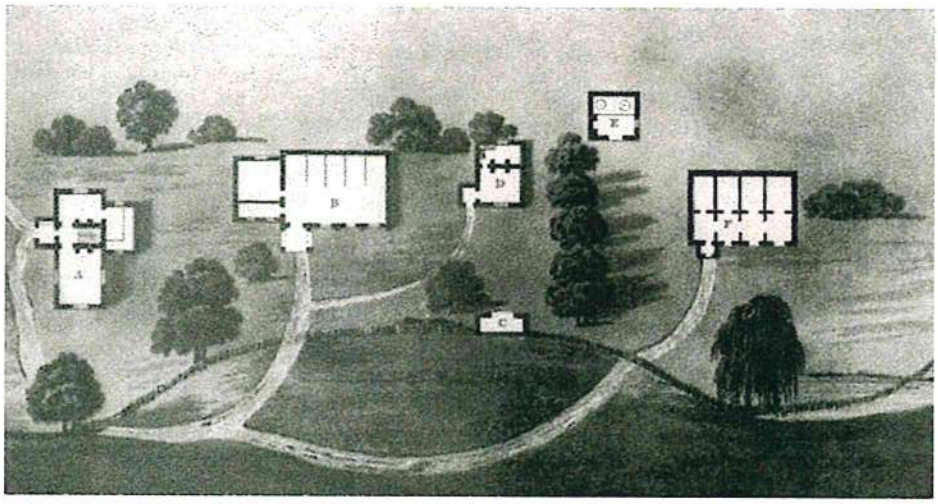


Exhibit 6
The picturesque movement promoted rural values and images. Source - pg 31 Streets and The Shaping of Towns

The picturesque movement in Europe influenced North American designers such as Downey, Vaux, and Olmsted. Olmstead was critical of the New York Brownstone row housing popular during the time. "He rejected the urban grid and adopted the curvilinear road and single family house which epitomized the suburban ideal of the placid and pastoral in contrast to the efficient and mechanistic order of the urban environment"[13]. Olmstead's experience as urban planner for New York's central park, further strengthen his conviction to the picturesque style. Olmstead along with Vaux fully realized their residential philosophy with the design of Riverside, Illinois in 1868. Riverside created a picturesque landscaped community on the periphery of Chicago and featured curvilinear tree lined roads, ample green space and devoid of sharp corners all of which "were all deliberately designed to contrast the prevailing city street grid to imply leisure, contemplativeness and happy tranquility"[14]. Design

innovations developed by Olmstead were 30' standard setbacks for all houses, roadway widths of 30' with pedestrian sidewalks on both sides and trees planted at equal intervals in the boulevards between the street and sidewalk. These elements became standard features in most future North American suburban design.

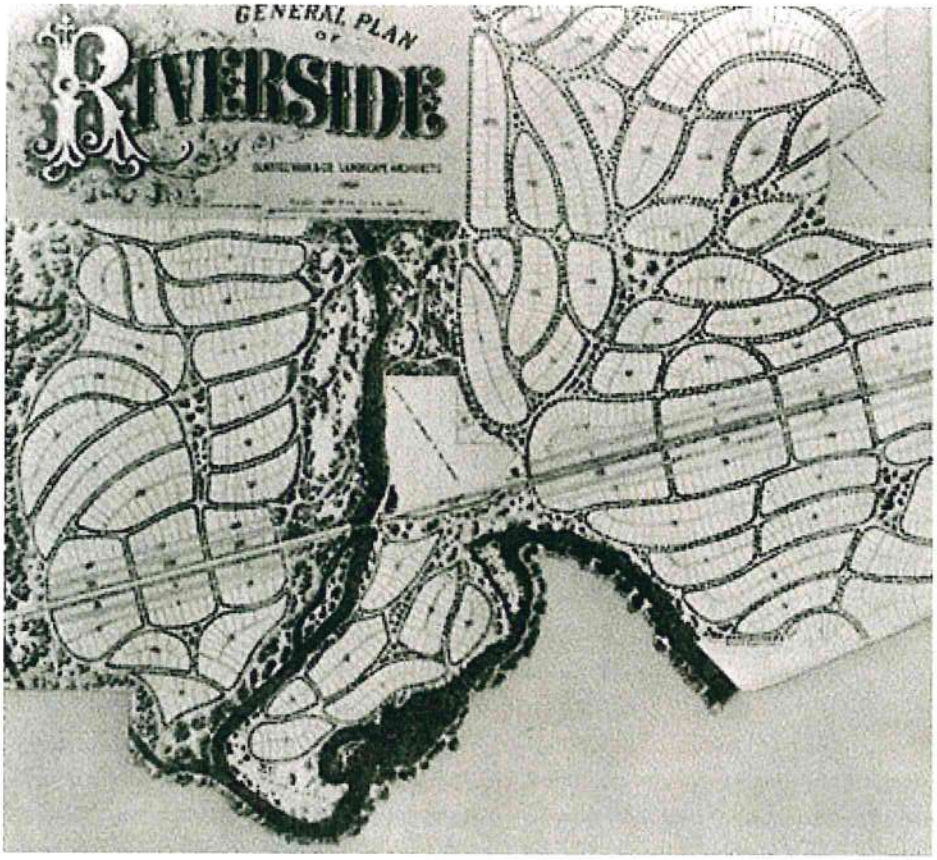


Exhibit 7
Riverside Illinois, 1868, transformed a featureless track of land into a Romantic, picturesque landscape. Source - pg 40 Streets and the Shaping of Towns and Cities.

Lesson Learned from this Time Period:

The town planning principles developed during this time period mark the beginning tendencies of placing buildings in the open space and reducing the walkability of communities.

4.2.4 EARLY 20TH CENTURY INDUSTRIALIZATION

Early 20th Century characteristics of urban expansion, continued the tendency to develop along fast radial transportation routes and around specialized transportation facilities. This holds true for current suburban growth.

In response to the continued urban growth and industrialization of the period, the Garden City movement sought to integrate town and country. Ebenezer Howard's To-morrow: A Peaceful Path to Reform published in 1898 (later re-published as Garden Cities of Tomorrow) developed a theoretical framework for a socially integrated urban environment. "Howard advocated a new economic and social

order, a new society: 'Town and country must be married, and out of this joyous union will spring a new hope, a new life, a new civilization"[15]. In England, Unwin and Parker used Howard's social reform ideology as the basis for their Hampstead Garden suburb design. This Garden City based solution focused on the integration of social classes, and provided different housing types set in a rural-urban context. "The growing up of the suburb occupied solely by any individual class is bad, socially, economically, and aesthetically.....if, then, the site that is being planned is one which we expect mainly to have a working class population, we should still try to arrange some attractive corners in which a few rather large houses may be built; we should induce the doctor to live among his patients by affording him a suitable site, and give an opportunity for those who have been successful in life, to live in suitable homes among others not as fortunate..."[16]. To provide a mixed class environment, Hampstead gardens therefore, included different housing types such as two-family semi detached houses, row houses, apartment blocks and single-family houses.

Exhibit 8
The development of the railroad brought with it a standardized approach to street layout.
Source - pg 36 Streets and The Shaping of Towns and Cities.

Street patterns avoided the rectilinear grid pattern consistent with existing city street systems, creating a neighbourhood road pattern of radial streets emanating from a central village green. For the first time in neighbourhood design, a system of cul-de-sacs and open green space courts accessed from the main radial streets were used - which, in turn, created a pedestrian friendly environment by separating the pedestrian from the public street. Unlike the North American suburban cul-de-sac, the Hampstead Garden type was short and narrow with no turn around at the end. Mid block pedestrian walkways connected the cul-de-sacs and roadways to one another, and road types were hierarchical and designed to discourage through traffic.

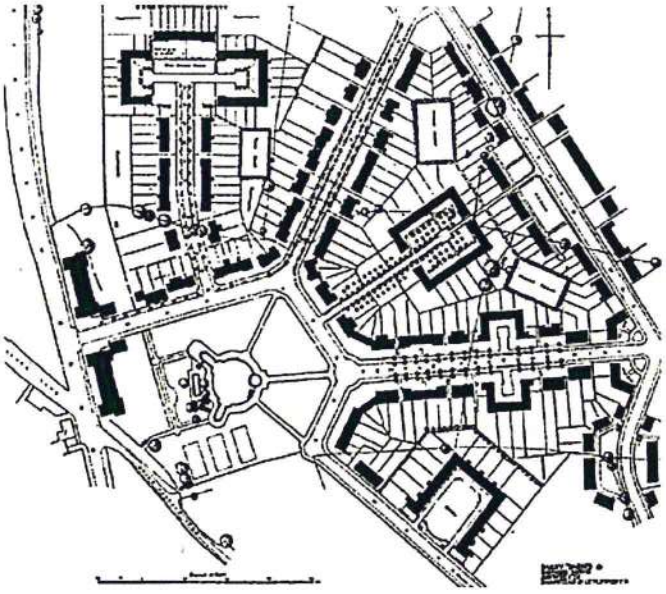


Exhibit 9
The Hampstead Garden layout avoided the rectilinear grid by utilizing cul-de-sacs and courts to define pedestrian oriented residential areas.
Source - pg 52 Streets and The Shaping of Towns and Cities.

The Hampstead Garden suburb became a major prototype for residential subdivision and roadway design of the time as well as providing design inspiration to the current generation of new urbanism advocates.

Exhibit 10
In the Radburn plan, all housing in situated on narrow cul-de-sacs connected to green spaces.
Source - pg 71 Streets and The Shaping of Towns and Cities.

In 1924, Clarence Stein and Henry Wright explored the Garden City ideology in North America with the design of Radburn, New Jersey. 16 miles from New York City, Radburn was planned on 2 square miles for 25,000 residents. Based on the English model discussed above, Stein and Wright accepted that the project also had to respond to American lifestyles and the growing use of the automobile. They believed that the standard gridiron street pattern had become obsolete for residential living, creating unsafe conditions due to traffic, noise and pollution. "Radburn's design was a reaction against city traffic and the impact of cars on residential living and as such it had to 'accept the role of suburb' rather than that of Garden City"[17].

Very few of the Radburn design principals were completely new. Radburn's hierarchial street layout and cul-de-sac design was adapted from the Hampstead Garden project. At Radburn, the cul-de-sac superblocks were increased in size over the Hampstead example, and the further separation of pedestrian and automobile was developed. No sidewalks or curbs were designed into any of the residential street environments, moving all pedestrian traffic to the greenways between each cul-de-sac. "The Radburn superblocks were surrounded by 60-foot-wide streets that served as feeders to the cul-de-sacs. The hierarchical layout allowed for the considerable savings in road construction costs. As the cul-de-sac carried no through traffic, the standard of construction was less demanding. Curbs were not used, and sewer and water lines were smaller. Overall, the development was able to reduce street area and the length of utilities by 25% from the typical gridiron street plan required. According to Stein, the cost savings for roads and public utilities, in comparison with the normal subdivision, paid for the construction of the main core parks"[18].

Lesson Learned from this Time Period:

Both Hampstead and Radburn have both influenced today's new urbanists with their use of shared amenity space and careful study of mixed-use development.

The timing of Radburn was unfortunate in that the Depression hit North America as the development began; therefore the plan was never fully developed. The reduced cost associated with its street development vs. the cost of land devoted to public green space was also never fully analyzed. However, the lesson learned from both Hampstead and Radburn, which has influenced today's new urbanists is the increased use of shared amenity space and careful study of mixed-use development in current planning methodology.

As communication and transportation technologies improved, so did the decentralization of the original central business district (CBD). In his book, Cities of Canada, Volume 1, George Nader wrote "Probably the most important characteristic of the modem metropolis is the trend towards decentralization, evidenced by a relative decline in the importance of the central area for most urban activities. Technological, economic and social forces combined to promote reduced densities throughout the metropolitan area and on balance, have encouraged a proportional shift of functions to the periphery, particularly since the outward movements of various activities, such as housing, retailing, and manufacturing tend to reinforce

each other"[19]. Peripheral city locations featured lower land costs, large amounts of vacant land, fewer public zoning restrictions and closer proximity to modern transportation facilities such as airports, hi-ways and integrated rail and road terminals. These factors have allowed both builders/developers considerable flexibility in the planning and construction of new industrial or commercial facilities.

Lesson Learned from this Time Period:

By the end of this period, the North American urban landscape had shifted to a "Building within space" environment, creating the foundation for a sprawling urban form. Although mixed use was incorporated in both Hampstead Garden and Radburn, as suburbs continued to develop, segregated land use planning became more of the norm.

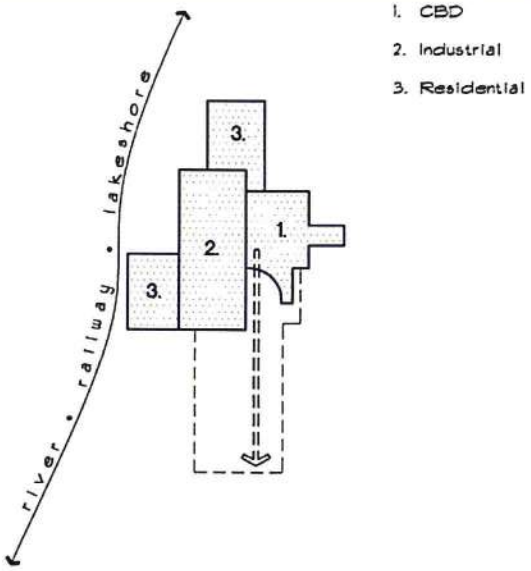


Exhibit 11
Metropolitan Development
Pre 1945
Source - B.Kimball

PRECEDENT STUDY

Metropolitan Development Pre 1945

- *Although large urban centres became common in the 19th Century, the rise of metropolitan city is a 20th Century development;*
- *19th Century city's developed with industrial land uses located linearly along railways, rivers, canals, ocean or lake shores. Commercial/ residential districts were located with close proximity;*
- *Early urban communities had predominately tightly interwoven land use patterns - residents could easily access their entire community on foot;*
- *With the advent of transportation systems such as the streetcar and suburban railway lines, high-income residential area's developed beyond the city centre along such transportation routes;*
- *Characteristics of early 20th Century urban expansion were the tendency to develop along fast radial transportation routes and around specialized transportation systems;*
- *This holds true for current suburban growth patterns.*

4.2.5 POST WAR METROPOLITAN DEVELOPMENT

In Canada, two different periods of urban development and transition can be identified since World War II:

- Metropolitan development from the end of the war to the mid-1970's;
- Suburban domination, from 1975 to the present day (and possibly beyond).

4.2.5.1 Metropolitan Development (1945 - 1975)

Canada experienced rapid economic and demographic growth in the period from 1945 - 1975. In general, overall economic growth was achieved through a balancing of forces of big business, big governments, and the development of a unionized labour force. In terms of urban growth, this period marks the first time the term 'metropolitan' was first used in reference to major Canadian cities. In geographic terms, the new urbanization was characterized by rapidly growing suburban municipalities. This new growth occurred at a dramatic rate, driven by an unprecedented population expansion (the baby boom) alongside a period of post-war sustained prosperity.

This period of sustained prosperity was characterized by well paid blue-collar and public-sector employee's which increased the ranks of a new found middle class -thus a much higher proportion of families could now afford their own homes than ever before. A distinctive feature of new suburban life was the production of large homes on large lots (by comparison to earlier standards) which, in turn, generated demand for large mass produced goods such as cars, furniture, and appliances. Increased car ownership and use is linked to the spread of suburban residential space and single-family home-ownership, and in turn, the development of low-density suburban environments made automobile travel a necessity. Increased automobile travel transformed spatial arrangements within the city and the increased suburban accessibility, which translated into greater land consumption.

This period also marked increased government involvement, which changed how Canadian cities were managed. In the 1950's, city planners were hired in cities throughout Canada to manage and guide urban growth. This new urban planning "with its main tools of zoning by-laws and master plans, configured the new suburb into a car-oriented environment where land use was highly segregated to assure the liveability of residential areas"[20]. Governments helped suburban development by building new educational facilities, hospitals and housing in the suburbs, all of which use to be located in the central cities. The federal government also stimulated suburban development with its mortgage subsidy and guarantee program for new single-family houses.

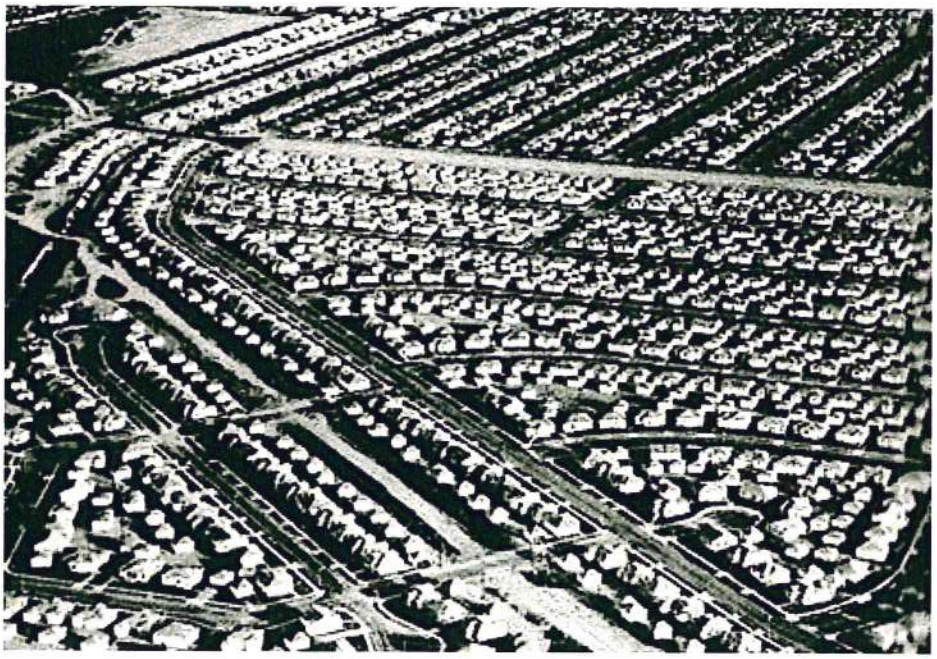


Exhibit 12
Beginning in the early 50's, suburbs of new housing were built.
Source - pg 94 Streets and The Shaping of Towns and Cities.

The construction of high-capacity arterials, combined with increased car and truck use improved accessibility, altered land value, and created numerous retail nodes of equivalent importance to the commercial business district (CBD) such as the following:

- High-accessibility nodes located at major highway interchanges and arterial intersections became preferred sites for regional malls;
- Other locations offering good accessibility adjacent to high-capacity roads attracted industrial and business parks, small retail malls, and self-standing retail and service establishments.

Also attracted to the suburbs were university campuses. In the 1950's and 1960's such campuses as Carlton University (Ottawa), York University (Toronto), University of Calgary (Calgary), Simon Fraser University (Vancouver) and the University of Regina (Regina) were established away from the inner city.

Lesson Learned from this Time Period:

When public transit was extended to the suburbs, deficits increased due to lower densities. The origins and destinations were too scattered to generate a high enough level of use required to support effective services.

The quality of life of inner city neighbourhoods suffered from the efforts to improve suburban accessibility to the CBD. Highways and high-capacity arterial construction bisected inner city neighbourhoods and the establishments of large regional malls were responsible for the decline of market share. The relocation of the new middle-class to the suburbs "triggered a filtering down of inner-city housing -a decline in a households socio-economic status, conversion of single family units

to family accommodation, and a subsequent physical deterioration of aging housing stock"[21]. Inner city 'blight', however, was more characteristic of US than Canadian cities. Many Canadian cities experienced both rapid suburbanization as well as a huge influx of immigration. This created a cycle of private home renovation in the older inner-city neighbourhoods that in the 1980's and 1990's continued with the process of gentrification.

During this period, downtown redevelopment was encouraged by massive public sector investment such as widening roads and, public transit expansion. The erection of public buildings such as the new City Hall in Toronto and Place des Arts in Montreal was intended to improve the image of the city centre. Between 1960 and 1975, the CBD experienced a large office employment growth, which significantly changed the city skyline with the addition of many new office towers built cross the country. Core area retailing was also transformed. In most Canadian downtowns, malls imitated their suburban counterparts. However, suburban shopping centres caused a significant drop in the weight of downtown cores within the retailing marketplace.

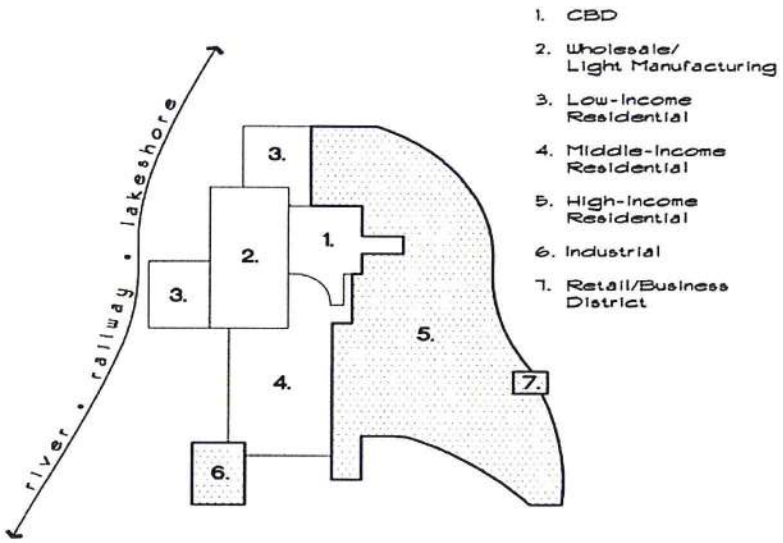


Exhibit 13
Metropolitan Development 1945 - 1978.
Source - B. Kimball.

PRECEDENT STUDY

The North American Baby Boom: Metropolitan Development 1945 - 1975

- *Canada experienced rapid economic and demographic growth in the period from 1945 - 1975. In geographic terms, this new urbanization was characterized by rapidly growing suburban municipalities. This new growth occurred at a frantic rate, driven by the baby boom and a period of post-war sustained prosperity;*
- *Increased car ownership and use is linked to the spread of suburban residential space and single-family-home ownership, and in turn, the development of low density suburban environments made automobile travel necessary;*
- *Increased suburban accessibility translated into greater land consumption;*
- *In the 1950's, city planners were hired in cities throughout Canada (and the U.S.) to manage and guide urban growth. This new urban planning with its tools of*

zoning bylaws and master plans, configured the new suburban landscape into a car oriented environment where land use was highly segregated to assure "liveability" of residential areas;

- *Governments helped suburban development by building schools, hospitals, and subsidized housing in the suburbs, all of which use to be located in the central city;*
- *The construction of high-capacity arterials, combined with increased automobile use, improved accessibility, altered land value, and created retail nodes, establishing large regional malles responsible for the decline of the CBD's market share;*
- *The relocation of the new middle-class to the suburbs triggered a filtering down of inner-city housing which in turn created a decline in the house-hold socio-economic status. This created a subsequent deterioration of aging housing stock.*

4.2.5.2 Suburban Domination (1975 – 21st Century)

The last 30 years has seen the suburbs surpass the central city in terms of population size, retail activity, manufacturing, as well as office and public institution employment. Canadian metropolitan areas followed the trend set by their US counterparts in that most economic activity is now based in the suburbs. As well, "dispersed styles of suburbanization over this period have resulted in a rate of outward physical expansion that far exceeds demographic growth. Even cities that saw little population increase over this period experienced substantial peripheral suburban development"[22]. Urban sprawl extended the physical boundaries of the city have grown uncontrollably. Unfortunately, the dense inner city with its heavy reliance on walking and public transit has become a secondary urban form within suburban, car-dominated city.

A number of innovations distinguish the current period from the preceding one. With the decentralization of offices, the post-1975 period witnesses the creation of suburban business (or office) parks. In terms of retail, the appearance of factory outlets, 'big-box' store and 'power malls' has redefined the shopping centre hierarchy (local, community, regional) inherited from the previous period. The 'big-box' has achieved unprecedented size for specialized retail outlets and enjoys substantial economies of scale. They typically choose inexpensive but highly accessible sites, usually near one or more major roadways. This locational advantage, along with their competitive price and merchandise variety, allows big-box stores and power malls to capture catchment areas that greatly exceed those of regional malls.

In contrast to the substantial retail transformations, residential communities over the last 25 years continue to conform to the land-use patterns developed in the previous growth periods. Today's suburbs have become more socially

heterogeneous than in the past. There is now more ethnic and racial diversity in the suburbs than in previous periods. The redistribution of social housing alongside open green space in the 1960's and 1970's has unfortunately created distinct pockets of poverty. Some older neighbourhoods have experienced a "filtering down" as original residents have relocated to more affluent neighbourhoods. In contrast, some communities have experienced a "filtering up" as larger new homes have replaced original housing in more desirable locations.

Between 1973 and 1985, 5 million blue collar jobs were lost in the US. Concurrently, 110 million white collar jobs were gained in the service and information sectors. This translated to over 1 billion square feet in office space development. In general, these complexes all moved beyond the confines of the CBD, with the total percentage of office space in the suburbs increasing from 25% in 1970 to 57% in 1985.

As indicated by Nader, the land use structure of most modem North American cities can now be divided into five concentric zones:

- The central business district;
- The zone in transition (an area of mixed land uses from residential to commercial);
- The zone of inner city low income housing;
- The suburb zone (middle to high income residential zones/retail/ commercial);
- The commuters zone which extends beyond the city limits (acreage and bedroom communities).

This concentric arrangement of land use patterns is the result of the urban growth process. As urban expansion progresses there is a tendency for each zone to expand into the area of the next outer zone. Most recently, the zone of transition in many North American cities has experienced a period of resurgence with residential warehouse conversions. However, the majority of growth has been in the city suburbs with the development of office parks, shopping malls, and single-family sub-divisions. If urban growth continues uncontrolled, all zones can be considered transitional in the long run.

The economic cutbacks of the 1990's made it increasingly difficult for the public-sector to provide the necessary infrastructure needed for a dispersed urban form. The lack of public money to build sufficient commuter roadways has contributed to traffic congestion and, the gap between demographic growth and public services such as schools, hospitals and even home mail delivery is typical of today's urban environment. The current trends of financial restraint is equally hard on the inner city - "transit services in most Canadian cities have been cut back and governments are less able than in the past to compensate for the effects of urban decentralization on central areas"[23]. Today's cities are feeling the financial and demographic effects of 50 years of urban sprawl.

PRECEDENT STUDY

Suburban Domination: 1975 - 21st Century

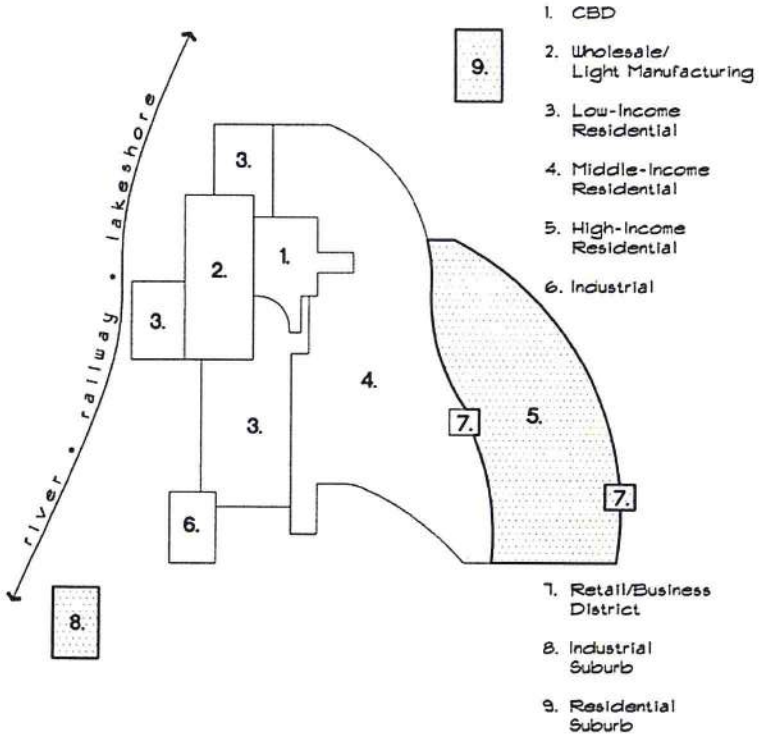


Exhibit 14
Suburban Domination
1975 - 21st Century
Source - B. Kimball.

- *The last 30 years has seen the suburbs surpass the central city in terms of population size, retail activity, manufacturing, as well as office and public institution employment;*
- *Dispersed styles of suburbanization over this period has resulted in a increased rate of outward expansion that far exceeds demographic growth;*
- *With the decentralization of employment, the post 1975 period witnessed the creation of suburban business parks;*
- *In terms of retail, the appearance of factory outlets, "big-box" stores and "power malls" has redefined the shopping centre hierarchy (local, community, regional) inherited from the previous period;*
- *Today's suburbs have become more socially heterogeneous than in past periods. There is now more ethnic and racial diversity in the suburbs than in previous periods, however, homogeneous planning exists with segregation of uses;*
- *Older neighbourhoods have experienced a "filtering down" as original residents have relocated to more affluent neighbourhoods.*

Lesson Learned from this Time Period:

During this time period, the advancement of transportation and communication technologies perpetuated the "decentralized" city and created an urban environment devoid of sense of place. A dramatic shift in the urban landscape occurred where open space is punctuated by the "occasional building". The sprawling condition of today's cities not only lacks a sense of community, but is unsustainable from both a financial and energy efficiency stand point.

PRECEDENT STUDY

The Effects of Urban Sprawl

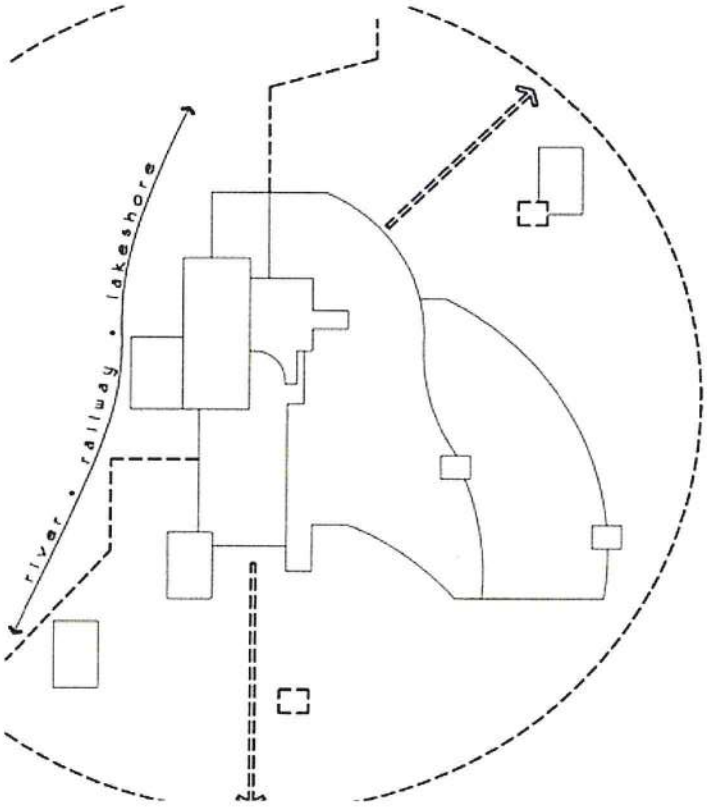


Exhibit 15
The effects of Urban Sprawl
Source - B. Kimball

- *The public-sector to provide the necessary infrastructure needed for a dispersed urban form;*
- *Automobile ownership and increased automobile usage has made urban sprawl possible and has raised serious environmental concerns in terms of air quality, land use and habitat protection in many North American cities;*
- *In current urban settings, 30% to 60% of urban land use is dedicated to roads, highways, driveways, and parking lots;*
- *Urban sprawl is environmentally problematic from several standpoints. Suburban living typically separates residence from employment, commerce and cultural/ recreational activities by grater distances. The increased commuting requires greater energy use, which in turn, contributes to traffic congestion, air pollution and ultimately nonsustainability. Sprawl also destroys animal habitat and agricultural land production.*
- *The single family dwelling is typically less energy and materials efficient than a higher density alternative, however, the greatest supply of middle income housing remains in the urban fringe;*
- *The current urban form which we have known for 50 years has run its course and is need of an overhaul. Urban intensification and sustainable urban environments are key issues for the 21st Century.*

5. AN URBAN THEORY SHIFT: A RETURN TO THE PAST

Exhibit 16
People friendly Urban Development.
Source - newurbanism.org

As it has been studied in the last section, it appears that the modern movement perpetuated the decentralized city and created an urban environment with no sense of place. Transportation and communication technologies allowed for a spreading of development creating an urban environment where open space was punctuated by the occasional building. Today's cities cannot continue to support such an unsustainable development practice. Urban theorist's as early as the 1960's began to support this argument by developing arguments for increased density and "Old Towne Planning" principles as a way of recreating this urban sense of place that had been lost. From the 1960's to the 1980's, a transformation in urban design theory began to occur - a new philosophy that the functionalism of the modern movement was a negative regressive ideology, emerged. Against the universalism of the modern movement came a renewed interest in specificity of regional and historical styles; a respect for the diversity of urban subcultures; and a desire to once again distinguish between public monuments and civic institutions from domestic Architecture. This new movement came to be known as Post–modernism or postmodern urbanism.

5.1 Post-Modern Urban Theory

In general terms, postmodern urbanism (having now evolved into New Urbanism) is a reaction to issues of sprawl and is a humane response to the placelessness created by both modernism and the development patterns which occurred during the previous time period. Modernism developed architectural objects, which stood alone within the environment, centerpieces without preferential facades or concern for context. In North America, modernism created a city to complement the automobile. As transportation and communication technologies advanced, cities became decentralized and rearranged by function. Most urban theorists agree that modem urban design has denied the city a sense of place and community.

With the publication of Complexity and Contradiction in Architecture by Venturi in 1966, the ideology of modernism was challenged. Venturi proclaimed "I like elements which are hybrid rather than 'pure', compromising rather than 'clean', distorted rather than 'straightforward', ambiguous rather than 'articulated', perverse as well as impersonal, boring as well as 'interesting', conventional rather than 'designed', accommodating rather than excluding, redundant rather than simple, vestigial as well as innovating, inconsistent and equivocal rather than direct and clear"[24]. Postmodernism replaced modernism's universalism and purism aesthetic with pluralism and contextualism. Likewise, post-modern urban theory began to challenge the feelings of placelessness and respond to the need for an urban community.

New Urbanism can be defined by its renewed interest in contextualism (historical, physical, social, and mass culture). Post-modern urban theory has programmed built environments considered to be far superior to those influenced by modem urbanism - "most important is the renewed attention to fulfilling non-functional needs and tastes, as is manifest in building on human scale; a reintroduction of ornament, colour, and whimsy; mixed-use development, and a valorization of public spaces of many kinds"[25]. As indicated by Ellin, North American post-modern urbanism development can be characterized by ideologies such as: the townscape movement, community participation, regionalism, contextualism, historic preservation and gentrification, edge cities, and neotraditional urban design as discussed below:

- The townscape movement is a direct response to modernism's architectural objects as mentioned. As described by Ellin, the townscape movement "emphasized the relationship between buildings and all that surrounds them and encouraged the design of buildings to enclose public space rather than sit in the centre of it"[26]. During the 1960's, urban theorist such as Lynch and Jacobs wrote of the desire to humanize the city by creating mixed-use, street-friendly urban environments;
- Advocacy planning and community participation began in the late 1960's. Rather than simply designing buildings or communities for the city residence, urban planners employed public meetings for neighbourhood involvement during the design process. It was agreed by urban planners and theorists alike, that to develop a sense of place was to encourage public participation;

- Regionalism and Vernacular design is also a response to modernism's architectural objects. An urban environment concerned with regionalism and vernacular design responds to the impact of both site context and local cultural/ historical influences;
- Post-modern contextualism is usually associated with Robert Venturi, widely considered the father of post-modern architecture and urban design in both North America and Western Europe. Rather than the either/or doctrine of purity, unity and order associated with modernism, Venturi suggested an architectural form with a more inclusivist, both/and ordering principle. As indicated by Ellin, contextualism brought life back to the street - "While modernist orthodoxy disregarded the street, Venturi's architecture would accommodate it"[27]. In general, postmodernism taught designers/planners to be sensitive to the environment in which they worked;
- Historic preservation of the existing urban environment and the gentrification of the central city began in the 1960's. In response to the destructiveness of urban renewal, the general public and planners alike felt the need to save our architectural and cultural heritage. Gentrification, in turn, redeveloped abandoned warehouse buildings for re-use such as housing or loft-living. The rehabilitation of entire districts took place re-cycling buildings for new, modem uses;
- The concept of edge city development in the early 1980's responded to concerns about non-sustainability and urban sprawl in today's urban environment. Development trends in all major North American cities have been along the urban periphery. Edge city theorists suggest decentralized multiple urban centres rivalling the traditional central city. In theory, each edge city would accommodate a business centre, a commercial sector, low-density residential development and access to both public transportation corridors as well as vehicular access. According to edge city advocates, co-locating residential and employment functions would reduce urban traffic congestion and associated environmental pollution while increasing quality of life;
- Neo-traditional urban design draws its inspiration from "townscapes from the past in an effort to engage their surroundings rather than retreat from them"[28]. Central to this urban vision is the desire to re-establish a 'sense of place' in today's residential neighbourhoods. The neotraditional concept is based on the neighbourhood unit first described by such planners as Ebenezer Howard, Clarence Perry, and Clarence Stein. The early neighbourhood unit was based on a catchment area extending ¾ of a mile beyond a town centre focal point -initially a school. One unit was planned to be home to 5,000 people, and conceived to provide its residents with a sense of community. The key goal of today's neotraditional planning is the development of medium density, mixed-use communities integrated with residential, commercial, employment, recreation and socio-economic groups. Neotraditional advocates believe that a well-balanced combination of employment, shopping and living opportunities creates a strong sense of community and enhanced quality of life.

PRECEDENT STUDY

The Effects of Urban Sprawl

Kentlands - Gaithersburg, Maryland, USA: *Designed in 1988, Kentlands is located on the southwest edge of Gaithersburg for a projected population of 5,000. It is surrounded by conventional suburbs and convenience centres and is not considered an independent community. The town centre of Kentlands includes our church, elementary school, day care centre, and community recreation centre. One million square feet of office space and 1.2 million square feet off retail space was planned but not completed. The existing landscape became dominant features of the development. The rolling hills, mature trees, water feature and existing farmhouse became central components of the several distinct neighbourhoods including the Old Farm district, Hill district, and Lake district. This community tries to avoid the "monotony and lack of local identity of mass-produced suburbs"*[29].

A major neighbourhood ordering device is a divided boulevard connecting a west entry circle at the school site to a semi-circular recreation centre site. Tree land vistas are formulated with neighbourhood landmark structures. A mix of housing types is used throughout and the overall development recalls the imagery and scale of a small town Maryland/Virginia vernacular. Street fronts are kept unified by providing alleys for garage and vehicular access.

Laguna West, Sacramento, California, USA: *Within a half hour commute from Sacramento, Laguna West features a formal axial layout. The axies converge on a central located town centre which contains pedestrian scale retail and office space. The strength of this community is the strong sense of streetscape in which all houses feature front porches while the garages are accessed from the back alley configurations. The negative feature, is that ir-regardless of how pedestrian friendly this project may feel, it contributes to sprawl by being located on the periphery of an already established urban centre.*

New Urbanism has provided an alternative ideology to the suburban sprawl of today's cities, i.e., the neotraditional community. Urban design has a long tradition of borrowing from the past, that continues today as neotraditional designers look nostalgically back to the small American Town as an alternative to conventional suburban development. These schemes echo the traditional patterns of walkable, mixed-use neighbourhoods and suggest a return of some of the Garden City, Unwin and Parker"[30].

Lesson Learned from this Time Period:

As pleasant as most new urbanist communities are, these developments are still typically located along the urban edge, continuing to contribute to unsustainable sprawl conditions. The challenge of today's cities, in my mind, is to apply urban growth boundaries and modify/apply these planning principals to both Brownfield and under developed city lands. This would maximize urban density's by developing mixed use communities within existing city limits.

5.2 Reclaiming the Centre

It's time to bring residents back to the central city. This thesis research contests that higher density urban settlements can both enhance quality of life and are environmentally advantageous.

Since the Second War, Canadian cities have continued to disperse, and city centres have continued to lose ground relative to the suburban developments that surround them. The most striking figures pertaining to Canadian urban sprawl are noted as follows: "Since 1966, Environment Canada has monitored land-use changes in 70 Canadian cities with populations of more than 25,000. It reports that "During those 20 years, 301,440 hectares of rural land -an area three times the size of the Toronto built-up area -were converted to urban and urban related uses." Nearly four-fifths of this was prime agricultural land. In general, overall population density of Canadian urban areas declined throughout the 1945 - 1991 period"[31].

Automobile ownership and increased automobile usage has made this possible and has raised serious environmental concerns in terms of air quality, land use, and habitat protection in many of today's Canadian cities. Where the automobile currently makes a good form of transportation in rural settings, cities that could possibly function with fewer cars may ultimately become more sustainable over time. Automobiles are inefficient in terms of energy, materials and land. In current urban settings, "30% to 60% of urban land use is dedicated to roads, highways, driveways, and lots"[32].

Today's urban sprawl is environmentally problematic from several standpoints. Suburban living typically separates residence from employment, commerce, and activities by greater distances. This increased commuting requires greater energy use, which in turn, contributes to traffic congestion, air pollution and ultimately nonsustainability. Sprawl also destroys animal habitat and agricultural land production. The single-family dwelling is typically less energy and materials efficient than a higher density alternative - however, the greatest supply of middle-income housing remains in the urban fringe. Continued low-density urban patterns presume a continued future supply of low-cost automobile fuels, which at the current time is proving not to be the case. The current urban form which we have known for 50 years may be problematic within decades (if not already). I believe urban intensification initiatives are clearly needed now.

It has been argued by both environmentalists and urban theorists alike, that improved environmental quality and an attempt towards sustainability in urban areas requires polices that will reverse urban sprawl and increase population densities within the current boundaries of today's cities. Some environmental and social advantages of higher density urban living are as follows:

- In general, the denser the city, the shorter the distances traveled thereby creating a more sustainable, energy efficient city Density can be increased by infilling or conversion of under-utilized buildings to residential applications. Forms of inner city neighbourhood gentrification may also lure suburban dwellers to city cores;

- In dense urban areas, more energy-efficient modes of transportation, such as rail and bus are in greater use. These forms of transportation are more than automobile use. Further reduction in automobile use may allow for investment in other forms of urban infrastructure such as public, open and green space within city core;
- The quality of life in urban cores may be enhanced with a careful mix of residential, commercial, cultural, and industrial uses (Jane Jacobs refers to this in The Death and Life of Great American Cities). People can live within close proximity to work, shopping, and entertainment. Jacobs indicates that streetscape, street life, and urban diversity are the keys to quality urban living. They are also keys to sustainability in terms of efficient energy, land and materials use;
- A dense, mixed-use city can be very humane in concept by emphasizing wide sidewalks, mini-parks, trees, storefronts and sidewalk cafes. In winter cities like ours in Canada, some buildings can be connected, and some walkways may be covered;
- Although green spaces within cities lower densities, they more importantly enrich the visual environment. One need only be reminded of the evolution of Medieval and Renaissance town plans. Downtown vegetable gardens, animal habitats, or markets are all examples of possible urban 'parks'. Quality urban green spaces need not be large, but rather well-located and defensible.

As can be seen, neighbourhood density is a critical component for a successful urban environment. Using Toronto as an example, one can clearly see how important density is: prewar Toronto neighbourhoods (which have few mid or high rise buildings) have densities of 28 to 36 housing units per hectare; postwar developments in close proximity to the city centre tend to have 10 to 15 units per hectare; and current suburban development in the greater Toronto area has 2 to 7 units per hectare. The densities of the prewar neighbourhoods, which are considered more walkable and desirable by many, have almost three times the density level of the more recent suburban developments. By contrast, medium density infill developments have a range of 30 to 90 units per hectare depending on location. A good example of how density equates to desirability is West Vancouver. Considered one of the most desirable districts in the country, West Vancouver has over 138 residential units per hectare. Taken from the document Understanding Sprawl: A Citizens Guide published by the David Suzuki Foundation, author David Gurin poses the following question: "many of the houses in the old city neighbourhood have front and back yards. Some houses are attached, some semi-attached, and some are rows. There are generally just a small number of high-rise apartment buildings among them. Families live comfortably in these neighbourhoods and the houses are valued highly on the real estate market. Why, then, are new suburban neighbourhoods built at much lower densities?"[33].

PRECEDENT STUDY

Mixed Use High Density

Copenhagen, Denmark is considered one of the world's greatest dense, mixed-use pedestrian cities. Over the last 40 years, this city has worked steadily to improve the quality of its street life by increasing its pedestrian network. Even though the city is blessed with the intimacy of a narrow medieval street grid, Copenhagen's city planners have taken numerous steps to transfer the city from a "car-oriented place to a people friendly one." Taken from newurbanism.org, the following is Copenhagen's 10 step program for urban success:

1. *Convert Streets into Pedestrian Thoroughfares: The city turned its traditional main street, Stroget, into a pedestrian thoroughfare in 1962. In succeeding decades, they gradually added more pedestrian-only streets, linking them to pedestrian-priority streets, where walkers and cyclists have the right-of-way but cars allowed at low speeds;*
2. *Reduce Traffic & Parking Gradually: To keep traffic volume stable, the city reduced the number of cars in the city centre by eliminating parking spaces at a rate of 2% - 3% per year. Between 1986 and 1996, the city eliminated about 600 spaces;*
3. *Turn Parking Lots into Public Squares: The act of creating pedestrian streets freed up parking lots, enabling the City to transform them into public squares;*
4. *Keep Scale Dense & Low: Low-rise, densely spaced buildings allow breezes to pass over them, making the City centre milder and less windy than the rest of Copenhagen;*
5. *Honour the Human Scale: The City's modest scale and street grid make walking a pleasant experience; its historic buildings, with their stoops, awnings, and doorways, provide people with impromptu places to stand and sit;*
6. *Populate the Core: More than 6800 residents now live in the city centre. They have eliminated their dependence on cars, and at night their lighted windows give visiting pedestrians a feeling of safety;*
7. *Encourage Student Living: Students who commute to school on bicycles do not add to traffic congestion; on the contrary, their active presence, day and night, animates the city;*
8. *Adapt the Cityscape to Changing Seasons: Outdoor cafes, public squares, and street performers attract thousands in the summer; skating rinks, heated benches, and gaslight heaters on street corners make winters in the City centre enjoyable;*
9. *Promote Cycling as a Major Mode of Transportation: The city established new bike lanes and extended existing ones. They placed bike crossings - using space freed up by the elimination of parking - near intersections. Currently, 34% of Copenhageners who work in the City bicycle to their jobs;*
10. *Make Bicycles Available: The City introduced the City Bike system in 1995, which allows anyone to borrow a bike from stands around the city for a small coin deposit. When finished, they simply leave them at any one of the 110 bike stands located around the City centre and their money refunded.*

The benefits of mixed use, high density urban environments increase the opportunity for greater social, convenience, economic and sustainable cities . High density can create lively place-making with above average amenities for those who live and work in these environments. Higher density allows for great public space and many different amenities within close proximity to each other. "Having a number of good corner stores, delis, restaurants, cafes, and other personal services within walking distance of most homes delivers a high quality of life to all residents of a town or city."

Lesson Learned from this Time Period:	In response to the placelessness of sprawling urban form, planners began to explore the benefits of mixed-use, hi-density urban developments.

6. URBAN SUCCESS?: AN INTEGRATED COMMUNITY PLANNING APPROACH

Exhibit 17
High Density, Mixed-Use Development. Source - newurbanism.org

A more sustainable pattern of urban development known has Smart Growth has emerged as the preferred planning model in recent years. Involving the reintegration of transportation and land use planning through a process called Integrated Community Planning (ICP), Smart Growth advocates the development of complete communities. The emphasis of community planning has come full circle, with Smart Growth philosophies advocating mixed land uses, compact built forms, and walkable, multi-modal streets. As outlined on the website newurbanism.org the ten guidelines for smart growth are:

- Mix land uses;
- Take advantage of compact building design;
- Create housing choices for a range of household types, family size and incomes;
- Create walkable neighbourhoods;
- Foster distinctive, attractive communities with a strong sense of place;
- Preserve open space, farmland, natural beauty, and critical environmental areas;
- Reinvest in and strengthen existing communities and achieve more balanced regional development;
- Provide a variety of transportation choices;
- Make development decisions predictable, fair and cost-effective;
- Encourage citizen and stake-holder participation in the planning process.

ICP is the central premise of this thesis.

The concept of ICP is based on an increased awareness that new urban growth should be channelled to contain urban sprawl by revitalizing existing urban areas and maximizing the potential of all existing developed areas. Within the boundaries of all cities, there can be found vacant land parcels that could easily be redeveloped into new uses.

The Sierra Club of Canada reports that the City of Edmonton currently has 38 partially built community developments. All of these community's are located in the

city's periphery "even though the total amount of undeveloped land (within the city boundary) could accommodate over 16 years worth of single-family development"[34]. According to the Sierra Club, urban growth initiatives should consider upward instead of outward growth. The Sierra Club suggests that this 16-year supply of land could be extended beyond such a time frame, if multiple family dwellings were introduced. In addition, no new road construction would be required if outward growth was kept to a minimum. As already discussed, suburban development has left behind an under-utilized inner city urban fabric with, in most cases, low and middle income housing stock. These neighbourhoods could easily be retooled as dynamic and attractive areas with a wide spectrum of residents, "to truly revitalize any neighbourhood, a mix of income levels, services and housing types must be available". By restoring a basic people-friendly infrastructure, creating walkability and attractiveness and promoting mixed use activities - live, work, play - today's designers and developer can create communities where people want to be.

Urban textures and technological networks are the key characteristics of ICP. In his book "A Theory of Good City Form", Kevin Lynch indicates that the two fundamental features of the successful texture of a urban fabric are density and grain. Increased density has already been discussed. The grain of a settlement is defined in the way the various urban elements are mixed together. Lynch defines elements as either activities, building types or people. The grain of a city can, in general terms, be either course or fine. Course-grained communities are characterized by large scale single function land-uses - typical of today's cities. A fine-grained community features like elements, or small clusters of them, widely dispersed among other unlike elements. A fine-grain, varied settlement is the preferred urban texture according to most urban theorists and can strengthen ICP design initiative.

ICP is based on the ideology that good urban form should be a place that provides encounter, assembly, and simultaneity. Henri Lefebvre wrote in his book The Urban Revolution that "the urban situation is where different things occur one after another and do not exist separately but according to their differences"[35]. Lefebvre reinforces Lynch's theory of grain with his own theory of differential space, in which he suggests that a successful urban environment is one of "contrasts, oppositions, superpositions and juxtapostions"[36]. He goes on to state that "segregation complicates and destroys complexity"[37]. Urban environments that prescribe to such theories or ideologies create mixed use places where all aspects of life coincide - work, live, play - and where urban form creates a virtual stage for encounter and assembly of all types of urban life. ICP planning strategies, if employed properly, can create rich, diverse urban environments.

The principles and objectives for ICP in today's city's need to include:

- Urban growth boundaries;
- A multi-scale planning approach;
- High-density, mixed use growth.

These principles will be discussed in detail below and will form the basis of design for this thesis.

6.1 Urban Growth Boundaries

By defining a no-development boundary line around the perimeter of today's cities can provide the stimulus to encourage compact regional land development patterns. Known as an Urban Growth Boundary (UGB), cities would be required to be more efficient with urban space utilization, which would lead to more vibrant mixed-use city quadrants. Planning parameters of a UGB would ultimately vary by region, but may well include:

- The designation of an UGB that is sufficiently large enough to accommodate new development over a long planning period;
- Designate all land outside the boundary as undevelopable 'preserves'. This should include all viable agricultural land, open space, parks, and natural habitats;
- Emphasis infill development and intensification within existing infrastructure (i.e., centres and transit corridors) over new development at the urban fringe.

Creating a compact urban form with efficient land utilization minimizes the need for costly infrastructure expansion and/or service extensions. A UGB can create an urban form that makes better use of existing facilities and services by emphasizing infill rather than concentrating on outward expansion.

PRECEDENT STUDY

Mixed Use High Density

Boulder Region, Boulder Colorado, USA: *Boulder designated a 'Blue Line' growth boundary in 1959 to limit urban development that would impact the surrounding mountain region. The Blue Line prohibited water and sewage service above a set elevation preserving hillsides and encouraging higher density development. Today, Boulder is an excellent example of Smart Growth with a mixed-use, high density, transit supportive urban form.*

Research Link: www.ci.boulder.co.us – Planning & Development Services – Planning & Zoning – Boulder Valley Comp Plan

Portland Region, Portland Oregon, USA: *In 1973, Portland designated a UGB to protect surrounding farmland and natural areas from urban development. Since its inception, the boundary has been periodically expanded due to sprawl-like development along the boundary edge. In its current configuration, this UGB is now a critical component of Region 2040, the Portland Land Use initiative to develop more transit supportive development and to intensify existing development such that a boundary enlargement will not be required.*

Research Link: www.metro-region.org – Regional Planning Section

6.2 A Multi-Scale Planning Approach

ICP requires a multi-scale planning approach that considers the total urban environment from a regional to city to neighbourhood perspective. If the UGB defines the edge of a city, multi-scale planning can define how a growth pattern within the boundary to achieve a balanced urban experience. The benefits of multi-scale planning may well include:

- Intensification of existing land use patterns utilizes existing infrastructure, and reduces low-density growth at the "edge";
- Provision for more compact patterns of growth at "greenfield" sites conserves agricultural and natural lands and reduces new infrastructure requirements;
- Delivery of pedestrian-friendly built forms makes walking more enjoyable, convenient and safe. This will create a context for a more vibrant public realm;
- Placement of more people close to transportation corridors and providing mixed-use amenities will promote urban infill, and possibly higher transit ridership, making public transit more competitive to the automobile.

ICP could well be the catalyst for the creation of mixed-use pedestrian friendly developments within under-developed sections of a city. Suburban sprawl's most devastating side effect is our dependency on the automobile and the filtering down of middle class residents from old neighbourhoods to newer ones. The filtering down phenomena has isolated certain groups of people, "especially those of low-income or extreme age, (and) restricts their residence to central, run-down communities, and ghettoizes neighbourhoods"[37]. Multi-scale urban planning policies provide the framework to remedy this situation. If neighbourhoods are designed allowing for variations in demographic, and with all essential services within walking distance, the filtering down of communities would decline.

PRECEDENT STUDY

Multi-Scale Planning Initiatives

Liveable Region Plan (LRSP) Greater Vancouver Regional District, Vancouver BC: *The LRSP was developed in 1995 to help preserve the existing natural lower mainland. Key polices of the plan include concentrating growth in specified areas of the region, but more importantly, the development of complete communities to serve as a focus to regional growth. The primary instrument for implementing this strategy has been the designation of regional growth centers - the Metropolitan Core, Regional Town Centres, and Municipal Town Centres - all connected by rapid transit. The LRSP has increased density, mixed use, and helped guide urban development from the inside out.*

Research Link: www.gvrd.bc.ca/growth/lrsp.htm

6.3 High Density, Mixed-Use Growth

Planning for urban intensification utilizing high-density, mixed-use planning principles is the primary tool for creating vibrant urban environments. Urban intensification creates places for people to live, work and play all in one neighbourhood. In The Death and Life of Great American Cities, Jane Jacobs describes four "must have" conditions within the urban environment to create vibrant, diverse urban areas. The first must have is the need for neighbourhoods, or city districts to serve more than one primary function, and preferably more than two. Diverse functions create the presence of people at all times of the day and night who are in the urban zone for different reasons, but who would use many common neighbourhood facilities. The second must have is the need for city blocks to be short. Short blocks create positive pedestrian environments creating walkable, easily accessible neighbourhoods. The third must have is an urban zone that combines buildings in age, use and condition. Different uses relates to the notion of multiple primary functions discussed above. The concept of buildings that vary in both age and condition provides an urban zone with a varied population demographic. This is an important concept to consider, in that creating a single class neighbourhood, rich or poor, creates urban isolation without potential for mixed-use or mixed class neighbourhood structures which is contradictory to this discussion. Jacobs insists that the urban fabric related to mix of building type be close-grained or high in density. The fourth must have is the need for dense concentrations of people. People and street life is what makes for a successful urban environment. Today's planners and designers must provide an urban infrastructure to create places for people. Gone should be the days that the office worker leaves the office for the suburbs turning the downtown into a ghost town by 6:00 p.m. Although many North American cities are slowly reversing this trend, there is much that could be done. Jacobs indicates that all four of the above parameters must occur together for a successful, diverse, liveable city to flourish. As Jacobs writes "the absence of any one of the four frustrates a district's potential"[38]. These theories outlined by Jacobs appear to be the precursor to the ICP planning initiatives of today.

Planning for urban diversity and hi-density growth as opposed to the typical urban sprawl consistent with most of today's cities may well have the ability to increase the quality of life experienced by today's city dwellers. By providing for a more walkable, sustainable, and diverse fine grained urban environment, people will be more apt to become part of the district and enliven the area day and night.

The following planning initiatives have been published as part of the Central Okanagan Smart Transit Plan Transit-Supportive Guidelines by the IBI Group in November 2004 and are cited by their urban planners as being the required urban building blocks to succeed at ICP and follow the logic outlined by Jane Jacobs and others. These initiatives will also be used as a guide during the design stage of thesis development.

A. Infill Neighbourhoods & Their Surrounding Context: Urban redevelopment should reflect and or compliment existing surrounding building forms and neighbourhood contexts. Any new urban intervention proposed such an infill environment should respect local built form, historical, cultural, and natural elements. As part of the initial study of any urban redevelopment, a neighbourhood context plan should be completed to fully understand the contextual impact of the infill site. A context plan should include the following:

- Identification of existing "paths and networks" - street and pedestrian systems and character;
- Relevant topographical features - water courses, existing stand of trees, etc;
- Identification of existing building stock - scale, building type and style, ability to reuse or retain;
- Identification of themes, nodes of activity, cultural and physical landmarks and districts of built form, cultural expression.

If the project is that of an infill typology, the proposed urban intervention should compliment the existing built form by considering the following:

- Lot size;
- Heights;
- Density, massing and neighbourhood scale;
- Setbacks;
- Architectural style;
- Street and pedestrian system.

PRECEDENT STUDY

Urban Infill

Arbutus Village, Vancouver, BC: *Arbutus Village was developed as a TOD on a former brewery site within a single detached home neighbourhood. While this project represents an increase in density for the area, the new 4 to 7 storey buildings consisting of townhouses and walk-up apartments reflects the height, massing and style of the former brewery. The success of this project is indicated by the development of an independent non-project development across the street that mirrored the street front character of this project.*

Research Link:
www.surrey.ca/NR/rdonlyres/A69A7D3D-9931-4554-BD68-F5342266DDA4/0/TODPrimerCommunityRepsWorkshopDec1604.pdf

B. Walkable Street & Path Networks: The street and neighbourhood block layout within the urban intervention should allow for direct and safe pedestrian movement. The resultant design approach should involve a grid-based system with interconnected streets and sidewalks along short, narrow blocks. This will provide a walkable environment providing more direct and convenient for pedestrians. The design requirements for pedestrian friendly environments should include:

- City blocks should measure no more than 200 m long on one side. This will allow for street and block patterns to remain walkable and porous. Intersections should occur between 80 and 180 m;
- Provide mid block pedestrian paths through blocks or buildings that cover the majority of the block when blocks lengths are more than 200 m. These paths should be paved, possess clear, direct sightlines and be well-lit for public safety;
- Street and path networks should be within 400 to 800 m from transit stops and should be continuous and grid based.

PRECEDENT STUDY

Walkable Street & Paths

Orenco Station TOD, Hillsboro (Portland Region): *Orenco Station is structured around a modified grid street and block pattern resulting in a series of square, elongated and irregular urban block configurations. The net result is a porous and walkable TOD, where 75% of dwelling units are located within 400 m from the mixed-use core are only a 5 minute walk.*

Research Link: www.terrain.org/unsprawl/101

C. Pedestrian-Friendly Built Form: Streets are most desirable and comfortable when they provide pedestrians a feeling of enclosure. A successful walkable street is defined by its edge condition which can be created by buildings, objects and/or trees, all of which can give the illusion of an outdoor room. Streets that offer poor enclosure (edge conditions with gaps) are found to be less desirable and can be hostile to pedestrians who often feel isolated and unprotected in such an environment. It is equally important to provide a street edge that provides a variety of building facades that create a varied, narrow, continuous grouping of facades to increase pedestrian interest. Direct pedestrian street-level access should be provided to as many building fronts as possible. Design elements that help to create a successful pedestrian friendly built form include:

- A controlled streetwall height to street width ratio of 3 to 1 is considered ideal to create a positive pedestrian space;
- Allow buildings facing streets to have a zero or shallow setback;
- At grade parking should be at the rear of a building or internally located within a city block pattern;
- Ensure that all buildings that front streets provide a varied and interesting streetscape. A rule-of-thumb for storefront design is typically a 10 m width with at least 40% transparency. Storefront variety can be achieved by planning narrow lot boundaries, multiple frontages per block, or partitioning long blank walls with windows/doors/architectural detailing;
- Define FAR's, site coverages, setbacks and frontages, all conducive to pedestrian friendly built form in zoning bylaws and ARP's.

PRECEDENT STUDY

Pedestrian Friendly Built Form

City of Vancouver (1990): *In the early 1990's, the City of Vancouver mandated that all new high-rises have a 2 to 6 storey podium base with a zero-lot line condition, but with the tower set further back from the property line. This creates positive pedestrian spaces by keeping building height to street ratios below 3 to 1, and reducing shadowing and view obstructions.*

Research Link: http://vancouver.ca/commsvcs/currentplanning/urbandesign/index.htm

D. Utilize Crime Prevention Through Environmental Design (CPTED) Initiatives: Safety and a sense of personnel security are essential components of a successful ICP planning approach for new development. CPTED tactics should be incorporated into new site and facility design.

- Maximize opportunities for natural surveillance;
- Provide unobstructed and transparent sightlines to exits and destinations;
- Foster territoriality and a sense of ownership;
- Provide natural and artificial lighting to all areas frequented by pedestrians;
- Require the use of CPTED tactics in all public paces and areas frequented by pedestrians and in neighbourhood structure plans.

E. Mixed-Use Buildings: Mixed use buildings contain a mix of residential, retail, service, office, studio, and live/work uses under one roof. Neighbourhoods containing multiple Mixed Use Buildings are the basis of the ICP theory due to the fact that such neighbourhoods have higher concentrations of people day and night, seven days a week. As discussed in earlier sections of this document, people create an enlivened urban area, therefore, as designers/urban planners, mixed-use provides the necessary backdrop for successful place-making. Design elements to create successful mixed use urban environment include:

I. Building Placement:

- Arrange buildings to occupy the least area possible. Compactness should be pursued in all densities of development to facilitate walking;
- Locate higher activity uses such as office towers, shopping centers, schools and entertainment facilities closest to transit stops;
- Arrange buildings such that complimentary uses are close together to increase the success of a multi-use development. For example, locate a daycare or gym close to an office building;
- Layout sites to allow for increased densities over time. For example, a multi-storey building near a transit node can provide the same leasable area as a single storey large footprint building, but allows for future intensification without the need for redevelopment;
- Place public uses such as retail stores, services and restaurants at grade parallel to the street to animate the street front, encourage pedestrian activity and improve "eyes on the street" security.

II. Building Location:

- Locate buildings close to the street to improve pedestrian access. This also improves personal security since there are many more people to monitor street activities;
- Align buildings parallel to the street with a consistent setback from the property line to provide a continuous and well-defined edge of public activity. Setbacks should be rationalized with adjacent buildings. For taller buildings, upper stories can be set back further to allow for natural light and air circulation at the street level.

III. Building Entrances:

- Provide separate entrances on the ground floor where there are multiple or distinct tenants to increase the liveliness of the street;
- Include windows with transparent glass on all facades facing streets or pedestrian walkways. The City of Spokane suggests a minimum of 30 to 50% of commercial facades should be glass, to provide an interesting streetscape for pedestrians (City of Spokane, 2002);
- Locate primary building entrances on major pedestrian walkways as opposed to vehicle lanes or parking lots;
- Define building entrances using architectural and landscape treatments. Building entrances to non-residential uses should be distinguished from residential entrances to limit confusion;
- Allow for barrier free access to all entrances.

IV. Parking:

- Locate parking at the rear of buildings or underground to improve pedestrian safety and to increase visibility of the building from the sidewalk;
- Configure parking structures and adjacent buildings in a manner that places parking on the "inside" of a building mass. This will involve wrapping the parking structure on at least three sides to provide an active frontage on the street;
- Provide smaller, more dispersed parking areas instead of one large parking area. Large parking areas tend to break up the continuity of a street edge diminishing the integrity of "pedestrian friendly".

V. Architectural Variety:

The built form of an infill-neighbourhood can be defined by common elements such as setbacks, high density and maximized street frontage. The architectural characteristics of building, street furniture and building material should of common typology - yet within this vocabulary building massing and architectural variety should be maintained. This will create more varied and interesting streetscapes for pedestrian successful architectural variety may include:

- Building design that provide usual stimulus and individuality without a radical departure from surrounding duct form or adjacent facades;
- Develop an architectural theme by district or neighbourhood, using common façade elements, signage, materials, colours and/or street furniture;
- Encourage LEED-certified building design and site development.

PRECEDENT STUDY

Mixed Use, High Density Development

Newport Village TOD, City of Port Moody (1996): *Newport Village is a new mixed-use centre for Port Moody's new civic and arts precinct, providing a mix of commercial and institutional uses with high density housing. All buildings along the main street are 3 and 4 storey mixed-use buildings with 2,000 lot are street frontages.*

Research Link:
www.sfu.ca/city/pdfs/pricetags/price%20tags%2063%20-%20villages.pdf

Jackson-Taylor Revitalization Strategy, City of San Jose (1993): *This urban redevelopment is of an old industrial site along a new light rail line into a mixed-use development with a broad range of housing types. Architectural guidelines were developed with defined building themes and façade details that respected the existing detailing of adjacent neighbourhoods. The end result was a variety in new building types, created from an identifiable architectural theme.*

Research Link: www.calthorpe.com

Lesson Learned from this Time Period:

The sprawling condition of today's cities not only create a lack of sense of place, but create unsustainability from both a financial and energy efficiency stand point. Good city form requires a careful blend of fine-grain mixed use land designations; a combination of new and old architecture; pedestrian friendly environments; and a careful balance of green space and/or amenity space to create a vibrant urban environment.

7. RESEARCH SYNOPSIS

7.1 A New Urban: A Lesson Learned

History has demonstrated that urban development is a result of transportation, technology and communication advancement. The industrialization of cities in the 18th and 19th Century created environmental conditions unsuitable for human comfort and transportation development, in turn, allowed people to leave the city centre for the urban-rural edge. Suburban development was therefore based on the premise of a better way of life and the creation of a physical separation between residence and place of employment. As technology and population densities increased, so did the boundary of the city. The urban fabric changed from a dense, walkable, "fine-grained community", to a low density sprawling arrangement of inconsistent land use patterns.

This "filtering down" from zone-to-zone has left behind large tracts of under-utilized land and complete voids in the urban fabric. Transportation and communication technologies perpetuated the "decentralized" city and created an urban environment devoid of sense of place. A dramatic shift in the urban landscape occurred where open space is punctuated by the "occasional building". The sprawling condition of today's cities not only lacks a sense of community, but is unsustainable from both a financial and energy efficiency stand point.

Yet cities still expand, placing a heavy burden on their financial and infrastructure capacities. In the 1980's, New Urbanists responded to the filtering down effect by creating mixed-use, walkable communities. However, as pleasant as most new urbanist communities were, these developments were still typically located along the urban edge, continuing to contribute to unsustainable sprawl conditions. In response to the placelessness of sprawling urban form, planners began to explore the benefits of mixed-use, hi-density urban infill developments. Cities such as Vancouver, or Portland benefit from this approach, in which urban infill projects have created a dense, sustainable city form.

This research has studied how good city form requires a careful blend of fine grain mixed use land designations; a combination of new and old architecture, pedestrian friendly environments, and a proper balance of green space and/or amenity space to create a vibrant urban environment. A successful urban solution is to apply urban growth boundaries and apply these planning principals to both Brownfield and under developed city lands. This would maximize urban density by developing mixed use communities within existing city limits. To curb the effects of urban sprawl it is the responsibility of design professionals, developers and city planners stop rural-urban edge expansion and expand inwards, increasing the density and dynamics (grain) of the city

8. IMPLEMENTATION

8.1 Project Description

The challenge of the programming and design stages of this thesis was to apply the methodology defined during the research to a large scale urban infill solution. Therefore, the setting chosen for this thesis was the Jasper East Village area located immediately east of downtown Edmonton between 97th Street to 95th Street and Jasper Avenue to 103A Avenue.

Once known as the urban center of Edmonton, this area is currently known for it's low property values, high vacancy rates, large amounts of surface parking, physical neglect, crime, prostitution, vandalism, and a general negative public perception as a whole. The Jasper East area also features one of the last and largest continuous streetscapes of traditional, human scale commercial buildings in downtown Edmonton and includes six municipally designated historic properties.

The next steps included study of the the existing urban fabric, develop building programs, master planning options, and finding an architectural solution for the key building within the redevelopment.

Lesson Applied from the Research:

The design principles outlined in Section 6 of this document will form the basis of the master planning studies. As previously outlined they are as follows:

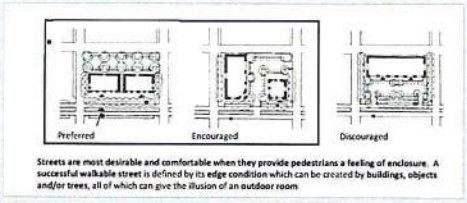
1. Create Urban growth Boundaries

2. The infill neighbourhoods and their surrounding context

3. The development of Walkable street and path networks

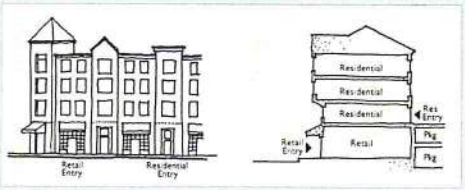
Lesson Applied from this Research:

4. Pedestrian friendly built form



5. Crime Prevention

6. The creation of Mixed-Use Buildings



7. The Design of Mixed-Use Neighbourhoods

As the case studies in the research component of this thesis have proven, (See Case Studies in Appendix) parks and public spaces can be powerful catalysts for private investment and redevelopment. Therefore, high density urban living must be balanced by public plazas and green space - parks and public spaces provide opportunities for human interaction and enjoyment, contributing to the social sustainability of the project. Public gathering places like the proposed can provide a focal point and a distinctive sense of place to the neighbourhood.

This thesis proposed a high density, mixed use development with public amenity space to serve the residents within the project as well as the neighbourhood and city as a whole.

The proposed program for this project is outlined in the table below:

Function	Unit	Area (SF)	Total (SF)	Notes
Residential				
One Bedroom Unit	40(80)	870	34,800 **(69,600)**	
Two Bedroom Units	60(120)	1250	75,000 **(150,000)**	
Live/Work	-	-	-	Incorporate into residential blocks
Penthouse	12 (24)	2000	24,000 **(48,000)**	
Office/Commercial			555,000 **(740,000)**	Density Specific
Transitional Housing				
SOR	40-50			
Group Facilities				By design
Laundry Facilities				1 per floor
Tenant Storage				By floor
Private Street Entrance				
Community Park	-	-	**By design**	**Armature**
Total Residential			**195,800 (336,600)**	
Total Office/Commercial			**561,500 (751,500)**	
Update for Area A (Concept Study Area)			730,000 (30% is residential)	

8.2 The Proposed Site

8.2.1 LOCATION

The setting chosen for this thesis is the Jasper East Area located immediately east of existing downtown Edmonton between 97th Street to 95th Street and Jasper Avenue to 103A Avenue.

In the early 1900's Jasper East was the primary urban center of Edmonton. However, by 1910, the Hudson's Bay Company had sold a large tract of reserve land immediately west of the existing urban centre to the newly formed city. During the early 1910's Edmonton grew rapidly expanding into the newly purchased land, and eventually abandoning Jasper East as its downtown

The post war prosperity of the baby boom coincided with the first major discovery of oil in Alberta in 1947 near the town of Leduc, south of Edmonton. The subsequent oil boom gave Edmonton the new status of the "Oil Capital of Canada" and the city expanded and grew rapidly. The city's growth created urban expansion in the form of new suburbs at the periphery of the city leaving behind "filtered down" inner city neighbourhoods.

Jasper East and other central Edmonton neighbourhoods became textbook examples of filtered down neighbourhoods whereby large tracts of under-utilized land and complete voids in the urban fabric currently exist. Although this area is literally one city block away from modern downtown Edmonton, the community remains undeveloped and is now known for its low property values, high vacancy rates, large amounts of surface parking, physical neglect, crime, prostitution, vandalism, and a negative public perception.

Exhibit 18
Extent of the proposed site and Jasper East.
Source - Google Earth

8.2.2 HISTORICAL BUILDING STOCK

The Jasper East area features one of the last and largest continuous streetscapes of historical, human scale commercial buildings in downtown Edmonton and includes six municipally designated historic properties. These historic properties are primarily located on Jasper Avenue which is on the southern edge of the selected zone Historic properties of significant interest include:

Gibson Block, 1914: William Gibson bought this lot in 1913 for one dollar, as it was believed by most developers of the day that the pie shaped lot was undevelopable. The buildings original use was commercial uses on the ground floor and offices on he upper floors. It was later converted to apartments. There was a Turkish bath in the basement in operation from 1914 to the mid 1980's. The building received a three million dollar restoration in 1994 and is the current home of the Edmonton Women's Shelter. Edmontonians are proud of this distinctive "Flat Iron" building

The Ernest Brown Block, 1912: was constructed for Ernest Brown's photographic studio, office, workshop and retail store. The building is currently a rooming house.

The Pendennis Hotel, 1904: This hotel was known as one of the finer hotels of the time, and its restaurant has a reputation for fine dining. Prohibition ended the hotel's profitability and it was foreclosed. It spent many years as a boarding house. The building is currently undergoing restoration and is expected to be the home of the Edmonton Ukranian Cultural association.

The Gem Theatre, 1914: The Gem Theatre was one of three movie theatres in the area at the time. It operated for nearly 70 years in this capacity. In dire need of restoration, the building was unfortunately recently demolished.

Jasper House Hotel, 1882: The Jasper House Hotel was the Edmonton Terminus of the Calgary – Edmonton stagecoach. Today it is home to a boarding house and tavern in desperate need of renovation.

Goodridge Block, 1912: this building is best known as the WW Arcade building in memory of the long time hardware store tenant. The Hardware store closed it's doors in the mid 1990's. The Building was recently significantly renovated and is home to the Hardware Grill, an upscale restaurant named after the former WW Arcade Hardware store.

This historic building stock defines the character of the neighbourhood. Even though the Jasper East neighbourhood has a negative perception as a whole, the residents of the city of Edmonton feel a certain amount of nostalgia for the area. The Gibson Block and Hardware Grill are buildings known citywide. The traditional nature of the area with it's pedestrian friendly street edge and massing are elements that proved to be influential in the planning and design processes of this thesis.

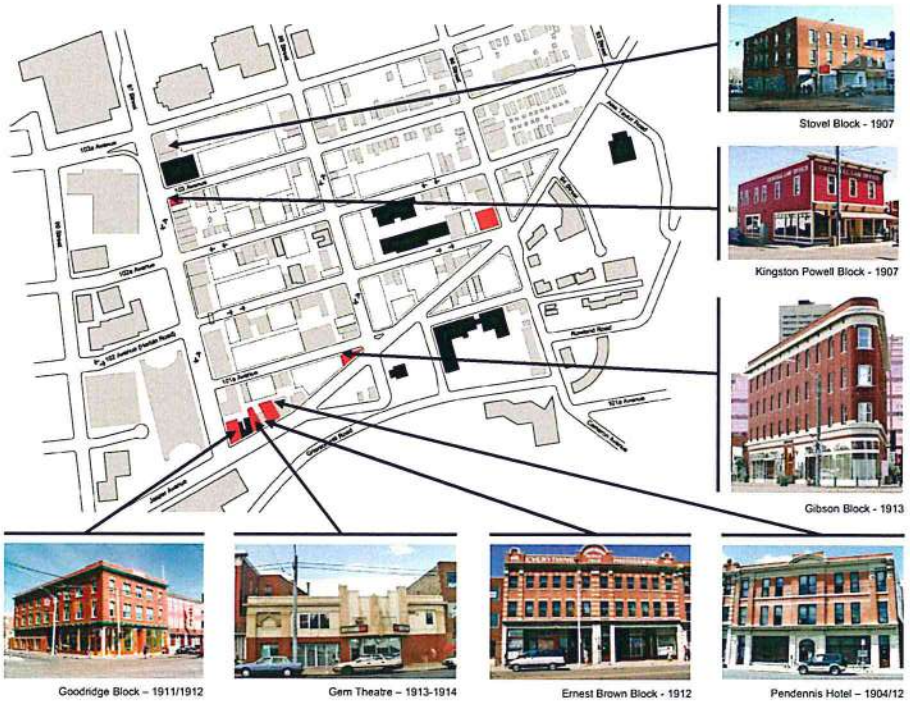


Exhibit 19
Existing Condition
Source - B. Kimball

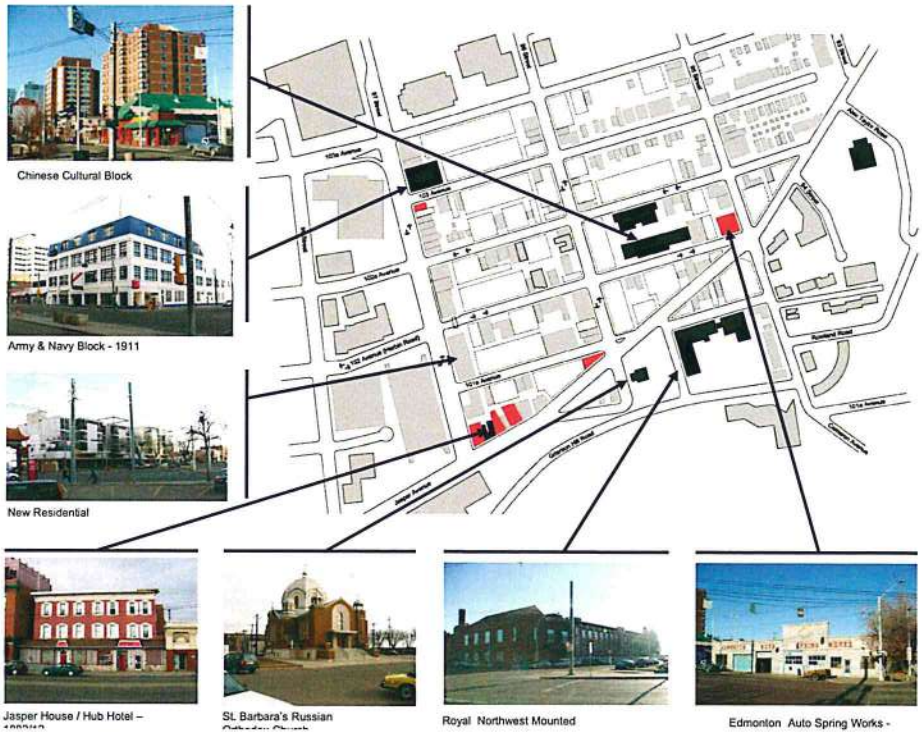


Exhibit 20
Existing Condition
Source - B. Kimball

8.2.3 THE EXISTING CONDITION

Massing characteristics of the existing building stock is varied. The existing building stock can be categorized into two groups:

- The historical buildings in the area range from 3 to 4 stories and typically feature ground floor commercial and upper floor business or Single Occupancy Residential (SOR) uses.
- Newer building stock scattered throughout the area range from single storey purpose built businesses to aging residential rooming house properties to medium height (up to 10 storeys) hi density residential uses.

Access to public transit is plentiful with most main transit routes are accessible on Jasper Avenue, and with the local Light Rail Transit (LRT) service is accessible two blocks west of 97 street.

The **figure ground plan of the area** tells the story relative to the concept of "filtered down". Fifty percent of the urban zone is void of buildings. Of those buildings still intact, a large majority of them are of no intrinsic value (with the exception of the historic building stock discussed above). The open lots scattered through out the area are at-grade parking lots either owned by Impark Edmonton or other private vendors.

Lesson Applied from the Research:

The design principles as outlined in Section 6 of this document do not currently existing, however the ingredients for urban renewal are there: new and old architecture, close proximity to transit, and a traditional urban grid. The opportunity exists to develop an urban overlay that utilizes the existing context (the new and old, and the traditional urban grid) but in turn, create an infill neighbourhood with a walkable street and path network, while creating a mixed-use neighbourhood with mixed use buildings with public amenity space.

The historical significance of the area is reinforced by the visual connection to the North Saskatchewan River valley which runs through the heart of Edmonton. **The Hudson's Bay Co. in combination with the fur trade of the past, and river itself, are reasons why Edmonton exists today.**

Exhibits of the existing site conditions can be found out at the end of this section.

Exhibit 21*Existing Figure Ground*
Source - B. Kimball

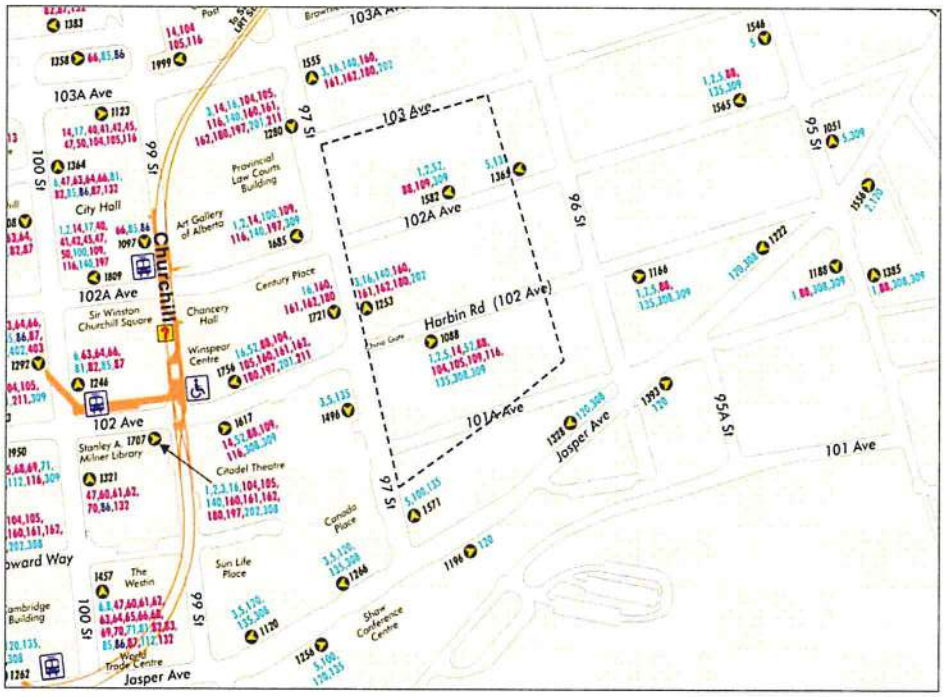


Exhibit 22
Existing Transit Overlay
Source - B. Kimball

9. PLANNING CONTEXT

"The individual act of making a building ideally must be conceived to participate in a collective effort to form the public realm of the city and to support all levels of work, creativity and urban life. Architecture must be positioned responsively between landscape and urbanism, and responsibly between issues of cost, environmental performance and design."
Source: Aldo Rossi, The Architecture of the City

This passage taken from ***Aldo Rossi's Architecture of the City*** not only speaks to the ICP ideologies studied in the research phase of this thesis, but became a theoretical position that reinforces the thesis statement and helped to guide the design process. The theory of architecture positioned between landscape and urbanism guided the following planning and design decisions.

9.1 Existing Planning Constraints

In the last two years, the City of Edmonton planning department created an area redevelopment strategy for the Jasper East site. Renamed as the Quarters Downtown, the plan identifies Five distinct districts. There are four "Quarters" or neighbourhoods each intended to have their own unique character and design; while at the centre of the plan is a proposed linear park corridor known as The Armature. As defined by the City of Edmonton Planning Department, descriptions of each district are as follows.
The Quarters Neighbourhoods:

- **Civic Quarter:** This quarter is an extension of the downtown and the arts district. It is expected to accommodate civic and provincial institutions mixed with medium and high density residential development.
- **Heritage Quarter:** This quarter is named for the location of Edmonton's original downtown. It recognizes the importance of preserving buildings having historic significance, with any new development complementing the historic surroundings.
- **McCauley Quarter:** This quarter is a continuation of the residential neighbourhood to the residential character of the surrounding neighbourhoods.
- **Five Corners Quarter:** This quarter is named after the five corners on the intersection at 95 Street and Jasper Avenue. It is expected to feature higher density residential and taller buildings.

The Central Neighbourhood Park:

- **The Armature:** This component is meant to be the central focus for the entire area, planned as a linear park corridor stretching four and half city blocks (along 96 Street from 103A Avenue to Jasper Avenue).

Source for the above descriptions: www.edmonton.ca

The philosophy of the Quarters, represents "a made in Edmonton solution" in that the combination of the Armature intersecting the city grid is a symbolic representation of the river valley and its relationship to the city's history and urban development. Based on the the site chosen as part of Section 8 for this thesis study, the boundary of the chosen site includes the planning districts of the **Armature**, **Heritage Quarter**, and a portion the **Civic Quarter**. **Therefore, as part of this thesis development, it was decided to incorporate the following Quarters concepts as part of the urban base plan development:**

- **The Armature as a central neighbourhood park theme**. As already mentioned, this is a unique made in Edmonton solution whereby the idea of a linear park bisecting the urban grid is symbolic of Edmonton's own river valley therefore it was decided to incorporate the idea in the design parameters;
- **Rescale the grid by providing a mid block north/ south pedestrian corridor between 97th and 96th street**. Due to the fact that this existing block length is more than 200m long, a mid block access supports the ideology of a walkable, pedestrian friendly environment, therefore it was decided to incorporate the idea in the design parameters.

The following exhibit defines the planning constraints indicated above. During the design phase of this project, these two planning principles were integrated into the the planning parameters of this thesis.

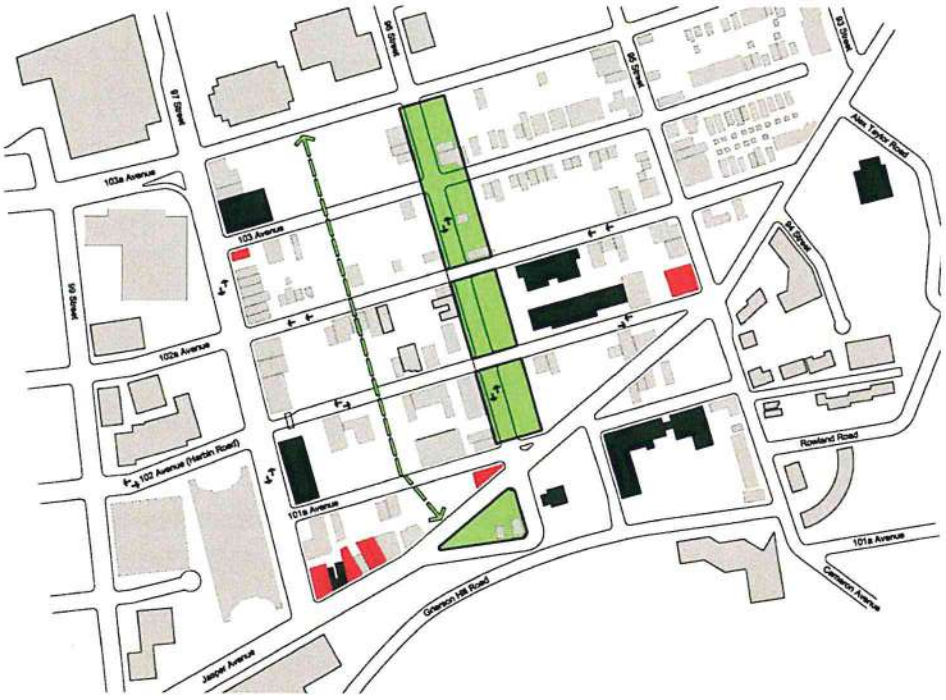


Exhibit 23
Quarters planning elements incorporated into thesis urban plan
Source - B. Kimball.

Lesson Applied from the Research:

The research has shown that a proper balance of green space and/or amenity space in conjunction with architectural form creates a vibrant urban environment.

9.2 Master Planning

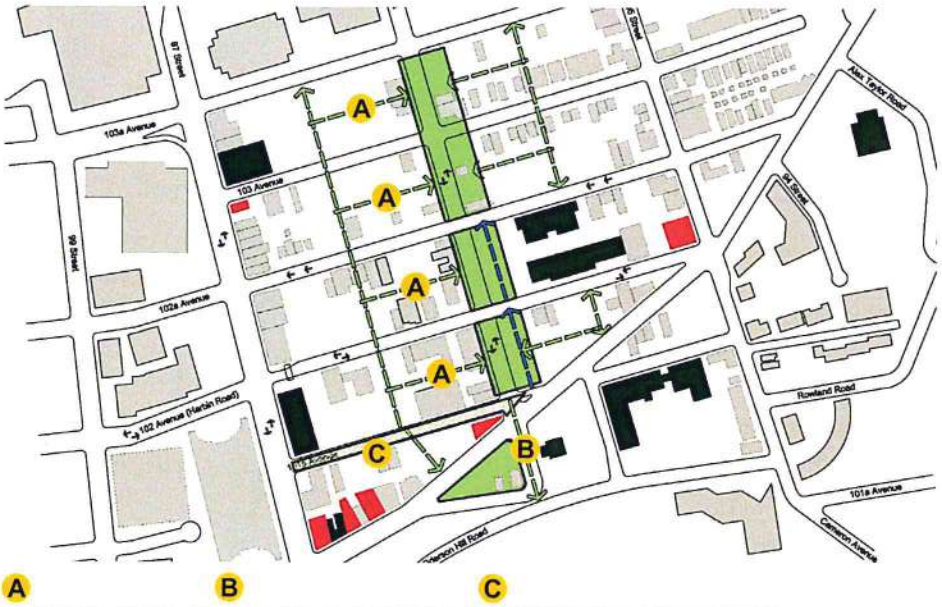
9.2.1 PLANNING/ DESIGN ELEMENTS

The following master planning principles were created - each urban intervention is anticipated to create an urban framework to reinforce the ICP methodologies that help to foster the ideas of human and contextual place making within the realm of urban renewal

- Further develop the theory of the Armature concept by creating a set of design guidelines incorporating water features for storm water management, passive and active pedestrian zones, and landscaped "green zones". By creating different functional zones within the armature itself will help to vary both activities and use of this zone;
- Create one way vehicle access north south along the east edge of the armature. This will insure that both pedestrian and vehicular access is maintained connecting the north and south boundaries of the site;
- In support of the north/ south pedestrian corridor between 97th and 96th street. east/ west pedestrian corridors connecting the urban block centres to the armature were developed. This will create lands for publicly accessible pocket parks, plaza's, and courtyard development within each urban block – which will in-turn provide a physical and theoretical connection back to the Armature (and the river valley);
- The interior pocket parks will also allow natural light to penetrate both the urban block and the supporting architectural component;
- Address connectivity to the river valley with the armature;
- Convert all or a portion of 101A Avenue to a pedestrian zone. 101A Avenue connects the southern edge of the urban block to the historic zone. A stronger pedestrian connection may be beneficial in this area.
- Convert all one way street patterns to a more traditional two street system

The development of the Armature and the re-scaling of the grid is intended to reposition the neighbourhood, recalling its walkable connection to the past but creating a development framework of a mixed use, vibrant neighbourhood for the future.

The following exhibit provides a synopsis of the urban planning strategies discussed above.



Add mid block pedestrian corridors

Address connectivity to the river valley. Add one way vehicle access north south.

Convert 101A avenue to a pedestrian zone.

Exhibit 24
Planning elements developed for the urban plan. The proposed design changes to the quarters overlay provides the urban framework to study the ICP methodologies of urban infill. Source - B. Kimball

9.2.2 DENSITY

The Floor Area Ratio (FAR) of a project or building is defined as the ratio of the total floor area of a building relative to the total site area, or conversely, the density limit imposed on such a site by the local authority having jurisdiction. In the case of the urban area defined for this thesis, the following FAR requirements were developed during the design phase.

Area A - Higher Density

- Up to 15 storeys in height
- FAR: min 3.0, max 6.0
- 33% of total building area dedicated to residential

Area B - Adjacent to the Armature

- Up to 6 storeys in height bordering green space
- FAR: min 3.0, max 4.5
- 33% of total building area dedicated to residential

Area C - Contains the Historic Building Above

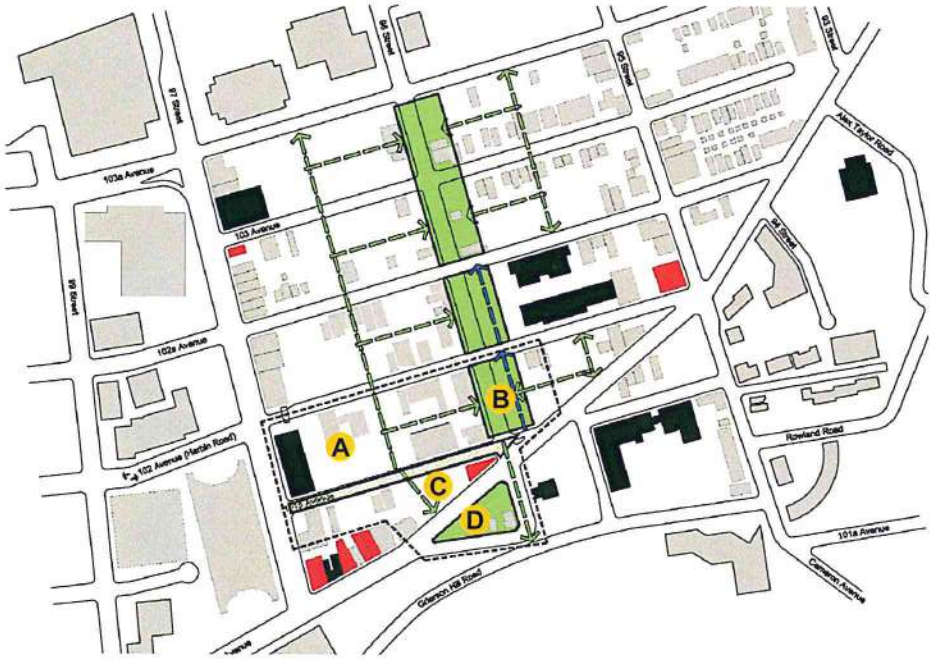
- Up to 6 storeys in height
- FAR: min 3.0, max 4.5
- 33% of total building area dedicated to residential

The logic behind this FAR delineation is that site density of all proposed development matches the building height and site FAR of the existing heritage buildings of the Heritage Quarter on the south edge of the study site. As one moves north through the Civic Quarter, density increases to more closely match the density of the adjacent city centre. A more pedestrian friendly building height was proposed along the edge of the Armature.

The 33% residential requirement matches the City of Edmonton ARP suggestion defined for the area.

Within the context of the master planning development of this project, these density patterns were studied and modified to allow for natural light to penetrate the mid block configuration strengthening the concept of the re-scaled grid.

The exhibit below indicates the approximate locations of the density zones discussed.



A

1. *Up to 15 storeys in height*
2. *FAR: min 3.0, max 6.0*
3. *33% of total building area dedicated to residential*

B

1. *Up to 6 storeys in height bordering green space*
2. *FAR: min 3.0, max 4.5*
3. *33% total building area dedicated to residential*

C

1. *Up to 6 storeys in height*
2. *FAR: min 3.0, max 4.5*
3. *33% of total building area dedicated to residential*

D

1. *Reconnect to River Valley*

Exhibit 25
Density requirements by zone
Source - B. Kimball

9.2.3 YIELD STUDIES

Based on the planning elements and density study (FAR) description, final yield studies of the site were developed.

Using the planning elements as a departure for design, the blocking plans were derived from the notion of the mid block access intersecting the urban city block, perpendicular to the armature. The architectural components of the project are set into a courtyard configuration aligned to preserve the east-west pedestrian corridor of the mid block access to the armature, and the north-south pedestrian corridor developed to rescale the grid.

As written by Rossi, architecture must be positioned responsively between landscape and urbanism. The ideology of ICP and that of a walkable mixed-use environment must follow Rossi's theory, therefore the architecture and public amenity functions of this project were designed as inter-related elements. The courtyard and pedestrian corridors divide the urban block into three distinct zones, which in turn dictate the location of the architectural components and density of the urban block. These planning zones are described as follows:

- The first zone is to the south east of the pedestrian corridor. This zone borders both the armature and historic areas. Building heights for this zone have been defined as a maximum of 6 storey's to respect the character of the historic building stock located to the south of the urban block;
- The second zone is to the north east of the pedestrian corridor. This zone borders both the armature and civic areas. Building heights for this zone have been defined in a range from 6 to 10 storey's to create massing transition between the historic/ armature zones and the civic quarter to the north and city centre to the west;
- The third zone is to the west of the courtyard. This zone is unique in that it borders both the historic and civic zones, as well as serves as the terminus of the east-west pedestrian corridor. Building heights for this zone have been defined to be set at the maximum building height of 15 + storey's in height in order to transition the urban block between the lower density of the historic/ armature zones and the city centre to the west.

It should be noted that the varied density created by zoning the urban block allows for optimal natural light penetration into the central courtyard and architectural components. The lower density of four to six storey's on the south edge of the urban block allow natural light to penetrate into the mid-block courtyard in the spring, summer and fall. Sun shade studies of the final site design can be found in section 9.5.

The placement of the architectural components within the urban context strengthens the edge conditions of the green space. The architectural components have been placed to create "outdoor rooms" relative to the internal pocket parks, pedestrian green corridors, and active street frontages.

Exhibits of the yield studies can be found out at the end of this section.

Exhibit 26
Initial project imagery based on research.
Source - B. Kimball

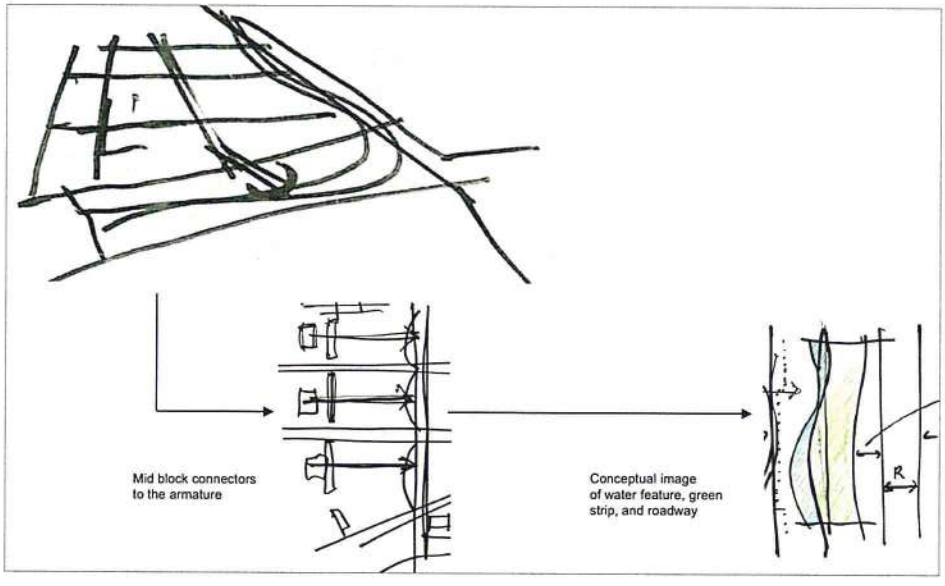


Exhibit 27
Conceptual image of green space connectors.
Source - B. Kimball

Exhibit 28
Source - B. Kimball

Step 1: Defining planning parameters within the Armature

1. Storm water management
2. Green space connectors to mid block
3. One way north bound access with parallel parking
4. Virtual extension of the River Valley

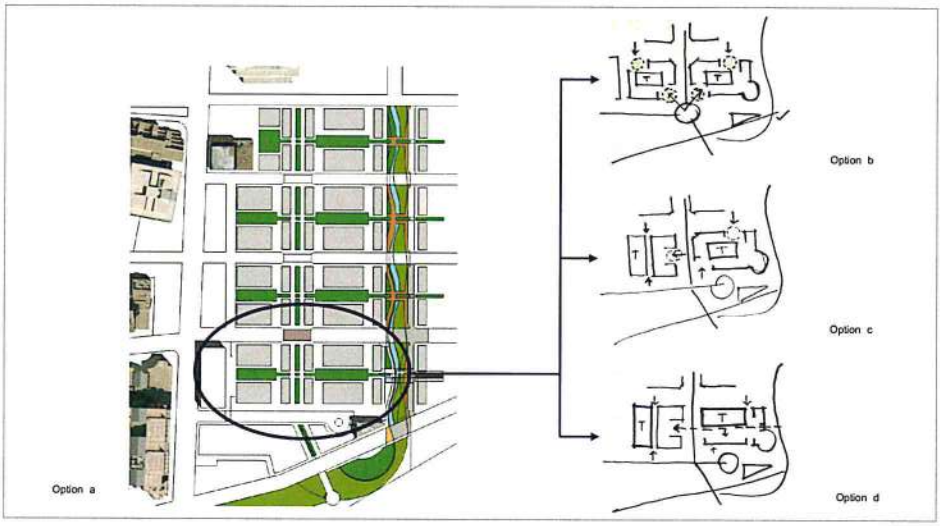


Exhibit 29
Define the location of architectural components and green space connectors.
Source - B. Kimball

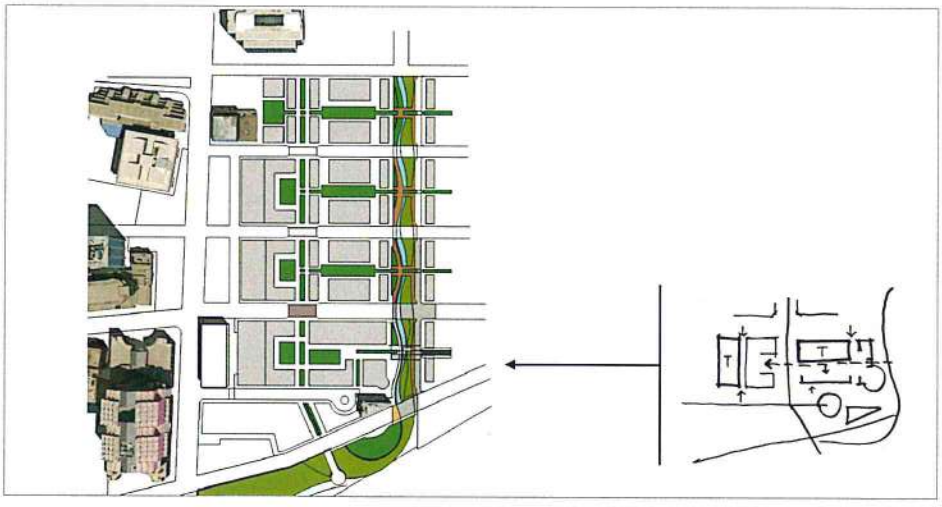


Exhibit 30
Source - B. Kimball

Step 2: Redefine blocking of the original site concept

1. Building placement redefined
2. Green space connectors to mid block finalized
3. Density established
4. Residential/Commercial ratio established

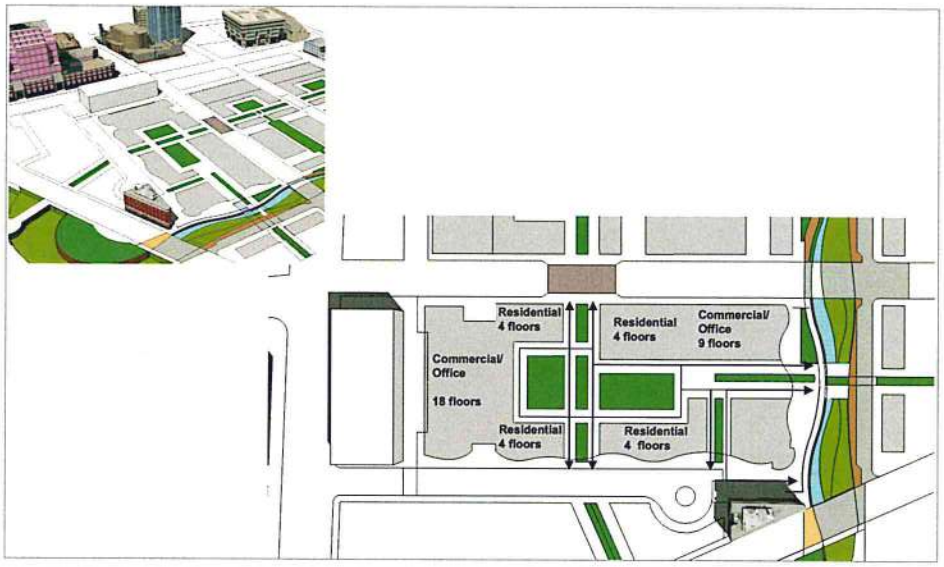


Exhibit 31
Source - B. Kimball

Creating a renewed urban context

1. Ground floor commercial
2. Mid-rise residential
3. Hi-rise office
4. Walkable edge condition with cross block access

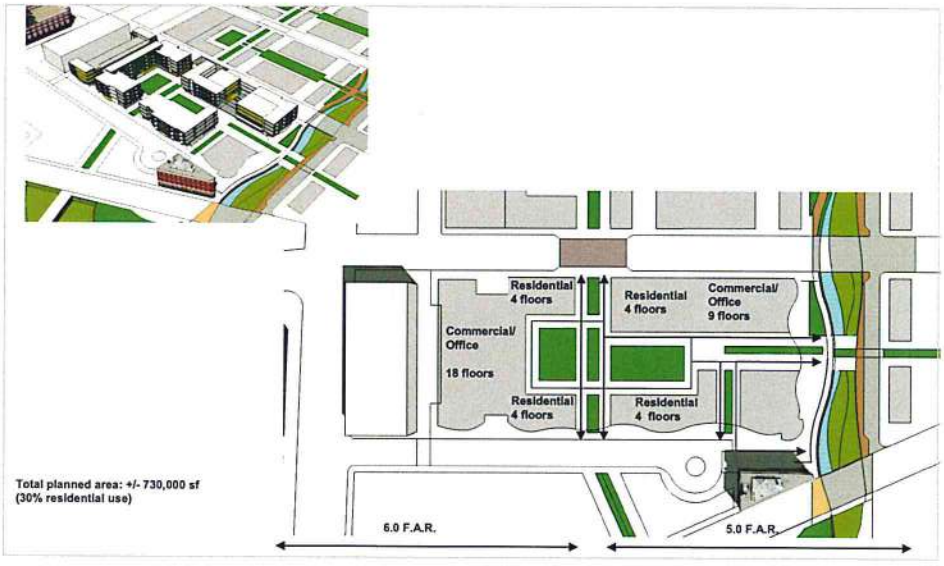


Exhibit 32
Source - B. Kimball

Creating a renewed urban context

Street Level Commercial

- Street level to mid-rise location up to five storeys in height.
- Supports both residential and office uses.

Mid Block Residential

- Mid-rise location up to five storeys in height.
- Eyes on street with direct view to streets and amenity space

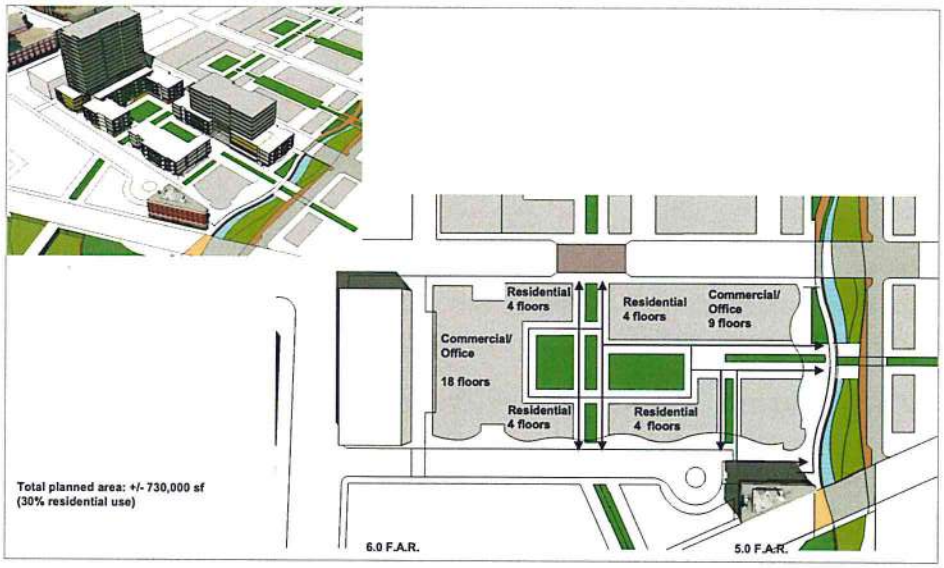


Exhibit 33
Source - B. Kimball

Creating a renewed urban context

High Rise Office

- Hi-rise location up to five storeys on the east; 18 storeys in height on the west

Lesson Applied from the Research:

The final yield study and building density allocation adheres to the ICP Philosophy of mixed developments:

- The infill of neighbourhoods and the respect of their surrounding context
- The development of walkable street and path networks
- Pedestrian friendly built form
- The creation of Mixed Use buildings
- The design of Mixed-Use neighbourhoods

9.2.4 SHADOW STUDIES

The impact of sun path and shadows cast by the architectural components were studied for the final masterplan to verify density and block placement locations. As per the requirement of the Edmonton Design Committee (EDC), shadow studies for the Spring, Summer and Fall were completed. The EDC does not ask for winter sun/ shade studies acknowledging the fact that sun angles are too low in the sky during the winter months in Edmonton to justify the study.

The Shadow studies verified the density and architectural component placement assumptions. During the yield study development, sun and shadow angles were used to aid in the urban block development. The decision to locate the lower density (four to six storey) buildings on the south edge of the site allows natural light to penetrate into the mid-block courtyard in the spring, summer and fall. The location of the higher density building blocks on the east and north edges do not impede on sun access into the courtyard, armature, or pedestrian corridors.

Exhibits of the Shadow study diagrams can be found out at the end of this section.

Exhibit 34
Spring: March 21 Mid Morning/
Fall: September 21 Mid Morning
Source - B. Kimball

Exhibit 35
Spring: March 21 Mid Afternoon/
Fall: September 21 Mid Afternoon
Source - B. Kimball

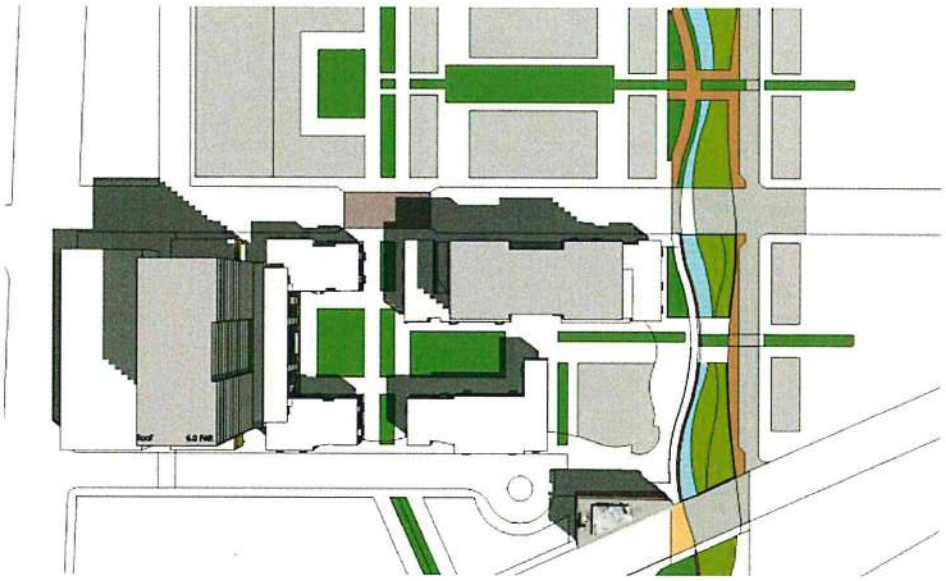


Exhibit 36
Summer: June 21 Mid Morning
Source - B. Kimball

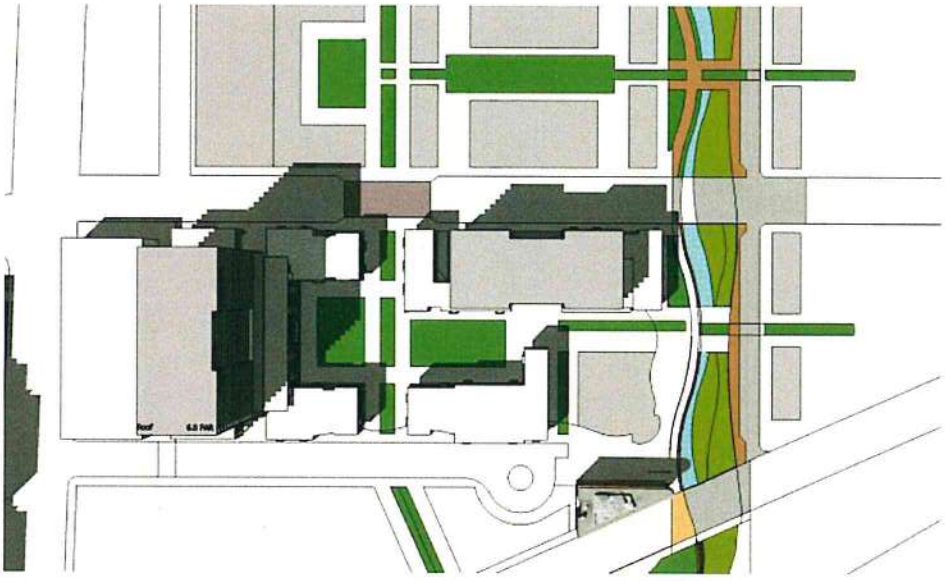


Exhibit 37
Summer: June 21 Mid Afternoon
Source - B. Kimball

10. FINAL DESIGN DEVELOPMENT

10.1 Overview

Using the yield study developed in the previous section as the basis for design, the final design incorporated two cohesive streams of thought - finalization of the site design and the architectural component development.

As Rossi stated, architecture should be developed between landscape and urbanism therefore this project was developed with this ideology in mind, where by both site and building were designed in an integrated process.

The final form of the project not only emerged through programmatic requirements, but also as a response to the unique site condition as developed as part of the overall master plan - most notably the ideology of the armature, the river valley edge, and the historical nature of the surrounding neighbourhood. The final urban plan defined:

- An enhanced open space network focused on the Armature, the central green corridor along 96 Street with mid block connectors;
- The Creation of a safe and attractive environment for residents and visitors.
- Enhanced walkability by promoting higher density, mixed use development, with active street fronts and streetscape improvements that create safe and clean pedestrian environments.
- The re-scaling of the urban grid created lands for publicly accessible mews, plaza, and courtyard development. This "re-scaling" also provides for the potential of increased walkability of the project and enhanced connectivity with the river valley and downtown.

The courtyard, pedestrian corridors and Zone 1, were further developed to identify the design intent of the architectural components, the ideal density of the urban block, and the design intent of the green spaces.

During the development of the site analysis, the yield studies and the urban block zoning strategies, it was determined that a key location for more detailed development would be Zone 1. Zone 1 offers a context unique to the entire urban block - its immediate context included the armature, the existing historic building stock (namely Gibson Block) and the mid block pedestrian corridor. The following exhibits indicates the final yield study configuration and the location of the Zone 1 final building design.

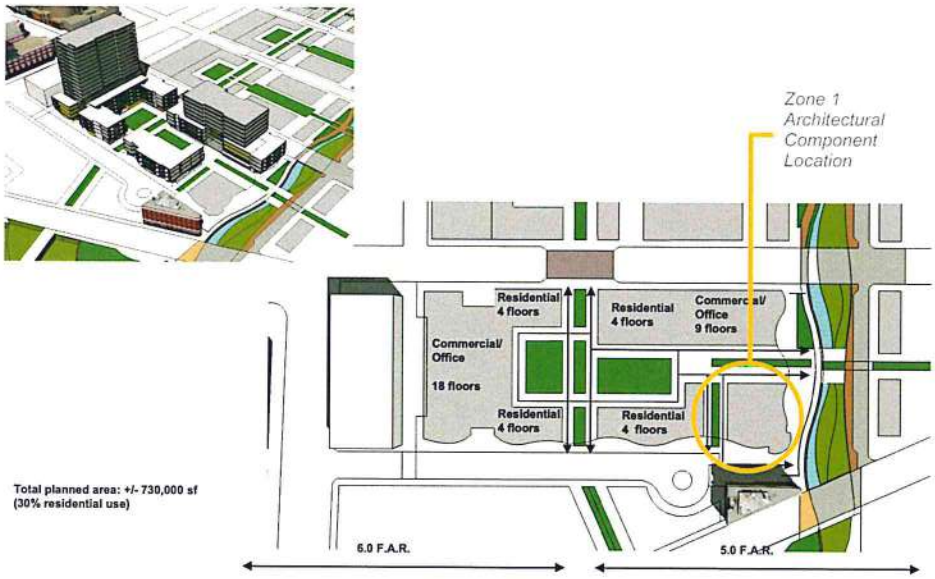


Exhibit 38
Final yield study/density solution
Source - B. Kimball

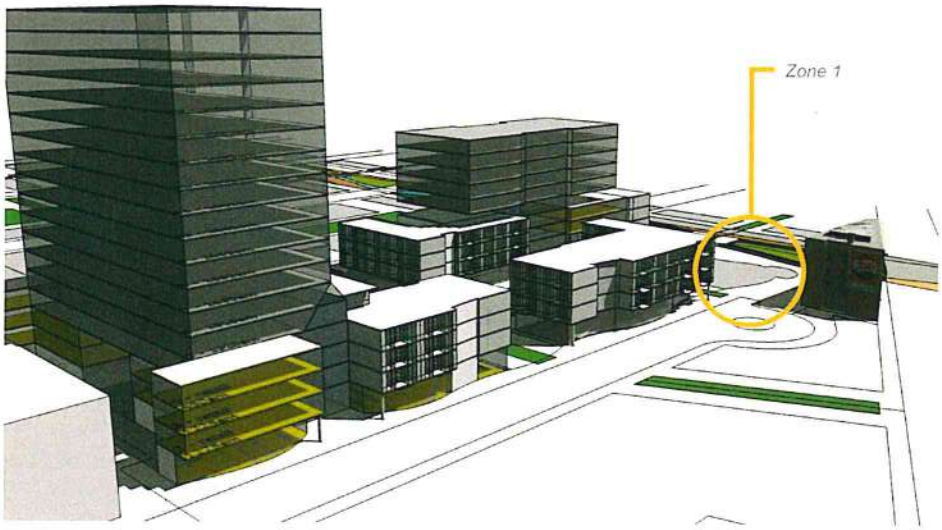


Exhibit 39
Street Edge Context
Source - B. Kimball

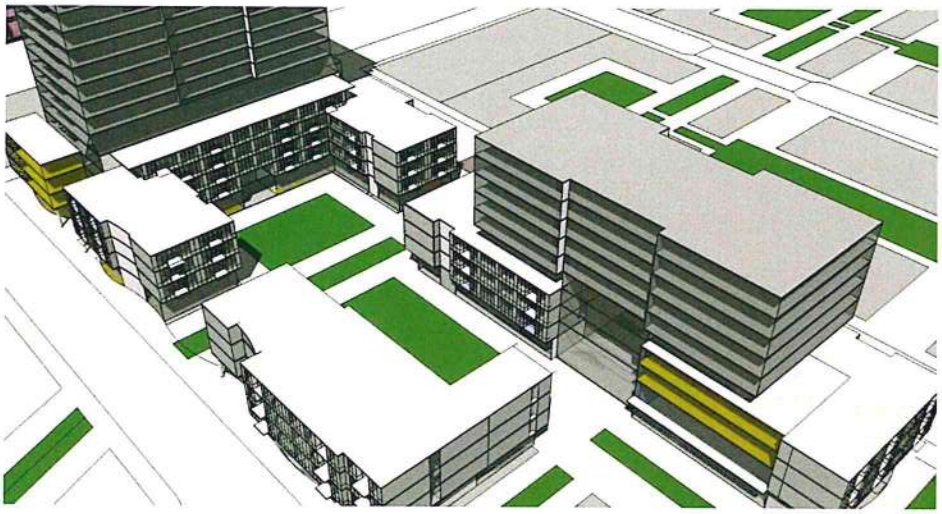


Exhibit 40
Mid Block Context
Source - B. Kimball

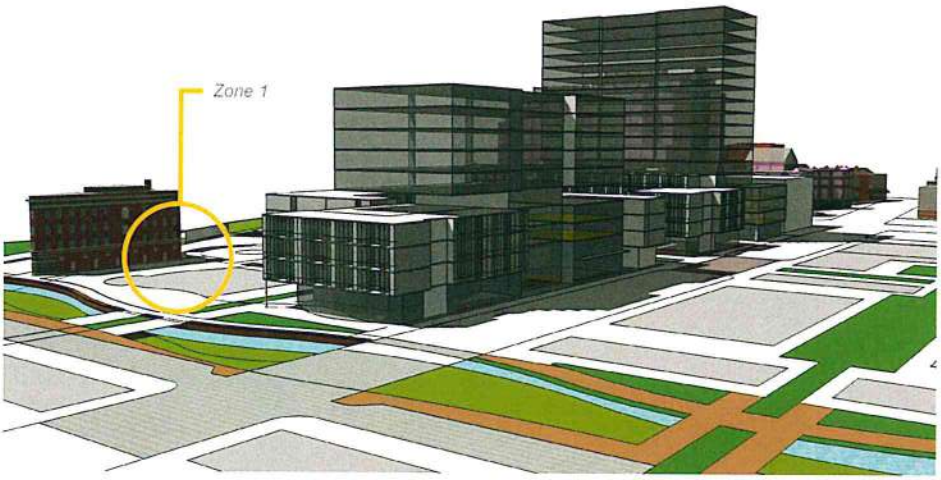


Exhibit 41
Multi Use Context
Source - B. Kimball

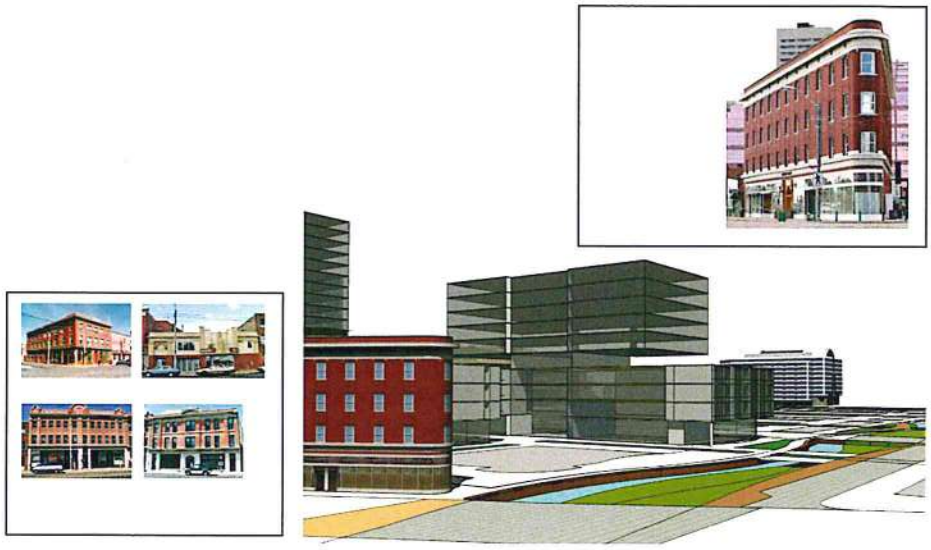


Exhibit 42
Historic Context - Gibson Block adjacent to Zone 1
Source - B. Kimball

A preliminary concept study of the Armature was also undertaken in the yield study phase. Passive and active activity zones, stormwater management water course and green zones were studied.

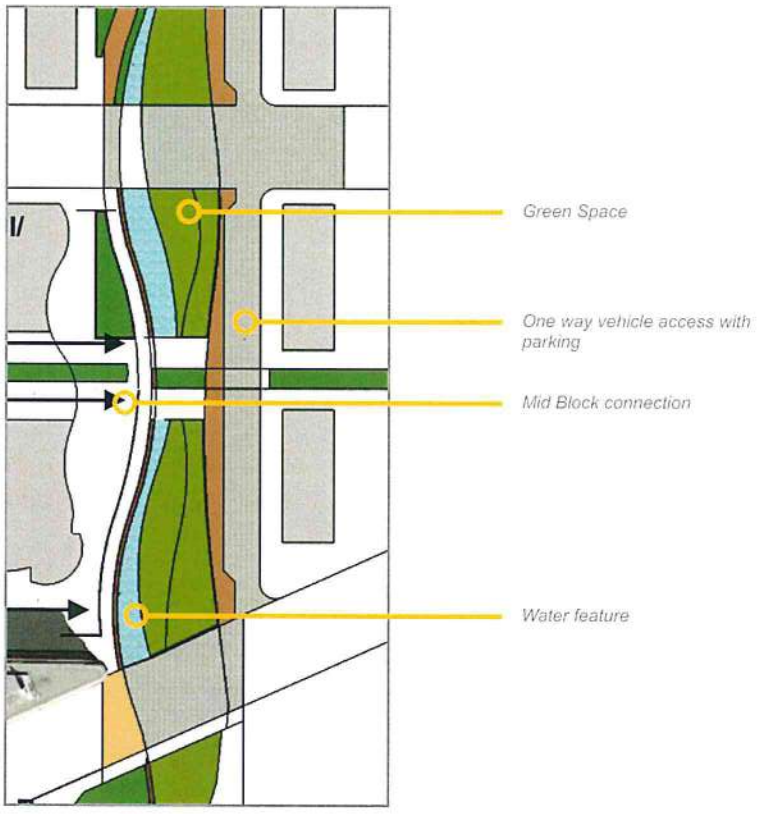


Exhibit 43
Preliminary Concept of Armature Public Park
Source - B. Kimball

10.2 Design Development: Site

10.2.1. THE DEVELOPMENT OF THE PUBLIC AREAS/ AMENITY ZONES

The Armature linear urban park extending north/south along the length of the urban block. The armature has been developed as a multipurpose component for the overall neighbourhood. The final armature design includes four activity zones: water, green space (park), walking paths and vehicle access create a multipurpose experience:

- The watercourse is representative of the adjacent river valley in how it winds through the armature - and it acts as a wetpond for storm water management for the development.
- The Green space provides active and passive green zones within the development. The designated landscape zones create a visual and symbolic connection to the river valley as well as introduces green space into the urban environment.
- The walking paths connect the neighbourhood from north to south. Pedestrian activity zones were developed between the armature's west edge and the building edge.
- Vehicle access is provided in the form of one way north bound circulation on the eastern side of the armature. This provides vehicular access and some surface parking within the planning zone, but keeps vehicles away from the primary pedestrian / retail zones on the west side of the Armature.

Exhibit 44
The Armature - varied pedestrian experience
Source - B. Kimball

Final design of the Street Edge and Urban Park (Armature)

1. Walkable edge condition with cross block access
2. Pedestrians kept close to the building edge
3. Multiple building entrances dependant on use
4. Varied pedestrian experience
5. Varied active and passive outdoor spaces

Exhibit 45
Final Urban Context

Final design of the Street Edge and Urban Park (Armature)

1. Walkable edge condition with cross block access
2. Pedestrians kept close to the building edge
3. Varied pedestrian experience
4. Varied active and passive outdoor spaces

10.2.2 THE PRIMARY PEDESTRIAN ACTIVITY ZONES

The primary pedestrian activity zones occur on the west side of the armature and along the mid block pedestrian corridors located perpendicularly to the armature. These pedestrian zones subdivide the urban block and define proposed building locations.

Each of the east/west and north/south pedestrian corridors were designed to re-scale the urban grid in order to create a more pedestrian friendly environment. Landscaped islands are strategically placed within the centre of each pedestrian zone forcing the pedestrian movement along each building edge. These zones create the unique ability to allow for a high quality of transparency between built form and urban space creating a unique pedestrian experience. The idea of transparency and pedestrian movement placed close to building edge allows for ground floor retail/ access to be planned for all locations along these public activity zones. A vibrant street environment creates a successful neighbourhood.

Each east/west pedestrian corridor leads the pedestrian to an internal block pocket park intended to not only serve as a light well to provide natural light to the architectural components, but also is intended to provide amenity space for use by those living and working within the neighbourhood. As above, the pedestrian movement is designed to be located directly adjacent each building edge.

One of the earliest urban planning ideas in the master planning process was to investigate closing 101 A avenue to vehicular traffic in support pedestrian traffic only. the justification for this study was that this avenue would be "dead ended" at the intersection with the armature. As the design developed, it was decided that a combination of pedestrian and vehicular traffic access would be a better solution to support the ground floor retail zoned for the area. In addition, this design decision enables the ability to provide truck access for at-grade loading for the ground floor market function located in planning zone one. A vehicle traffic circle has been include to help move traffic through the area, with pedestrians only allowed adjacent to the zone 1 architectural component adjacent the Gibson Block with connection to the armature.

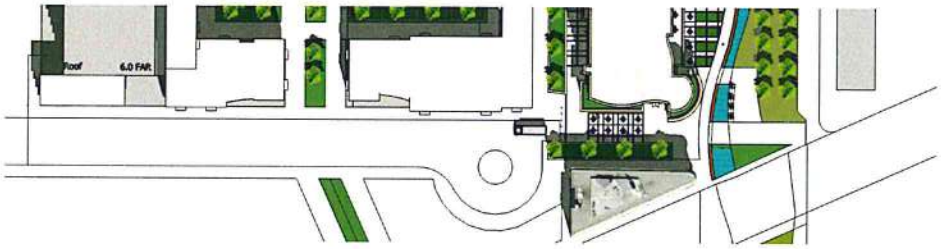


Exhibit 46
101A Avenue
Source - B.Kimball

10.2.3 THE DEVELOPMENT OF THE URBAN ZONES AND THE ARCHITECTURAL COMPONENTS WITHIN THEM

As defined in section 9.2.3., three urban zones were created within the study block. Each planning zone were further developed creating varying degrees of density and architectural intent.

The first zone borders both the armature and historic areas. Building heights for this zone were defined at a maximum of 6 storey's to respect the character of the historic building stock located to the south of the urban block. The ground floor has been designated commercial and/or retail to create the layer of transparency between indoors and out necessary to create a viable pedestrian friendly street condition. All buildings in this zone are proposed to have mid-rise residential zone from floors two to four to help foster a sense of community adjacent the street edge by promoting the CPTED principle of "eyes on the street". During the design process, it was decided that with a 30% residential requirement, the mid-rise location was ideally suited for this use.

The second zone borders both the armature and civic areas. Building heights for this zone were defined to be in a range from 6 to 10 storey's to create massing transition between the historic/ armature zones and the civic quarter to the north

and Edmonton's city centre to the west. As with the previous zone, the ground floor will have a designated commercial and/or retail to create the layer of transparency between indoors and out already discussed.

The third zone is unique in that it borders both the historic and civic zones, as well as serves as the terminus of the east-west pedestrian corridor. Building heights for this zone have been defined to be set at the maximum building height of 15 + storey's in height in order to transition the urban block between the lower density of the historic/ armature zones and the city centre to the west.

All buildings in all zones are proposed to have a mid-mass residential zone from floors two to four to help foster a sense of community adjacent the street edge. this also promotes the CPTED principle of "eyes on the street". During the design process, it was determined that with a 30% residential requirement, the mid block location was ideally suited for this use.

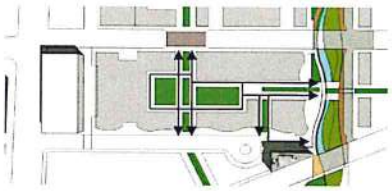
Exhibit 47
Zones
Source - B.Kimball

10.2.4 THE CONNECTION TO CONTEXT

The question of what makes this project unique to Edmonton was discussed and studied. For a prairie city, the Edmonton urban condition is unique due to the north saskatchewan river (valley) running through the heart of the urban grid. The river valley provides respite in form of green space and biking/hiking trails for all to use. The river valley has helped to define Edmonton. To connect this project it's context, a sweeping ground floor curve was introduced on the south and east edge of the block plan as a method of creating a theoretical connection between the urban grid and the river valley edge.

The curvilinear geometry featured on the south and east edge condition of the study block (inclusive of all three planning zones) and helps to define a large majority of the pedestrian/ public building interface zones which occur along the pedestrian zones and the armature.

This curved glass ground plane is intended to provide a unique indoor/outdoor transparency and pedestrian experience has previously described. The following exhibits illustrate this connection.



'River Edge'
Cuvilinear Geometry

Exhibit 48
Connection to Context
Source - B. Kimball

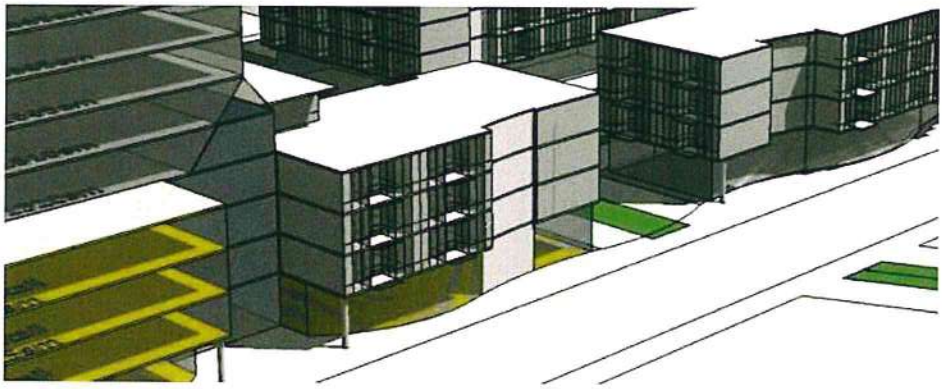


Exhibit 49
Detailed street massing
Source - B. Kimball

10.3 Design Development: Final Building

Development of the Zone 1 Architectural Component as a final solution was an exploration of the infill and contextual principles studied. The final solution is a study of architectural components and their interaction with the public and amenity areas that make up the urban block

10.3.1 THE IMPORTANCE OF THE LOCATION CHOSEN FOR THE FINAL SOLUTION

During the development of the site analysis, the yield studies, and the urban block zoning strategies, it was determined that the key location for more detailed development would be Zone 1. Zone 1 offers a context unique to the entire urban block - it's immediate context includes the armature, the existing historic building stock (namely the Gibson Block), the curvilinear ground floor geometry, and the mid block pedestrian corridor.

In addition to the physical context, the zone 1 location offers the idea of 'gateway to the community' from Jasper Avenue to the south, which is the major east - west arterial through downtown Edmonton.

10.3.2 PROGRAM OF THE FINAL SOLUTION

In The Death and Life of Great American Cities Jane Jacobs indicates that streetscape, street life, and urban diversity are the keys to quality urban living. Urban diversity not only applies to a mix of new and old architecture and building types, but also a mix of social demographic. Diversity creates successful neighbourhoods. To that end, the program developed for the final building study is a mixed-use complex incorporating ground floor retail, Transitional housing, and office space. The concept of including Transitional housing was derived from this idea of diversity and the desire to 'infill' rather than 'filter down' neighbours. As the overall masterplan was developed to include 33% of various housing types, transitional housing provides the mix of demographic Jacobs refers to.

The choice of an appropriate neighbourhood for transitional housing is extremely important. Considerations for determining suitability include:

- Access to good public transportation
- Grocery store within walking distance
- Access to schools and other relevant services
- Access to community centres and parks.

The Zone 1 location supports such a program location. Access to public transportation is plentiful with most major bus routes accessible on Jasper Avenue and the city's LRT located two blocks to the west of the site. Existing Schools and a community centre are located to the north of this project in the Boyle Street community, and a grocery/market is programmed for the main floor of the building. Green space is planned as part of the overall urban plan.

In addition to the above, building size is critical to foster a sense of community for the tenants. "Buildings with less than 50 units are desirable" as they foster a sense of community within a manageable social scale. As per the program and Zone 1 site area, the building footprint is best suited for small housing units and a total of 45 of SOR/1 BR units are planned for the project.

Program for final building study

A. Transitional housing:

- SOR - 20 to 25m^2
- 1 BR - 35 m^2
- Tenant Storage
- Lobby
- Private/Secure outdoor space
- Common room
- Chair storage
- Common kitchen
- Common laundry room
- Breakout rooms
- Staff office area
- Staff storage

B. Market

C. Bistro

D. Office space

10.3.3 DESCRIPTION OF THE FINAL BUILDING SOLUTION

10.3.3.1 The Concept

The concept of the final building can be defined as an architecture that convey's the infinite diversity and variety found in urban life. The complexity of the final form is representational of the ***immediate context***, the ***historical context*** and the ***urban context*** of the city creating a symbolic architectural vocabulary of the variety of urban life.

Within the ***immediate context***, the final building can be considered a four sided building. As the primary architectural component of Zone 1, the building can be experienced from the armature, and the mid block pedestrian corridors. The main floor continues the theme of transparency, in which the multiple building entrances exist and the largest ground floor tenants consist of coffee/bistro and market/ retail. The building is designed in such a way that the facades related to these retail functions can completely open up to the outside in warm weather. Individual secure entrances have been designed for both the housing function and the office function.

As already described, a sweeping ground floor curve was introduced on the south and east edge of the block plan as a method of creating a theoretical connection between the urban grid and the river valley edge.

The ground plane was then designed to be as light as possible creating an active public zone with glazing and entrances into the various active components of the project. The curvilinear geometry featured on the south and east edge condition of the study block helps to define the majority of the pedestrian/ public building interface zones which occur along the curved edge as outdoor patio spaces in support of retailers and building occupants.

Within the ***historic context***, the proximity to the historic building stock and specifically the Gibson Block have informed the architectural response for the materials and massing of the project. The mid-block condition of the massing of the project - floors two to four - respond to parapet height and materials of the adjacent historic building stock. The main entrance to the traditional housing component is set within the strongest element of the building: a circular glass and brick drum that not only pays respect to the form of the Gibson Block but also acts as a strong "Beacon" or entrance feature for the project as a whole.

Within the ***urban context***, the building responds to the geometry of the city grid. The upper block has been planned as the office component. The architectural vocabulary of this component is a unifying steel and glass grid derived from the mullion spacing of transitional housing units. The grid vocabulary is rigid and repetitive like that if the city street patterns, however, the glass panels are multi coloured providing a sense of movement to the building facade symbolic of the hustle and bustle of modern urban life.

This architectural grid of steel and glass is derived from the transitional housing or historic vocabulary (much like how the historic building stock of the area formed the basis of modern Edmonton) and the urban grid of the city past and present.. But, much like how the modern city engulfed the historic zone, the steel and glass grid of the building figuratively and physically wraps itself around the transitional housing massing. A careful balance of 'new' and 'old" coexist within the building vocabulary.

Colour/materials for each "architectural context" is discussed in section 10.3.3.5.

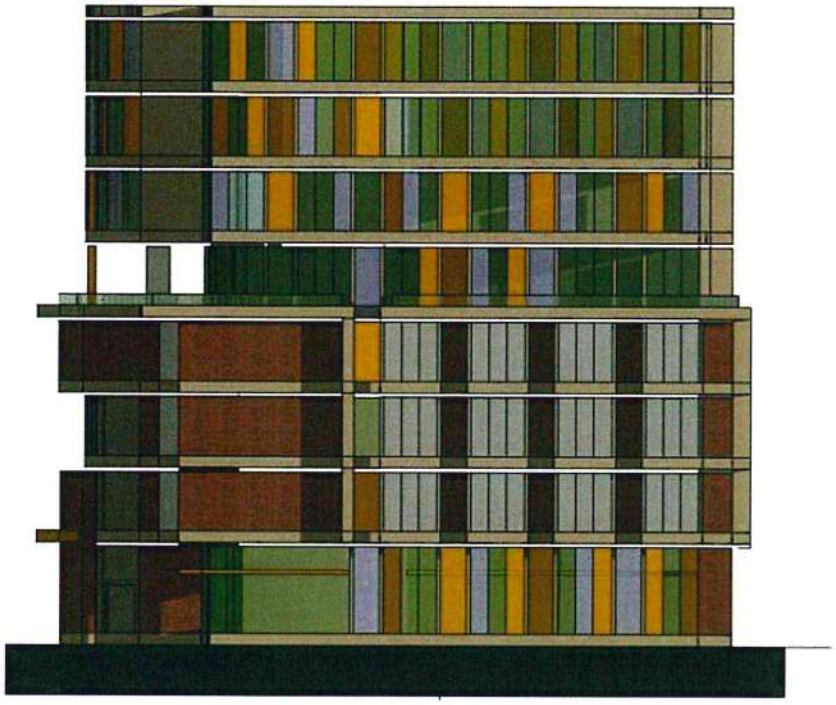


Exhibit 50
Building Elevation - The Architectural Grid
North Elevation
Source - B. Kimball

Exhibit 51
Building Elevation - The Architectural Grid
South Elevation
Source - B. Kimball

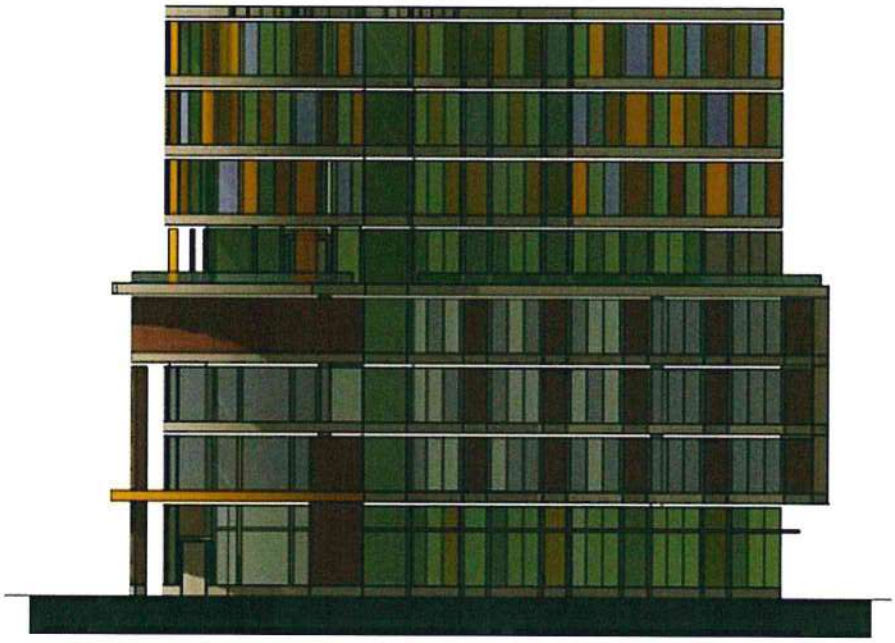


Exhibit 52
Building Elevation - The Architectural Grid
East Elevation
Source - B. Kimball

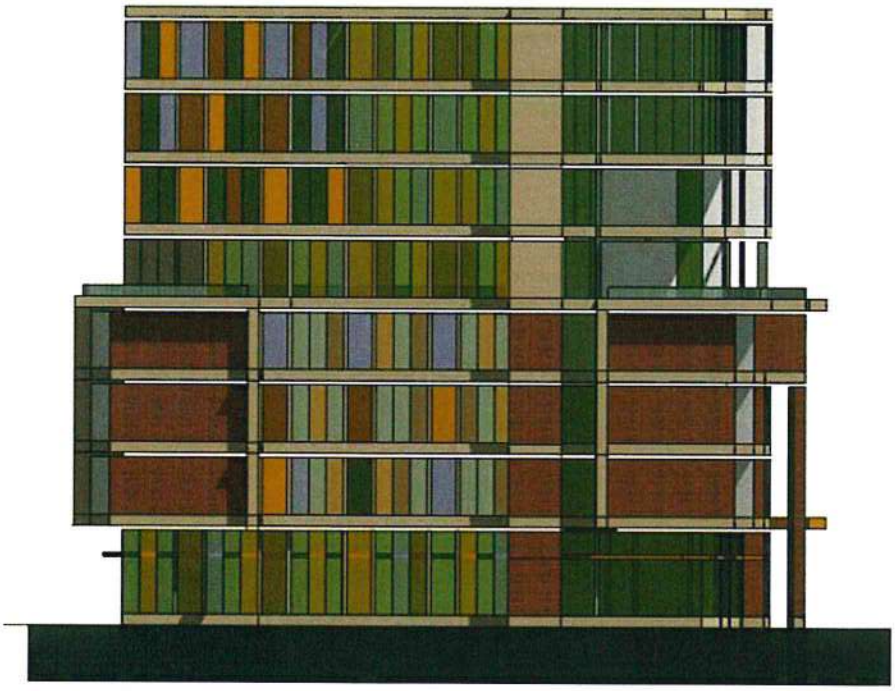


Exhibit 53
Building Elevation - The Architectural Grid
West Elevation
Source - B. Kimball

Lesson Applied from the Research:

The research studied how good city form requires a careful blend of fine grain mixed use land designations; a combination of new and old architecture, pedestrian friendly environments, and a proper balance of green space and/ or amenity space to create a vibrant urban environment. The final design incorporates an urban planning strategy that creates an infill solution that blends the proposed urban intervention into its context.

The final solution proposes a strategy that successfully rejuvenates this 'filtered down' decayed urban area by utilizing the concepts of urban infill, mixed land use and building types, and outdoor neighbourhood amenity space.

10.3.3.2 Main Floor Transparency

The curvilinear geometry on the south and east edge condition of the study block was incorporated into the ground floor geometry of the final building. As per the idea of the block plan, this curved glass ground plane is transparent in design, intended to provide a unique indoor/outdoor pedestrian experience as previously described. All publicly accessible functions of the building are located on the ground floor along this zone:

- Multiple building entrances.
- Coffee/bistro retail,
- Neighbourhood market.

The placement of these public functions reinforce the idea of transparency philosophically, while physically the ground floor has the ability to open up to the adjacent pedestrian zones via sliding glass panels.

The following exhibits illustrate this connection.

Exhibit 54
Built form as defined by the context
Source - B. Kimball

1. Ground floor commercial
2. Mid-rise residential
3. Hi-rise office
4. Walkable edge condition with cross block access
5. The built form has a connection to its context; nature, urban and history

Exhibit 55
Concept Development
Building Edge
Source - B. Kimball

Exhibit 56
Concept Development
Building Edge
Source - B. Kimball

10.3.3.3 Vertical Zoning

The vertical zoning of the building takes it's inspiration from the surrounding historic building stock - the main floor is defined as commercial; and the upper floors either residential or office uses. Four very specific vertical zones exist in the building:

1) A **ground floor** market and coffee bistro – publicly accessed functions that reinforce the transparency of the ground floor concept as developed in the blocking plan development have been located on the ground floor. As previously discussed, the ground floor has the ability to open up to the adjacent pedestrian zones via sliding glass panels.

2) **Mid floor residential**: transitional housing units with amenity space. As per the preliminary blocking strategies, all buildings in all zones are proposed to have a mid-mass residential zone and from floors two to four to help foster a sense of community adjacent the street edge as well as promote the CPTED principle of "eyes on the street". This building follows the same philosophy - all residential units have been located within floors two to four giving the residents a physical connection to community and the street life with close proximities to the armature and other pedestrian zones.

3) A **fifth floor** amenity space and roof garden for the transitional housing tenants and staff. As per transitional housing design guidelines, outdoor garden/amenity space is required for such housing types provided these areas have controlled access to the exterior in order to provide security for the tenants. Due to the public nature of the armature and mixed use concept of the redevelopment, outdoor roof gardens were designed to provide a visual connectivity to the armature and surrounding green space while providing the security required for the residents. A similar curvilinear geometry used on the ground floor was incorporated into the facade of this fifth floor space to provide consistency and "psychological equality" of the buildings outdoor use areas for all building users/tenants.

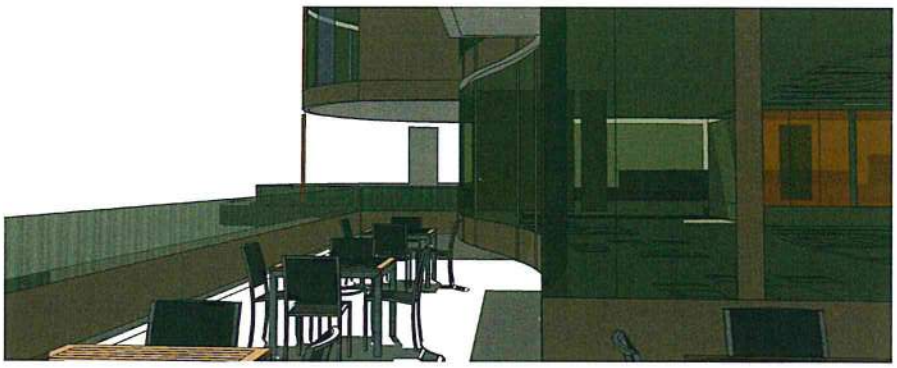


Exhibit 57
Concept Development
Building Edge
5th Floor
Source - B. Kimball

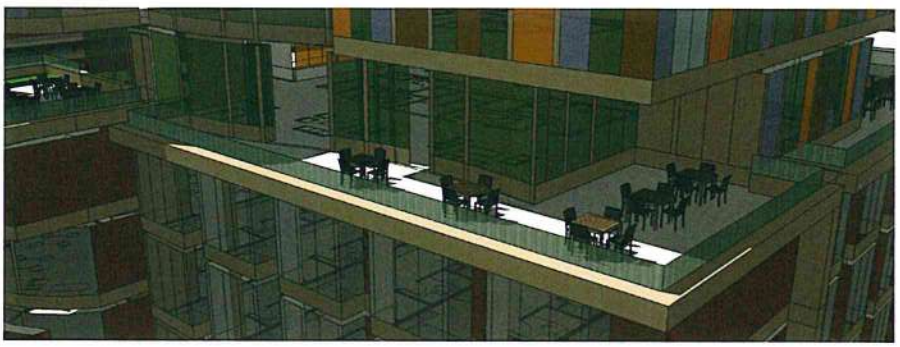


Exhibit 58
Concept Development
Building Edge
5th Floor
Source - B. Kimball

4) The **Upper Floors** of the building are designated as independent office space accessed by a separate ground floor elevator lobby from that of the transitional housing. The office space could possibly be leased to support agencies to compliment the transitional housing such as Child and Family Services, AADAC, Provincial Mental Health, or others

Exhibit 59
Ground Floor Commercial
Source - B. Kimball

Exhibit 60
Mid Block Residential
Floors 2 - 4
Source - B. Kimball

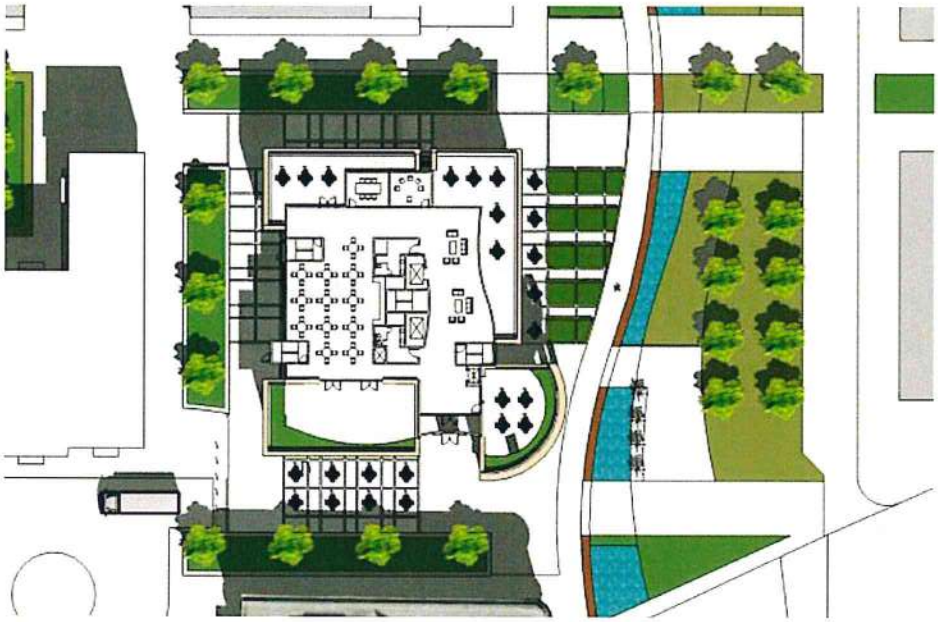


Exhibit 61
Roof Garden
Floor 5
Source - B. Kimball

Exhibit 62
Typical Office Floor
Floors 6-8
Source - B. Kimball

10.3.3.4 Multiple Entrances

The building features dedicated housing entrance separate from the office and the commercial store front entrances. This allows for the safety and security of the housing occupants, and provides for individual access points at the ground level for all other building functions. Multiple building entrances and variety in the pedestrian experience is one primary requirements of the ICP philosophies studied.

10.3.3.5 Materials and Colour Pallet

Although the architectural treatment of each vertical zone is different in materiality, the geometry of mullion spacing and floor to floor separations are consistent. An overall geometrical order has been applied to the building elevations.

The colours are derived from the "prairie colour pallet" found in the river valley and surrounding landscape.

- The transitional housing architectural treatment specifically responds to the heritage building stock by the use of materials, and a similar notion of solid and void with a mixture of glass and brick. Parapet heights match those of the adjacent Gibson block. This brick "base" is that of the earth.
- The multi coloured glass panels depict the natural prairie colours from the land to the sky. The glass panels are a mixture of blue (prairie sky), brown (earth), gold (wheat fields) and green (the river valley).
- The curvilinear green glass is symbolic of the river a

The curvilinear green glass extends from the building's base up into the overall massing of the building binding all the building elements together into one composition - a similar way in which Edmonton's river valley creates a psychological sense of place for the city.

Exhibit 63
Concept Development
View Looking South
Source - B. Kimball

Exhibit 64
Concept Development
View Looking Mid Block
Source - B. Kimball

Exhibit 65
Concept Development
View Northwest
Source - B. Kimball

Exhibit 66
Concept Development
View Northwest
Source - B. Kimball

Exhibit 67
Concept Development
View Looking West
Source - B. Kimball

Exhibit 68
Concept Development
Historical Context
Source - B. Kimball

Exhibit 69
Concept Development
Building Edge
Source - B. Kimball

Exhibit 70
Concept Development
Building Edge
Source - B. Kimball

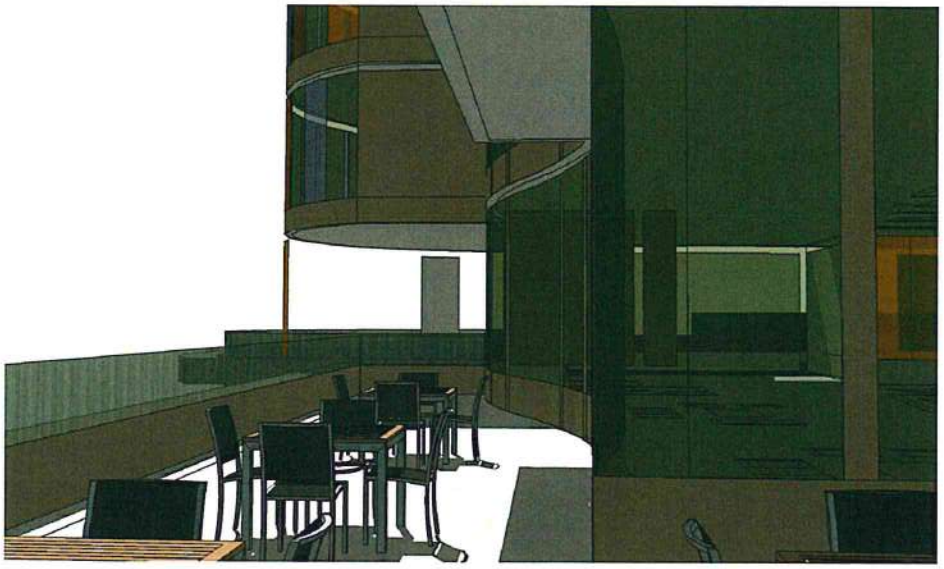


Exhibit 71
Concept Development
Building Edge
5th Floor
Source - B. Kimball

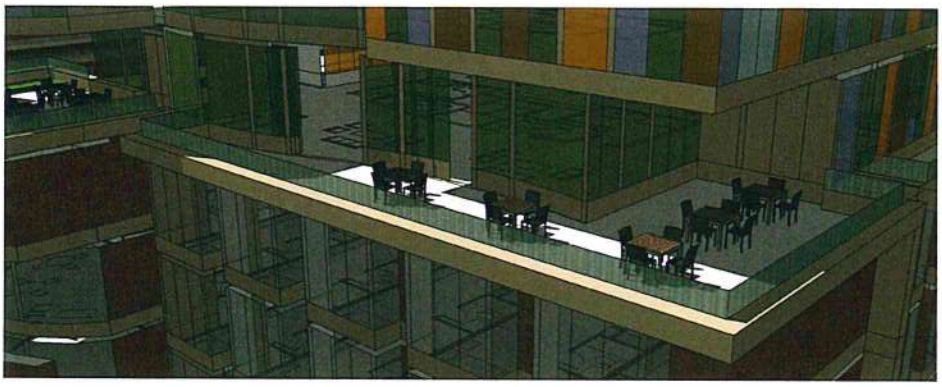


Exhibit 72
Concept Development
Building Edge
5th Floor
Source - B. Kimball

10.4 Additional Project Views

Exhibit 73
Source - B. Kimball

Exhibit 74
Source - B. Kimball

Exhibit 75
Source - B. Kimball

Exhibit 76
Source - B. Kimball

Exhibit 77
Source - B. Kimball

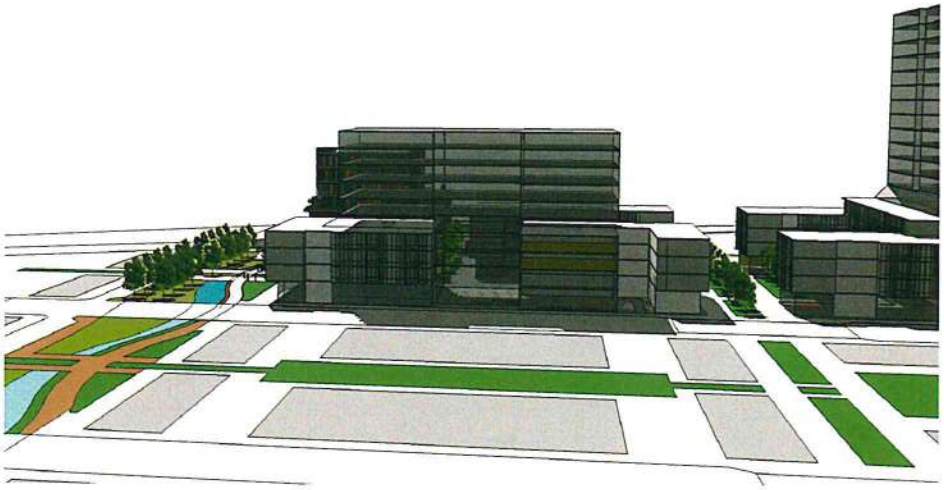


Exhibit 78
Source - B. Kimball

Exhibit 79
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Exhibit 80
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Source - B. Kimball

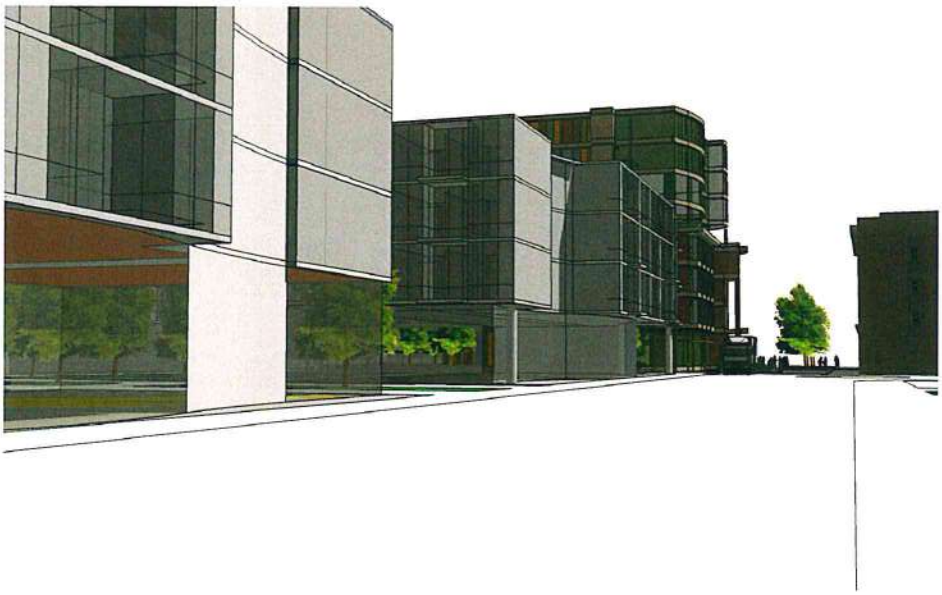

Exhibit 92
Source - B. Kimball

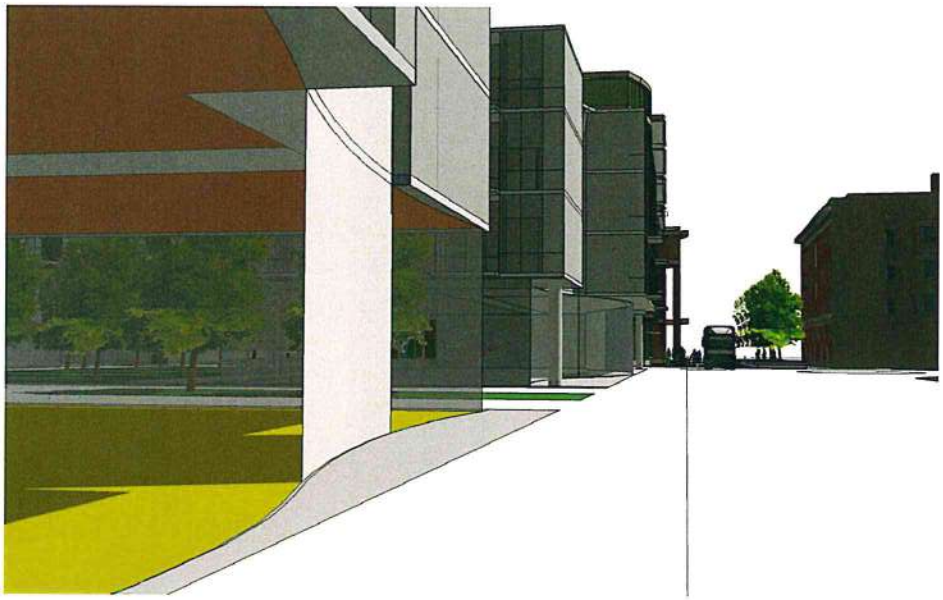

Exhibit 93
Source - B. Kimball

Exhibit 94
Source - B. Kimball

Exhibit 95
Source - B. Kimball

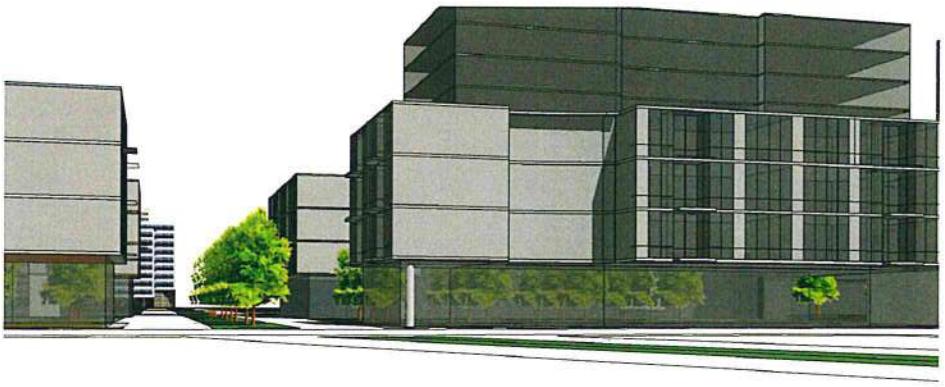

Exhibit 96
Source - B. Kimball

Exhibit 97
Source - B. Kimball

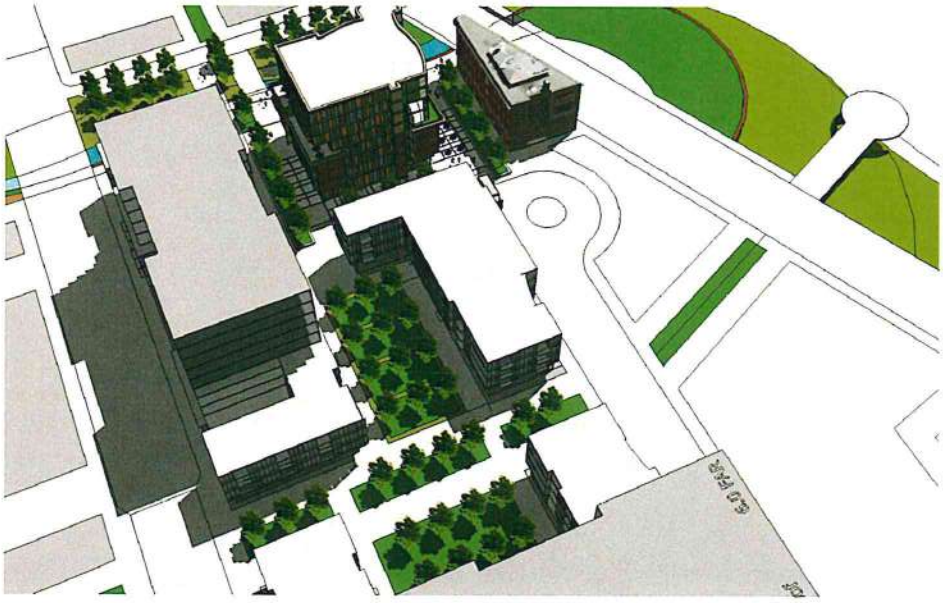

Exhibit 98
Source - B. Kimball

Exhibit 99
Source - B. Kimball

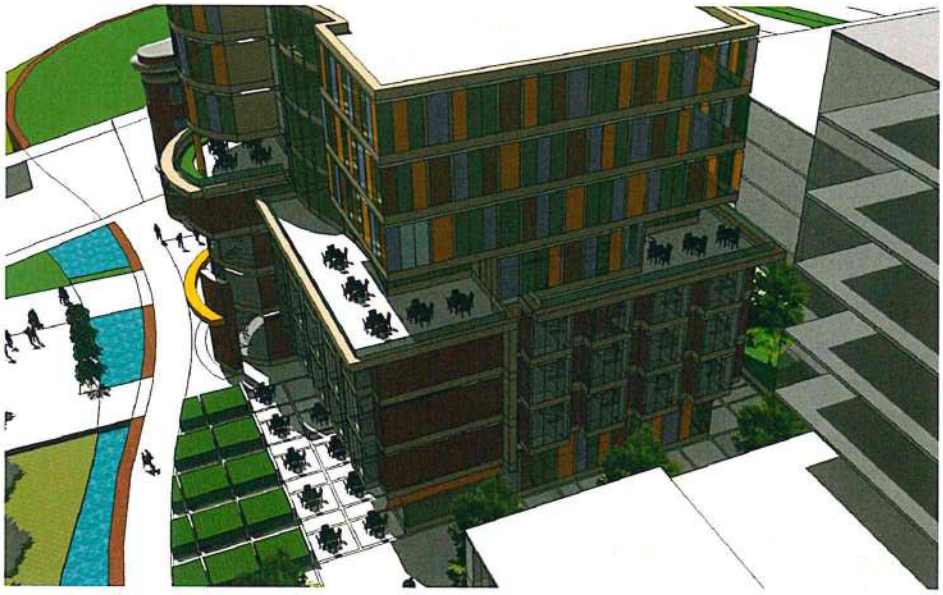

Exhibit 100
Source - B. Kimball

Exhibit 101
Source - B. Kimball

Exhibit 102
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Exhibit 103
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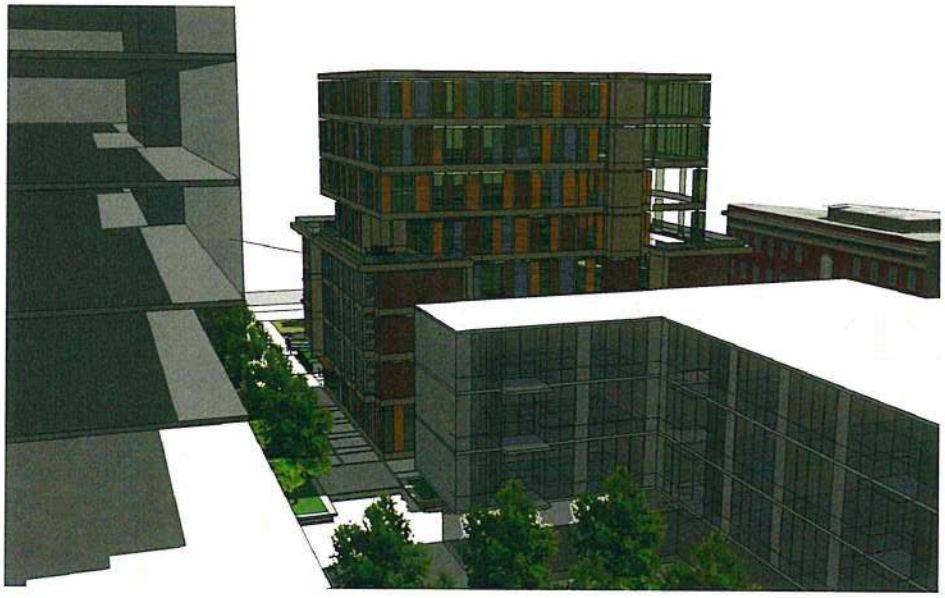


Exhibit 104
Source - B. Kimball

11. CONCLUSION

Through the investigation of the ideals of community, theories of good city form, and the study of the inter-relationship between people and the urban space that surrounds them, this project investigated that a strong sense of place can be created by employing good urban solutions coupled with contextually sensitive architecture. The research phase of this thesis determined that good urban (city) form requires a shift in current planning practices. Rather than continuing the filtering down of existing neighbourhoods and expanding outwards, a multi-stepped approach of infill and re-use of existing land stock should be pursued by today's municipalities. Seven "must have" design approaches were outlined.

1. Create Urban growth Boundaries
2. The Infill neighbourhoods and their surrounding context
3. The development of Walkable street and path networks
4. Pedestrian friendly built form
5. Crime prevention
6. The creation of Mixed use buildings, and
7. The design of Mixed-Use Neighbourhoods

During the planning stages of this thesis, yield studies explored each of these design principles and developed an urban overlay that utilized the existing context (the new and old architecture, the traditional urban grid) and created an infill neighbourhood with walkable street and path networks. The yield studies allowed for the provision of mixed-use neighbourhood with mixed use buildings and included public amenity space.

The parameters of building composition, placement/location and multiple entrances were studied to define the requirements of mixed-use and infill strategies. The densities of the built zone were studied and blended to allow for a transition in building heights that respect the historic buildings to the southern edge of the site and the taller buildings to the west and north of the site.

The final design incorporates an urban planning strategy that creates an infill solution that blends the proposed urban intervention into the surrounding context and adheres to the conclusions identified in the research. The final architectural solution was not only designed based on program but also based on the context defined in the yield studies.

Three layers of context derived from the yield studies and the surrounding context impacted the decisions made in the final design. The immediate context, considered master planning site development; the historic context, considered the proximity to the historic building stock and specifically the Gibson Block have informed the architectural response for the materials and massing of the project; and, the urban context, created an architectural dialogue that responded to the geometry of the surrounding city grid.

The final solution embodies the results of the research. A successful rejuvenation of a "filtered down" decayed, underdeveloped Edmonton inner city neighbourhood – utilizing the concepts of urban infill, mixed land use and building types, neighbourhood amenity space, and contextually sensitive design.

FOOT NOTES

1. Ford, Larry R. The Spaces Between Buildings. Baltimore, The John Hopkins University Press, 2000, pg. 28.
2. Ibid, pg. 28.
3. Ibid, pg. 28.
4. Ibid, pg. 15.
5. http://en.w.k.pedia.org/wiki/medieval, pg 3 of 5.
6. Southworth, Michael. Ben-Joseph Eran. Streets and the Shaping of Towns and Cities. Washington; Island Press 2003, pg. 22..
7. Ibid, pg 22.
8. Ibid, pg 23.
9. Ibid, pg 25.
10. Ibid, pg 29.
11. Ibid, pg 29.
12. Ibid, pg 32.
13. Ibid, pg 39.
14. Ibid, pg 39.
15. Ibid, pg 51.
16. Ibid, pg 53.
17. Ibid, pg 70.
18. Ibid, pg 73.
19. Nader, George A. Cities of Canada Vol. 1. Trent University: MacMillian, 1975, pg. 63.
20. Bunting, Trudi; Filion, Pierre, Canadian Cities in Transition: The Twenty-First Century. Oxford: Oxford University Press, 2000, pg. 9.
21. Ibid, pg. 11.
22. Ibid, pg. 12.
23. Ibid, pg. 15.
24. Venturi, Robert. Complexity and Construction in Architecture. New York: The Museum of Modern Art, 1990, pg. 16.
25. Ellin, Nan. Postmodern Urbanism, Cambridge: Blackwell Publisher Inc., 1996, pg. 263.
26. Ibid, pg. 45.
27. Ibid, pg. 58.
28. Ibid, pg. 74.
29. Streets, pg. 105.
30. Ibid, pg. 105
31. Frisken, Frances. The Changing Canadian Metropolis: A Public Perspective. Toronto: Canadian Urban Institute, 1994, pg. 10_.

32. Ibid, pg. 112.
33. Gurin, David. Understanding Sprawl: A Citizens Guide, The David Suzuki Foundation, 2003, pg. 5.
34. Sierra Club of Canada.
35. Lefebvre, Henri The Urban Revolution
36. Ibid.
37. Ibid.

BIBLIOGRAPHY

Bacon, Edmund N. Design of Cities. New York: Penguin Books, 1976.

Bunting, Trudi; Filion, Pierre. Canadian Cities in Transition: The Twenty-First Century. Oxford: Oxford University Press, 2000.

Calthorpe, Peter. The Next American Metropolis. Ecology, Community, and the American Dream. New York: The Princeton Architectural Press, 1983.

Calthorpe, Peter; Fulton, William. The Regional City: planning for the end of sprawl. Washington: Island Press, 2001.

Ellin, Nan. Postmodern Urbanism. Cambridge: Blackwell Publishers Inc., 1996.

Frisken, Frances. The Changing Canadian Metropolis: A Public Perspective. Toronto: Canadian Urban Institute, 1994.

Gurin, David. Understanding Sprawl – A Citizen's Guide. Vancouver: The David Suzuki Foundation, 2003.

Jacob, Jane. Death and Life of Great American Cities; The Failure of Town Planning. Vintage Press, 1961.

Lefebvre, Henri. The Urban Revolution. Minneapolis, London: University of Minnesota Press, 2003 (originally published as La Revolution urbaine in 1970).

Lynch, Kevin. A Theory of Good City Form. Cambridge: MIT Press, 1981.

Nader, George A. Cities of Canada Vol. 1. Trent University: MacMillan, 1975.

Southworth, Michael; Ben-Joseph Eran. Streets and the Shaping of Town's and Cities. Washington: Island Press, 2003.

Trachtenberg, Marvin, Hyman, Isabelle. Architecture from Prehistory to Post-Modernism. New York: Harry N. Abrams, Inc., 1986.

Venuri, Robert. Complexity and Contradiction in Architecture. New York: The Museum of Modern Art, 1990.

WEB BASED SOURCES

newurbanism.org

USGBC.org

sierraclub.ca

allbusiness.com

terrain.org

jaspereastvillage.com

touralbertamainstreets.ca

APPENDIX A - 9A CASE STUDIES

Case Study 1 - San Diego, California - Uptown District Project

Source - terrain.org.

PROJECT CLASSIFICATION:

Urban Infill.

PROJECT QUICK FACTS:

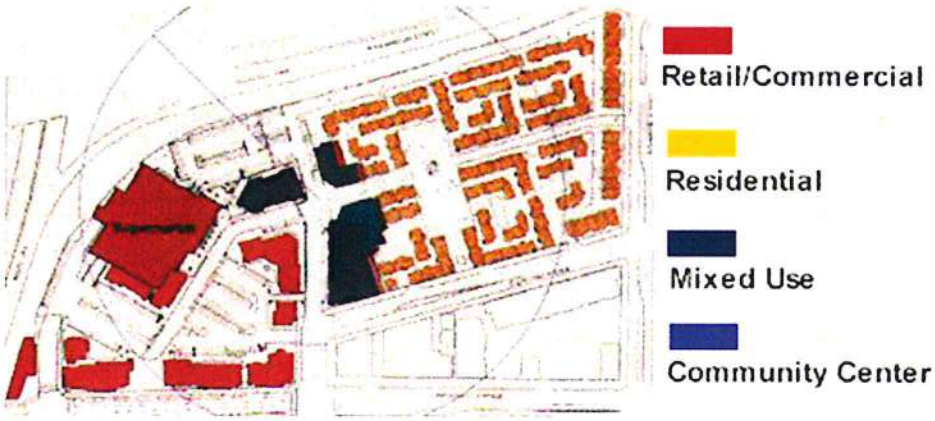
- 14 acres total land area;
- 318 housing units (304,000 sq. ft.);
- 145,000 square feet of retail and commercial;
- 3,000 sq. ft. community centre;
- Residential density of 52 units/acre;
- Average walk from residences to retail/office is 1.5 minutes.

PROJECT DESCRIPTION:

In 1986, the city of San Diego purchased an abandoned 14-acre commercial property with the intention of redeveloping it into the city's new central library. Due to impact from various citizen action groups with the desire for more residential infill, the city decided to issue an RFP for the acquisition and development of the site. As part of the RFP process, specific land use and design criteria were written to promote ground floor retail uses, upper floor residential, and the inclusion of a 3000 sq. ft. community centre.

The project's imagery is European Old Town in nature, with 318 different building elevations, brightly coloured awnings, public plaza's and parks, and public artwork placed throughout the site. The architects were quoted as saying that the entire project was envisioned as a creation of many architectural images that could work together. This variation was hoped to give the user the sense that the project was not developed and built as one, but rather as a series of streetscapes with a diverse grouping of architectural images built over a long period of time.

In addition to the European old town model, the project placed all residential parking underground, and uses a network of pedestrian only streets radiating from a central park. The retail component is anchored by a large supermarket which as minimal signage and is not adjacent to a parking lot.



Project Site Plan. Source - terrain.org.

Other items of interest: a pedestrian bridge was built between this project and an adjacent neighbourhood spanning a multilane street. The residents of that neighbourhood have access to the grocery store, and other retail outlets, while the uptown residents have access to other neighbourhood parks and amenities. Parking ratios are 2.0 per townhouse, 1.7 per apartment, and 1.0 for every 270 sq. ft. of commercial space. The Uptown District project has a much higher density than the rest of San Diego with nearly 23,000 people per square mile for this development compared to and average of 3,200 for the rest of the city.

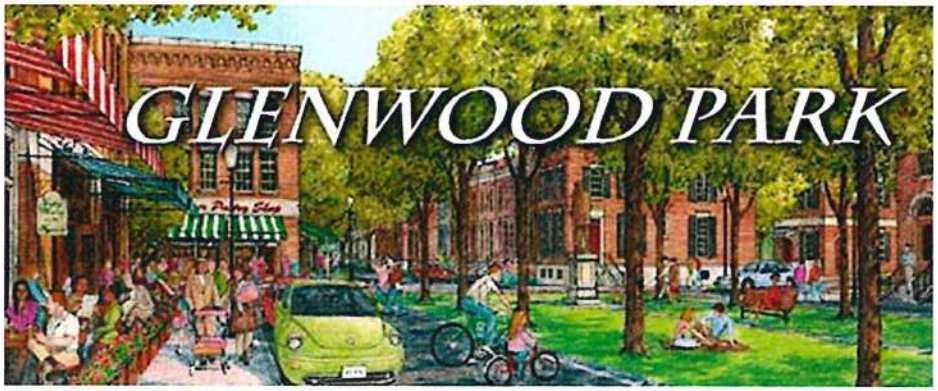
The residential component has been very successful in contrast to the retail. The large supermarket anchor has been successful, but many of the smaller retail spaces have failed from lack of business. Since Uptown opened, a yogurt shop, women's clothing store, coffeehouse, two restaurants, and travel agent have closed. The reason? One of the original leasing agents believes too much pedestrian oriented space in the development simply doesn't work within car crazy southern California.

The lesson learned quite possibly has to be that a careful mix of high density and pedestrian-only environments must be employed within an urban infill context. And, context is most likely an important consideration - a careful study of the existing tendencies of the subject community may lead to an appropriate, successful infill solution

Pedestrian Friendly Street Edge.
Source - terrain.org

High Density/Multi-Use Building Types.
Source - terrain.org

Case Study 2 - Atlanta, Georgia - Glenwood Park Project



Source - terrain.org

PROJECT CLASSIFICATION:

Brownfield Site Redevelopment

PROJECT QUICK FACTS:

- 28-acre Brownfield redevelopment site 2 miles from downtown Atlanta;
- 350 residences in a mix of condo's, townhouses, and houses at build-out;
- 50,000 sq. ft. of retail and 20,000 sq. ft. of office at build-out;
- Emphasis on "making great streets where people will enjoy walking";
- Environmental best practices include energy efficient buildings, stormwater management, and recycling certified through the EarthCraft program;
- Completion was expected in late 2006.

PROJECT DESCRIPTION:

Glenwood Park is a 28-acre brownfield redevelopment in an infill location two miles from downtown Atlanta. The site is a formerly zoned as industrial and had been used as a concrete recycling facility. The adjacent neighbourhoods are mostly century old, single family areas that include a mix of well-designed homes and commercial spaces. The surrounding context is noted for a strong commitment to traditional neighbourhood design, walkability, with a mix of residential and commercial.

The Glenwood Park community is designed on a new urbanism, main street ideology, where all streets feature on street parallel parking and centered on a town square bordered by three and four story buildings. Streets are alley loaded, with single-family homes facing tree-lined streets, public squares and pocket parks. Bordering the town square are townhomes, lofts, and condominiums. The most important design philosophy of this project is its plan to incorporate a fine-grained mixing of a full range of housing types, commercial buildings and walkable streets. The key objective for the success of the finished project will be that the neighbourhood reads as a collection of individual buildings, each in a pedestrian friendly scale.

To ensure uniqueness for the mixed-use and retail components of the development, three different sets of architects worked through the building types. Fifty condominiums ranging in price will be offered in the four buildings around the square. The retail component is hoped to provide an attractive alternative to city living by having shops, restaurants and office space all within walkable distance from home. There are currently three retail tenants owned and operated by local entrepreneurs:

- Vino Libro - a wine bar and bookstore;
- Babalu's - restaurant;
- Perk - a neighbourhood coffee house.

The remainder of the 50,000 square foot retail and 20,000 square foot of office space is expected to be filled by businesses not only serving the immediate community but also the city at large.

The project site is also located within a mile of two Metropolitan Atlanta Rapid transit Authority rail stops, as well as located on active bus routes leading into the downtown core. Glenwood Park will also contain a transit station for what is being called the Belt Line, a proposed trail and transit line that will eventually make a loop around Atlanta's city core using abandoned rail line allowances.

Green design is an important component of the Glenwood Park development. The developments emphasis is on incorporating green building techniques in a residential construction that reduce operating costs and add value to the home. Three local home builders were contracted to create home designs that met the architectural guidelines of the development as well as met the green standards outlined by Atlanta's EarthCraft House Program. Green building features include:

- Construction waste recycling, reducing landfill waste by 80%;
- Pervious pavement parking areas;
- Water efficient landscaping;
- Rainwater harvesting and reclamation;
- Graywater irrigation systems;
- Recycled wood fiber exterior trim;
- Porch decking made from reclaimed waste wood and recycled plastic;
- Photovoltaic systems;
- Reclaimed wood flooring;
- Pre-finished and low-VOC flooring and low- or no-VOC and bio-resistant paints;
- Super-efficient insulation, including spray foam insulation, sealed and conditioned crawlspace, air sealing, and high-performance windows;
- 100% recycled drywall;
- Tankless water heaters;
- Programmable thermostats and lighting control systems;
- Energy Star lighting fixtures and appliances;
- High-performance HVAC systems;
- Energy recovery ventilators;
- High-efficiency particulate air (HEPA) filters and ultraviolet air cleaners.

The developers are proud to state that Glenwood Park is only one of five EarthCraft housing projects in Atlanta. In fact, one of the primary goals of the development team was to make Glenwood Park as green as possible right from the beginning. This was clearly evident by the nature of this brownfield redevelopment and its new urbanism, high density approach, as well as it's close location to downtown Atlanta. Based on Green Street Properties estimates, the close proximity to downtown will allow residents shorter commute times and less driving, saving 1.6 million miles of driving over what residents would be forced to drive living in Atlanta suburbs. Attention to "green" detail was considered right down to the collection of stormwater on site. The neighbourhood's central park serves as the site's stormwater collection whereby the stormwater runoff Is captured, allowed to settle and is filtered prior to being slowly released downstream. The collected water is also used for the site's landscape irrigation.

Amenity space. Source - terrain.org

Central park. Source - terrain.org

Case Study 3 - Austin Texas - Second Street District Project

Source - Terrain.org

PROJECT CLASSIFICATION:

Urban Revitalization/Infill.

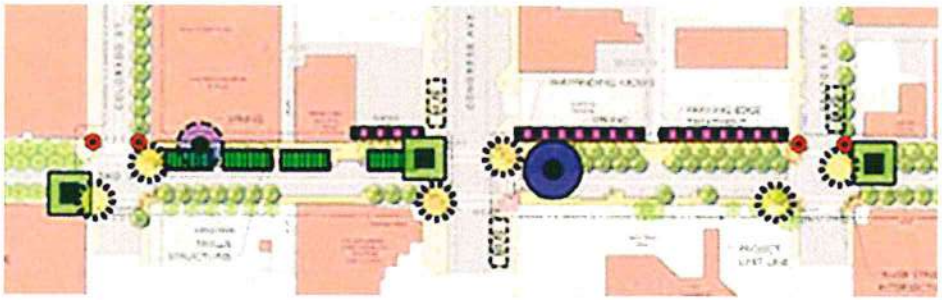
PROJECT QUICK FACTS:

- 6 block development (5 blocks owned by the city of Austin);
- mixed use: primarily street level retail, upper level office space and residential;
- Hotel and Children's museum planned;
- New Austin City Hall and public Plaza;
- 168,000 sq. ft. of retail at build-out;
- Extensive streetscape planning and implementation;
- 2% construction Budget set aside for public art. This is associated with the city's capital improvement plan;
- An additional $200,000 toward public art committed by developers to date;
- Sustainable goals developed and planned for implementation.

PROJECT DESCRIPTION:

The second street district is a six block infill redevelopment project located along the south edge of downtown Austin. The city's vision for this project is for the enhancement of both the identity and image of downtown Austin by connecting a proposed new city hall to a new convention centre complex connected by a "pedestrian-dominant" spine. The ultimate goal of the project is to provide over 168,000 sq. ft. of retail space mixed with office, hotel, civic, and hi-rise condominium and apartment development all oriented to the proposed pedestrian friendly environment. The catalyst of this project is that the city of Austin owns five of the six blocks of the project site, allowing for the implementation of the project to proceed without the delay and complexity of traditional development driven forces.

Project Site Plan. Source - Terrain.org



Streetscape Improvements. Source - Terrain.org

As a precursor to downtown redevelopment in Austin, the city developed and adopted the "great streets" program with the goal of improving the quality of downtown streets and sidewalks aiming ultimately to transform all public right-of-ways into great people spaces. The great streets master plan adopted in 2001 features the following six guiding principles:

1. Manage Congestion: in successful urban places, congestion is a fact of live. A place that supports a mix of economic and social activities within a pedestrian-scaled urban setting will be congested;
2. Balanced/Active Streets: great urban streets must balance the needs of pedestrians, cyclists, transit and automobiles in creating an attractive and viable urban core. Downtown streets should be considered as for people first, commercial second, parking third, and through traffic fourth;
3. Streets as Places: the Great Streets Program believes the Austin downtown must be a vital focus of city life and should act as a primary destination. Downtown streets must be considered the city's most important and pervasive public space; interactive streets: urban streets must act as the stage on which the public life of the community should be acted out;
4. Pride of Place: visible caring and upkeep are critical to the vitality of urban street life;
5. Public Art: art in the public environment can help establish a strong sense of place, and continuity between the past, present and future.

These guiding principles have helped to guide the design process of the 2nd street urban infill project.

Multi-Use Building Type
Source - Terrain.org

The project was implemented in two phases:

Phase 1: Roadway reconstruction from San Antonio Street to Colorado Street, which was completed in October 2004. This first phase resulted in the transition from one-way streets back to two-way street vehicular traffic.

Phase 2: Great streets and roadway construction, Colorado Street to Trinity Street. Currently nearing completion, the second phase is implementing 32 foot wide sidewalks and a double row of street trees on the north side of the street to provide shaded space for sidewalk cafes next to store fronts. Between the double row of trees, are large size pavers located in the sidewalk to enhance walkability and wheelchair use.

Four full city block streetscapes have been completed to date.

Streetscapes.
Source - Terrain.org

APPENDIX B - 9A PRESENTATION

A Sense of **Place**, **Setting**, **People** and **Design**
Research: **space within building** to **buildings within space**

Thesis Presentation 1: Research

Fall 2009

bK **AB900011** **9A**

A Sense of **Place**, **Setting**, **People** and **Design**
Research: **space within building** to **buildings within space**

A. Introduction

"space within building to **buildings within space "**

.....What makes a lively street or a city liveable? The answer is two-fold. First, people do. Provide for people and a city will come alive at all hours of the day and night. Great cities are about streets and squares, parks and esplanades. Places for people to gather and for celebration as a community. Secondly, a mixed-use, hi-density urban environment that creates the stage for all aspects of life - a city that allows its citizens to live, work and play in one area opposed to the live-here, work-there, and play-somewhere else conditions found in most of today's cities.

This research paper investigated urban form and why high density, mixed use living is possibly a healthier response for the human condition.....

Source: Streets and The Shaping of Towns

Source: newurbanism.org

A Sense of **Place**, **Setting**, **People** and **Design**
Research: **space within building** to **buildings within space**

A. Introduction

"space within building to **buildings within space "**

Presentation Outline:

a. **Introduction**
b. **Urban Centre Development**
c. **An Urban Theory Shift – A Return to the Past**
d. **Urban Success – Integrated Community Planning**
e. **Research Synopsis**
f. **Proposed Site**
g. **Next Steps**

Source: Streets and The Shaping of Towns

Source: newurbanism.org

A Sense of **Place**, **Setting**, **People** and **Design**
Research: **space within building** to **buildings within space**

A. Introduction

"space within building to buildings within space "

The **current urban condition** is one of **Urban Sprawl** which is often described as **Uncoordinated Transportation** and **Land Use Planning**

- Dispersed urbanization resulting in an outward physical urban expansion exceeding demographic growth;
- Segregated land uses (ie) work here, live there, play elsewhere;
- A filtering down of neighbourhoods from old to new creating class segregation;
- Large amounts of underutilized inner city land due to outward urban expansion;
- Traffic congestion;
- Costly city services;
- A loss of farmland/natural ecosystem to city expansion.

Source: newurbanism.org

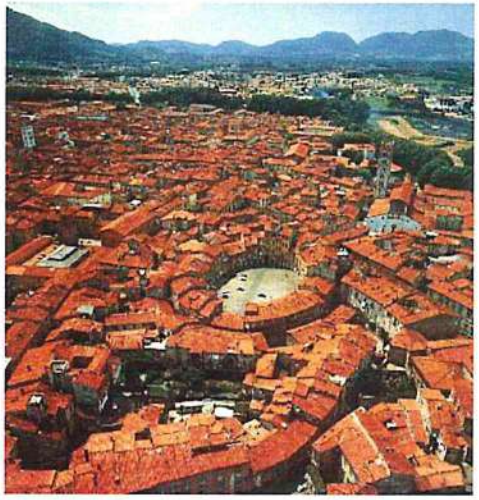
A Sense of **Place**, **Setting**, **People** and **Design**
Research: **space within building** to **buildings within space**

A. Introduction

"space within building to **buildings within space "**

The **study** of the **past, present,** and a **vision towards the future with a memory of the past....**

this research **concept** is that over time the urban fabric has changed from **"space placed within buildings** to **buildings placed within space"**



Source: newurbanism.org

Source: Streets and The Shaping of Towns

A Sense of **Place**, **Setting**, **People** and **Design**
Research: **space within building** to **buildings within space**

B. Urban Centre Development

"space within building to buildings within space "

B1. The Medieval Period: Urbanism and Monumentality

- Safe conditions for trade and manufacturing deteriorated, as did the unified roman culture and educational lifestyle.
- Feudal system.
- Architecturally, castles and fortifications dominated the medieval landscape
- The wall stood as both a military device and an organizational device for the urban population within the city.

Type One Medieval Town: San Gimignano, Italy
Source: google earth

Type One Medieval Town: San Gimignano, Italy
Source:

B. Urban Centre Development

"space within building to buildings within space"

B1. The Medieval Period: Urbanism and Monumentality (cont.)

- Functionally, the wall created a division between city and countryside; and socially, it differentiated between insider and outsider.
- The wall also determined the shape of the medieval city, and marked a sharp division between urban and rural.
- A medieval city is characterized by patterns of narrow pathways and a nearly solid mass of building form with very little void space between them.
- Historically three city planning types can be traced through the medieval time period.
  - The **first** was a linear configuration,
  - The **second**, known as a circular-plan city,
  - The **third** was square or rectangular with a grid-like street pattern in contrast to the irregularity of the previous two types.

Type Two Medieval Town: Sienna, Italy
Source: google earth

Type Three Medieval Town: Florence, Italy
Source: google earth

B. Urban Centre Development

"space within building to buildings within space"

B2. The Renaissance: Pure Geometry and the Urban Grid

•in contrast to the Middle Ages, the early renaissance can be quantified as an era of collaboration in which the artisians were involved in the development of their city, and where committee's were responsible for most city building projects
• During this time, artist's learned the new rules of perspective and studied human anatomy to create more accurate figure paintings.
• Architecturally, the renaissance movement and its renewed interest in the monuments and designs of antiquity began to address and improve the medieval city quality of life. European architects such as Alberti and Palladio advocated the importance of a well laid out street system. Alberti suggested two approaches for street design - street layouts for city design were to be straight and broad to symbolize the strength, majesty, and civic pride associated with the renaissance city;

The Campidoglio, Rome Italy
Source: google earth

Rome, Italy
Source: google earth

B. Urban Centre Development

"space within building to buildings within space"

B2. The Renaissance: Pure Geometry and the Urban Grid (cont.)

Cities began to see the addition of space between buildings, the most obvious being the monumental plaza. The renaissance fostered "both a new artistic and civic spirit". This "new" architectural vocabulary expressed an emphasis on rational clarity and the regularity of parts, all arranged in mathematical proportion. Often identified as a revival of Roman architecture, classically-styled columns and geometrically-perfect designs formed the basis of the architectural movement in the Renaissance

This new artistic spirit led to a new architecture that was required to be seen in the proper perspective requiring broad streets and grand plazas. Thus, renaissance urban renewal featured straight streets carved into the existing medieval urban fabric.

The Cathedral, Palace, and other civic buildings could now be viewed from a distance increasing their importance to the new social fabric.

The civic spirit of the time required places where the "drama of the city could be played out in full - places to gather, meet and talk". The social life of the city became concentrated in the plaza, in which beautifully detailed building facades enclosed. Similarly, new streets were cut into the existing urban fabric and lined with individually detailed facades.

Well into the 20th Century, most European cities could still be characterized as a solid mass of buildings punctuated with a few important open spaces and streets.

Paris, France
Source: google earth

A Sense of **Place**, **Setting**, **People** and **Design**
Research: **space within building** to **buildings within space**

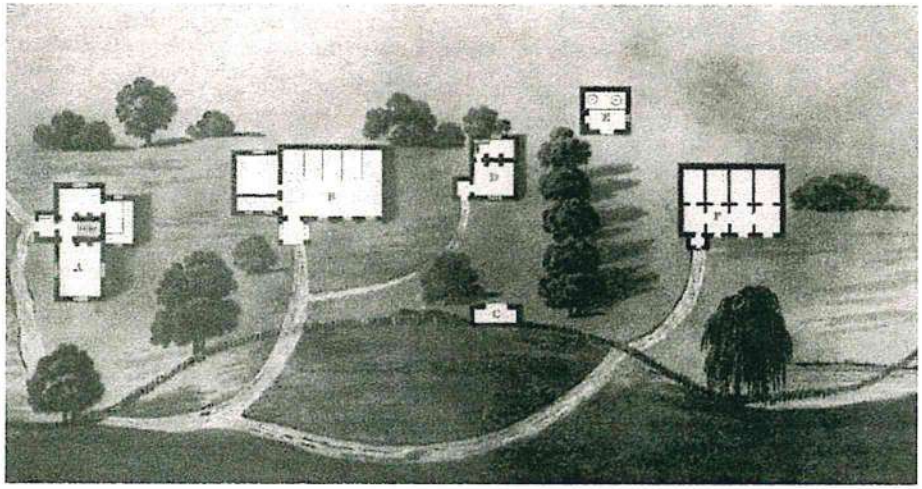
B. Urban Centre Development

"space within building to buildings within space"

B3. 18th and 19th Century: The development of the early residential suburb

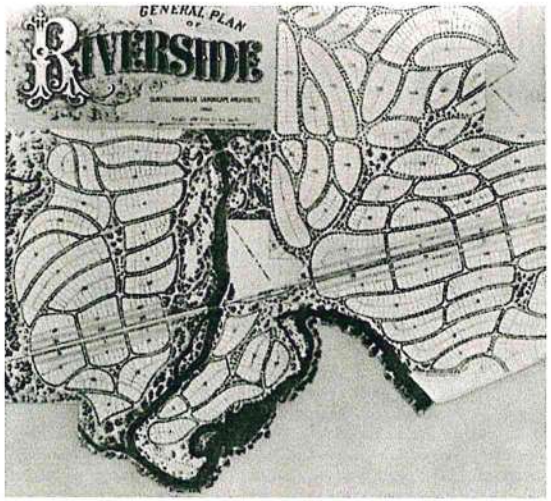
In **response overcrowding** and **industrialization** in the central city the **Picturesque movement town planning principles** developed the beginning tendencies of **placing buildings within space** and reducing the walkability of communities:

As the modern age continued to develop, the industrialization of cities in the late 18th and early 19th Centuries continued to create over crowding first experienced in the early renaissance, as well as polluted conditions due to the rise of coal burning industry.
The urban response to these social issues was the development of the early residential suburb and the **Picturesque town planning movement.**
The social elite of the time began to move to the rural-urban edge to escape the increasing harshness of the industrialized center. The mixed class neighbourhoods and poor physical conditions led the wealthy in search of class segregated, purely residential environments.



The Picturesque Movement

Source: Streets and The Shaping of Towns.



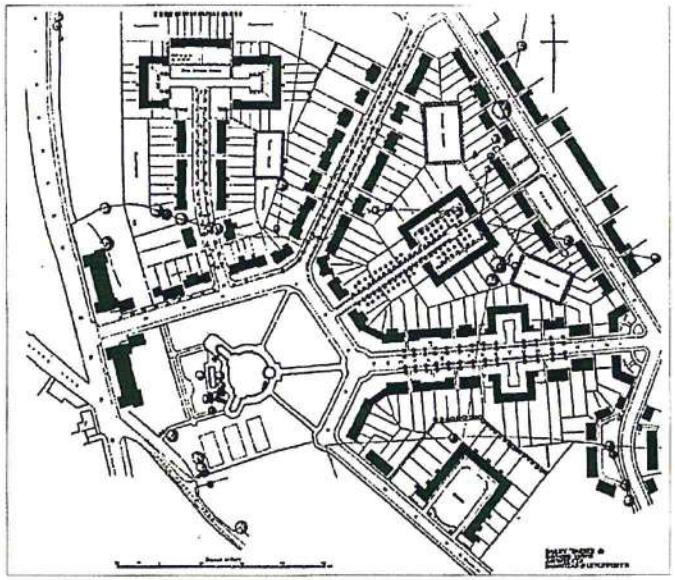
B. Urban Centre Development

"space within building to buildings within space"

B3. 18th and 19th Century: The development of the early residential suburb (cont.)

The concept of the idyllic suburb can be traced through the art, philosophy and literature of the 17th and 18th Centuries idealizing rural social values and picturesque landscapes.

By the end of the 18th Century, designers began to incorporate rural and picturesque ideology in their work, which came to be known as the **Picturesque Movement** in Britain



The Garden City Movement

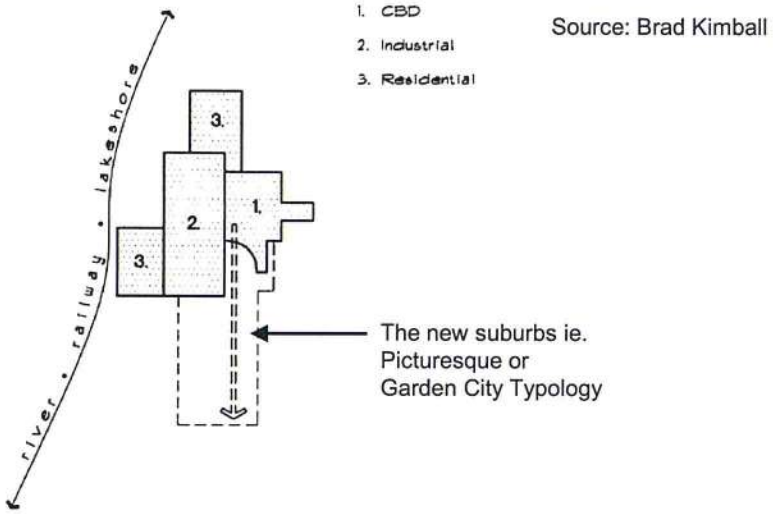
Source: Streets and The Shaping of Towns.

B. Urban Centre Development

"space within building to buildings within space"

B4. 20th Century: Technology, Industrialization and Urban Expansion

Pre 1945 Urban Development in North America

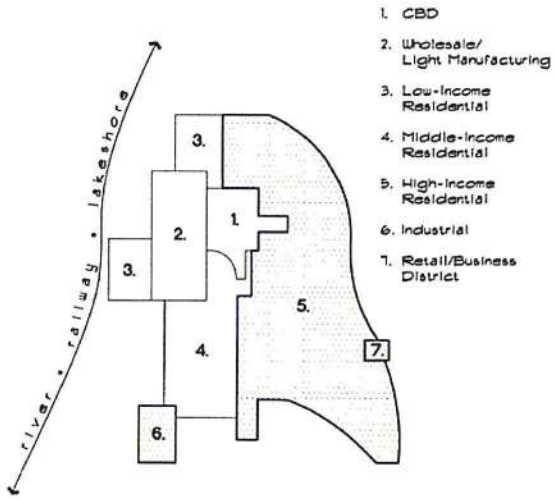


Source: Brad Kimball

19thCentury and early 20th Century city's developed with industrial land uses located linearly along railways, rivers, canals, ocean or lake shores. Commercial/ residential districts were located with close proximity;

With the advent of transportation systems such as the streetcar and suburban railway lines, high-income residential area's developed beyond the city centre along such transportation routes;

1945 TO 1975 Urban Development in North America



Source: Brad Kimball

In geographic terms, this new urbanization was characterized by rapidly growing suburban municipalities. This new growth occurred at a frantic rate, driven by the baby boom and a period of post-war sustained prosperity;

The relocation of the new middle-class to the suburbs triggered a filtering down of inner-city housing which in turn created a decline in the house-hold socio-economic status. This created a subsequent deterioration of aging housing stock.

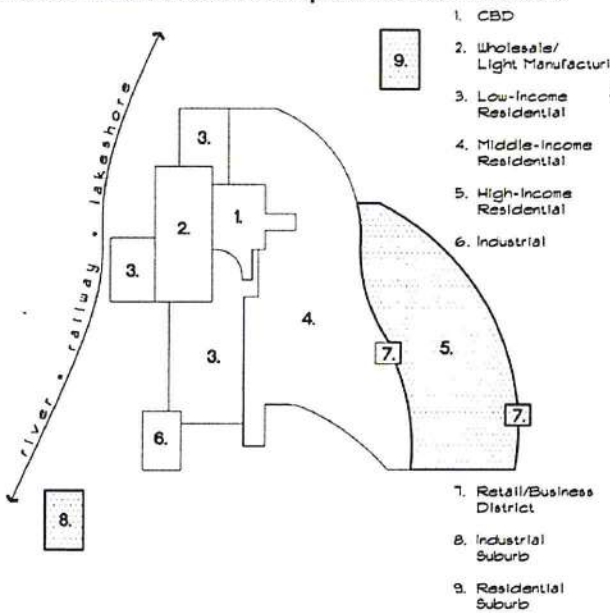
Governments helped suburban development by building schools, hospitals, and subsidized housing in the suburbs.

B. Urban Centre Development

"space within building to buildings within space"

B4. 20th Century: Technology, Industrialization and Urban Expansion (cont.)

1975 to Present Urban Development in North America

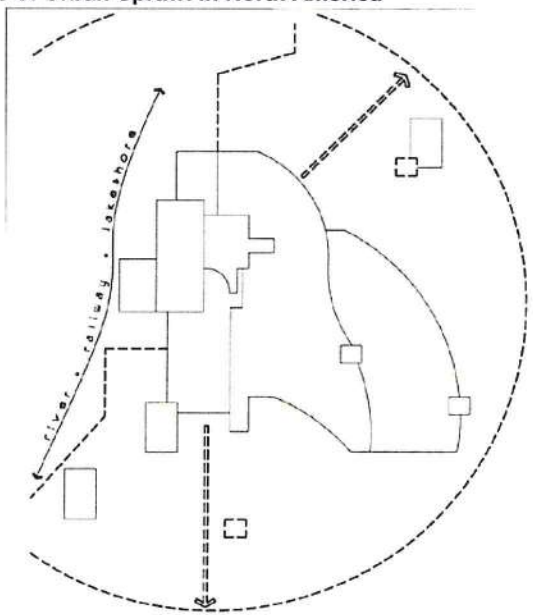


Source: Brad Kimball

The last 30 years has seen the suburbs surpass the central city in terms of population size, retail activity, manufacturing, as well as office and public institution employment; Homogeneous planning exists with segregation of uses;

Dispersed styles of suburbanization over this period has resulted in a increased rate of outward expansion that far exceeds demographic growth; In terms of retail, the appearance of factory outlets, "big-box" stores and "power malls" have redefined the shopping centre hierarchy

The effects of Urban Sprawl in North America



Source: Brad Kimball

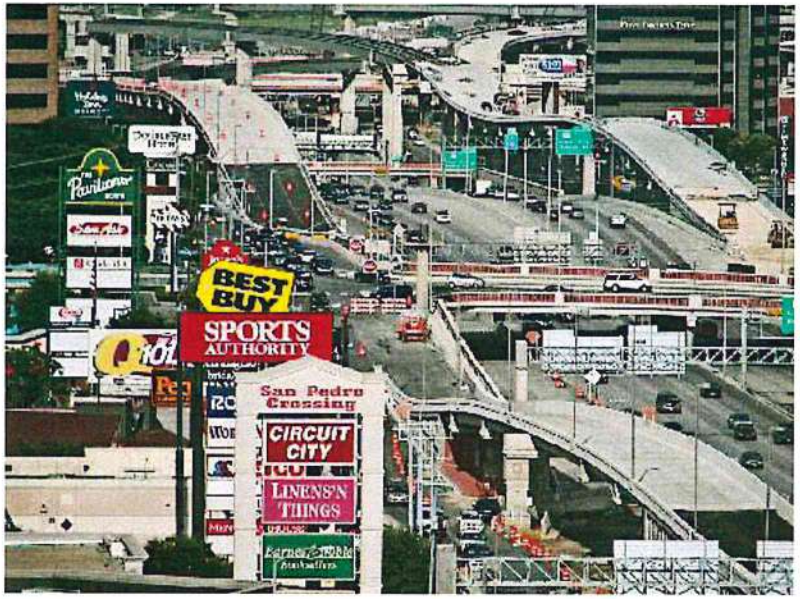
The economic cutbacks of the 1990's have made it increasingly difficult for the public-sector to provide the necessary infrastructure needed for a dispersed urban form; Automobile ownership and increased automobile usage has made urban has raised serious environmental concerns in terms of air quality, land use and habitat protection in many North American cities;
Suburban living typically separates residence from employment, commerce and cultural/recreational activities by grater distances. The increased commuting requires greater energy use, which in turn, contributes to traffic congestion, air pollution and ultimately non-sustainability.

B. Urban Centre Development

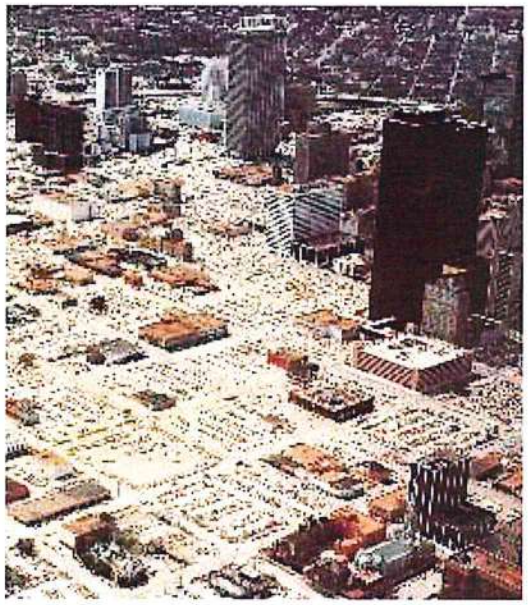
"space within building to buildings within space"

B5. The Effects of Urban Sprawl

- in the current urban setting, **30% to 60% of urban land use** is dedicated to **roads, highways, driveways**, and **parking lots**;
- The Sierra Club of Canada reports that the **City of Edmonton currently has 38 partially built community developments**. All of these community's are located in the city's periphery "even though the **total amount of undeveloped land** (within the city boundary) **could accommodate over 16 years worth of single-family development"**



Source: newurbanism.org



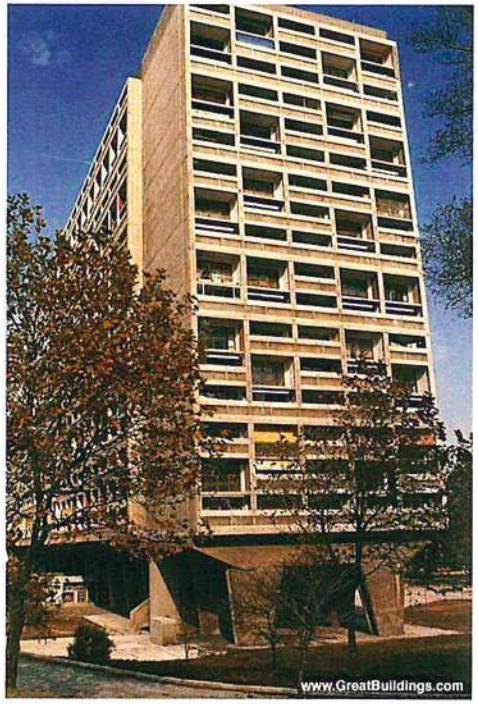
Source: newurbanism.org

B. Urban Centre Development

"space within building to buildings within space"

B5. The Effects of Urban Sprawl (cont.)

Technology and Modernism developed architectural objects which stood alone within the environment – centerpieces without preferential facades or concern for context.n/



Source: greatbuildings.com

Source: www.bluffton.edu/.../savoye/bannerindex.jpg

Source: greatbuildings.com

A Sense of **Place**, **Setting**, **People** and **Design**
Research: **space within building** to **buildings within space**

C. An Urban Theory Shift: A Return to the Past

"a **return** to a **sense of place**"

C1. Post Modern Urban theory

- New urbanism was a reaction to issues of sprawl and is a humane response to the ***placelessness*** created by both modernism and the development patterns which occurred during the previous time period. In North America, modernism created a city to compliment the automobile. Post Modern Urban theory developed "old towne planning" principles as a way of recreating the urban sense of place that had been lost

    - The townscape movement
    - Advocacy planning and community participation
    - Regionalism and vennacular design
    - Post-modernism contextualism
    - Historic preservation
    - Edge city
    - Neo-traditionalism

Source: photosflorida.com

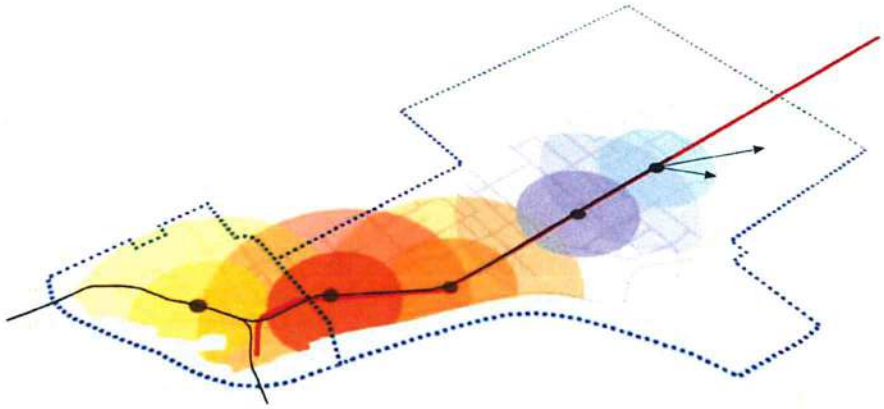
Source: www.eslarp.uiuc.edu/.../groups/c/Sea4.jpg

C. An Urban Theory Shift: A Return to the Past

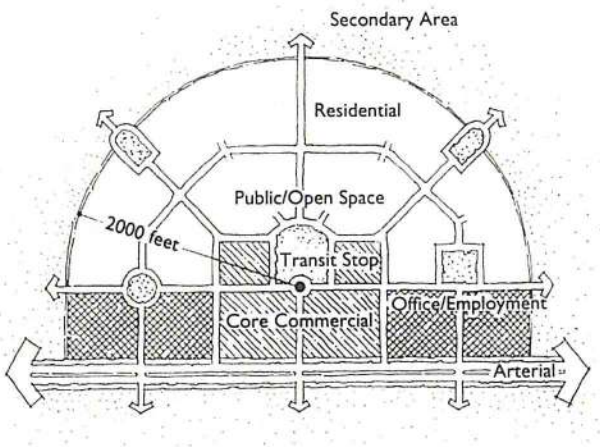
"a **return** to a **sense of place**"

C1. Post Modern Urban theory (Cont.)

New Urbanist design draws its inspiration from "townscapes from the past in an effort to engage their surroundings rather than retreat from them". Central to this urban vision is the desire to re-establish a 'sense of place' in today's residential neighbourhoods. One unit was planned to be home to 5,000 people, and conceived to provide its residents with a sense of community. The key goal of today's new Urbanist planning is the development of medium density, mixed-use communities integrated with residential, commercial, employment, recreation and socio-economic groups. New Urbanist advocates believe that a well-balanced combination of employment, shopping and living opportunities creates a strong sense of community and enhanced quality of life



Source: IBI Group



Source: Peter Calthorpe – The New American Metropolis

C. An Urban Theory Shift: A Return to the Past

"a **return** to a **sense of place**"

C1. Post Modern Urban theory

Lesson learned:

as pleasant as most new urbanism communities are, these developments are still typically located along the urban edge, continuing to contribute to unsustainable sprawl conditions.

Source: goorlandocard.com/.../12/orl_celebrationfl.jpg

Source: architecture.nd.edu/.../celebration.jpg

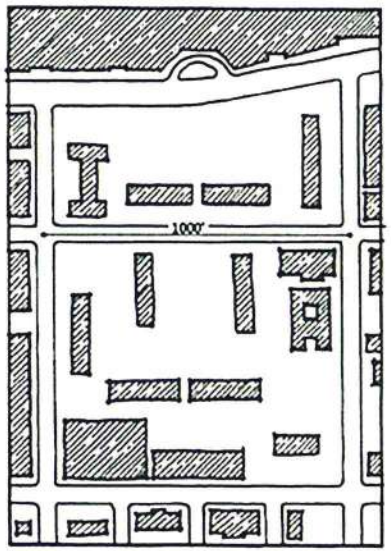
C. An Urban Theory Shift: A Return to the Past

"a **return** to a **sense of place**"

C2. Reclaiming the centre

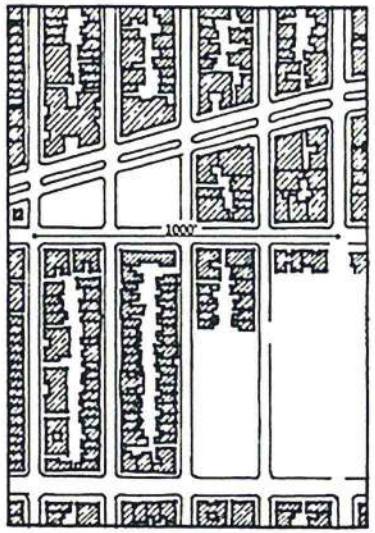
An **Urban Theory Shift**

- Mixed-use, hi-density, course grained urban development.
- Neighbourhood densities



•Auto scale
•Single use

Source: IBI Group



•Pedestrian Friendly
•Multi-use

Source: IBI Group

D. Urban Success?: An Integrated Community Planning Approach

"**planning principals** for a renewed **urban**"

D1. A Multi-scale Planning Approach

D1.1 What is good urban form?

Good urban form should be a **place that provides encounter, assembly, and simultaneity**. Henri Lefebvre wrote in his book the Urban Revolution "**the urban situation is where different things occur one after another and do not exist separately** but according to their differences." Lefebvre reinforces lynch's theory of grain with his own theory of differential space, in which he suggests that **a successful urban environment is one of "contrasts, oppositions, superimpositions and juxtapositions**" and goes on to state that "segregation complicates and destroys complexity"

Source: newurbanism.orgn/

Source:livablestreets.com/streetswiki/melbourne/melbourne.jpg

D. Urban Success?: An Integrated Community Planning Approach

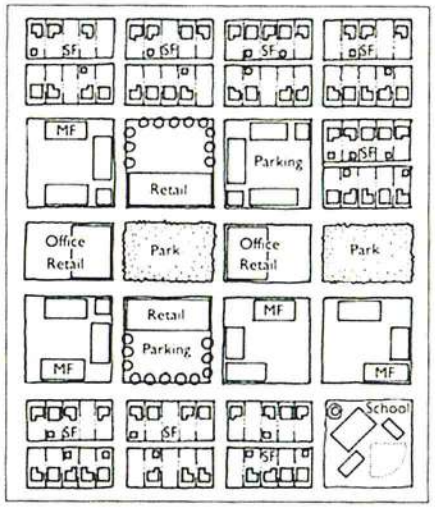
"**planning principals** for a renewed **urban**"

D2. Elements of a successful Multi-scale Planning Approach

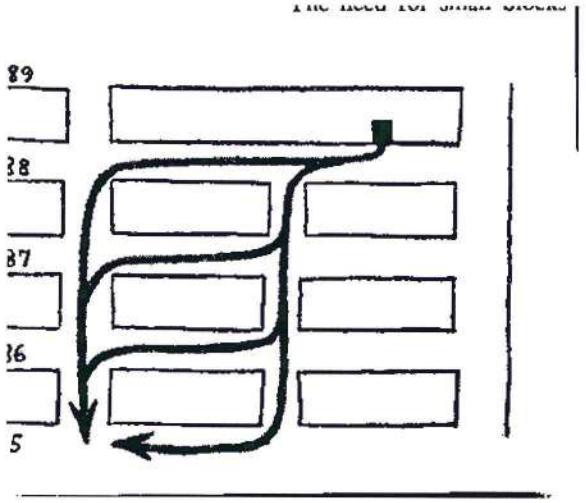
In **The Death and Life of Great American Cities**, Jane Jacobs describes **four "must have" conditions** within the urban environment **to create vibrant, diverse urban areas:**

The **first** *must have* is the need for neighbourhoods, or city districts to serve more than one primary function, and preferably more than two. Diverse functions create the presence of people at all times of the day and night who are in the urban zone for different reasons, but who would use many common neighbourhood facilities.

The **second** *must have* is the need for city blocks to be short. Short blocks create positive pedestrian environments creating walkable, easily accessible neighbourhoods.



Source: Peter Calthorpe = The Next American Metropolis



Source: The Death and Life off Great American Cities.

D. Urban Success?: An Integrated Community Planning Approach

"**planning principals** for a renewed **urban**"

The **third** *must have* is an urban zone that combines buildings in age, use and condition. Different uses relates to the notion of multiple primary functions discussed above. The concept of buildings that vary in both age and condition provides an urban zone with a varied population demographic. This is an important concept to consider, in that creating a single class neighbourhood, rich or poor, creates urban isolation without potential for mixed-use or mixed class neighbourhood structures which is contradictory to this discussion. Jacobs insists that the urban fabric related to mix of building type be close-grained or high in density.

Source: www.tenpastmidnight.com/photos/toronto_2003/t...

D. Urban Success?: An Integrated Community Planning Approach

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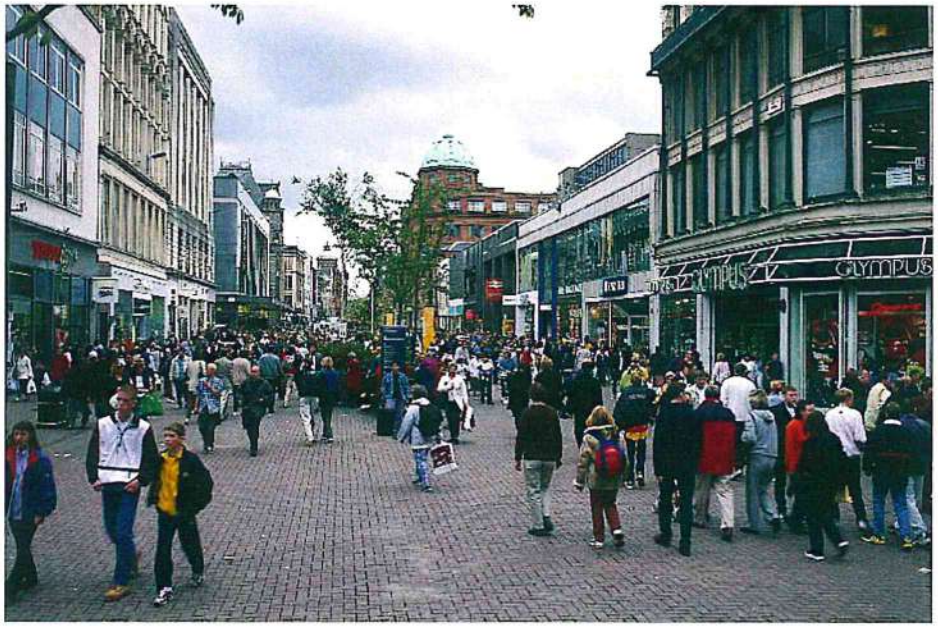
The **fourth** *must have* is the need for dense concentrations of people. People and street life is what makes for a successful urban environment. Today's planners and designers must provide an urban infrastructure to create places for people. Gone should be the days that the office worker leaves the office for the suburbs turning the downtown into a ghost town by 6:00 p.m. Although many North American cities are slowly reversing this trend, there is much that could be done.

Jacobs indicates that all four of the **above parameters must occur together for a successful, diverse, liveable city to flourish**. As Jacobs writes "the absence of any one of the four frustrates a district's potential".



Source: www.city-data.com/forum/phoenix-area/232832-what-phoenix-lacks-2.html

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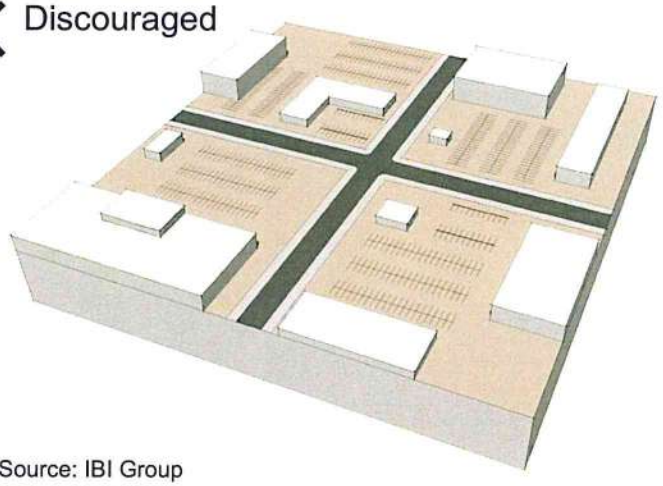
D3. A Multi-scale Planning Approach – Defining an Integrated Approach for a new Urban

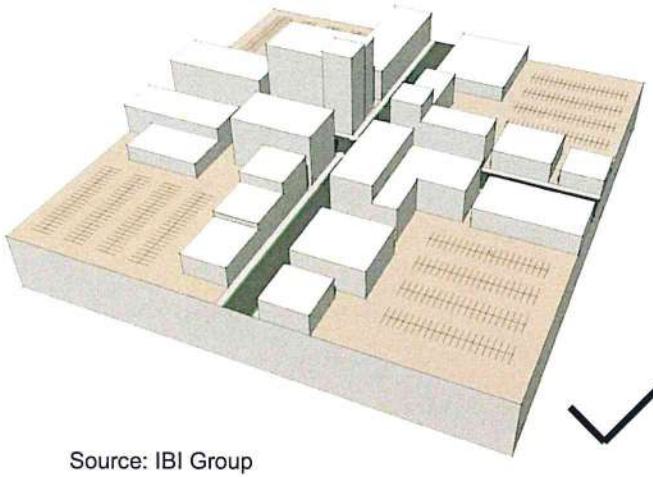
Integrated Community Planning is a **Multi-Scale Planning Approach** which draws on the **ideology of Urban theorists** such as **Jacobs, Lefebvre** and **Lynch** which creates a methodology that aims to **create vibrant, diverse urban environments**. The key elements in today's urban developments concentrate on:

1. Urban growth Boundaries
2. Infill neighbourhoods and their surrounding context
3. Walkable street and path networks
4. Pedestrian friendly built form
5. Crime prevention
6. Mixed use buildings
7. Mixed-Use Neighbourhoods
8. LEED

✗ Discouraged



Source: IBI Group



✓ Encouraged

Source: IBI Group

A Sense of **Place**, **Setting**, **People** and **Design**
Research: **space within building** to **buildings within space**

D. Urban Success?: An Integrated Community Planning Approach

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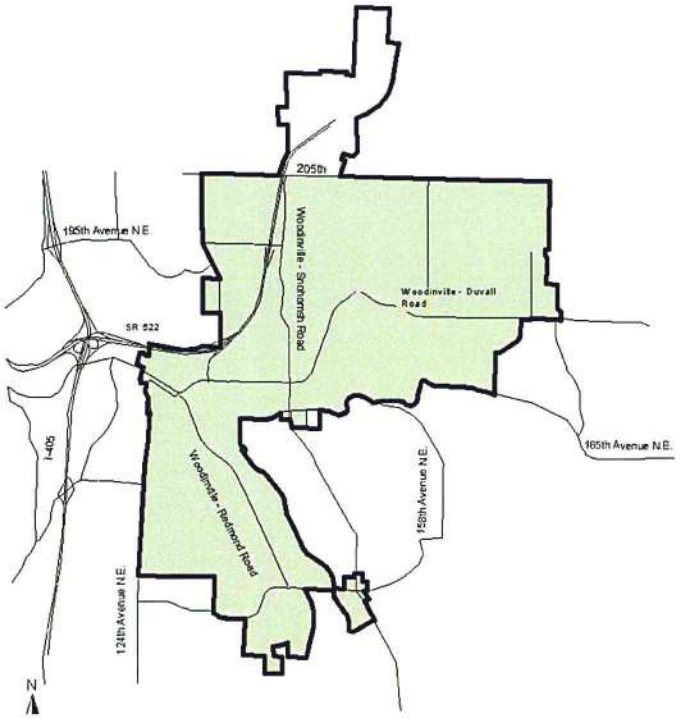
D3.1 Urban Growth Boundaries



By defining a no-development boundary line around the perimeter of today's cities can provide the stimulus to encourage compact regional land development:

Designate of an UGB that is sufficiently large enough to accommodate new development over a long planning period
Designate all land outside the UGB as developable "preserves". This should include all viable agricultural land, open space, parks, and natural habitats;
A UGB creates an emphasis on infill development and intensification within existing infrastructure over new development at the urban fringe.

Urban Growth Boundary
Major Roads
City of Woodinville

Figure A3-4
Urban Growth Boundary for the City of Woodinville

Source: City of Woodinville, 2002
5/28/02 - EFC

A Sense of **Place**, **Setting**, **People** and **Design**
Research: **space within building** to **buildings within space**

D. Urban Success?: An Integrated Community Planning Approach

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D3.2 Infill Neighbourhoods and their surrounding context

Urban redevelopment should reflect and or compliment existing surrounding building forms and neighbourhood contexts.
Any new urban intervention proposed such an infill environment should respect local built form, historical, cultural, and natural elements.
As part of the initial study of any urban redevelopment, a neighbourhood context plan should be completed to fully understand the contextual impact of the infill site.
A context plan should include the following:

- identification of existing "paths and networks" - street and pedestrian systems and character;
- relevant topographical features - water courses, existing stand of trees, etc
- identification of existing building stock - scale, building type and style, ability to reuse or retain;
- identification of themes, nodes of activity, cultural and physical landmarks and districts of built form, cultural expression.

Source: IBI Group

Source: IBI Group

D. Urban Success?: An Integrated Community Planning Approach

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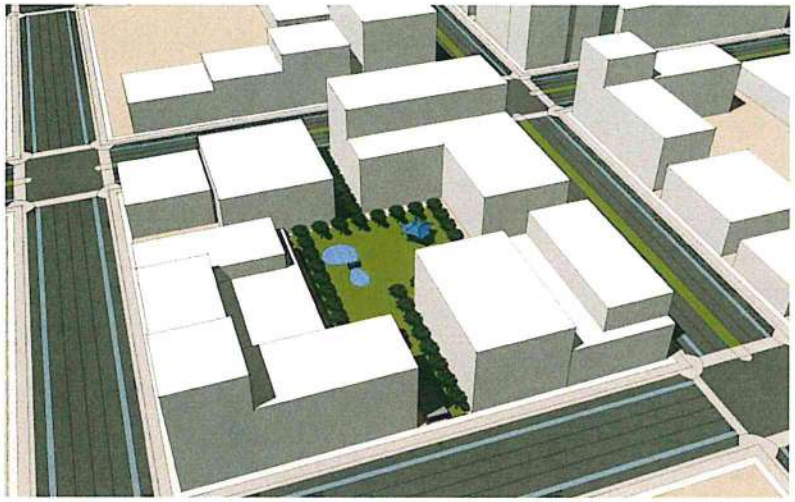
D3.3 Walkable Street and Path Networks

The street and neighbourhood block layout within the urban intervention should allow for direct and safe pedestrian movement. The resultant design approach should involve a grid-based system with interconnected streets and sidewalks along short, narrow blocks. This will provide a walkable environment providing more direct and convenient for pedestrians. The design requirements for pedestrian friendly environments should include:

- City blocks should measure no more than 200 m long on one side. This will allow for street and block patterns to remain walkable and porous. Intersections should occur between 80 and 180 m;

- Provide mid block pedestrian paths through blocks or buildings that cover the majority of the block when blocks lengths are more than 200 m. These paths should be paved, possess clear, direct sightlines and be well-lit for public safety

- Street and path networks should be within 400 to 800 m from transit stops and should be continuous and grid based.



Source: IBI Group

Source: IBI Group

D. Urban Success?: An Integrated Community Planning Approach

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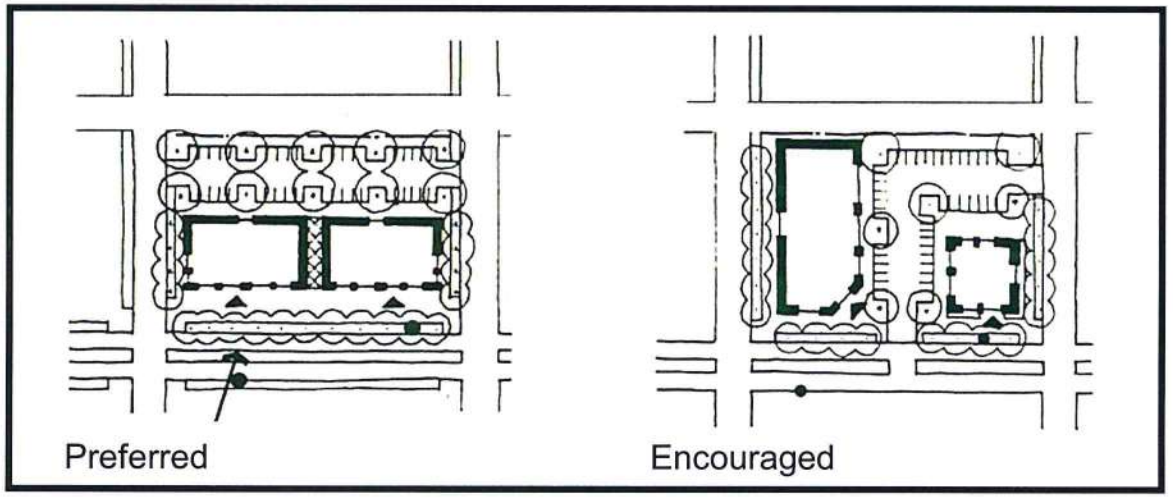
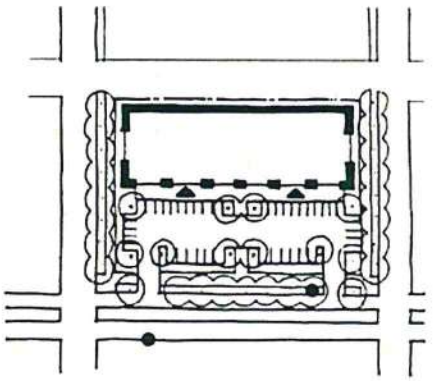
D3.4 Pedestrian friendly built form

Streets are most desirable and comfortable when they provide pedestrians a feeling of enclosure. A successful walkable street is defined by its edge condition which can be created by buildings, objects and/or trees, all of which can give the illusion of an outdoor room.. Design elements that help to create a successful pedestrian friendly built form include:

- a controlled streetwall height to street width ratio of 3 to 1 is considered ideal to create a positive pedestrian space;
- ensure that all buildings that front streets provide a varied and interesting streetscape. A rule-of-thumb for storefront design is typically a 10 m width with at least 40% transparency. Storefront variety can be achieved by planning narrow lot boundaries, multiple frontages per block, or partitioning long blank walls with windows/doors/architectural detailing;
- define FAR's, site coverages, setbacks and frontages, all conducive to pedestrian friendly built form in zoning bylaws and ARP's.
- Street facing buildings with minimal setbacks
- at grade parking should be at the rear of a building or internally located within a city block pattern;
- Cafes, plazas and other seating at corners
- primary public entrance doors should face directly onto sidewalk
- Where possible, provide weather protection in the form of street front canopies or awnings. Avoid street front arcades.





D. Urban Success?: An Integrated Community Planning Approach

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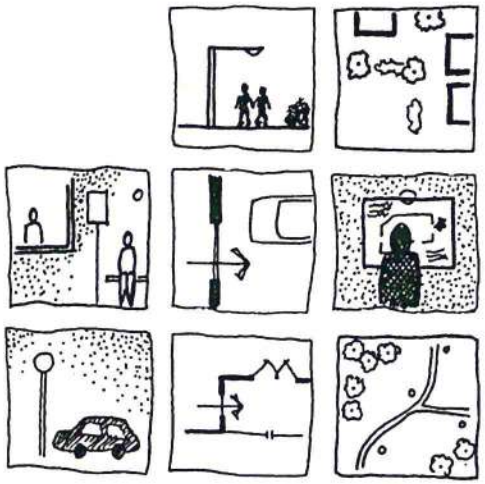
D3.5 Crime Prevention

Safety and a sense of personnel security are essential components of a successful ICP planning approach for new development. CPTED tactics should be incorporated into new site and facility design:
•maximize opportunities for natural surveillance;
•provide unobstructed and transparent sightlines to exits and destinations;
•foster territoriality and a sense of ownership;
•provide natural and artificial lighting to all areas frequented by pedestrians;
•require the use of CPTED tactics in all public paces and areas frequented by pedestrians and in neighbourhood structure plans.

Source: Moffat (1983, p. 23)

Source: www.emeraldinsight.com/fig/1130190203002.png



Source: www.cityofvancouver.us/upload/images/Planning...

A Sense of **Place**, **Setting**, **People** and **Design**
Research: **space within building** to **buildings within space**

D. Urban Success?: An Integrated Community Planning Approach

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D3.6 Mixed use buildings

Mixed use/ higher density building design:

- A combination of single family, multifamily, mid rise/ hi rise mixed use
- Ground floor retail;
- Commercial, office, or residential above;
- Parking below, above or behind, but not in front on surface lots
- Building Entrances

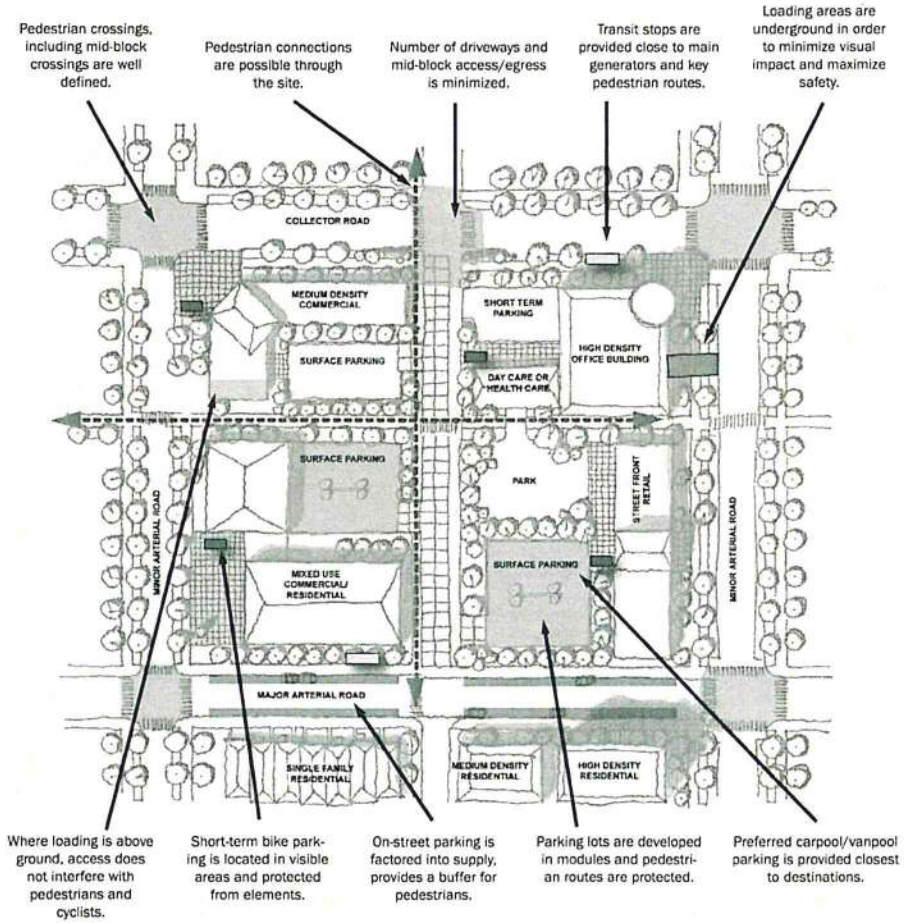
Architectural Variety

Source: Peter Calthorpe – The Next American Metropolis

D. Urban Success?: An Integrated Community Planning Approach

"**planning principals** for a renewed **urban**"

D3.7 Mixed-use Neighbourhoods



Neighbourhoods containing multiple Mixed Use Buildings are the basis of the ICP theory due to the fact that such neighbourhoods have higher concentrations of people day and night, seven days a week.

Design elements to create successful mixed use urban environment include:

- Building Placement
- Building Location
- Parking

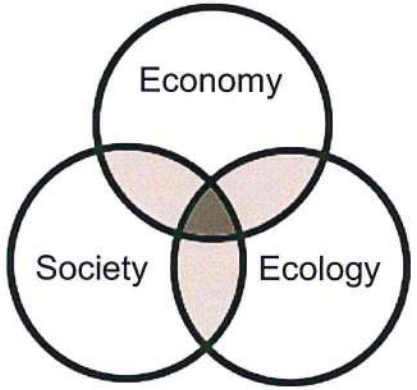
D. Urban Success?: An Integrated Community Planning Approach

"**planning principals** for a renewed **urban**"

D3.8 LEED

The Leadership in Energy and Environmental Design (LEED) rating system is the accepted benchmark for high performance green building systems in the US and Canada. The USGBC has recently developed a pilot project for LEED Neighbourhood Development. This LEED neighbourhood development rating system integrates the principles of smart growth, urbanism, and green building into a *design standard* for neighbourhood design. Although still a pilot program at this time, the expectation is to have this program in place by 2009.

Source: cagbc.org



Source: IBI Group

D. Urban Success?: An Integrated Community Planning Approach

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D4. A Multi-scale Planning Approach - Transitioning ICP into an urban design standard

D4.1 Case Study

Arbutus Village
Location: Vancouver, BC

ICP Features

Adjacent to BRT line
High density infill project that 'fits' into an existing neighbourhood
Housing located over shops, placing residents within easy reach of a wide range of services
Compact, walkable design makes efficient use of existing infrastructure and offers direct pedestrian access to transit, shopping and recreation

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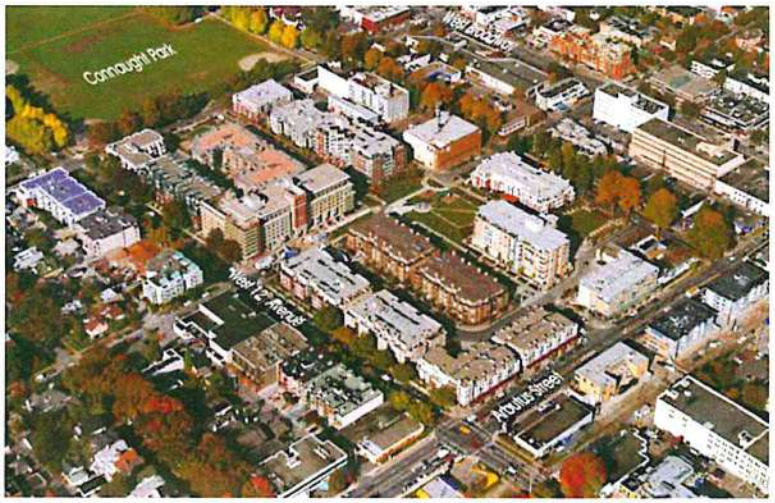


Source: IBI Group

A Sense of **Place**, **Setting**, **People** and **Design**
Research: **space within building** to **buildings within space**

D. Urban Success?: An Integrated Community Planning Approach

"**planning principals** for a renewed **urban**"

D4.1 Case Study

Developer: Concert Properties, Access Housing

- 'Infill' redevelopment of former brewery lands, involving high density residential housing, in a mid-rise built form that respects the character of the adjacent neighborhood.
- Compact design allows densities of 100 units per acre, within close walking distance of the Broadway BRT line (99 B-Line).
- 'High Street' on Arbutus Street composed of mixed-use buildings, involving ground floor retail with residential and office uses above.
- Street and block pattern is highly walkable, providing easy access to the BRT Line, the High Street and adjacent parks.
- Housing mix includes 53 non-market residences, complete with Vancouver's first purpose-built daycare within a high density project.

Source: IBI Group

E. Research Synopsis

E1. Research Lessons Learned:

The **sprawling condition of today's cities** not only **creates a lack of sense of place**, but also creates **unsustainability from both a financial and energy efficiency** standpoint.

Learning form the past, *Good City Form* requires a careful blend of **fine-grain mixed use land designations**: a **combination of new and old architecture**; **pedestrian friendly** environments; and a **careful balance of green space and/or amenity space** to create a vibrant urban environment. The key elements for the success of the urban environment are:

1. Creating Urban growth Boundaries
2. The Infill neighbourhoods and their surrounding context
3. The development of Walkable street and path networks
4. Pedestrian friendly built form
5. Crime prevention
6. The creation of Mixed use buildings, and
7. The design of Mixed-Use Neighbourhoods
8. LEED (energy efficiency)

"***Architecture must be positioned responsibly between landscape and urbanism"***

Source: terrain.org

Source: terrain.org

E. Research Synopsis

The City of Edmonton: Jasper East

Source: google earth

E2. Statement of Fact – Intent to Study

Create a catalyst building as the impetus for development of the Quarters.

The challenge for the next stage of this thesis is to study, challenge, and/or apply the ICP methodology to a **large scale urban infill solution**.

The setting chosen for this thesis is the Jasper East area (*currently known as the Quarters*). Located immediately east of Downtown Edmonton between 97th Street to 95th Street and Jasper Avenue to103A Avenue.

This project will define the planning parameters for the Quarters Initiative and develop the design for catalyst building for the development.

A Sense of **Place**, **Setting**, **People** and **Design**
Research: **space within building** to **buildings within space**

F. Proposed Site

F1. Parameters by which to study - creating an urban design standard

F1.1 Existing condition – Figure Ground

Drawing Legend:

Open lot:

Historic Buildings:

Buildings of Note:

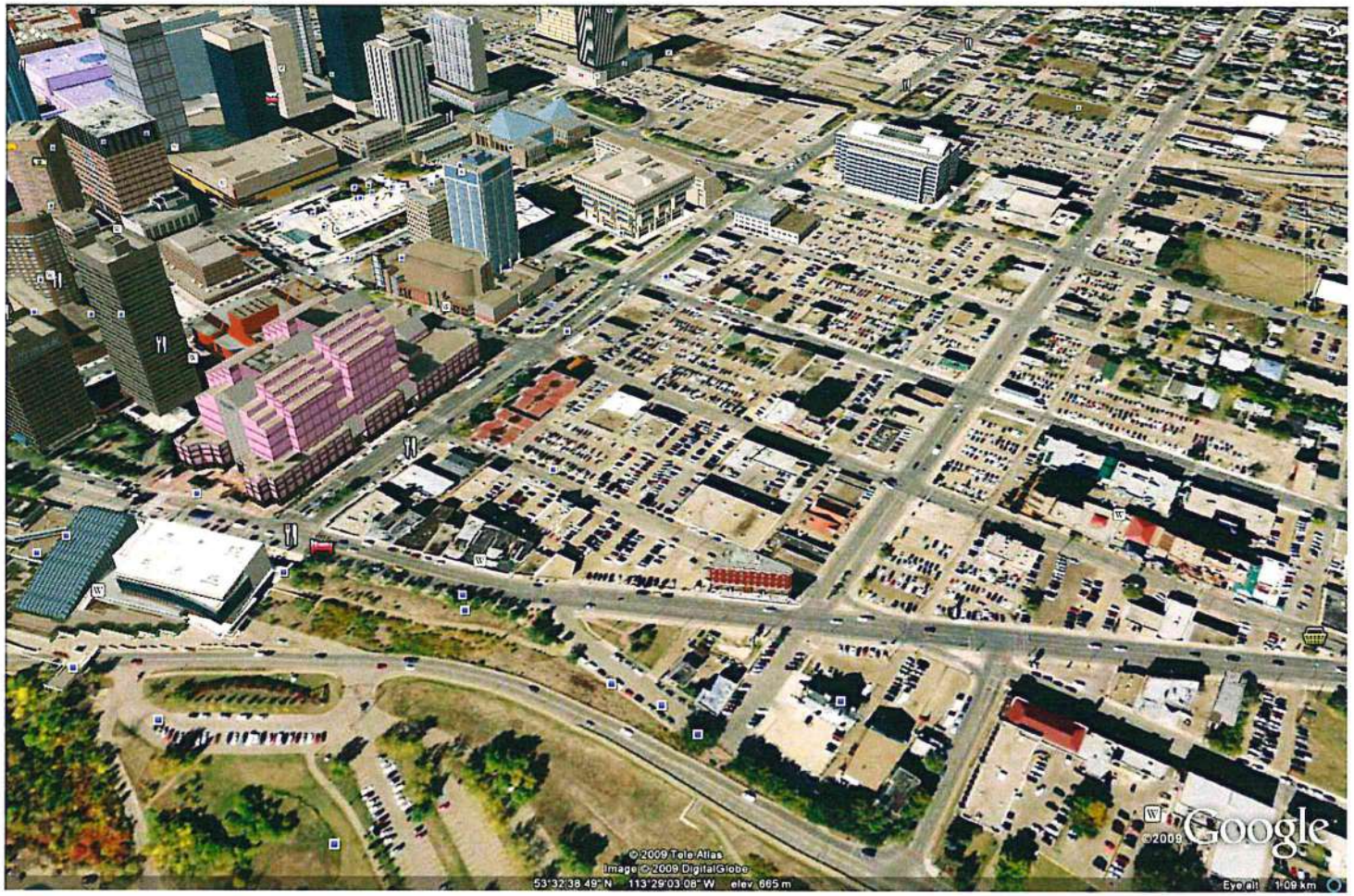
Traffic Direction:

A Sense of **Place**, **Setting**, **People** and **Design**
Research: **space within building** to **buildings within space**

F. Proposed Site

F1. Parameters by which to study - creating an urban design standard

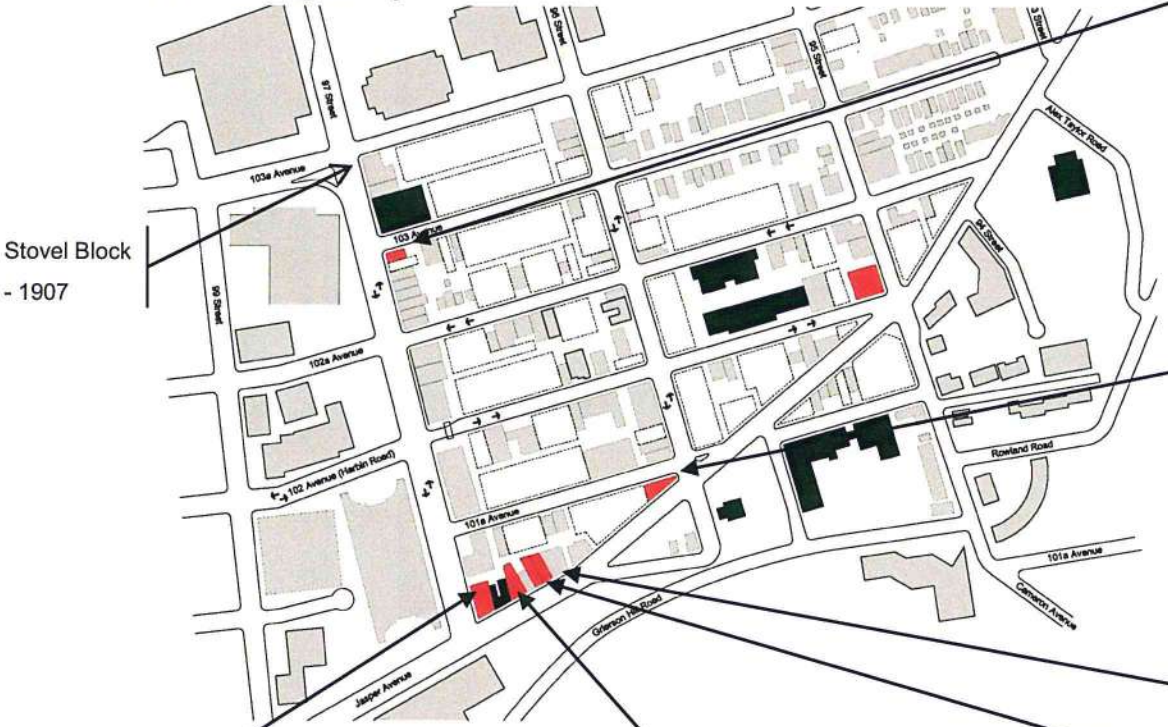
F1.1 Existing condition – ariel view (Google Earth)

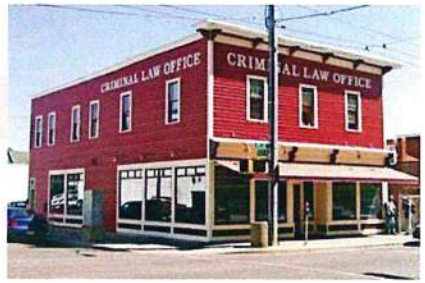


A Sense of **Place**, **Setting**, **People** and **Design**
Research: **space within building** to **buildings within space**

F. Proposed Site

F1.2 Historic Building Overlay





Kingston Powell Block - 1907

Gibson Block - 1913

Goodridge Block – 1911/1912

Gem Theatre – 1913-1914

Ernest Brown Block - 1912

Pendennis Hotel – 1904/12

A Sense of **Place**, **Setting**, **People** and **Design**
Research: **space within building** to **buildings within space**

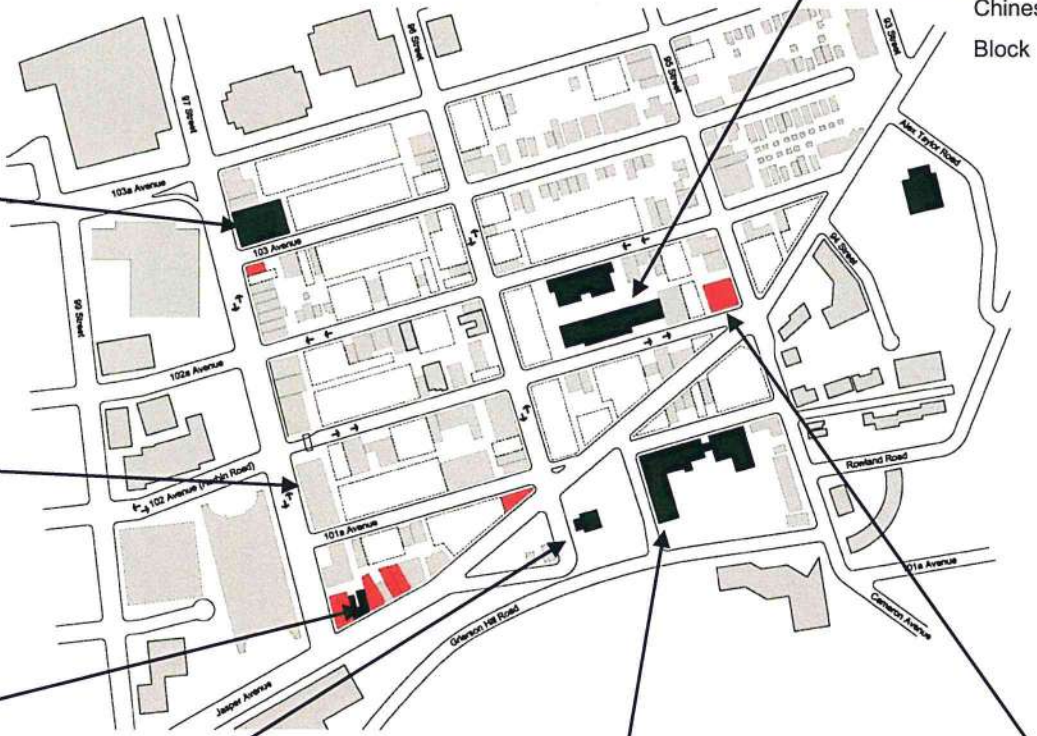
F. Proposed Site

F1.3 Buildings of Interest

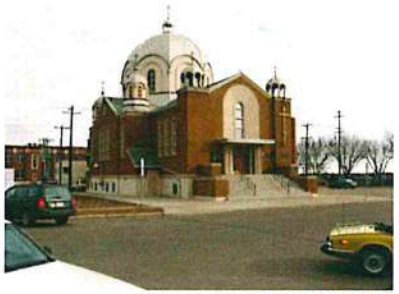
Chinese Cultural Block

Army & Navy Block - 1911

New Residential



Jasper House / Hub Hotel – 1882/12



St. Barbara's Russian Orthodox Church

Royal Northwest Mounted Police Barricks – 1912/13

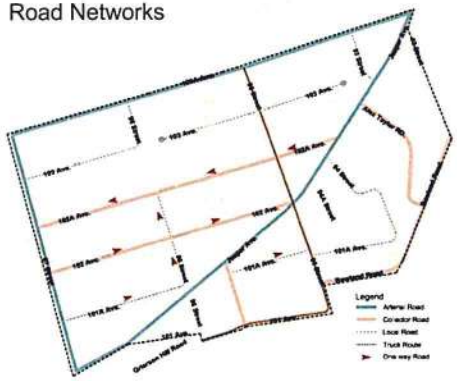
Edmonton Auto Spring Works - 1923

F. Proposed Site

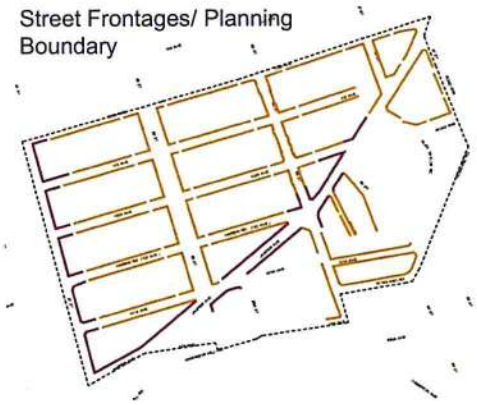
F1.4 The Quarters Overlay

Green Space

Road Networks

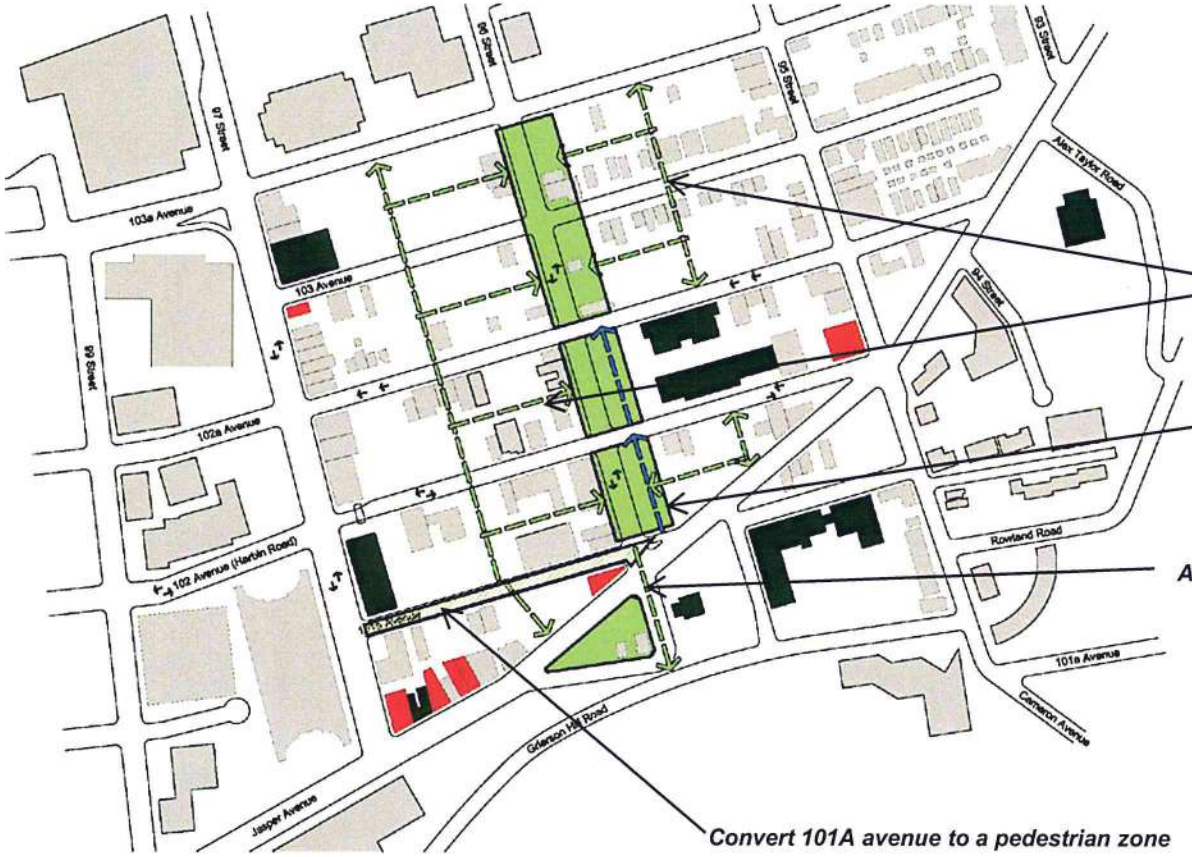


Street Frontages/ Planning Boundary



F. Proposed Site

F1.4 Conceptual Overlay – The Quarters



The proposed design changes to the quarters overlay provides the urban framework to study the ICP methodologies of urban infill.

Add mid block pedestrian corridors

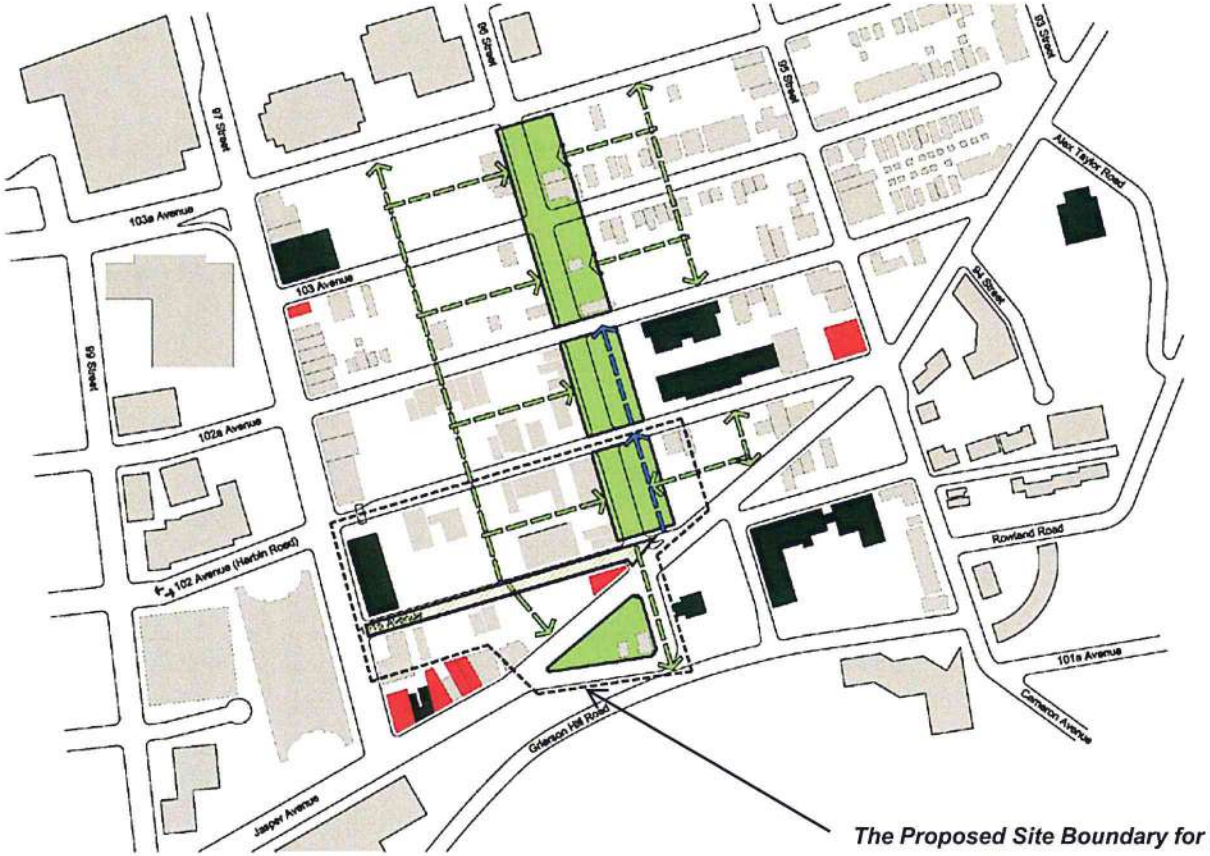
Add one way vehicle access north south

Address connectivity to the river valley

Convert 101A avenue to a pedestrian zone

F. Proposed Site

F1.5 Conceptual Overlay – Proposed Site



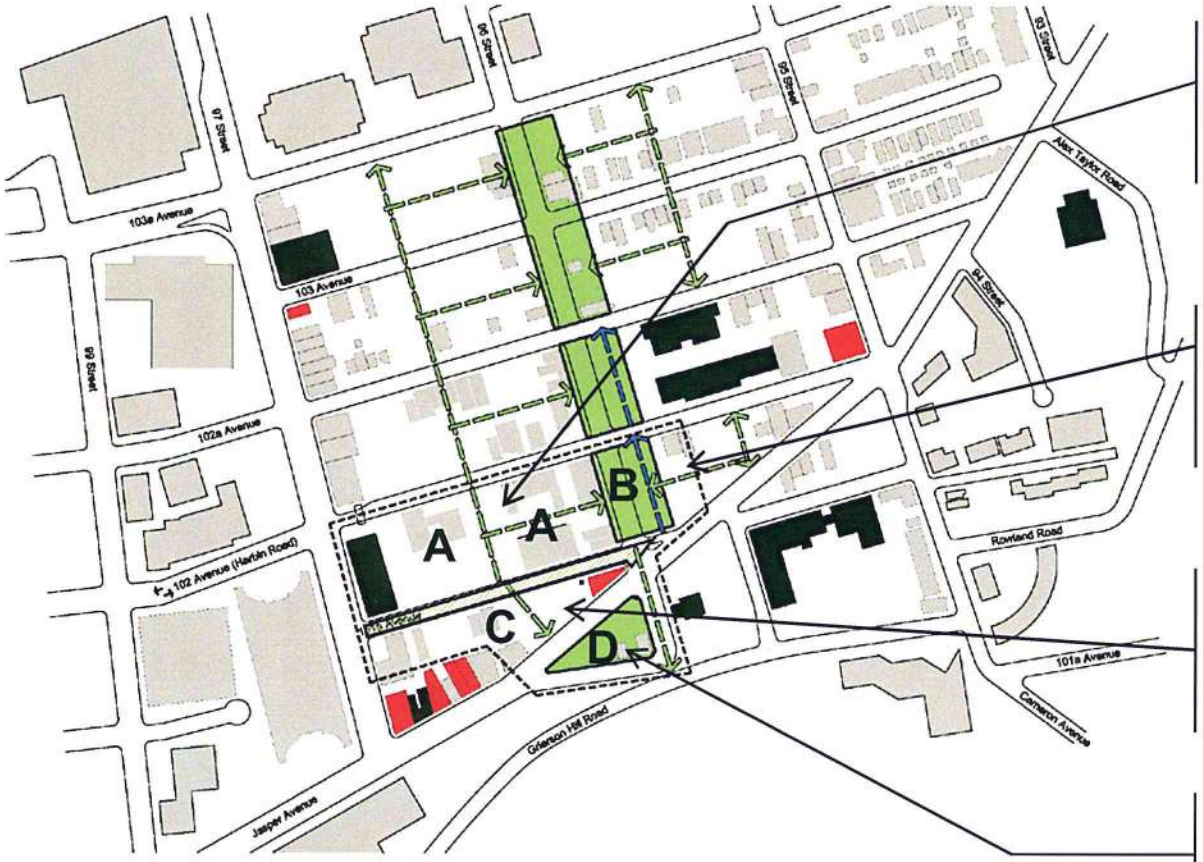
The Proposed Site Boundary for the Catalyst Project

The proposed design for this site will inform design direction for the entire Quarters development by studying the following:

1. Building placement relative to the Armature and mid block pedestrian zones;
2. Historical building context
3. Parking
4. Connectivity to "amenity" zones
5. Connectivity to river valley
6. Pedestrian friendly edge
7. Density
8. Building type zoning

F. Proposed Site

F1.6 Conceptual Overlay – Catalyst Infill Project Planning Parameters



Development Requirements: Area A

1. Up to 15 storeys in height
2. FAR: min 3.0, max 6.0
3. 33% of total building area dedicated to residential

Development Requirements: Area B

1. Up to 6 storeys in height bordering green space
2. FAR: min 3.0, max 4.5
3. 33% of total building area dedicated to residential

Development Requirements: Area C

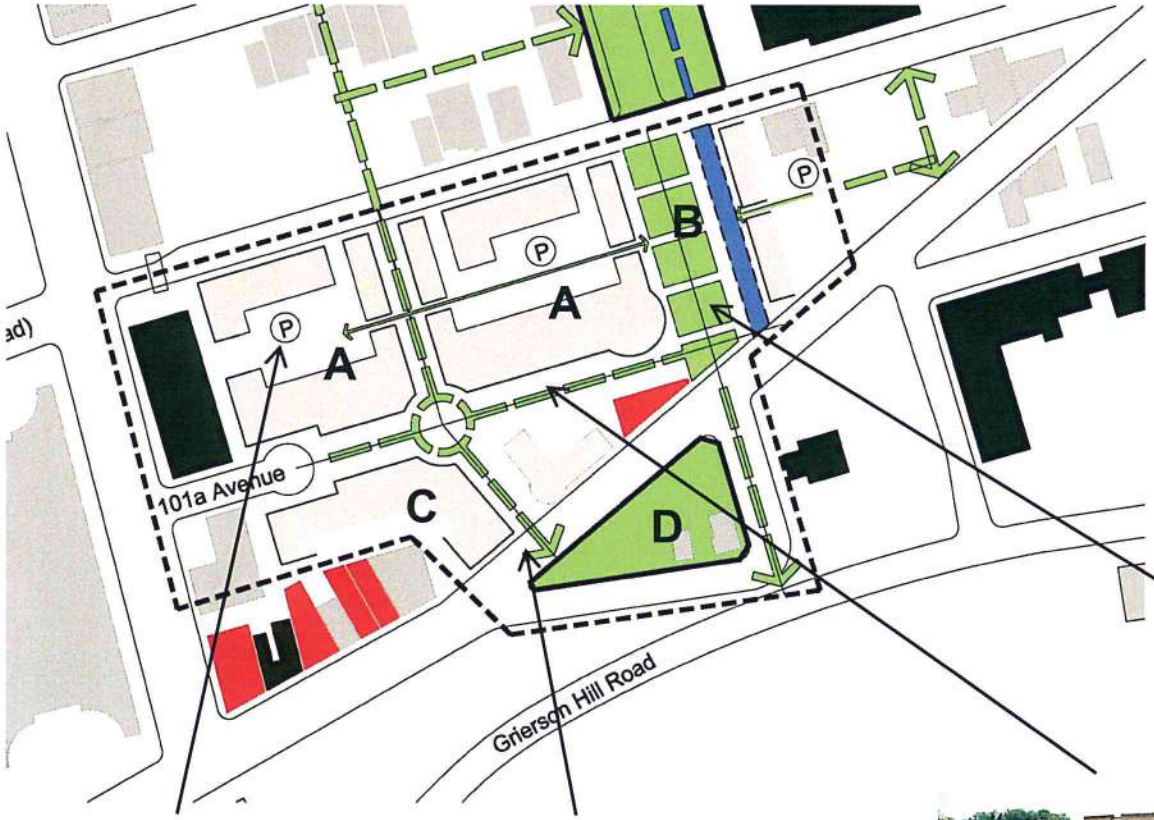
1. Up to 6 storeys in height
2. FAR: min 3.0, max 4.5
3. 33% of total building area dedicated to residential

Development Requirements: Area D

1. Reconnect to the River Valley

F. Proposed Site

F1.7 Catalyst Infill Project – Preliminary Functional Program



Program:

Area A

1. Up to 15 storeys in height
2. FAR: min 3.0, max 6.0
   (***390,000 sf to 780,000 sf)***
3. 33% residential

Area B

1. Up to 6 storeys in height bordering green space
2. FAR: min 3.0, max 4.5
   (106,000 sf to 159,000 sf)
3. 33% residential

Area C

1. Up to 6 storeys in height
2. FAR: min 3.0, max 4.5
   (102,000 sf to 154,000 sf)
3. 33% residential

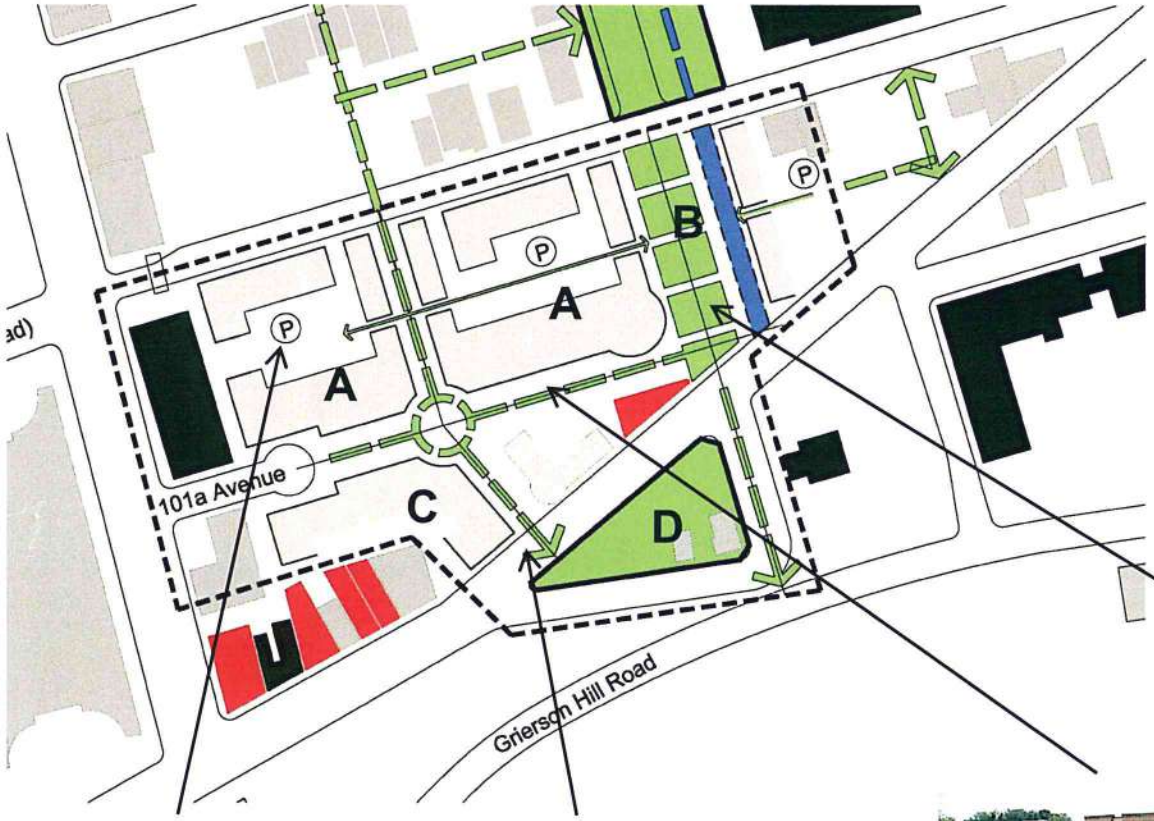
F. Proposed Site

F1.7 Conceptual Overlay – Preliminary Functional Program

Function	Unit	Area (SF)	Total (SF)	Notes
Residential				
One bedroom units	40 ***(80)***	870	34,800 ***(69,600)***	
Two Bedroom units	60 ***(120)***	1250	75,000 ***(150,000)***	
SOR	30 ***(60)***	400	12,000 ***(24,000)***	
Live/work 3 storey	30	1500	45,000	mid-block
Penthouse	12 ***(24)***	2000	24,000 ***(48,000)***	
Office/Commercial		-	550,000 ***(740,000)***	density specific
Amenity				
Community Gathering (Multi Purpose Facility)	1	-	3000-6000	
Daycare	1	-	1500	by design
Fitness and Recreation	1	-	3000-4000	by design
Community Park	-	-	by design	Armature
LRT Station Stop	1		by design	
Alberta Hotel				rebuild
Summary				
Total Residential			***195,800 (336,600)***	
Total Office/Commercial			***561,5000 (751, 500)***	

F. Proposed Site

F1.8 Catalyst Infill Project – Project Checklist



Create Project Checklist:

- ☐ The Infill of neighbourhoods and the respect of their surrounding context
- ☐ The development of walkable street and path networks
- ☐ Pedestrian friendly built form
- ☐ Crime prevention
- ☐ The creation of Mixed use buildings, and
- ☐ The design of Mixed-Use Neighbourhoods
- ☐ Based on FAR/ Mixed use percentages

A Sense of **Place**, **Setting**, **People** and **Design**
Research: **space within building** to **buildings within space**

G. Next Steps

Source: google earth

G1. Next steps

- Finalized Site Analysis
- Transportation overlay
- Neighbourhood overlay
  - Buildings to be retained
  - Opportunities
  - Density overlays
- Program Update
- Vision boards – imagery
- Preliminary site blocking plan
- Schematic design

APPENDIX C - 9B INTERMEDIATE POWERPOINT PRESENTATION

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: **a return to space within building**

Thesis Presentation 2: Concept Design

Spring 2010

bK **AB900011** **9B**

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: **a return to space within building**

A. Research Synopsis

Overall extent of study area

The City of Edmonton: Jasper East

Source: google earth

Intent to Study

Create a catalyst building as the impetus for development of the Quarters.

The challenge for the next stage of this thesis is to study, challenge, and/or apply the ICP methodology to a **large scale urban infill solution**.

The setting chosen for this thesis is the Jasper East area (*currently known as the Quarters*). Located immediately east of Downtown Edmonton between 97th Street to 95th Street and Jasper Avenue to103A Avenue.

This project will define the planning parameters for the Quarters Initiative and develop the design for catalyst building for the development.

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: **a return to space within building**

B. Proposed Site: Analysis

B1. Parameters by which to study - creating an urban design standard

B1.1 Existing condition – Figure Ground

Drawing Legend:

Open lot:

Historic Buildings:

Buildings of Note:

Traffic Direction:

B. Proposed Site: Analysis

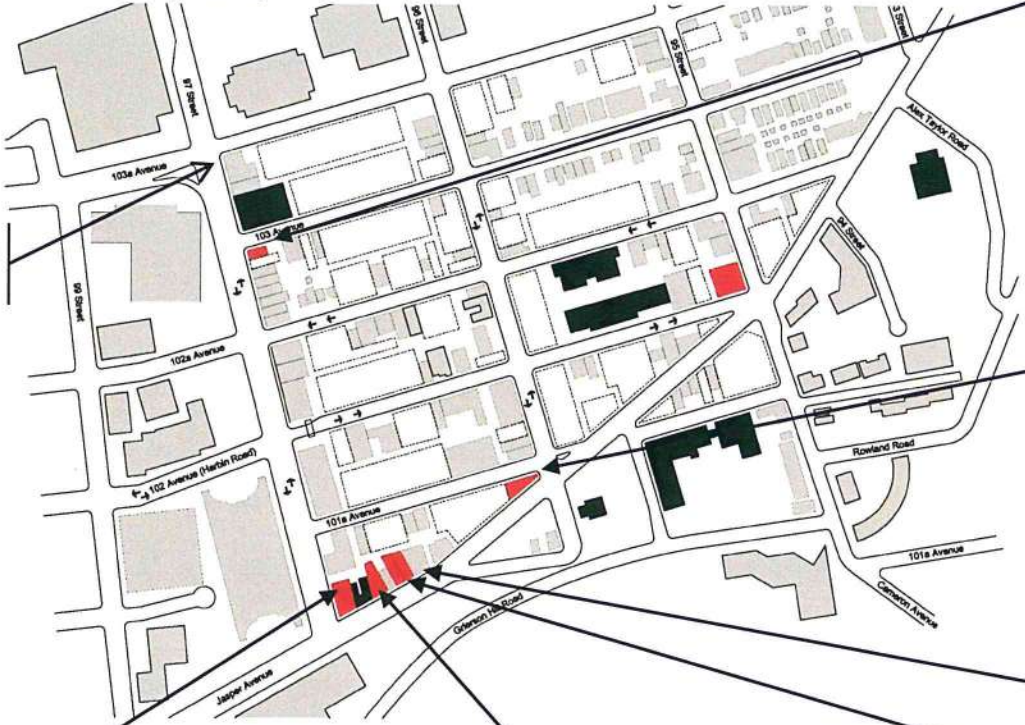
B1. Parameters by which to study - creating an urban design standard

B1.2 Existing condition – ariel view (Google Earth)

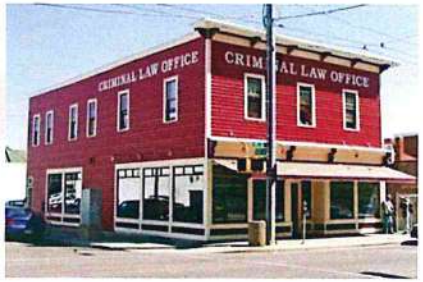
A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: **a return to space within building**

B. Proposed Site: Analysis

B2.1 Historic Building Overlay



Stovel Block - 1907



Kingston Powell Block - 1907

Gibson Block - 1913

Goodridge Block – 1911/1912

Gem Theatre – 1913-1914

Ernest Brown Block - 1912

Pendennis Hotel – 1904/12

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: **a return to space within building**

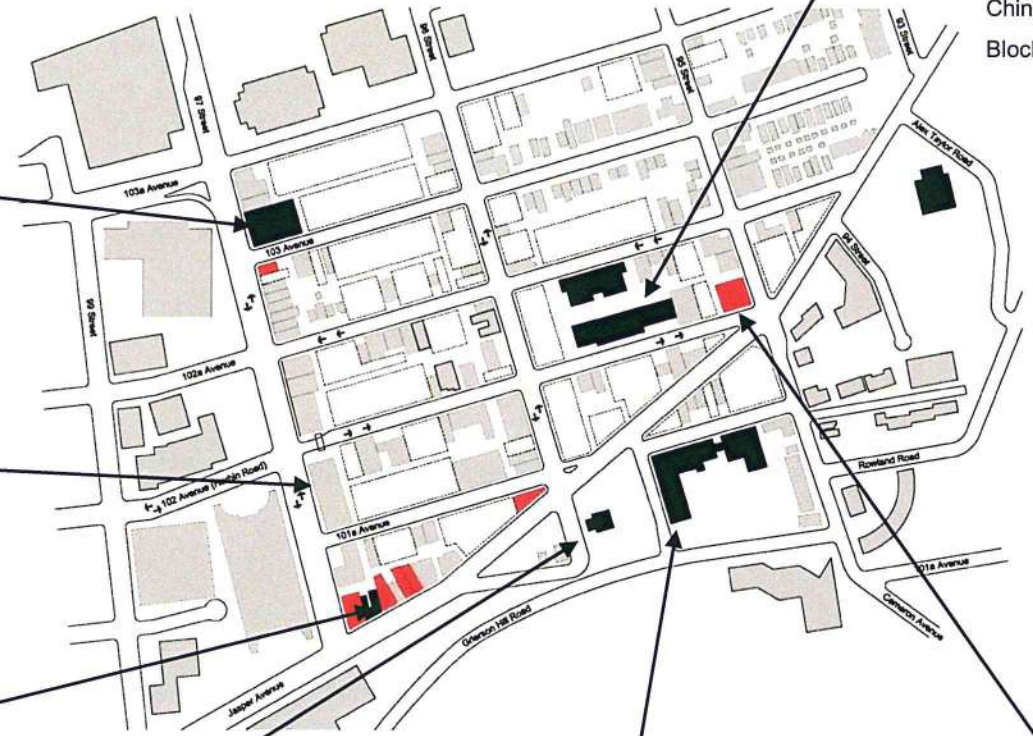
B. Proposed Site: Analysis

B2.2 Buildings of Interest

Chinese Cultural Block

Army & Navy Block - 1911

New Residential



Jasper House / Hub Hotel – 1882/12

St. Barbara's Russian Orthodox Church

Royal Northwest Mounted Police Barricks – 1912/13

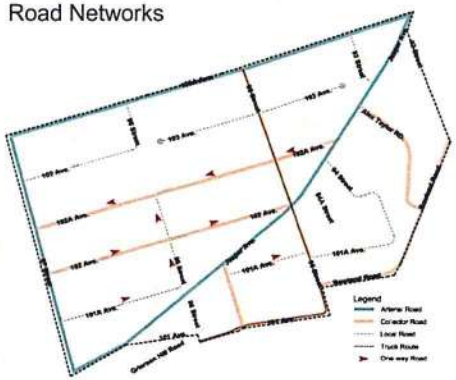
Edmonton Auto Spring Works - 1923

C. Proposed Site: Design Parameters

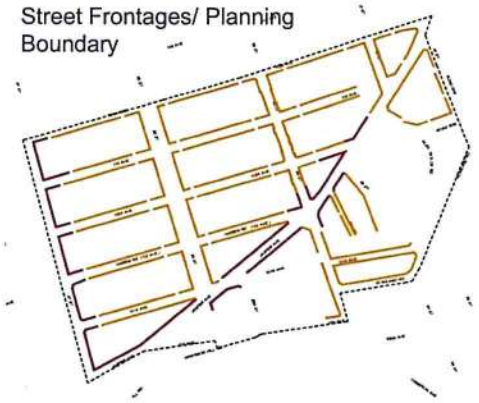
C1 The Quarters Overlay

Green Space

Road Networks

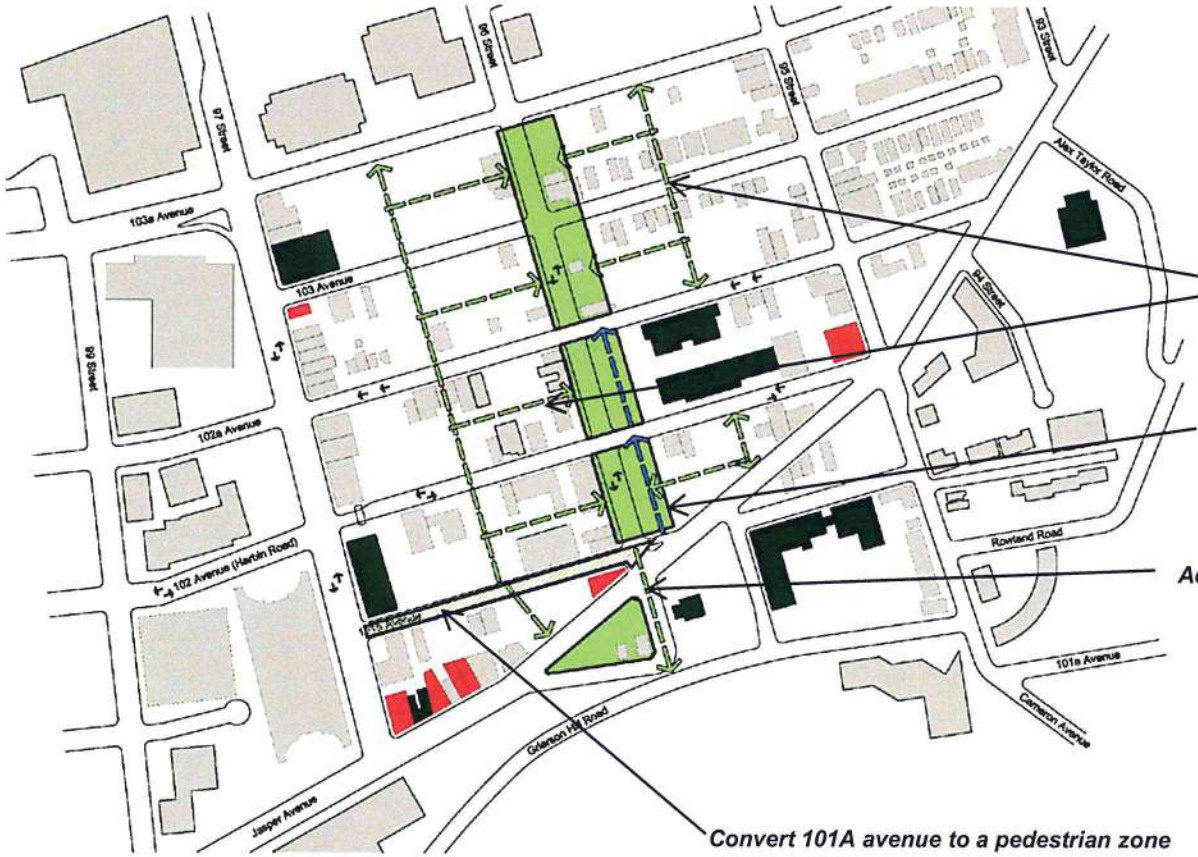


Street Frontages/ Planning Boundary



C. Proposed Site; Design Parameters

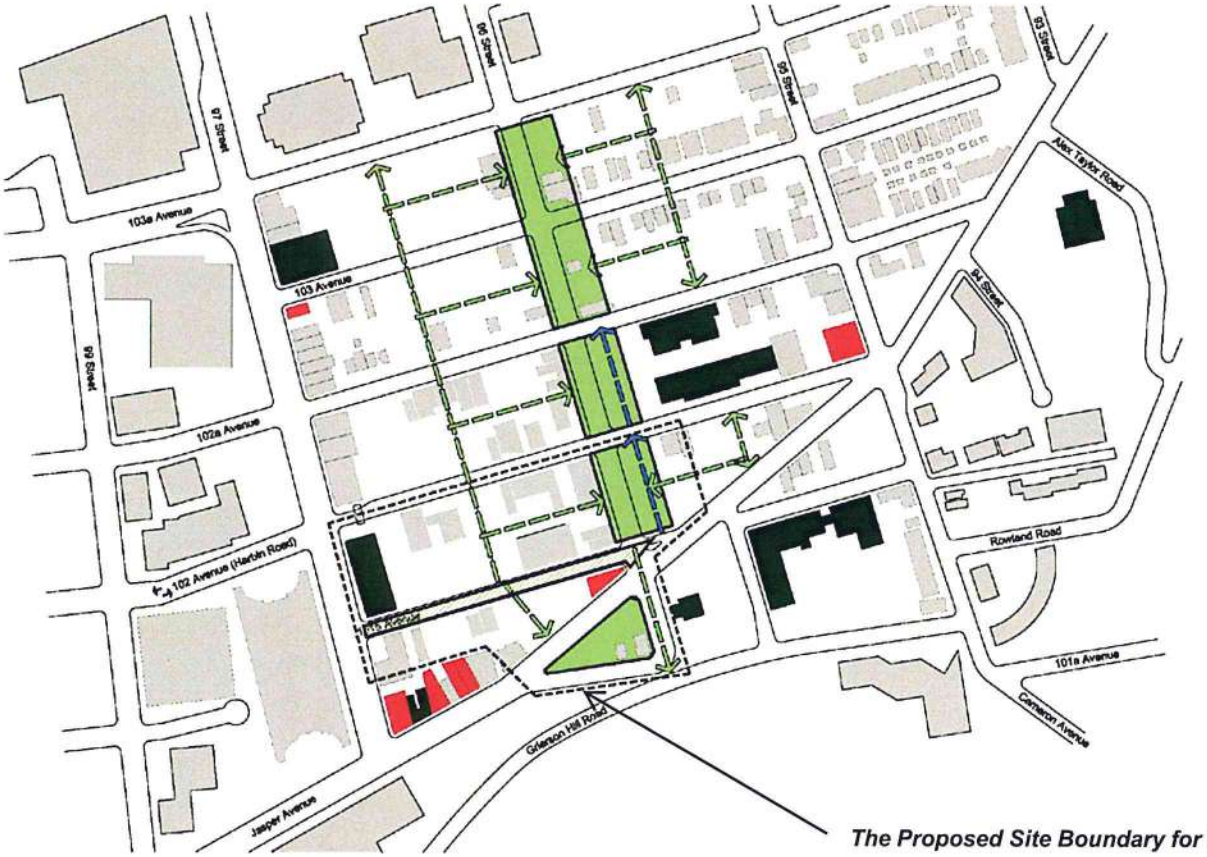
C2 Conceptual Overlay – The Quarters



The proposed design changes to the quarters overlay provides the urban framework to study the ICP methodologies of urban infill.

C. Proposed Site: Design Parameters

C3 Conceptual Overlay – Proposed Site



The Proposed Site Boundary for the Catalyst Project

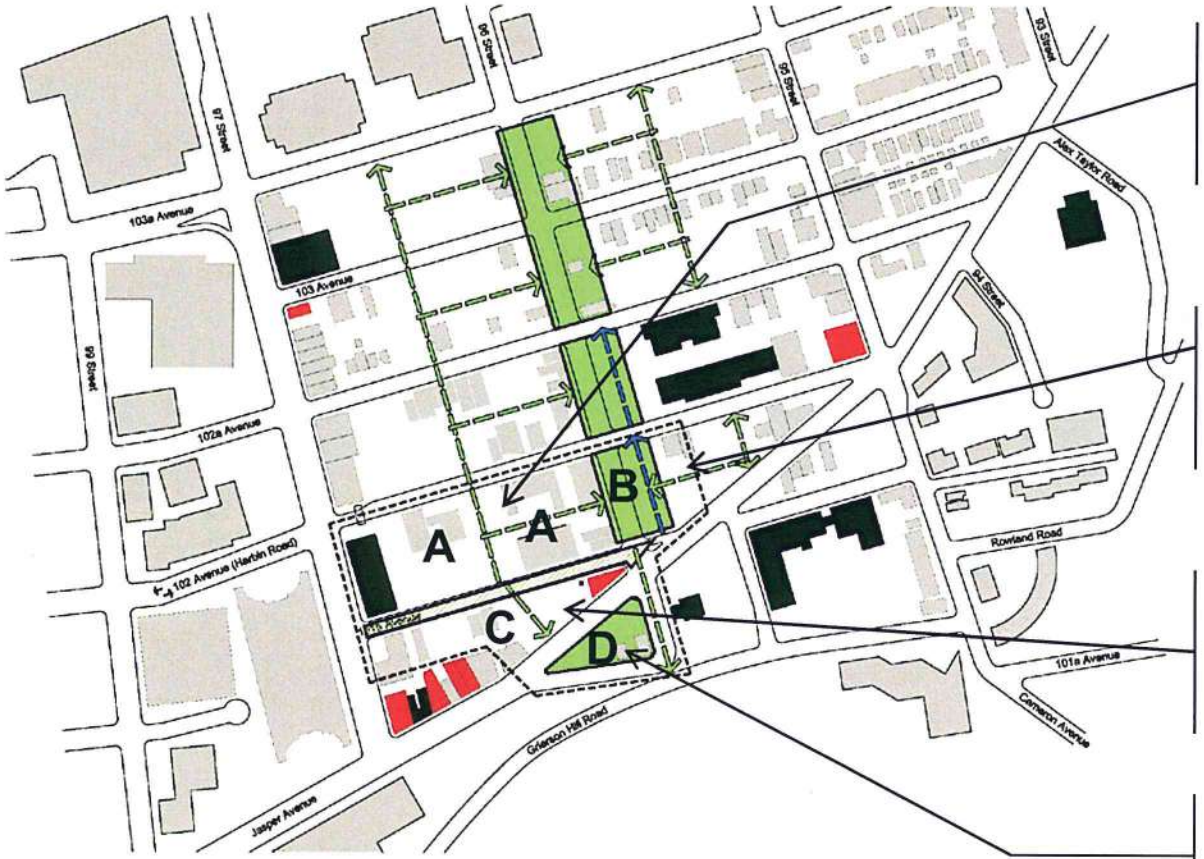
The proposed design for this site will inform design direction for the entire Quarters development by studying the following:

1. Building placement relative to the Armature and mid block pedestrian zones;
2. Historical building context
3. Parking
4. Connectivity to "amenity" zones
5. Connectivity to river valley
6. Pedestrian friendly edge
7. Density
8. Building type zoning

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: **a return to space within building**

C. Proposed Site: Design Parameters

C4 Conceptual Overlay – Catalyst Infill Project Planning Parameters



Development Requirements: Area A

1. Up to 15 storeys in height
2. FAR: min 3.0, max 6.0
3. 33% of total building area dedicated to residential

Development Requirements: Area B

1. Up to 6 storeys in height bordering green space
2. FAR: min 3.0, max 4.5
3. 33% of total building area dedicated to residential

Development Requirements: Area C

1. Up to 6 storeys in height
2. FAR: min 3.0, max 4.5
3. 33% of total building area dedicated to residential

Development Requirements: Area D

1. Reconnect to the River Valley

A Sense of **Place**, **Setting**, **People** and **Design**
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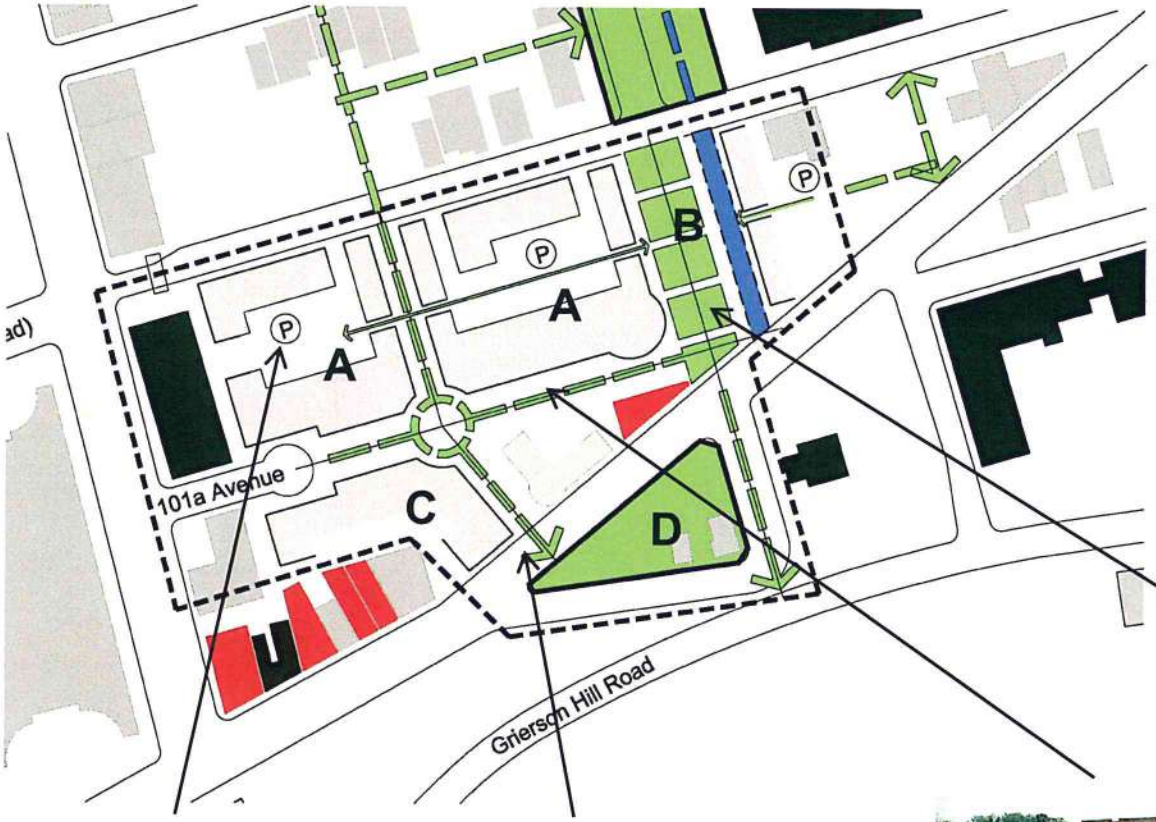
C. Proposed Site; Design Parameters

C5 Catalyst Infill Project – Preliminary Functional Program



Program:

Area A

1.Up to 15 storeys in height
2.FAR: min 3.0, max 6.0 ***(390,000 sf to 780,000 sf)***
33% residential

Area B

1.Up to 6 storeys in height bordering green space
2.FAR: min 3.0, max 4.5 ***(106,000 sf to 159,000 sf)***
33% residential

Area C

1.Up to 6 storeys in height
2.FAR: min 3.0, max 4.5 ***(102,000 sf to 154,000 sf)***
33% residential

D. Functional Program

D1 Conceptual Overlay – Preliminary Functional Program

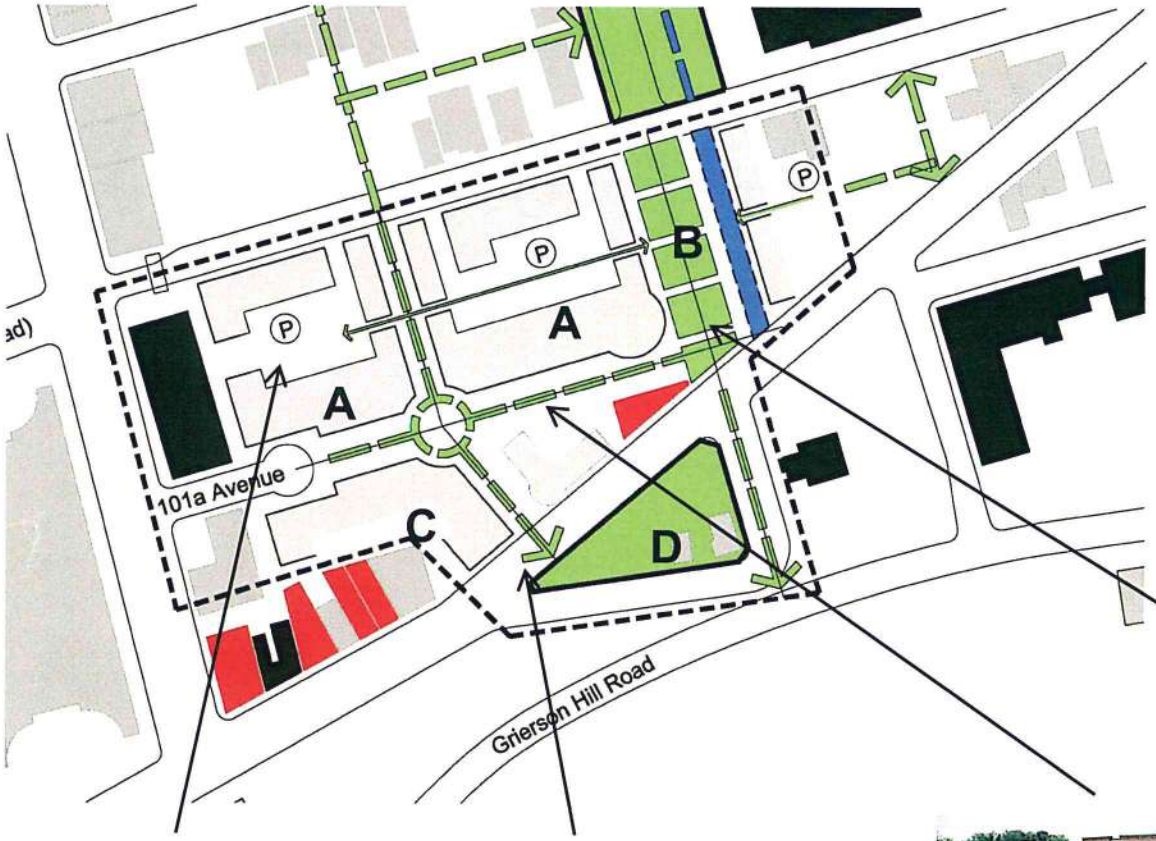
Function	Unit	Area (SF)	Total (SF)	Notes
Residential				
One bedroom units	40 ***(80)***	870	34,800 ***(69,600)***	
Two Bedroom units	60 ***(120)***	1250	75,000 ***(150,000)***	
Live/work 3 storey	-	-	-	incorporate into residential blocks
Penthouse	12 ***(24)***	2000	24,000 ***(48,000)***	
Office/Commercial		-	550,000 ***(740,000)***	density specific
Amenity				
Community Gathering (Multi Purpose Facility)	1	-	3000-6000	
Daycare	1	-	1500	by design
Fitness and Recreation	1	-	3000-4000	by design
Community Park	-	-	by design	Armature
Alberta Hotel				rebuild

Summary (Original Program Area A, B, C)

Total Residential	***195,800 (336,600)***
Total Office/Commercial	***561,5000 (751, 500)***
Update for Area A (Concept study area)	***730,000 (30% is residential)***

E. Project Checklist

F1.8 Catalyst Infill Project – Project Checklist



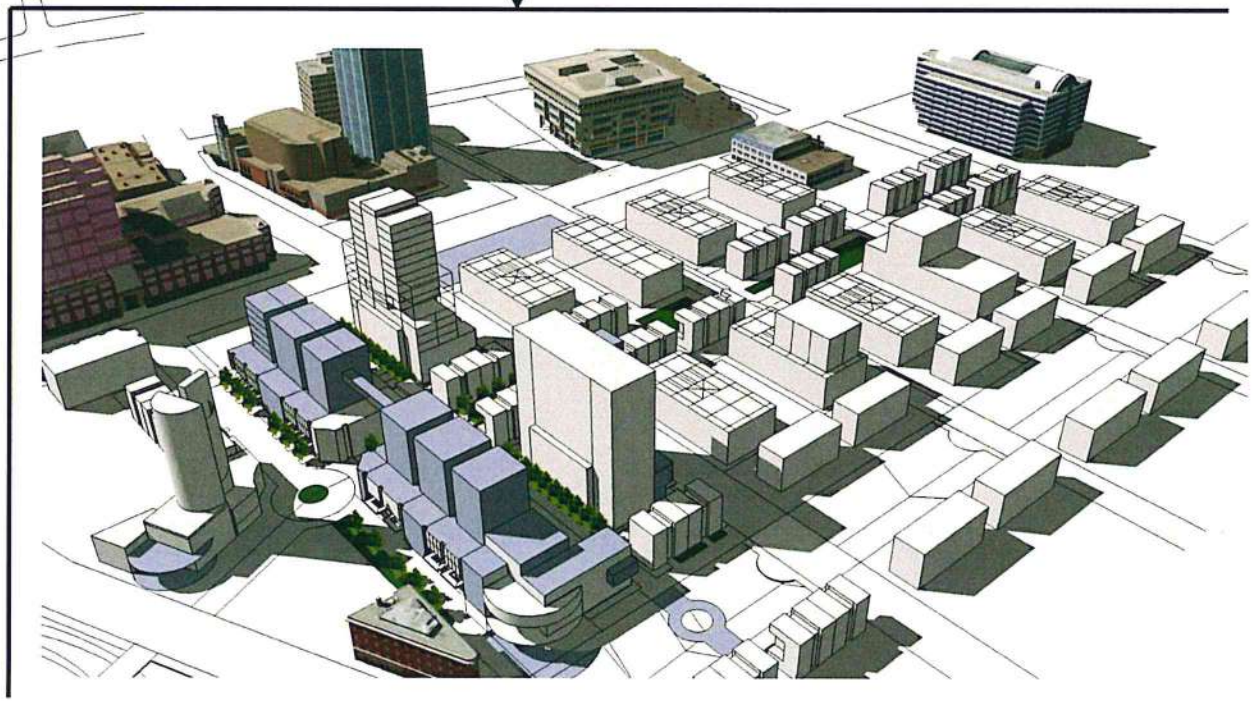
Create Project Checklist:

- ☐ The Infill of neighbourhoods and the respect of their surrounding context
- ☐ The development of walkable street and path networks
- ☐ Pedestrian friendly built form
- ☐ Crime prevention
- ☐ The creation of Mixed use buildings, and
- ☐ The design of Mixed-Use Neighbourhoods
- ☐ Based on FAR/ Mixed use percentages

E. Concept Development

E1. Blocking Plan Development

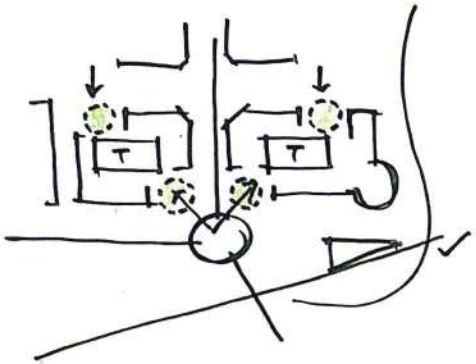
Step 1: blocking of the original site concept



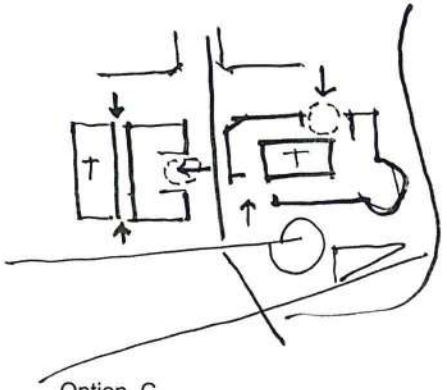
E. Concept Development

E1. Blocking Plan Development

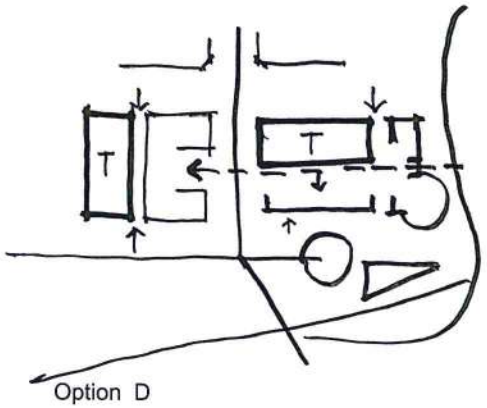
Step 2: redefine blocking of the original site concept



Option B:



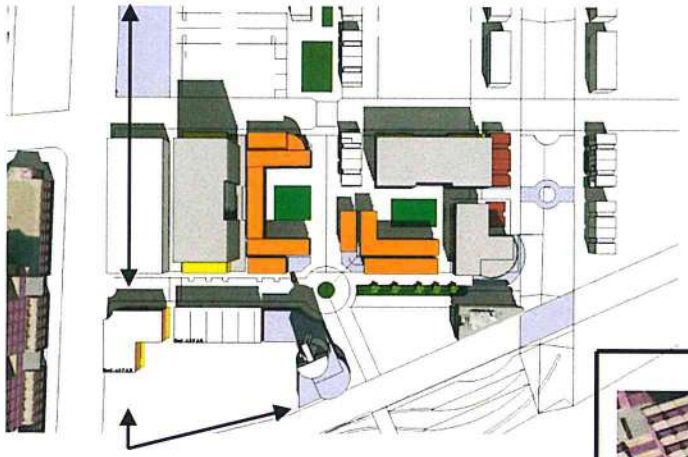
Option C



Option D

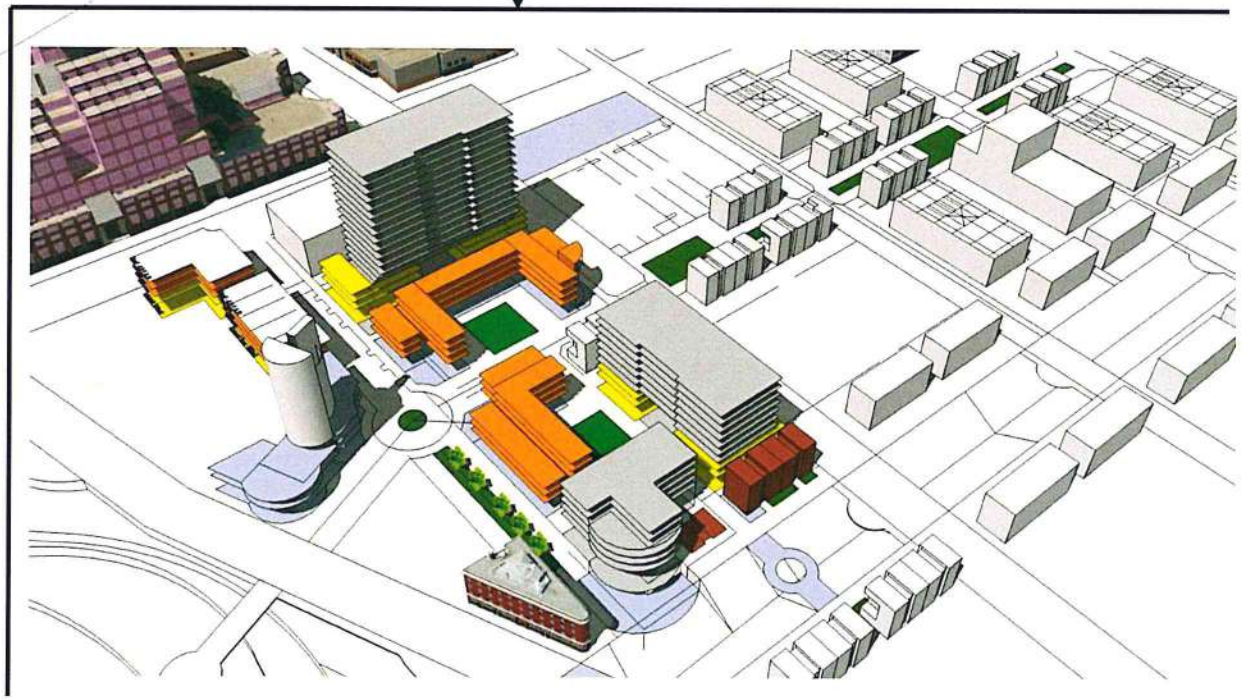
E. Concept Development

E1. Blocking Plan Development



Existing building stock to remain defined the parameters of the intervention.

Step 3: define site zoning and FAR rationale



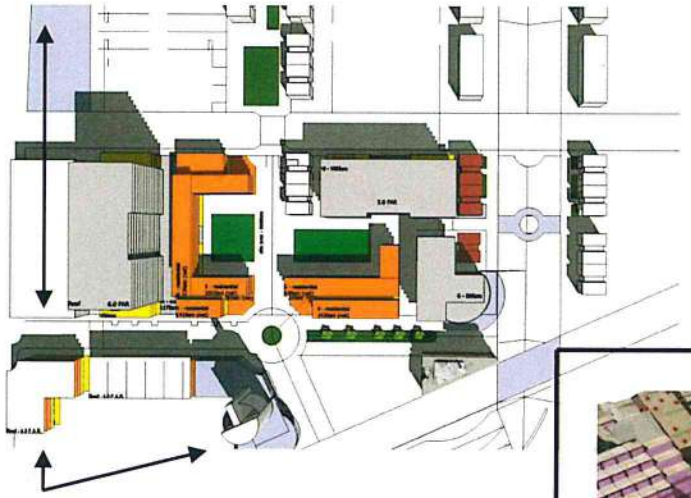
Residential

Commercial

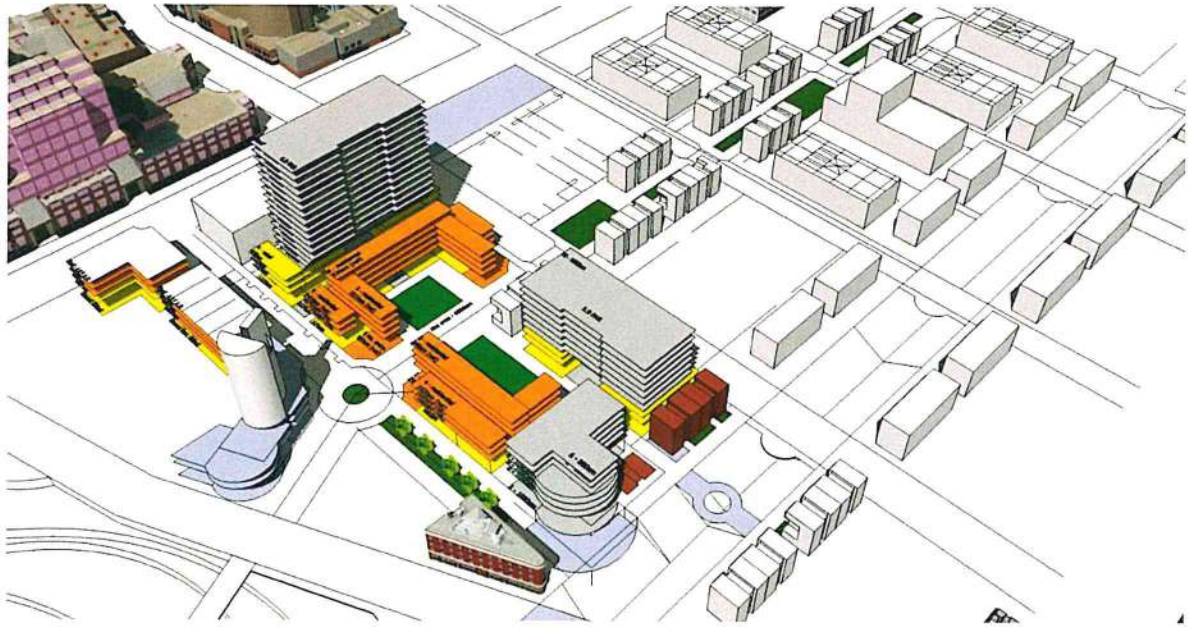
Office

E. Concept Development

E1. Blocking Plan Development



Step 4: redefined site zoning



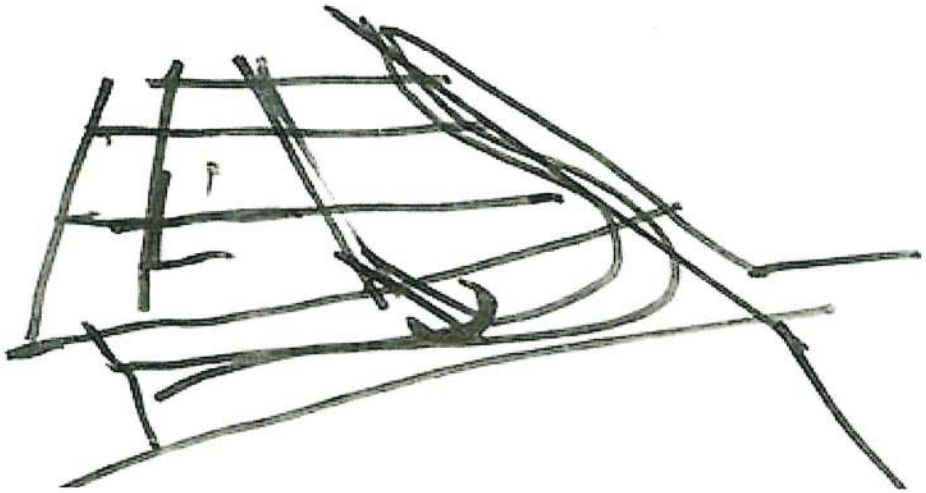
Residential

Commercial

Office

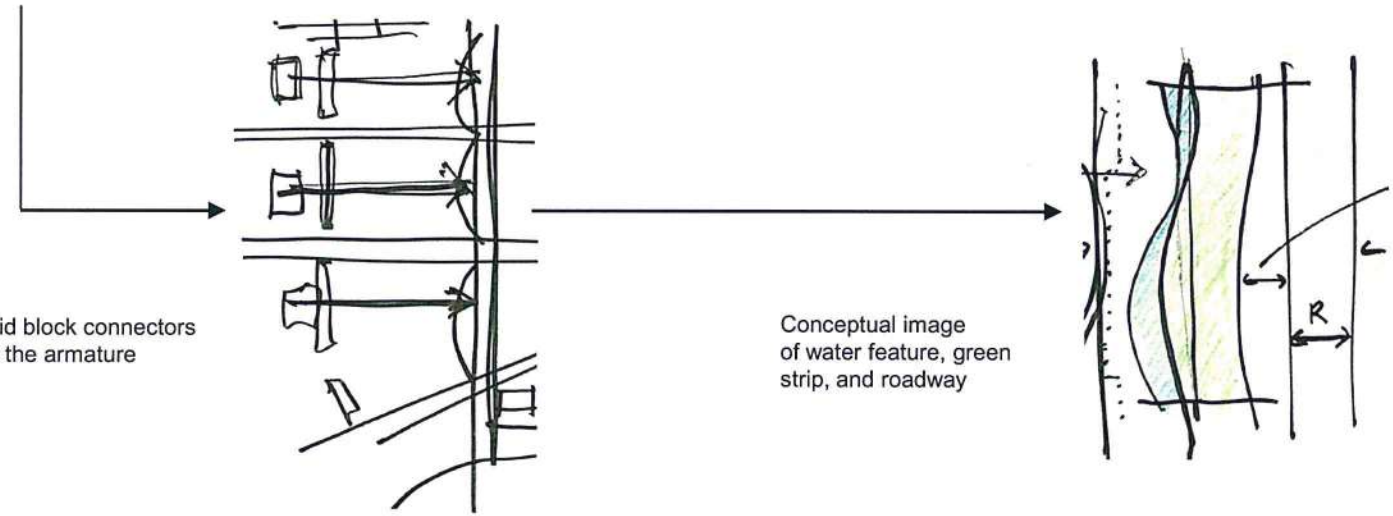
E. Concept Development

E1. Blocking Plan Development



Step 5: define planning parameters within the armature

1. Storm water management
2. Green space connectors to mid block
3. One way north bound access with parallel parking
4. Virtual Extension of the River Valley



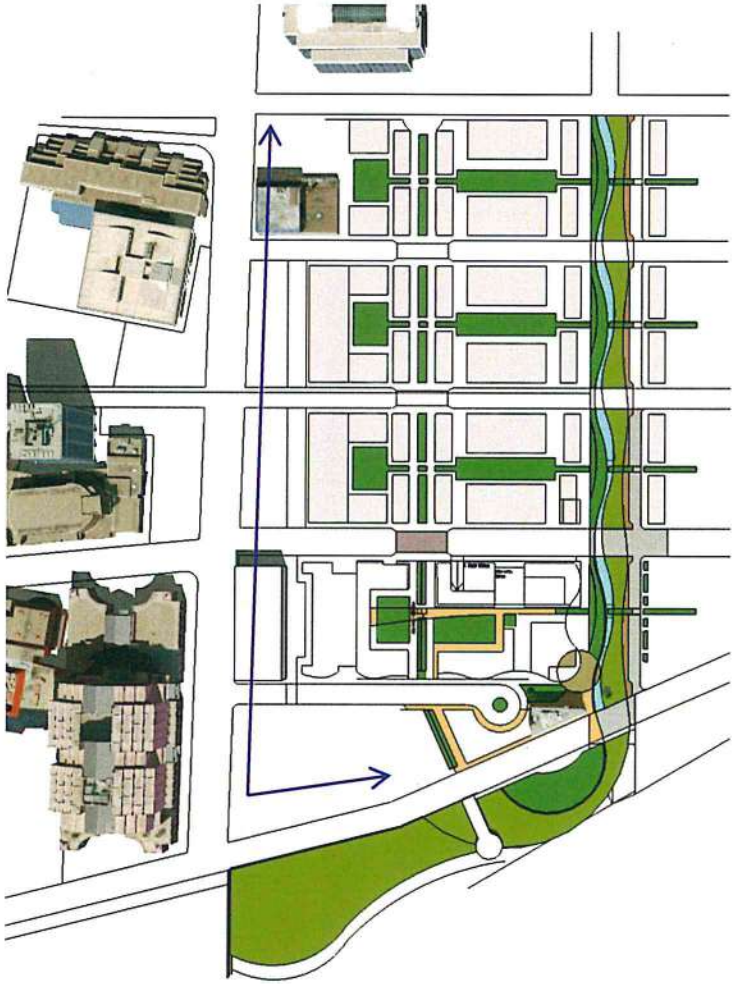
Mid block connectors to the armature

Conceptual image of water feature, green strip, and roadway

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: a return **to space within building**

E. Concept Development

E1. Blocking Plan Development

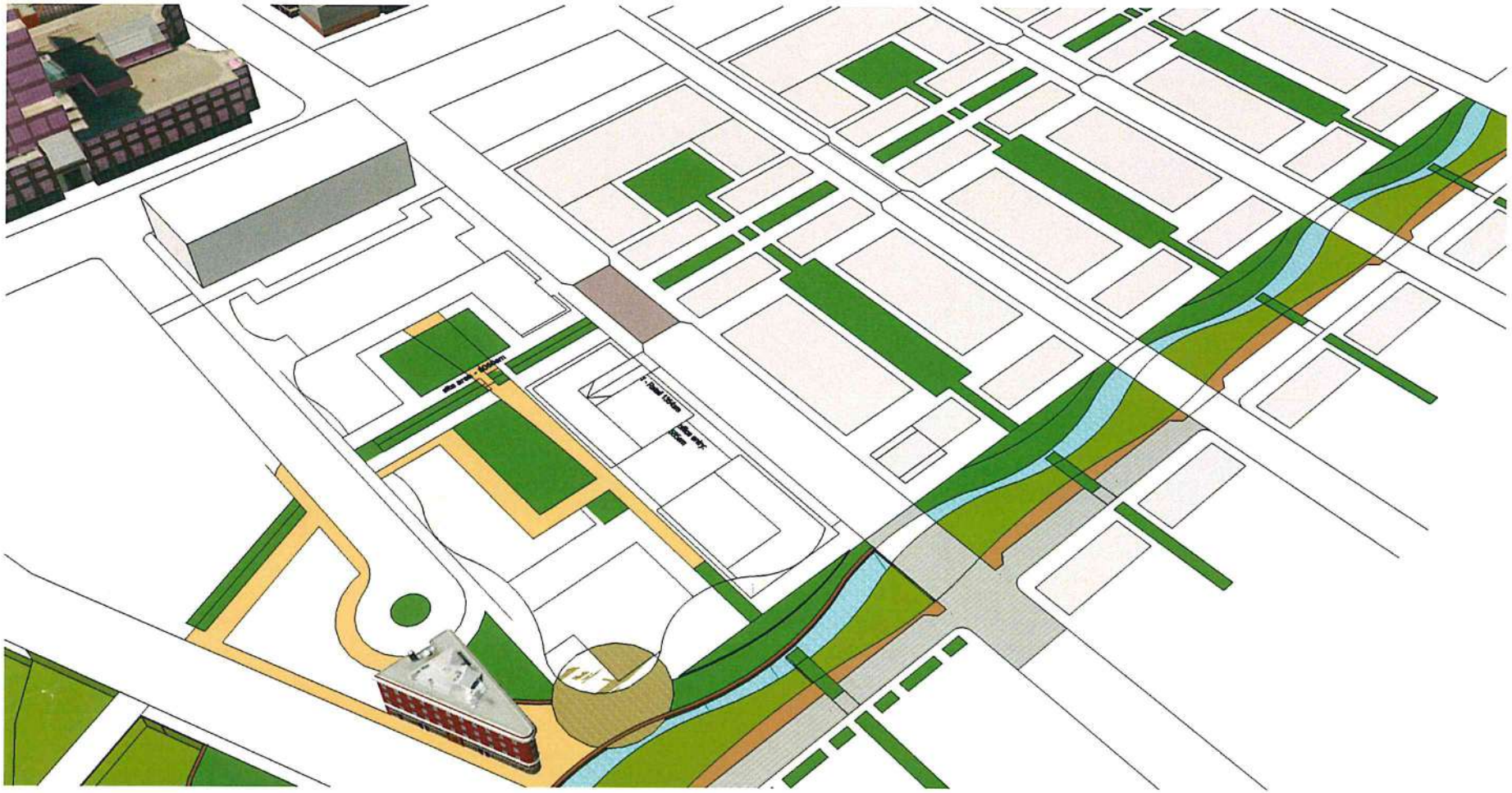


Step 6: finalize planning parameters within the armature

1. Storm water management
2. Green space connectors to mid block
3. One way north bound access with parallel parking
4. Connective Plaza
5. Vehicle Turn around further into the block
6. Connection to river valley by landscape "steps"

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: a return **to space within building**

F. Concept Development



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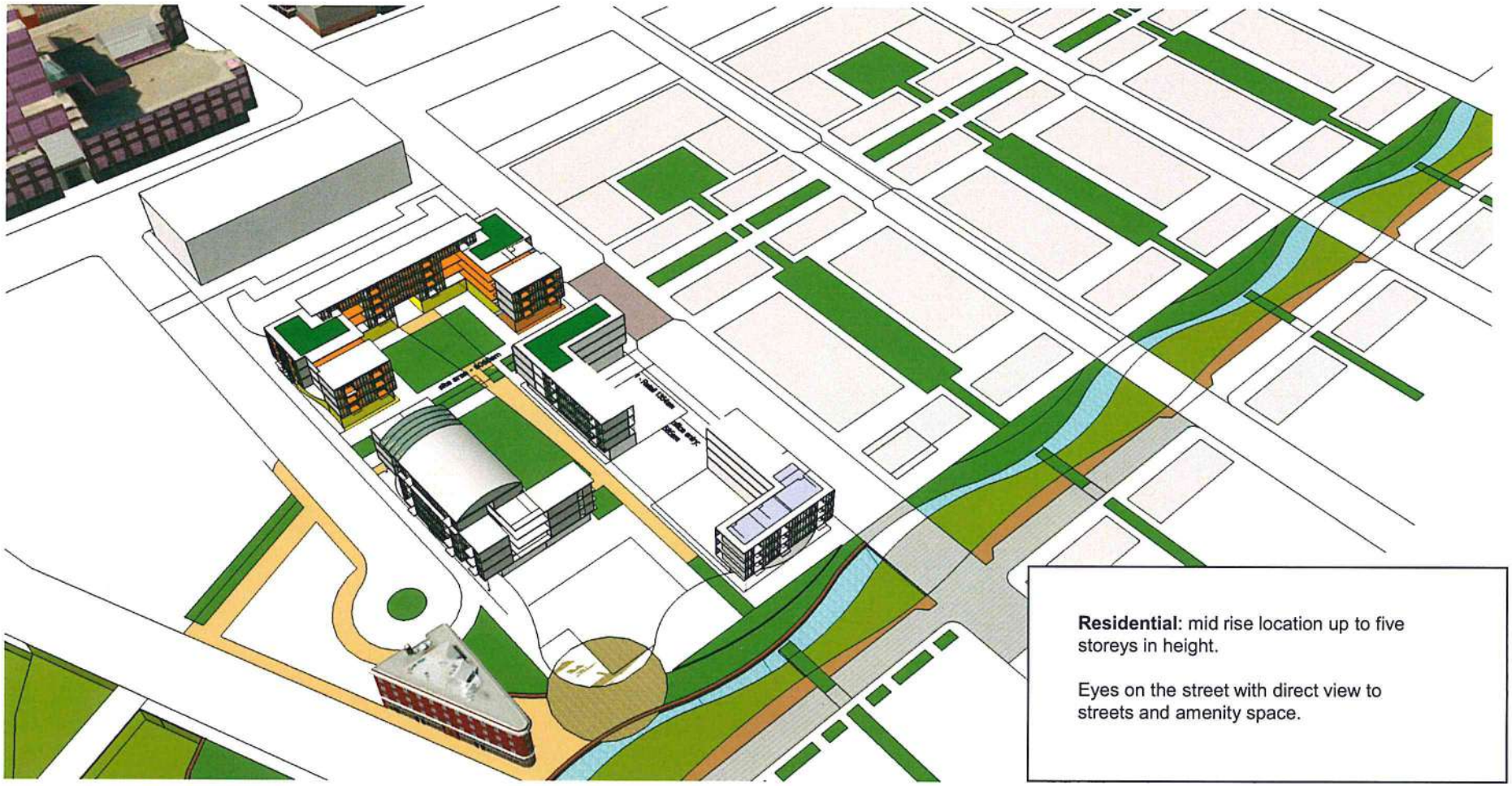
Concept Design: a return **to space within building**

F. Concept Development



Residential: mid rise location up to five storeys in height.

Eyes on the street with direct view to streets and amenity space.

A Sense of **Place**, **Setting**, **People** and **Design**
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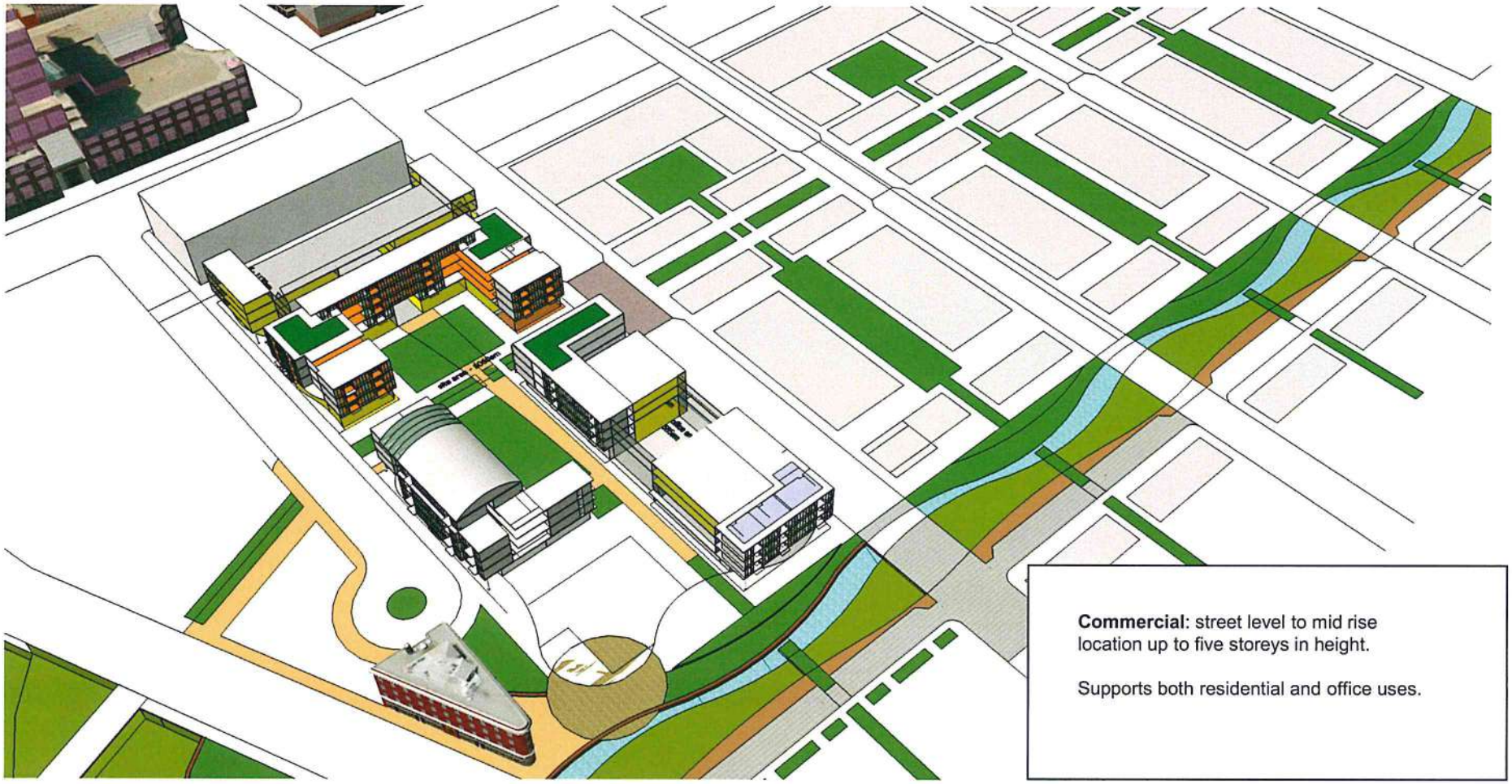
F. Concept Development



Commercial: street level to mid rise location up to five storeys in height.

Supports both residential and office uses.

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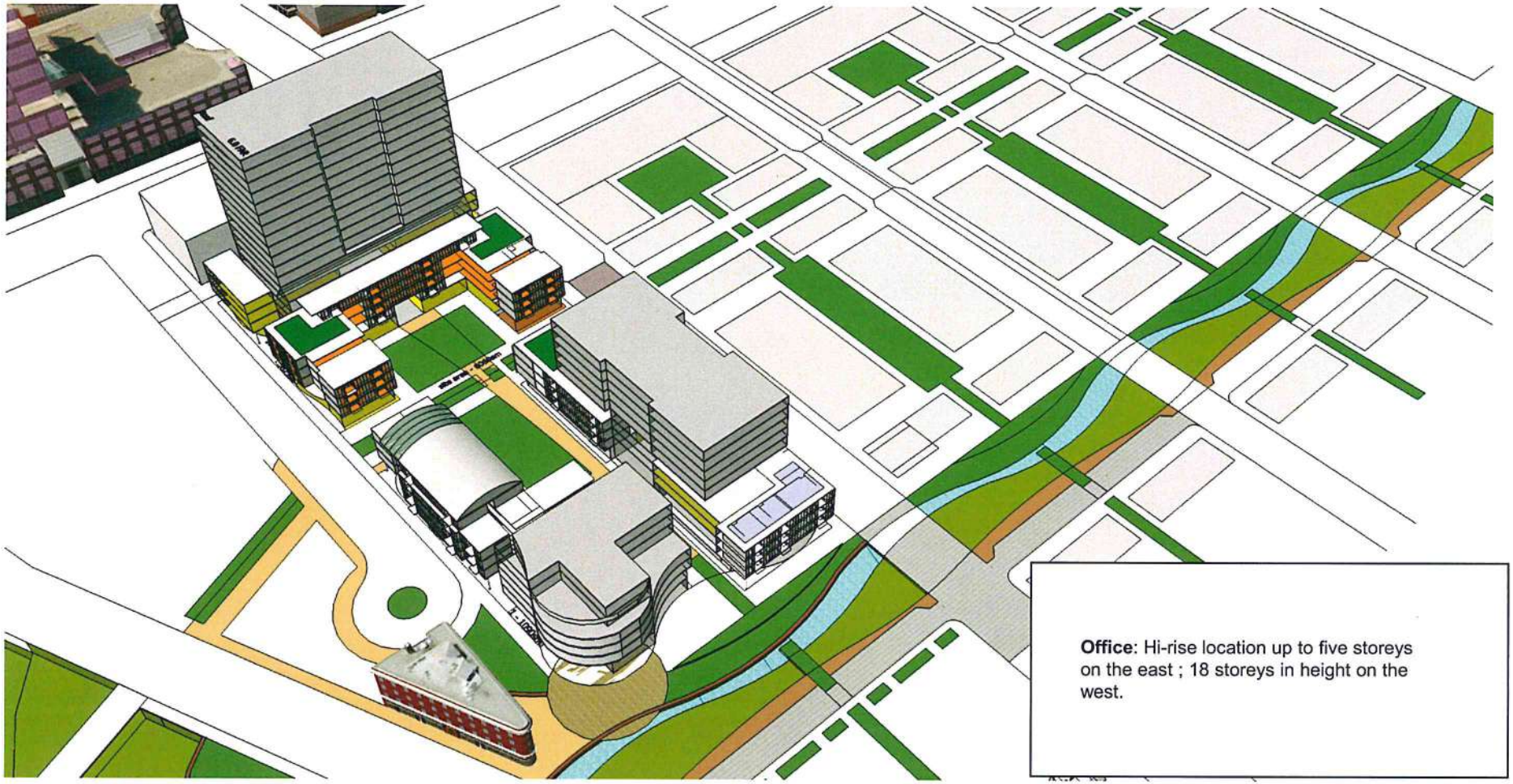
F. Concept Development



Office: Hi-rise location up to five storeys on the east ; 18 storeys in height on the west.

A Sense of **Place**, **Setting**, **People** and **Design**
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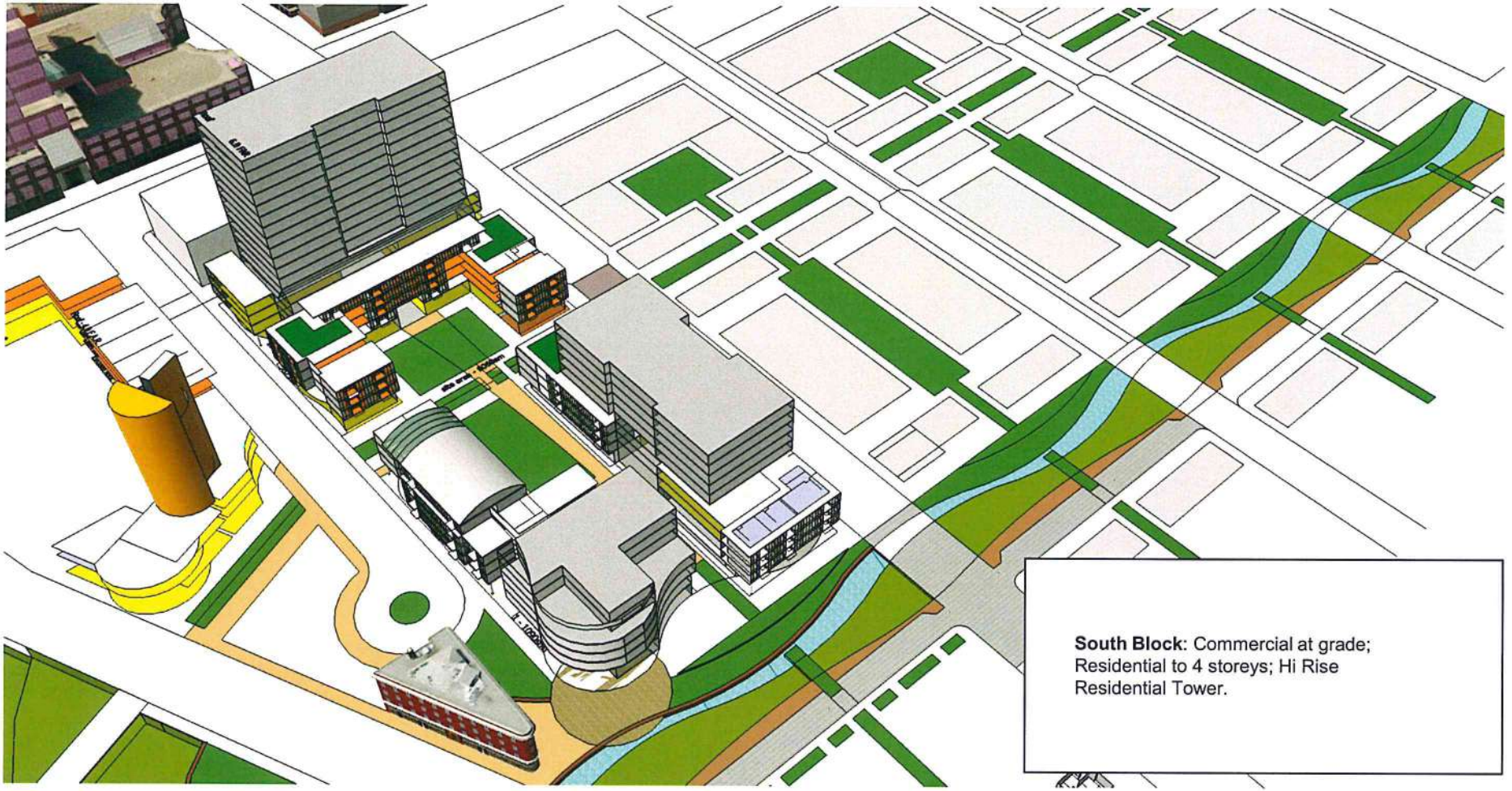

South Block: Commercial at grade; Residential to 4 storeys; Hi Rise Residential Tower.

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: a return **to space within building**

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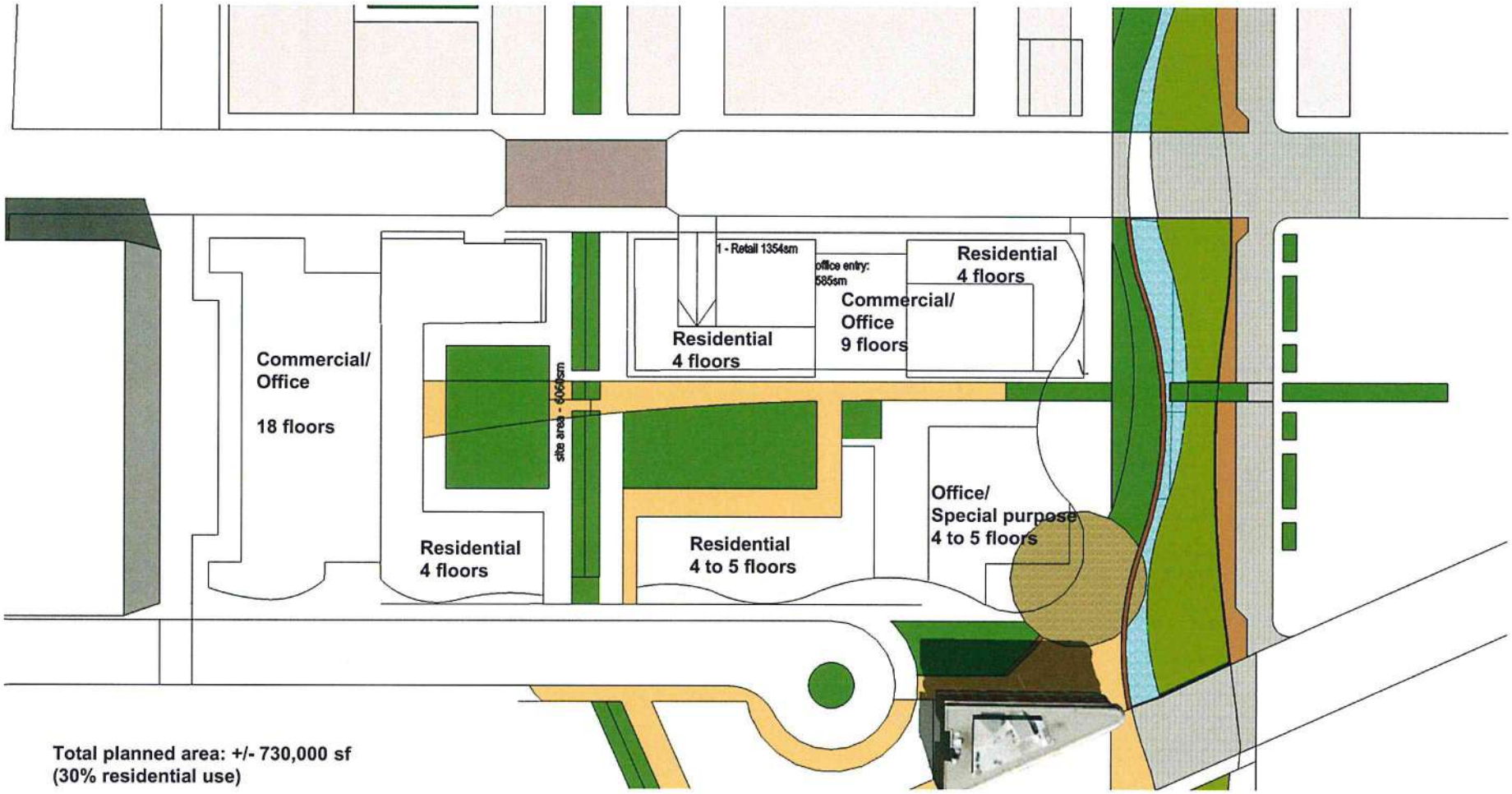

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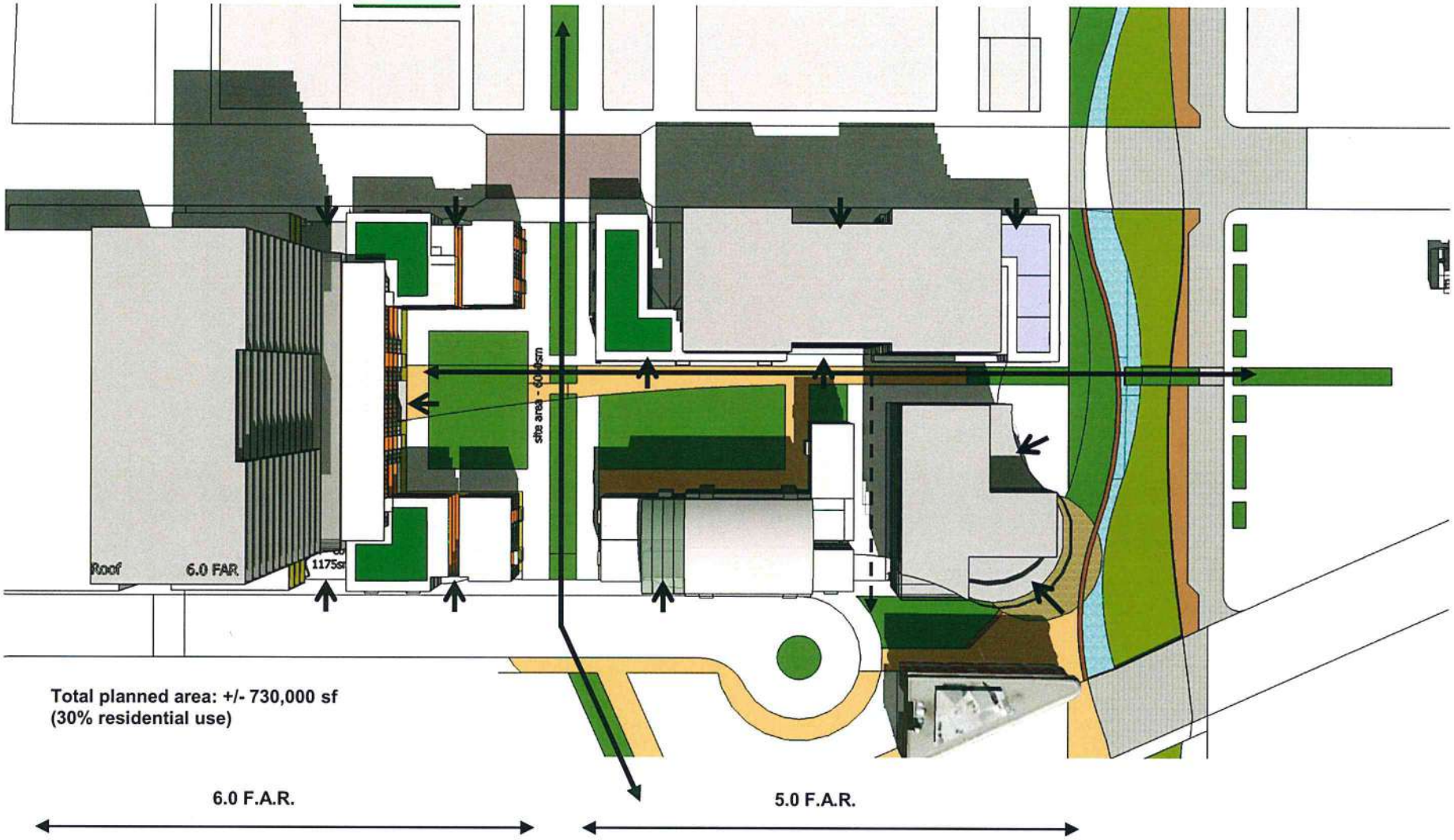

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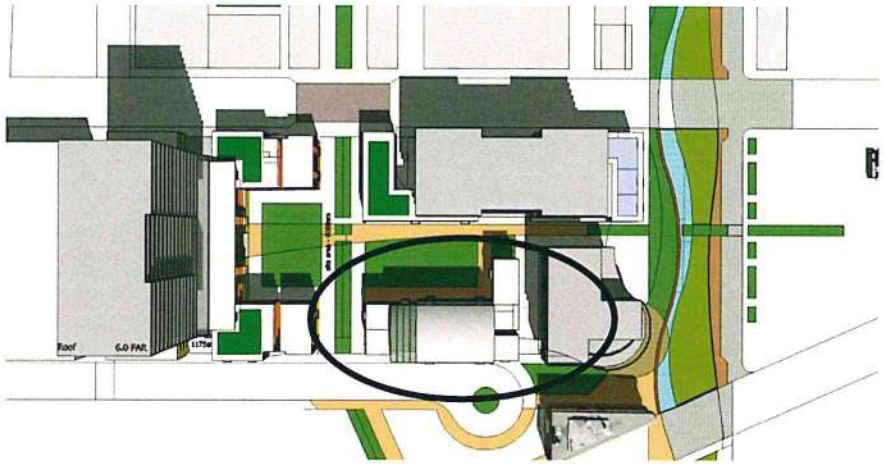
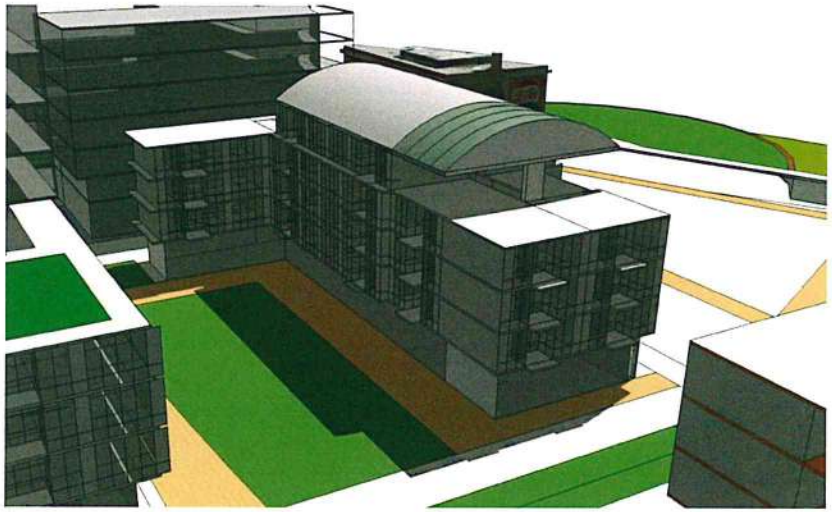


1. **Ground floor : commercial,**
2. **Residential: 3 to 4 floors**



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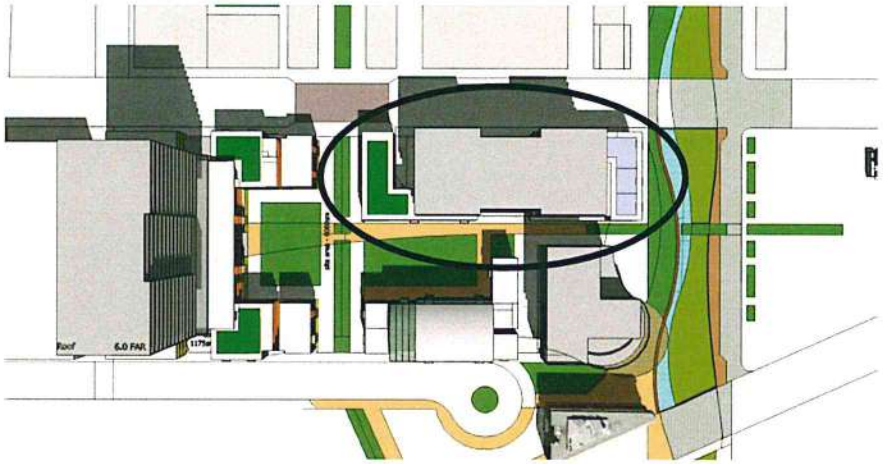
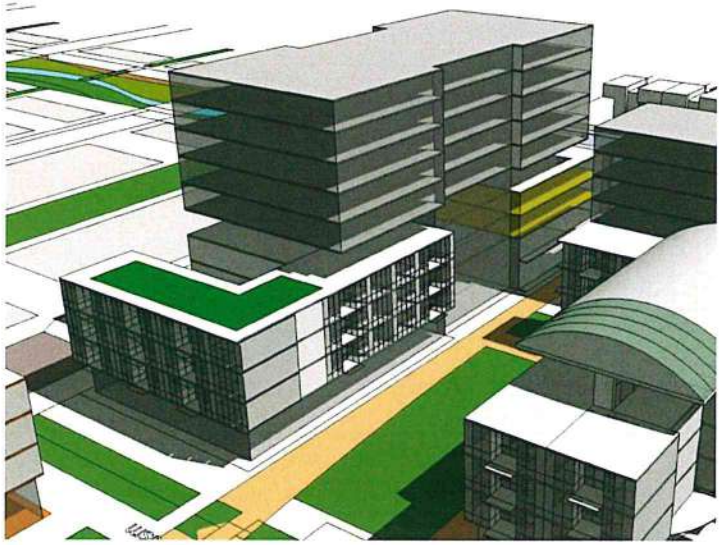
F. Concept Development



1. **Ground floor : commercial,**
2. **Residential: 3 floors,**
3. **Tower Base: commercial**
4. **Office: 5 floors**



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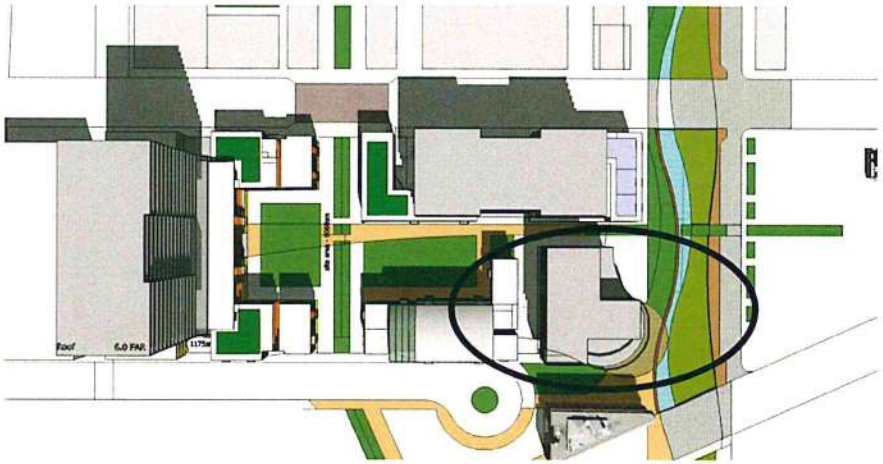

1. **Ground floor : commercial,**
2. **Ground Floor: daycare, fitness**
3. **Upper floors: office**

A Sense of **Place**, **Setting**, **People** and **Design**
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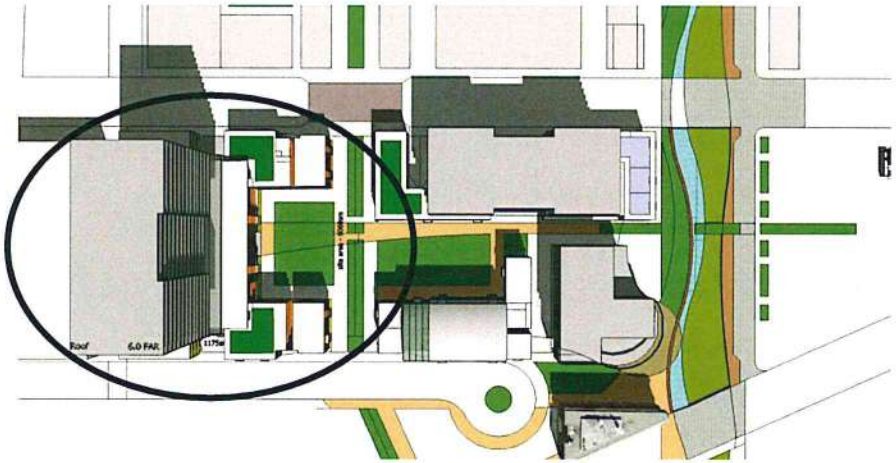
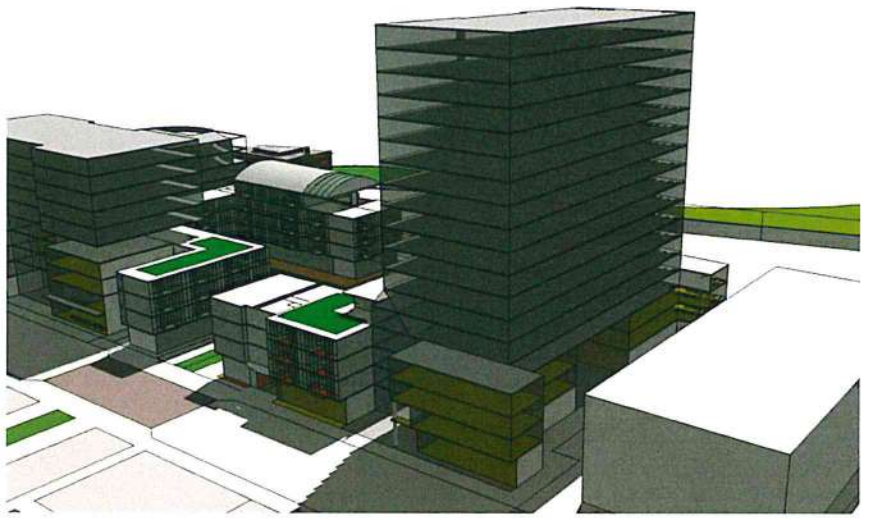
F. Concept Development



1. **Ground floor : commercial,**
2. **Tower Base: commercial to 4th floor**
3. **Office: 14 floors**



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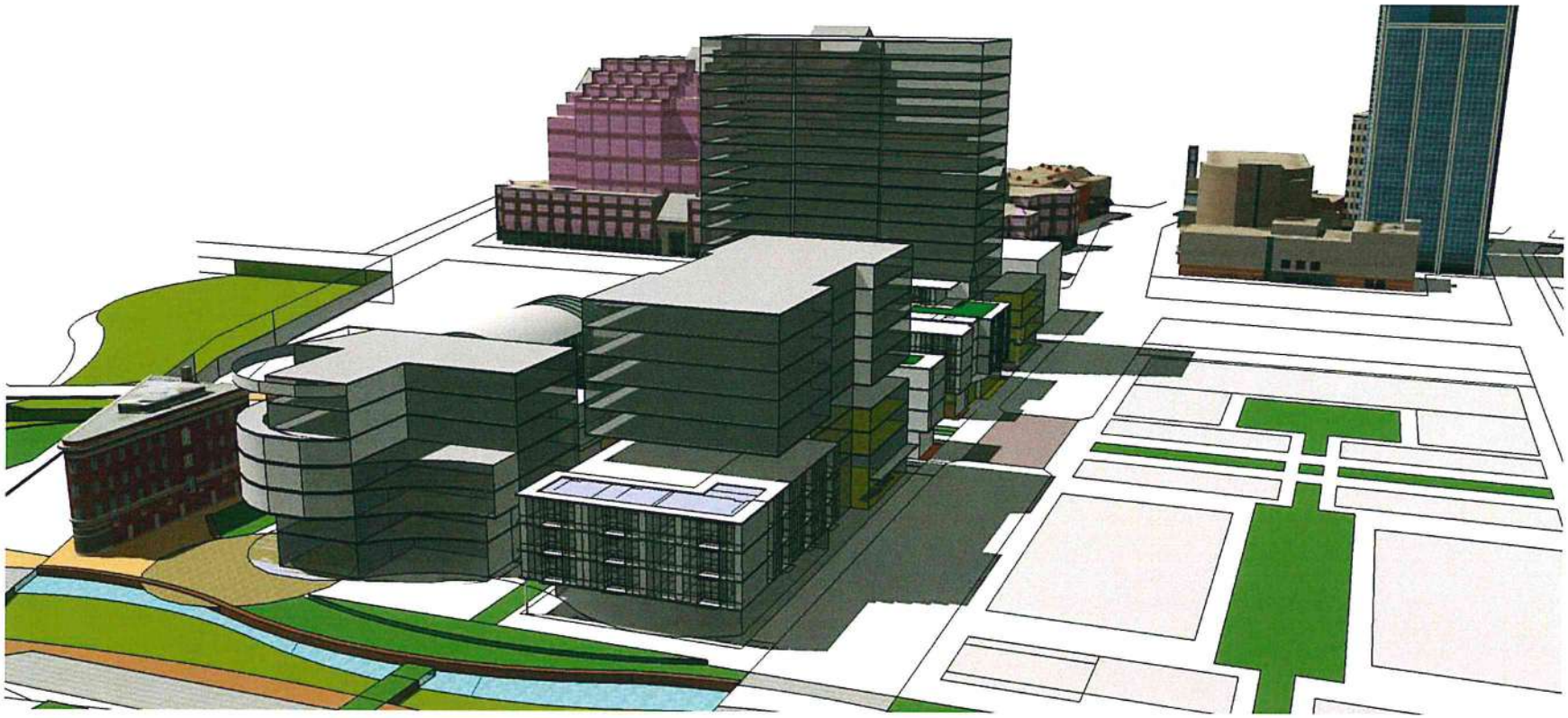

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F. Concept Development

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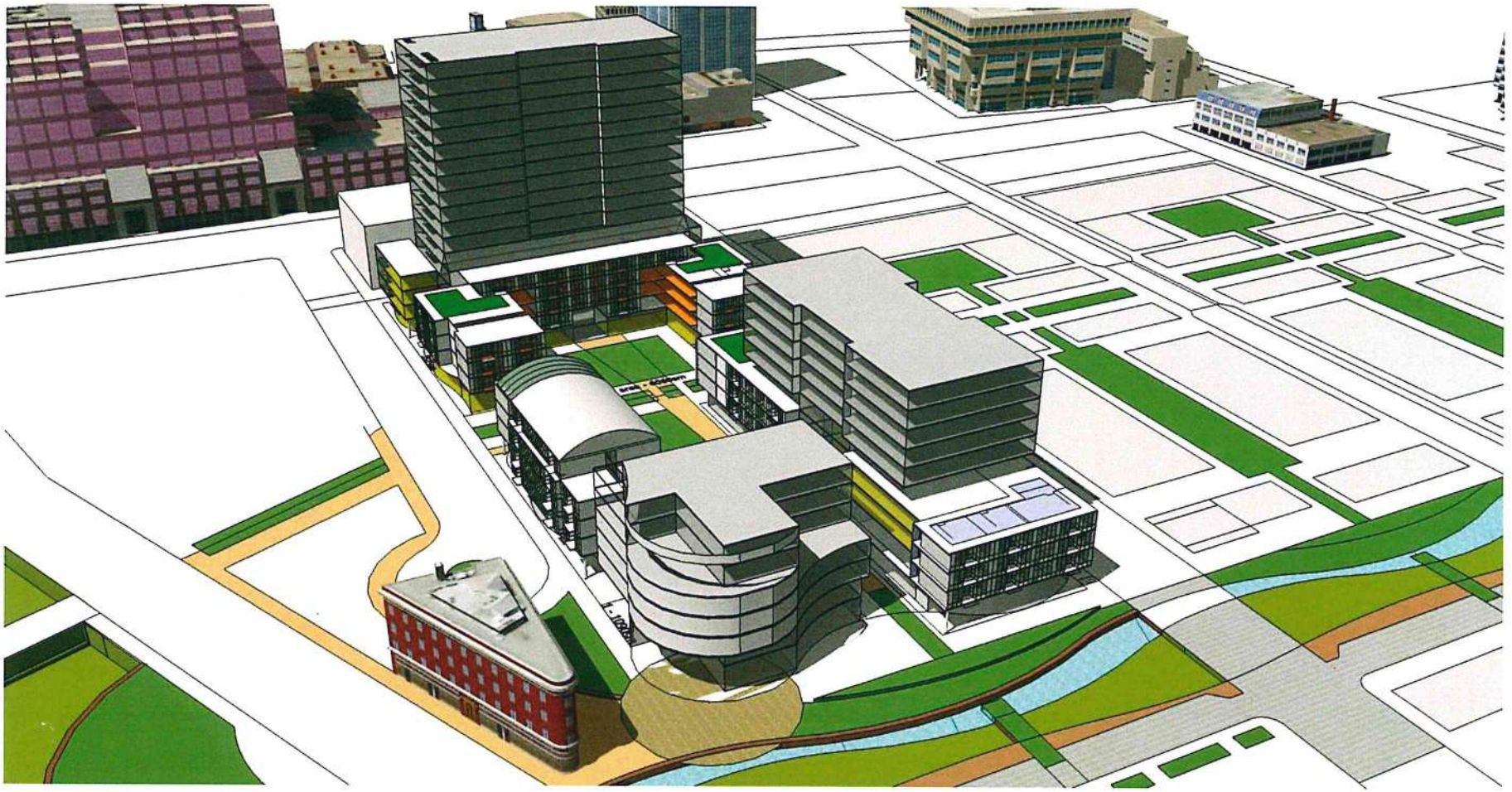

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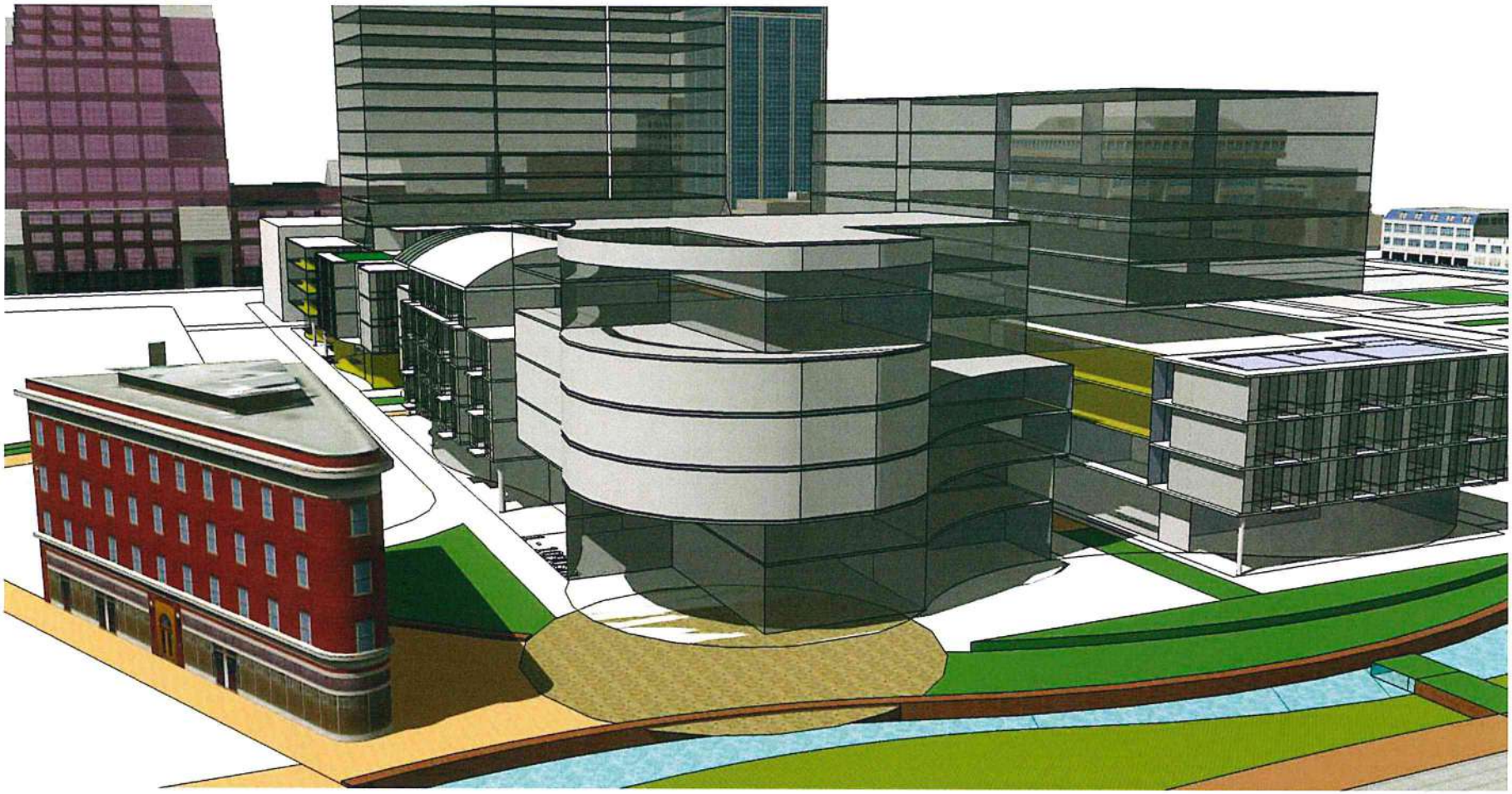

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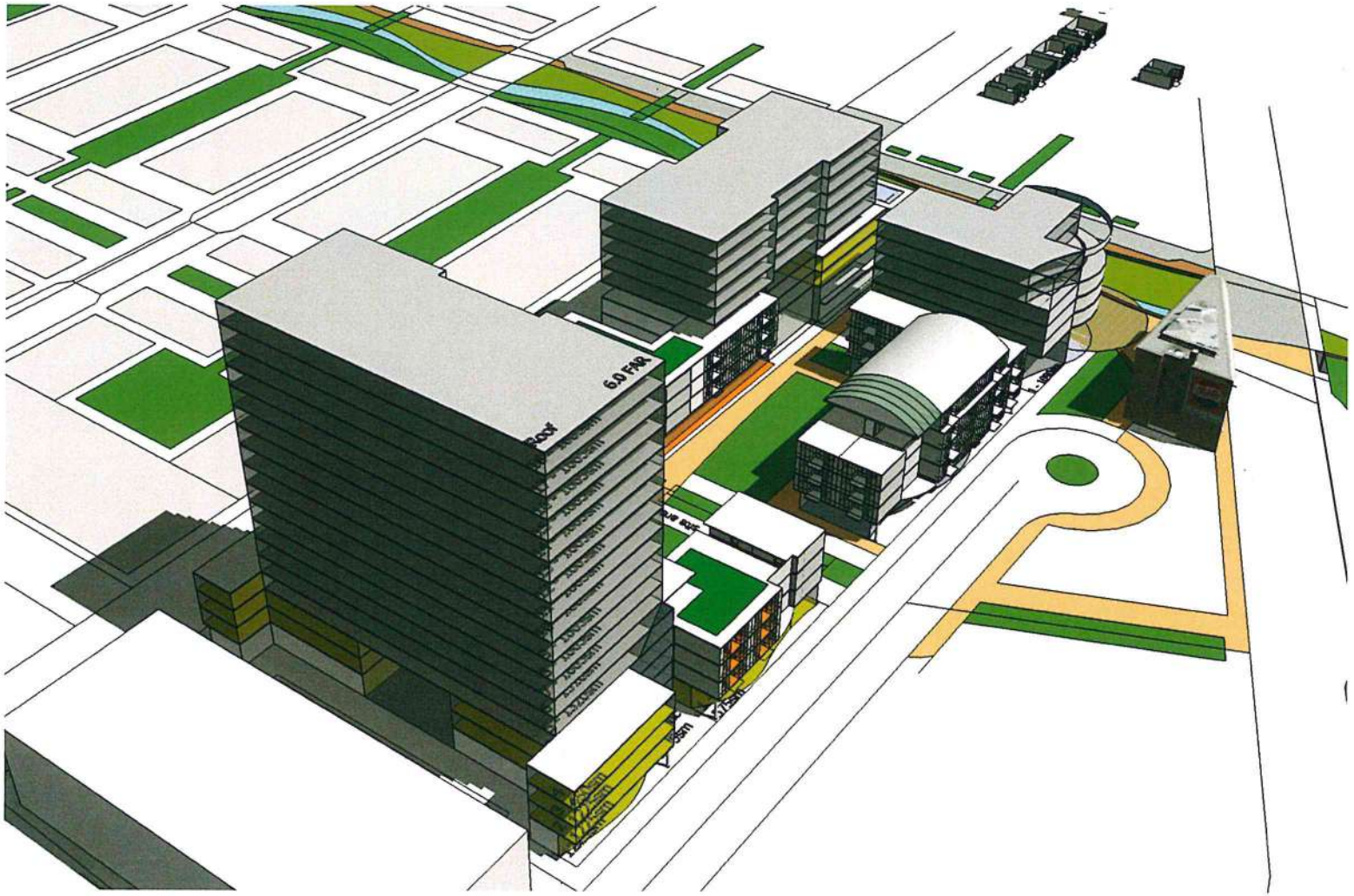

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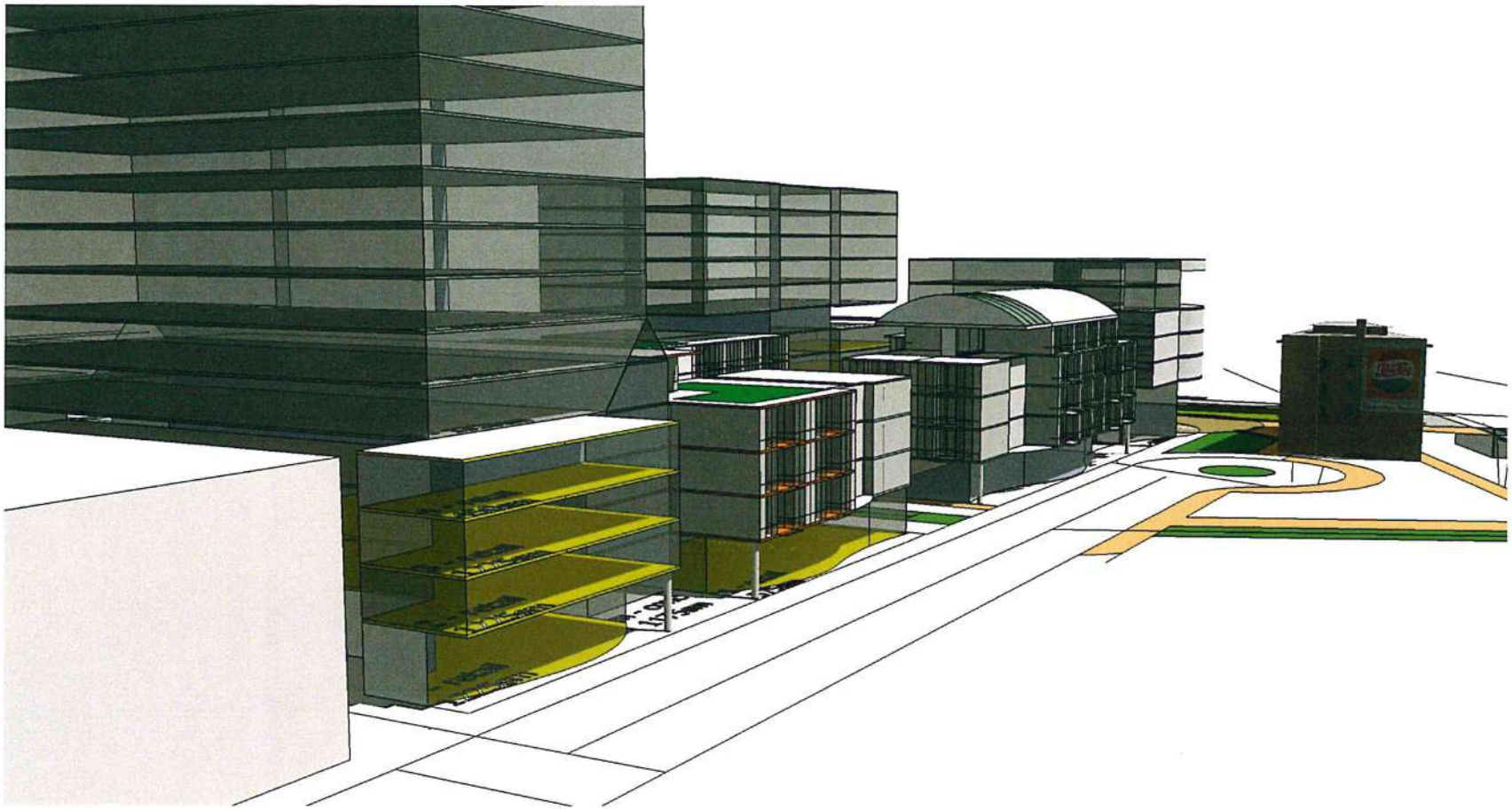

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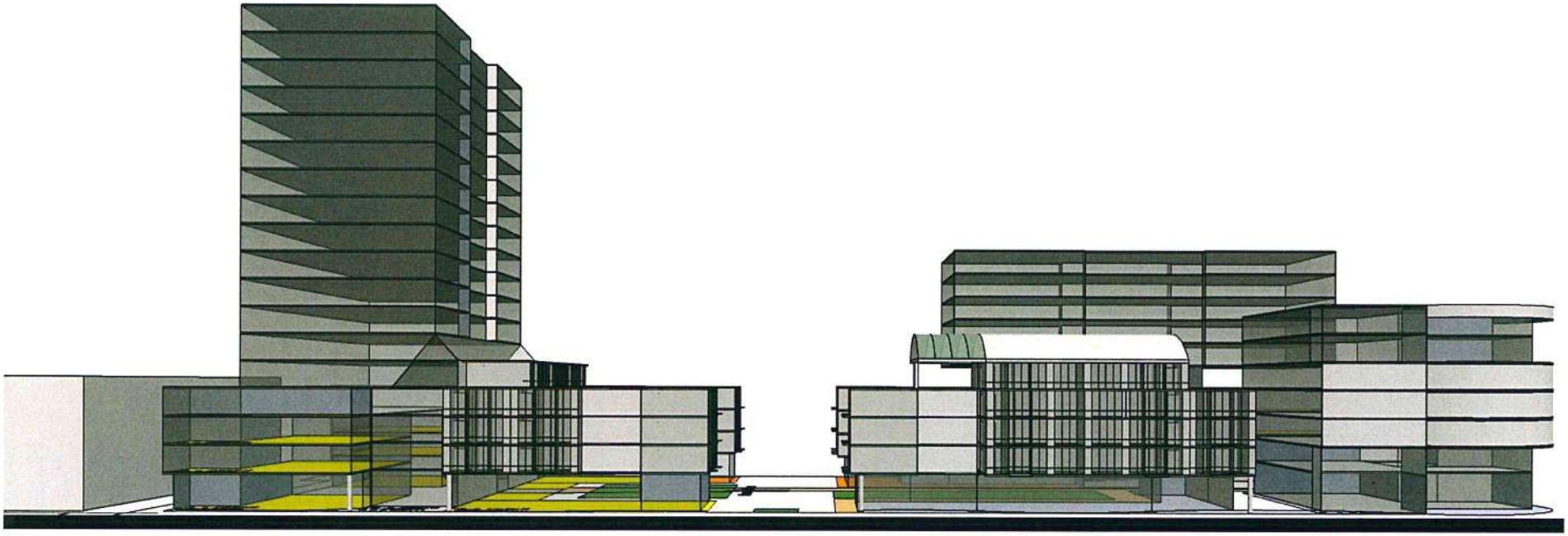
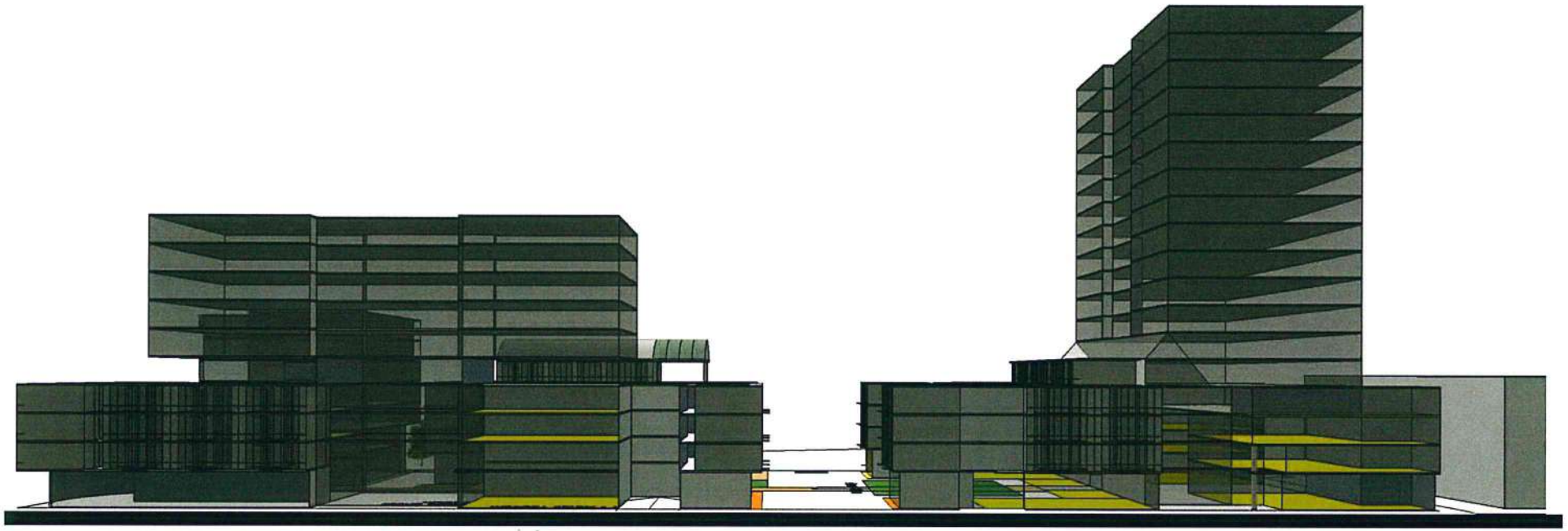


101a Avenue Elevation Blocking Study (South Side)

F. Concept Development



102 Avenue Elevation Blocking Study (North Side)

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: a return **to space within building**

F. Concept Development

Each building base respects the parapet heights of the adjacent historical properties.

Armature Elevation Blocking Study (West Side)

G. Next Steps

Source: google earth

G1. Next steps

- Update Site Analysis
- Update Program Update (Living Document)
- Update Site Blocking plan
- Final design

APPENDIX D - 9B FINAL POWERPOINT PRESENTATION

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: **a return to space within building**

Thesis Presentation 3: Final Design

November 2010

bK **AB900011** **9B**

A. Introduction

Thesis Statement

Through the investigation of the ideals of community, theories of good city form, and the study of the inter-relationship between people and the urban space that surrounds them, this thesis will prove that a strong sense of place can be created employing good urban solutions coupled with contextually sensitive architecture to successfully rejuvenate a decayed, underdeveloped Edmonton inner city neighbourhood. This thesis will establish an area redevelopment strategy for the urban renewal of an important piece of Edmonton's downtown into a vibrant mixed-use residential community, a character neighbourhood and showpiece for the city. The Architectural interventions that result will connect live, work, play and public space together through the integration of the urban fabric that binds them.

A Sense of **Place**, **Setting**, **People** and **Design**
Research: **space within building** to **buildings within space**

A. Introduction

"space within building to buildings within space "

The **current urban condition** is one of **Urban Sprawl** which is often described as **Uncoordinated Transportation** and **Land Use Planning**

- Dispersed urbanization resulting in an outward physical urban expansion exceeding demographic growth;
- Segregated land uses (ie) work here, live there, play elsewhere;
- A filtering down of neighbourhoods from old to new creating class segregation;
- Large amounts of underutilized inner city land due to outward urban expansion;
- Traffic congestion;
- Costly city services;
- A loss of farmland/natural ecosystem to city expansion.

Source: newurbanism.org

B. Urban Centre Development

"space within building to buildings within space"

20th Century: Technology, Industrialization and Urban Expansion

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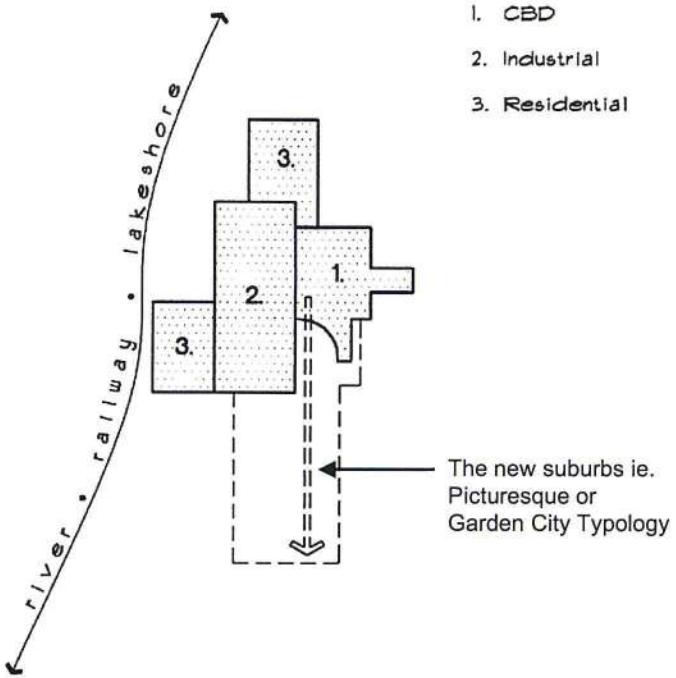
Pre 1945 Urban Development in North America



Source: Brad Kimball

19thCentury and early 20th Century city's developed with industrial land uses located linearly along railways, rivers, canals, ocean or lake shores. Commercial/ residential districts were located with close proximity;

With the advent of transportation systems such as the streetcar and suburban railway lines, high-income residential area's developed beyond the city centre along such transportation routes;

B. Urban Centre Development

"space within building to buildings within space"

20th Century: Technology, Industrialization and Urban Expansion

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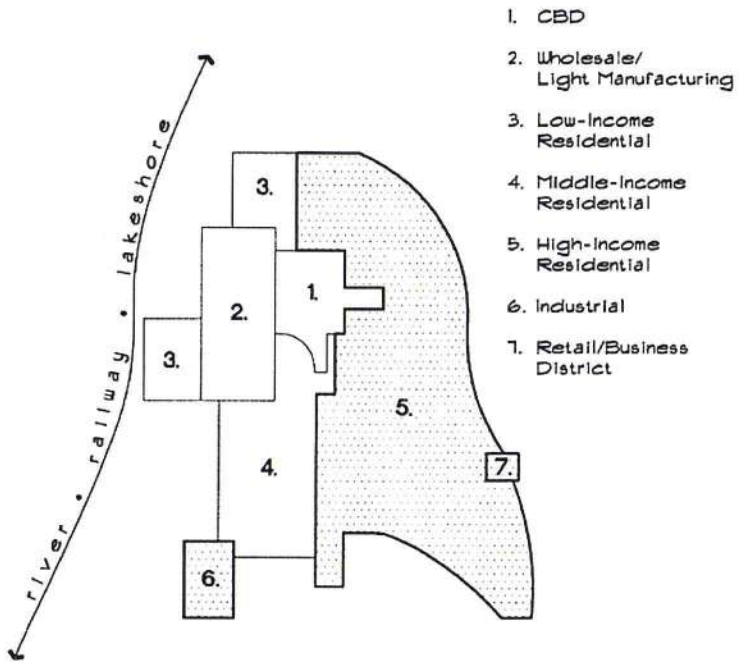
1945 TO 1975 Urban Development in North America



1. CBD
2. Wholesale/ Light Manufacturing
3. Low-Income Residential
4. Middle-Income Residential
5. High-Income Residential
6. Industrial
7. Retail/Business District

Source: Brad Kimball

In geographic terms, this new urbanization was characterized by rapidly growing suburban municipalities. This new growth occurred at a frantic rate, driven by the baby boom and a period of post-war sustained prosperity;

The relocation of the new middle-class to the suburbs triggered a filtering down of inner-city housing which in turn created a decline in the house-hold socio-economic status. This created a subsequent deterioration of aging housing stock.

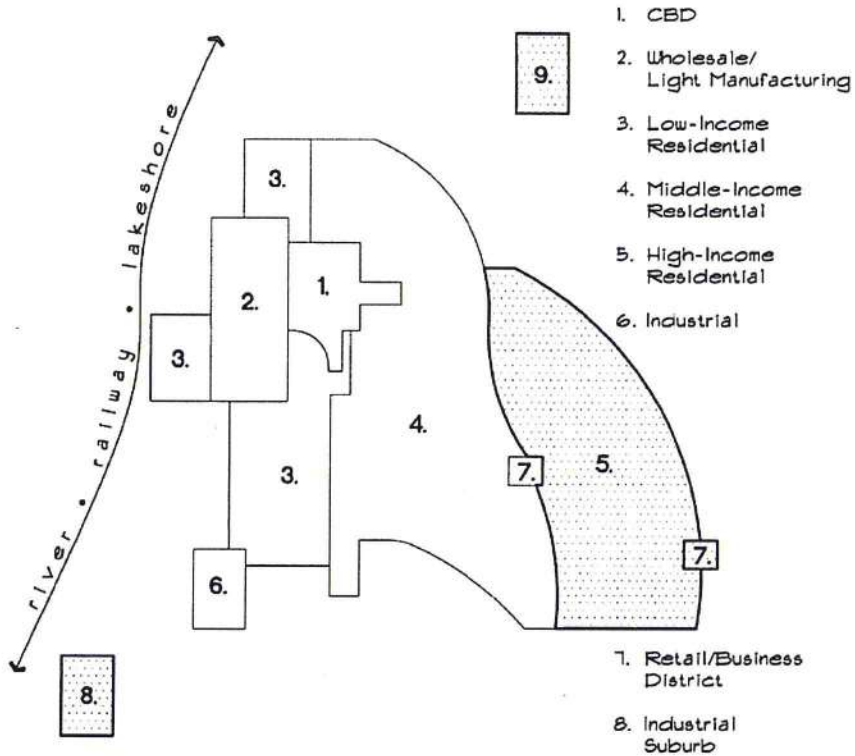
Governments helped suburban development by building schools, hospitals, and subsidized housing in the suburbs.

B. Urban Centre Development

"space within building to buildings within space"

20th Century: Technology, Industrialization and Urban Expansion (cont.)

1975 to Present Urban Development in North America



Source: Brad Kimball

The last 35 years has seen the suburbs surpass the central city in terms of population size, retail activity, manufacturing, as well as office and public institution employment; Homogeneous planning exists with segregation of uses;

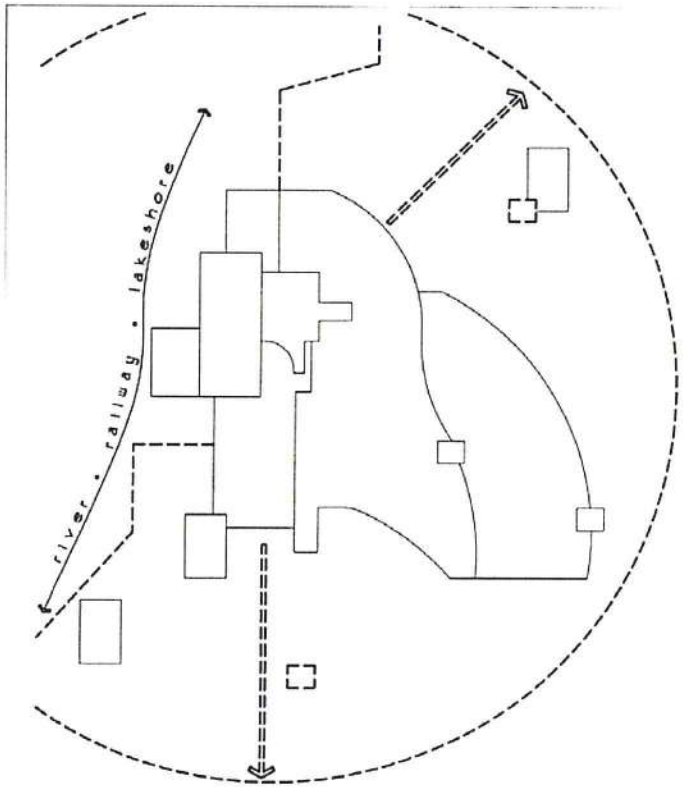
Dispersed styles of suburbanization over this period has resulted in a increased rate of outward expansion that far exceeds demographic growth; In terms of retail, the appearance of factory outlets, "big-box" stores and "power malls" have redefined the shopping centre hierarchy

B. Urban Centre Development

"space within building to buildings within space"

20th Century: Technology, Industrialization and Urban Expansion (cont.)

The effects of Urban Sprawl in North America



Source: Brad Kimball

The economic cutbacks of the 1990's have made it increasingly difficult for the public-sector to provide the necessary infrastructure needed for a dispersed urban form; Automobile ownership and increased automobile usage has made urban has raised serious environmental concerns in terms of air quality, land use and habitat protection in many North American cities;

Suburban living typically separates residence from employment, commerce and cultural/recreational activities by grater distances.

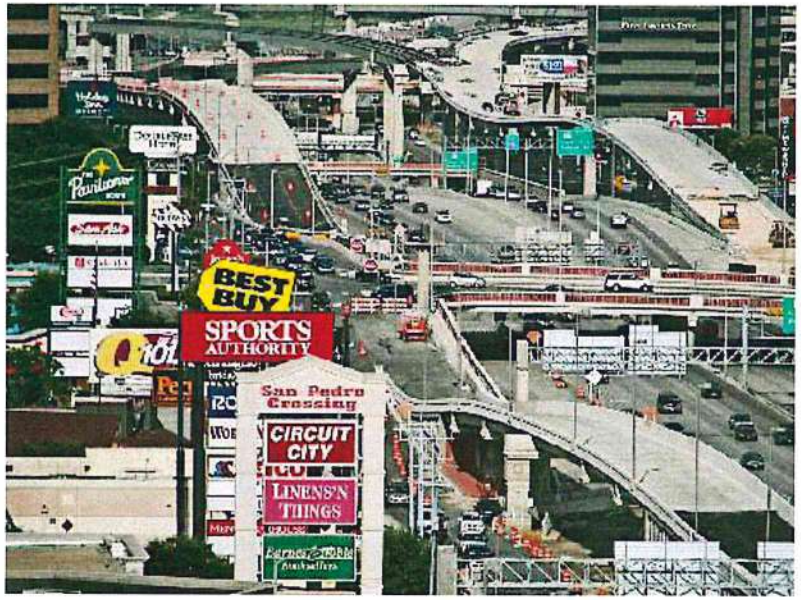
The increased commuting requires greater energy use, which in turn, contributes to traffic congestion, air pollution and ultimately non-sustainability.

B. Urban Centre Development

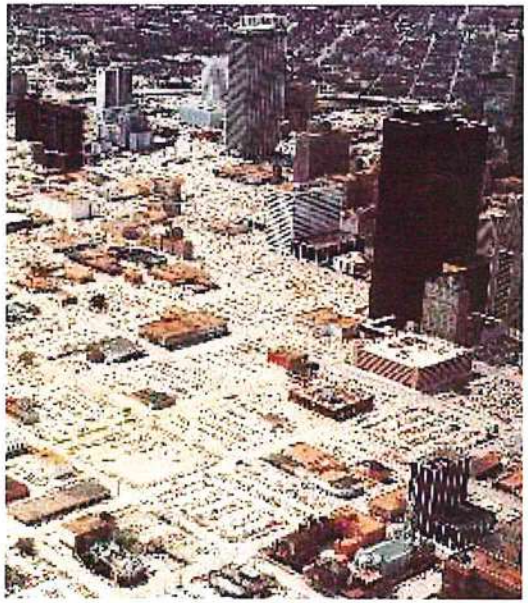
"space within building to buildings within space"

The Effects of Urban Sprawl

- in the current urban setting, **30% to 60% of urban land use** is dedicated to **roads, highways, driveways**, and **parking lots**;
- The Sierra Club of Canada reports that the **City of Edmonton currently has 38 partially built community developments**. All of these community's are located in the city's periphery "even though the **total amount of undeveloped land** (within the city boundary) **could accommodate over 16 years worth of single-family development"**



Source: newurbanism.org



Source: newurbanism.org

A Sense of **Place**, **Setting**, **People** and **Design**
Research: **space within building** to **buildings within space**

C. Urban Success?: An Integrated Community Planning Approach

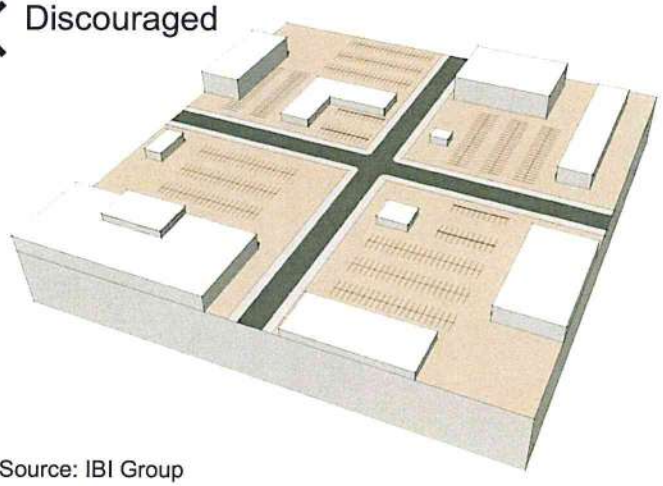
"**planning principals** for a renewed **urban**"

A Multi-scale Planning Approach – Defining an Integrated Approach for a new Urban

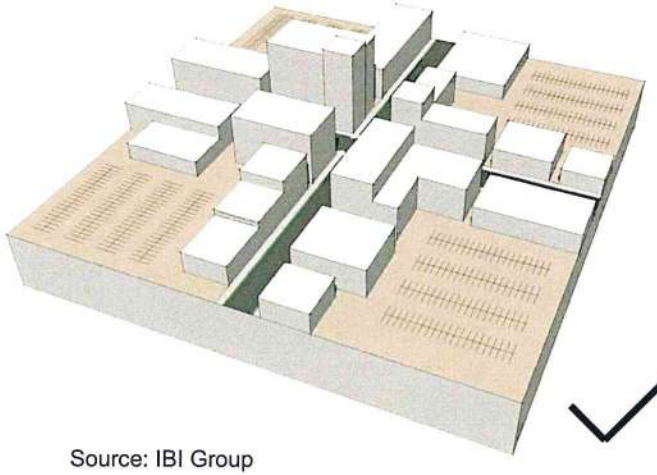
Integrated Community Planning is a **Multi-Scale Planning Approach** which draws on the **ideology of Urban theorists** such as **Jacobs, Lefebvre** and **Lynch** which creates a methodology that aims to **create vibrant, diverse urban environments**. The key elements in today's urban developments concentrate on:

1. Urban growth Boundaries
2. Infill neighbourhoods and their surrounding context
3. Walkable street and path networks
4. Pedestrian friendly built form
5. Crime prevention
6. Mixed use buildings
7. Mixed-Use Neighbourhoods

✗ Discouraged



Source: IBI Group



✓ Encouraged

Source: IBI Group

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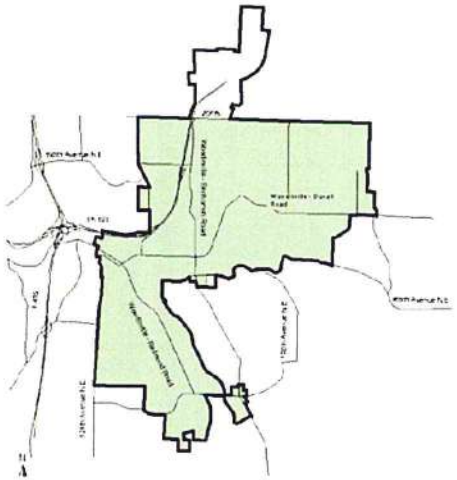

By defining a no-development boundary line around the perimeter of today's cities can provide the stimulus to encourage compact regional land development:

A Sense of **Place**, **Setting**, **People** and **Design**
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Source: IBI Group

Urban redevelopment should reflect and or compliment existing surrounding building forms and neighbourhood contexts.

Any new urban intervention proposed such an infill environment should respect local built form, historical, cultural, and natural elements.

As part of the initial study of any urban redevelopment, a neighbourhood context plan should be completed to fully understand the contextual impact of the infill site.

A Sense of **Place**, **Setting**, **People** and **Design**
Research: **space within building** to **buildings within space**

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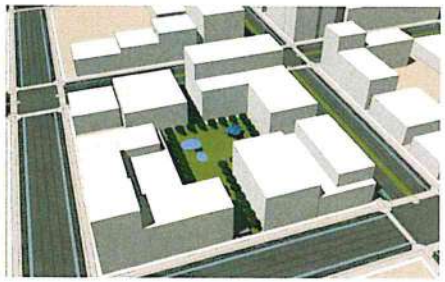

Source: IBI Group

The street and neighbourhood block layout within **the urban intervention should allow for direct and safe pedestrian movement**. The resultant design approach should involve a **grid-based system with interconnected streets and sidewalks along short, narrow blocks**. This will provide a **walkable environment providing more direct and convenient** access for pedestrians. The design requirements for pedestrian friendly environments should include:

- City blocks should measure no more than 200 m long on one side. This will allow for street and **block patterns to remain walkable and porous**. Intersections should occur between 80 and 180 m;

- Provide **mid block pedestrian paths** through blocks or buildings that cover the majority of the block when blocks lengths are more than 200 m. These paths should be paved, possess clear, direct sightlines and be well-lit for public safety

A Sense of **Place**, **Setting**, **People** and **Design**
Research: **space within building** to **buildings within space**

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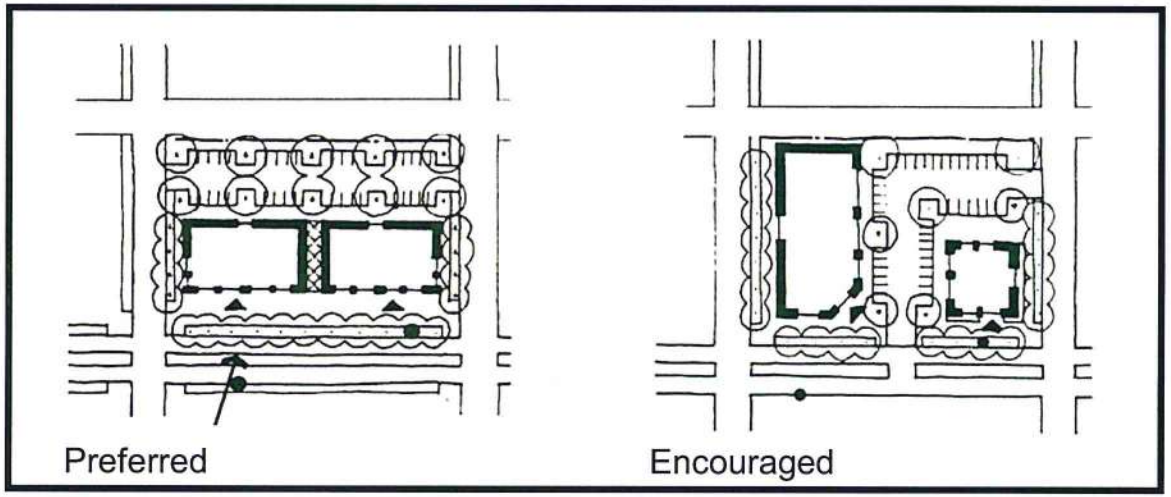
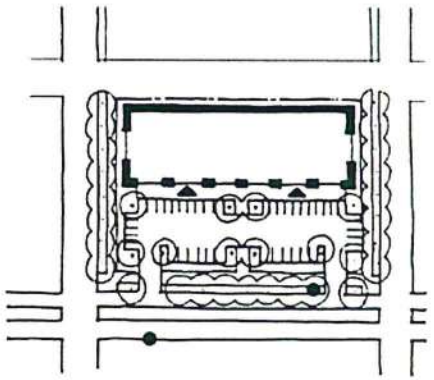
4. **Pedestrian friendly built form**
5. Crime prevention
6. Mixed use buildings
7. Mixed-Use Neighbourhoods

Streets are most desirable and comfortable when they provide pedestrians a feeling of enclosure. A successful walkable street is defined by its edge condition which can be created by buildings, objects and/or trees, all of which can give the illusion of an outdoor room





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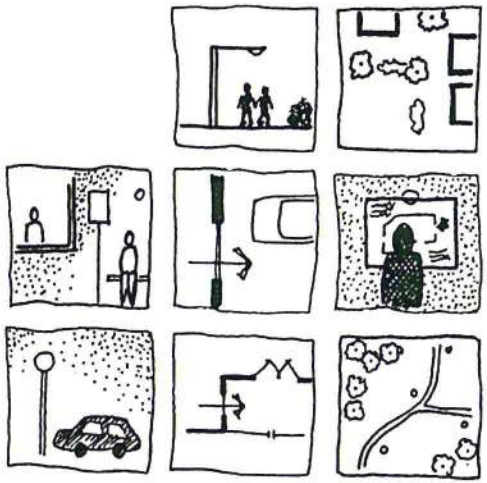
7. Mixed-Use Neighbourhoods



Source: www.cityofvancouver.us/upload/images/Planning...

Safety and a sense of personnel security are essential components of a successful ICP planning approach for new development. CPTED tactics should be incorporated into new **site and facility design**:

•maximize opportunities for **natural surveillance**;

•provide **unobstructed and transparent sightlines** to exits and destinations;

•foster territoriality and a **sense of ownership**;

•provide **natural and artificial lighting** to all areas frequented by **pedestrians**;

•require the use of CPTED tactics in all public paces and areas frequented by pedestrians and in neighbourhood structure plans.

A Sense of **Place**, **Setting**, **People** and **Design**
Research: **space within building** to **buildings within space**

C. Urban Success?: An Integrated Community Planning Approach

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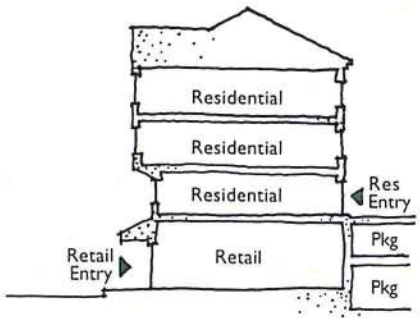

Source: Peter Calthorpe – The Next American Metropolis

Mixed use/ higher density building design:

- A combination of single family, multifamily, mid rise/ hi rise mixed use
- Ground floor retail;
- Commercial, office, or residential above;
- Parking below, above or behind, but not in front on surface lots
- Building Entrances
- Architectural Variety

A Sense of **Place**, **Setting**, **People** and **Design**
Research: **space within building** to **buildings within space**

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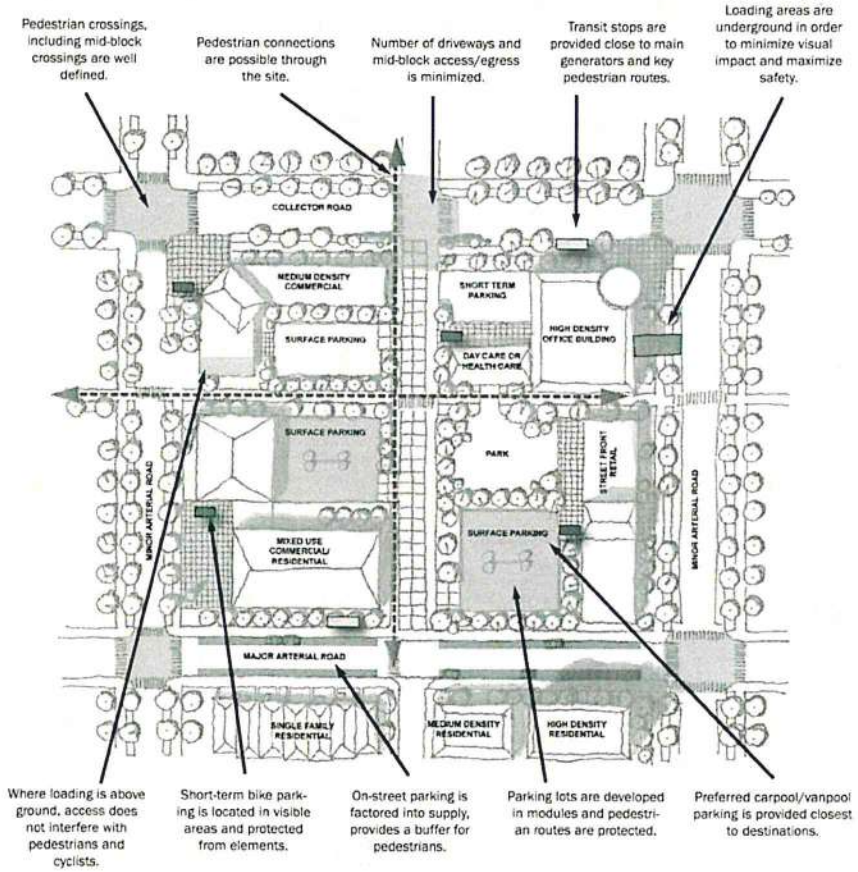
5. Crime prevention
6. Mixed use buildings
7. **Mixed-Use Neighbourhoods**

Neighbourhoods containing multiple **Mixed Use Buildings** are the basis of the ICP theory due to the fact that such neighbourhoods **have higher concentrations of people day and night, seven days a week**.

Design elements to create successful mixed use urban environment include:

- Building Placement
- Building Location
- Careful balance of Green Space and/or Amenity Space
- Careful placement of Parking



A Sense of **Place**, **Setting**, **People** and **Design**
Research: **space within building** to **buildings within space**

D. Research Synopsis

Research Lessons Learned:

The **sprawling condition of today's cities** not only **creates a lack of sense of place**, but also creates **unsustainability from both a financial and energy efficiency** standpoint.

Learning form the past, *Good City Form* requires a careful blend of **fine-grain mixed use land designations**: a **combination of new and old architecture; pedestrian friendly** environments; and a **careful balance of green space and/or amenity space** to create a vibrant urban environment. The key elements for the success of the urban environment are:

1. Creating Urban growth Boundaries
2. The Infill neighbourhoods and their surrounding context
3. The development of Walkable street and path networks
4. Pedestrian friendly built form
5. Crime prevention
6. The creation of Mixed use buildings, and
7. The design of Mixed-Use Neighbourhoods

"***Architecture must be positioned responsibly between landscape and urbanism"***

Source: terrain.org

Source: terrain.org

D. Research Synopsis

Overall extent of study area

The City of Edmonton: Jasper East

Source: google earth

Intent to Study

Create a catalyst building as the impetus for development of the Quarters.

The challenge for the next stage of this thesis is to study, challenge, and/or apply the ICP methodology to a **large scale urban infill solution**.

The setting chosen for this thesis is the Jasper East area (*currently known as the Quarters*). Located immediately east of Downtown Edmonton between 97th Street to 95th Street and Jasper Avenue to103A Avenue.

This project will define the planning parameters for the Quarters Initiative and develop the design for catalyst building for the development.

E. Proposed Site: Analysis

Parameters by which to study - creating an urban design standard

Existing condition – ariel view (Google Earth)

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: **a return to space within building**

E. Proposed Site: Analysis

Parameters by which to study - creating an urban design standard

Existing condition – Figure Ground

Drawing Legend:

Open lot:

Historic Buildings:

Buildings of Note:

Traffic Direction:

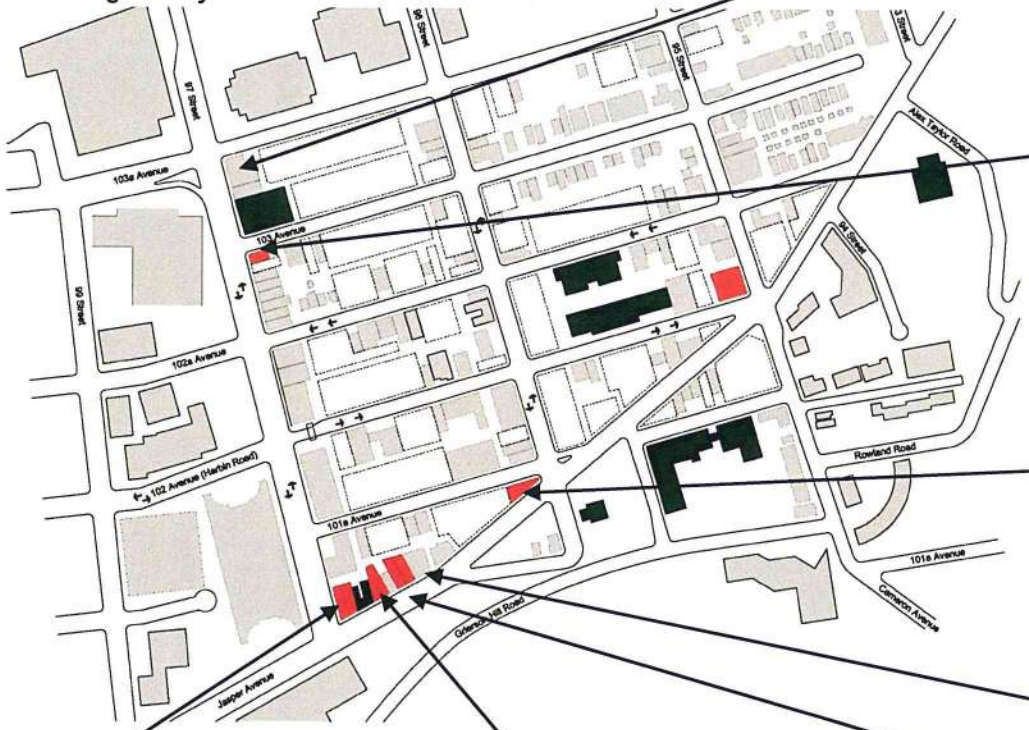
One way traffic

Two way traffic

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: **a return to space within building**

E. Proposed Site: Analysis

Historic Building Overlay



Stovel Block - 1907

Kingston Powell Block - 1907

Gibson Block - 1913

Goodridge Block – 1911/1912

Gem Theatre – 1913-1914

Ernest Brown Block - 1912

Pendennis Hotel – 1904/12

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: **a return to space within building**

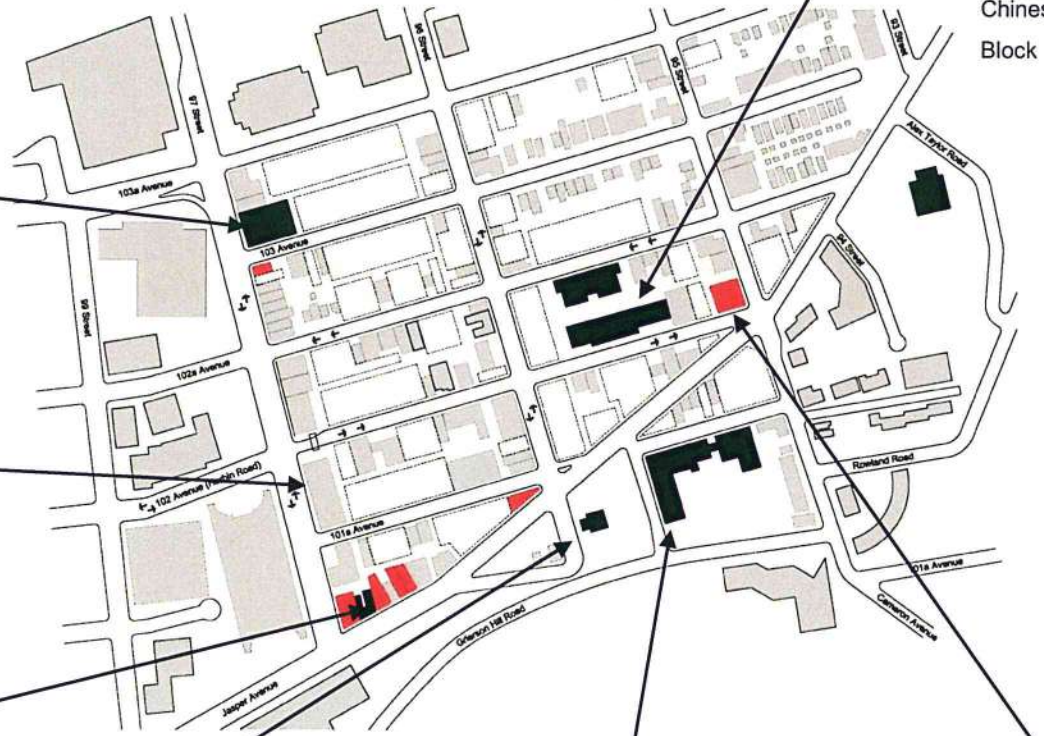
E. Proposed Site: Analysis

Buildings of Interest

Chinese Cultural Block

Army & Navy Block - 1911

New Residential



Jasper House / Hub Hotel – 1882/12

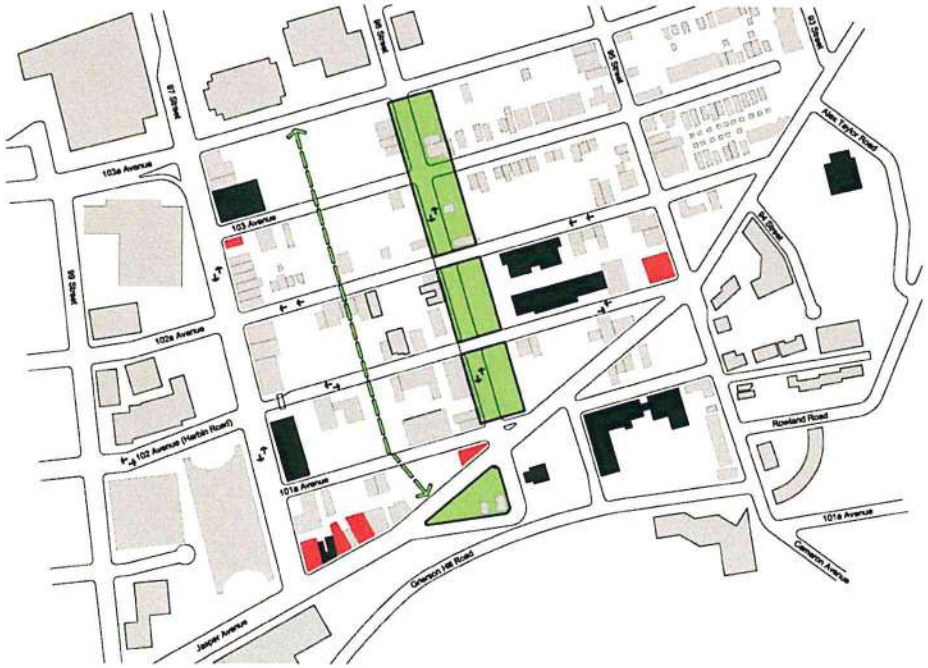
St. Barbara's Russian Orthodox Church

Royal Northwest Mounted Police Barricks – 1912/13

Edmonton Auto Spring Works - 1923

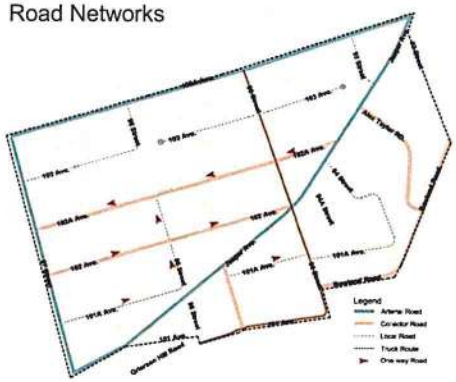
E. Proposed Site: Design Parameters

The Quarters Overlay

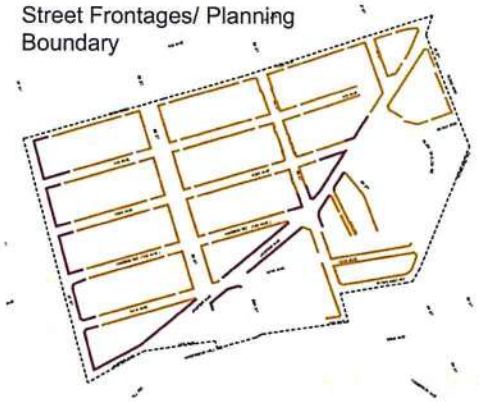


Green Space

Road Networks

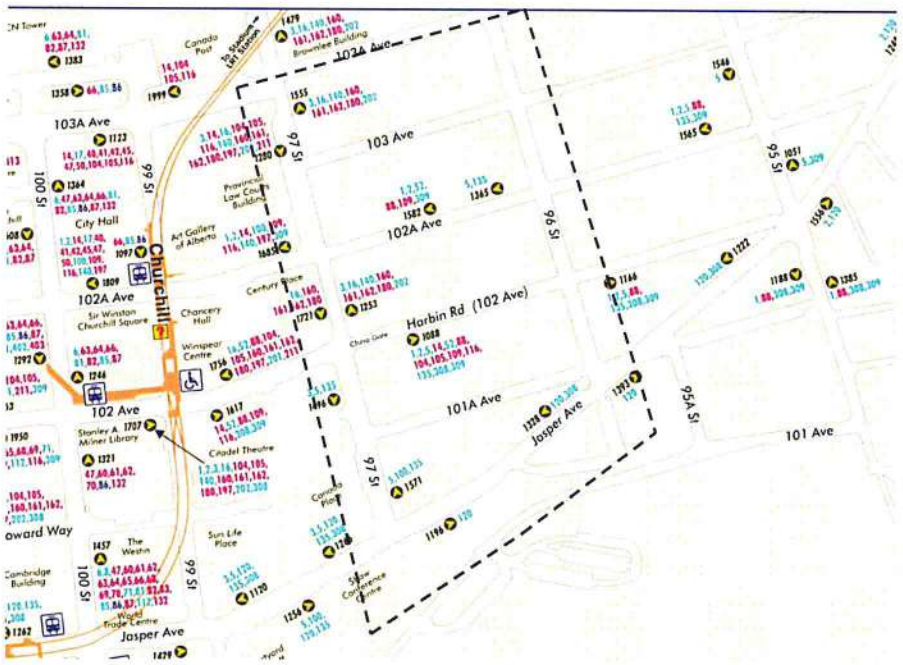


Street Frontages/ Planning Boundary



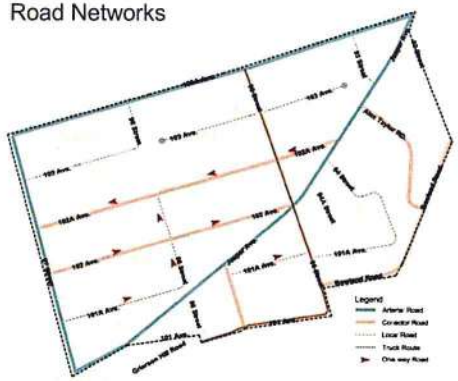
E. Proposed Site: Design Parameters

Transit overlay



Green Space

Road Networks



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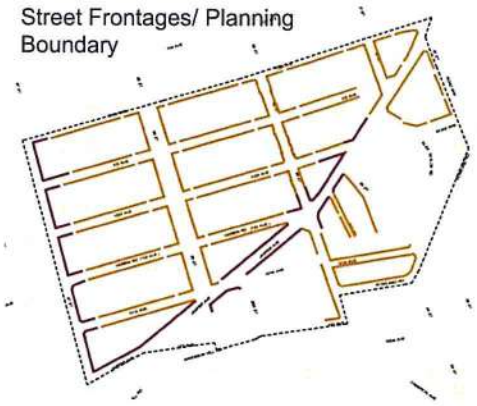
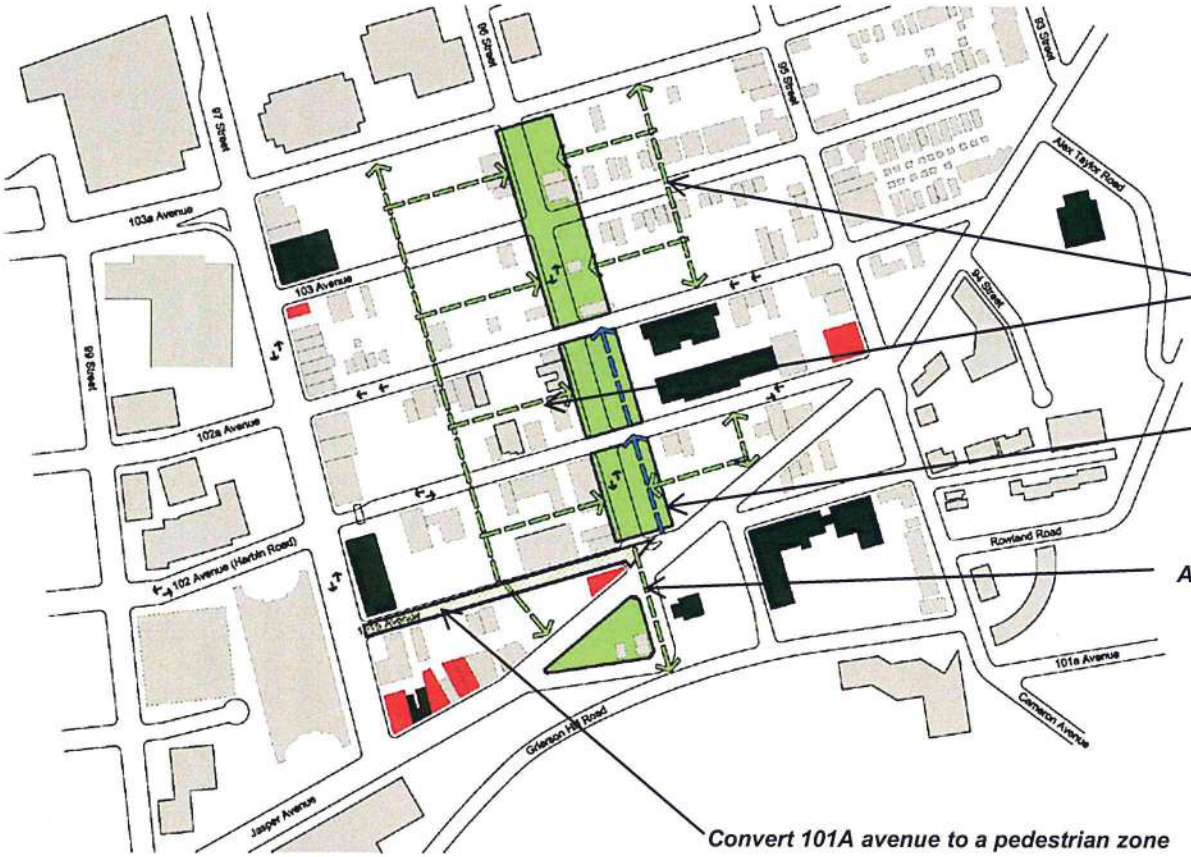


E. Proposed Site: Design Parameters

Conceptual Overlay – The Quarters



The proposed design changes to the quarters overlay provides the urban framework to study the ICP methodologies of urban infill.

Add mid block pedestrian corridors

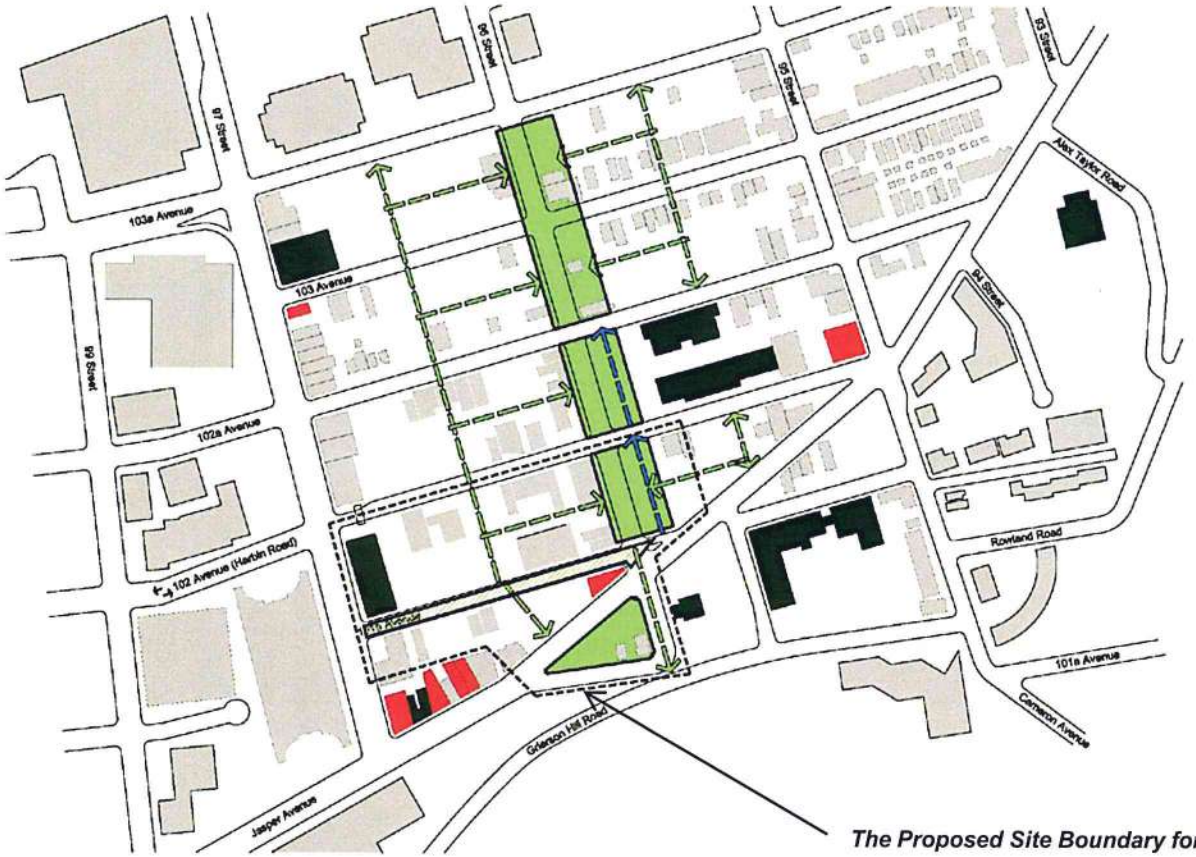
Add one way vehicle access north south

Address connectivity to the river valley

Convert 101A avenue to a pedestrian zone

E. Proposed Site: Design Parameters

Conceptual Overlay – Proposed Site



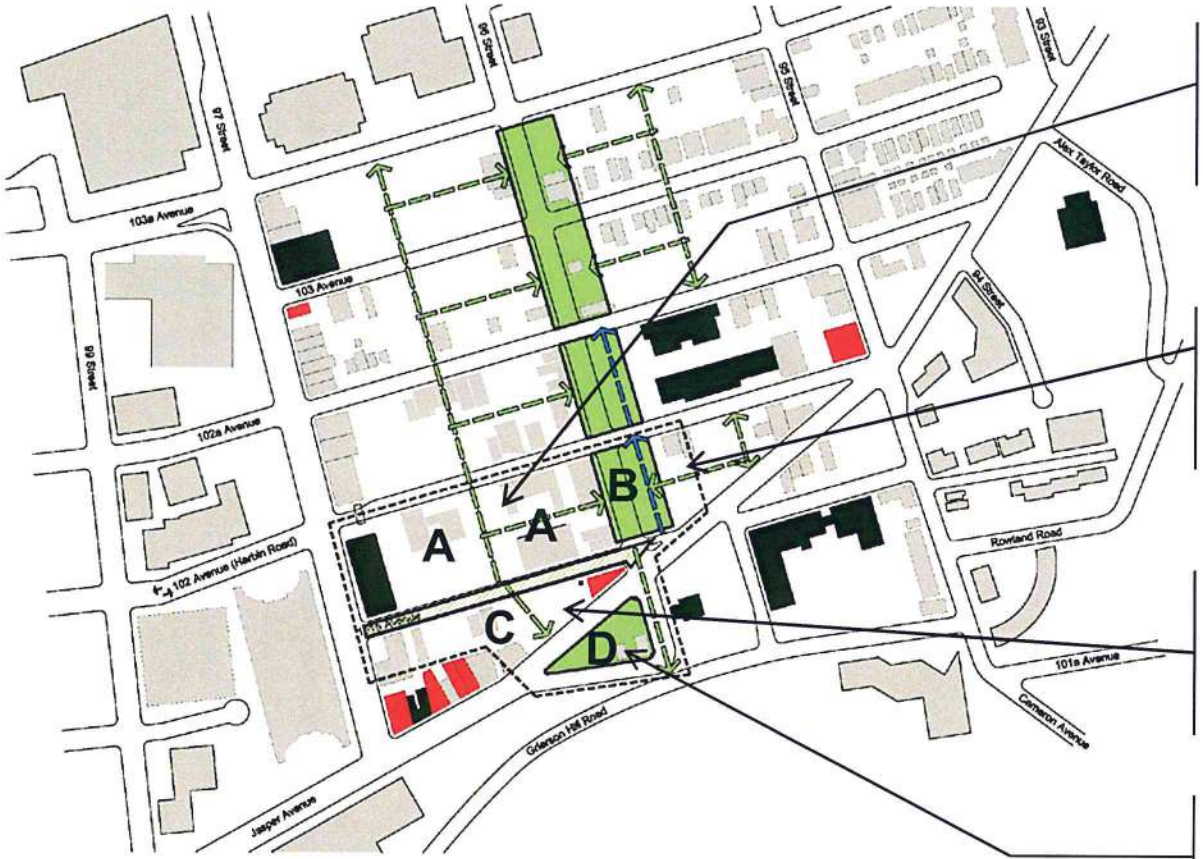
The Proposed Site Boundary for the Catalyst Project

The proposed design for this site will inform design direction for the entire Quarters development by studying the following:

1. Building placement relative to the Armature and mid block pedestrian zones;
2. Historical building context
3. Parking
4. Connectivity to "amenity" zones
5. Connectivity to river valley
6. Pedestrian friendly edge
7. Density
8. Building type zoning

E. Proposed Site: Design Parameters

Conceptual Overlay – Catalyst Infill Project Planning Parameters



Development Requirements: Area A

1. Up to 15 storeys in height
2. FAR: min 3.0, max 6.0
3. 33% of total building area dedicated to residential

Development Requirements: Area B

1. Up to 6 storeys in height bordering green space
2. FAR: min 3.0, max 4.5
3. 33% of total building area dedicated to residential

Development Requirements: Area C

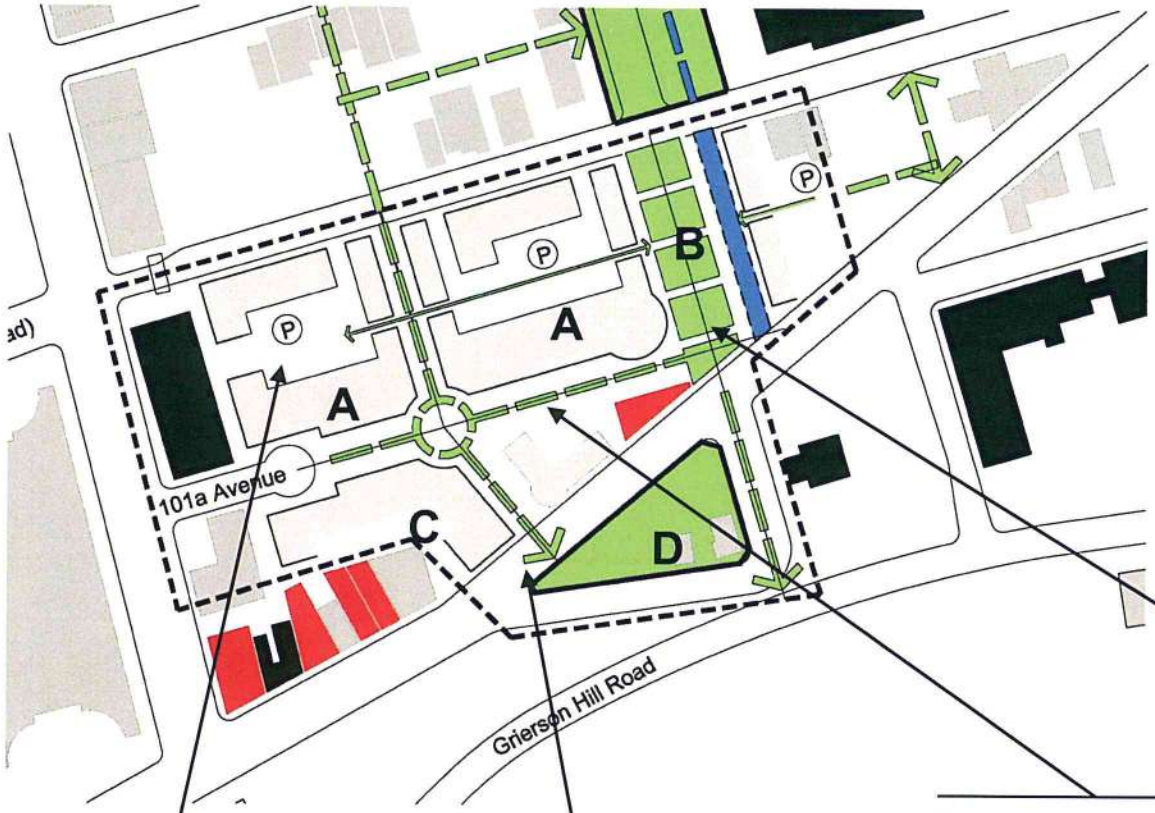
1. Up to 6 storeys in height
2. FAR: min 3.0, max 4.5
3. 33% of total building area dedicated to residential

Development Requirements: Area D

1. Reconnect to the River Valley

F. Project Checklist

Catalyst Infill Project – Project Checklist

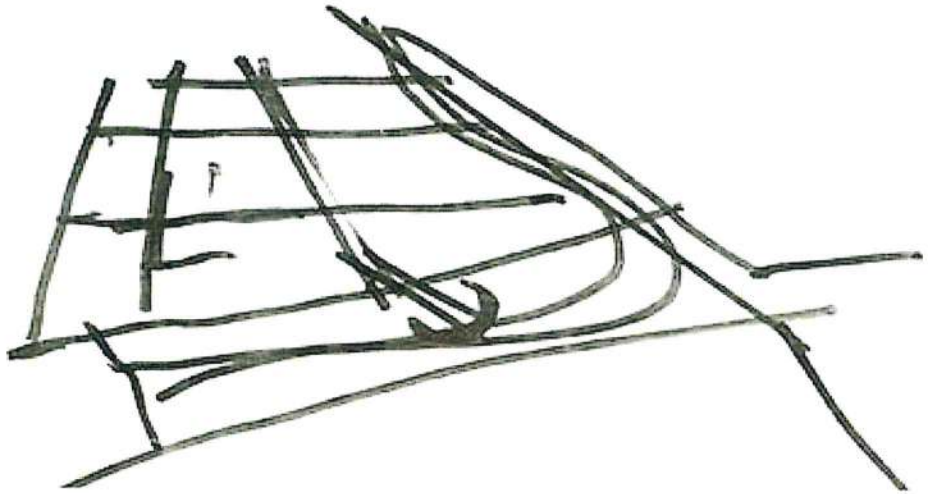


Create Project Checklist:

- ☐ The Infill of neighbourhoods and the respect of their surrounding context
- ☐ The development of walkable street and path networks
- ☐ Pedestrian friendly built form
- ☐ Crime prevention
- ☐ The creation of Mixed use buildings, and
- ☐ The design of Mixed-Use Neighbourhoods
- ☐ Based on FAR/ Mixed use percentages

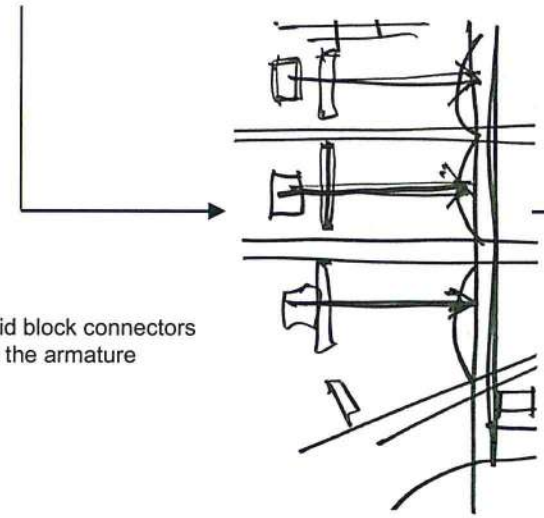
F. Concept Development

Blocking Plan Development

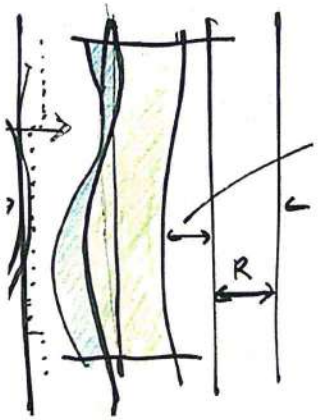


Step 1: define planning parameters within the armature

1. Storm water management
2. Green space connectors to mid block
3. One way north bound access with parallel parking
4. Virtual Extension of the River Valley



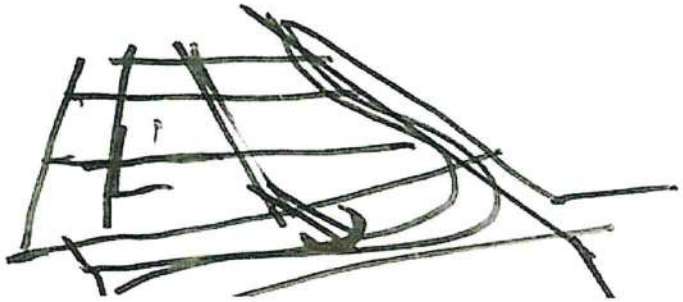
Mid block connectors to the armature



Conceptual image of water feature, green strip, and roadway

F. Concept Development

Blocking Plan Development



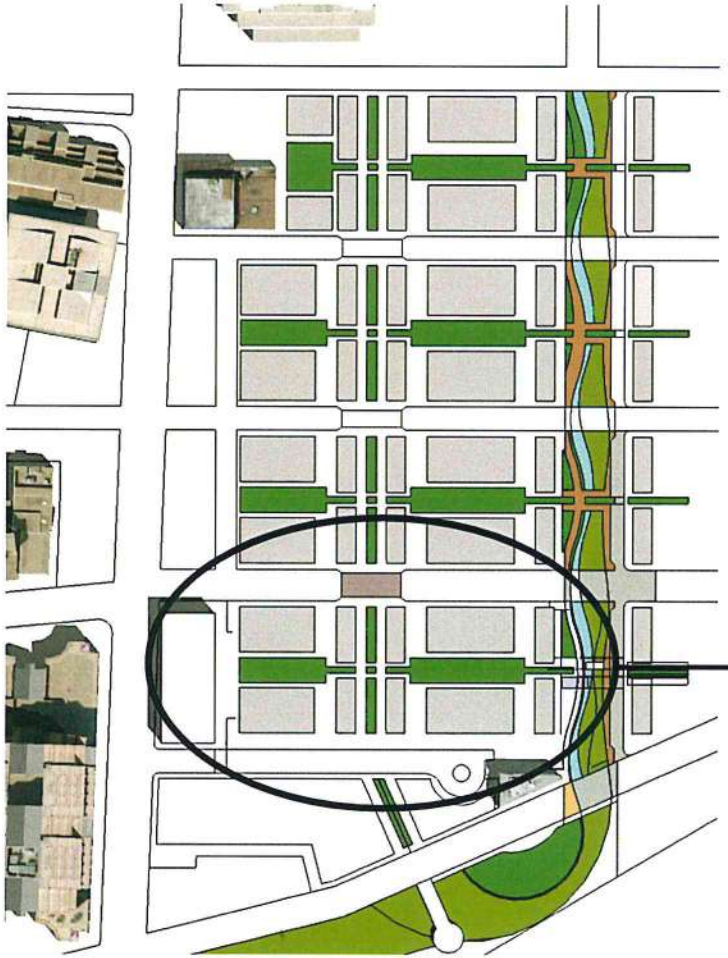
Step 1: define planning parameters within the armature

1. Storm water management
2. Green space connectors to mid block
3. One way north bound access with parallel parking
4. Virtual Extension of the River Valley

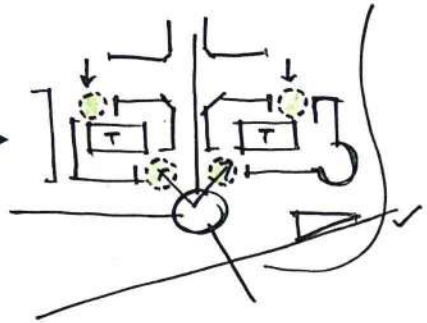
F. Concept Development

Blocking Plan Development

Step 2: redefine blocking of the original site concept



Option a



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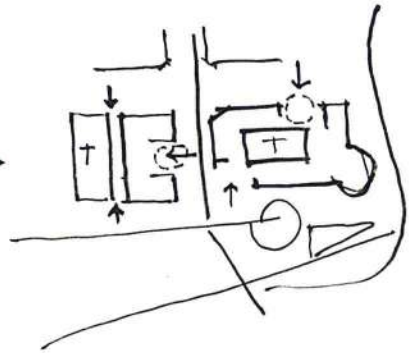
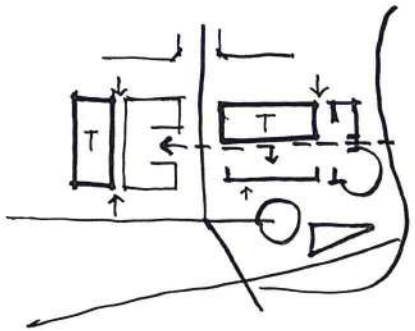


Option c



Option d

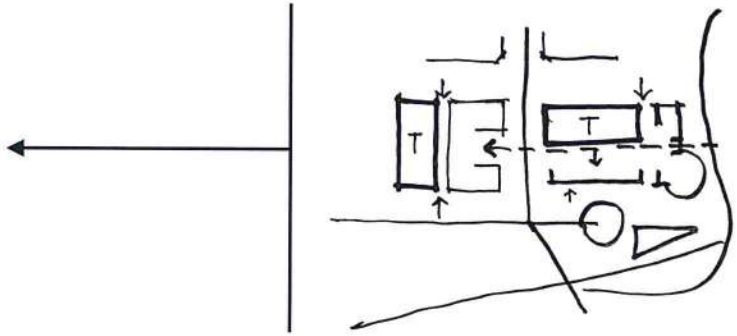
F. Concept Development

Blocking Plan Development

Step 2: redefine blocking of the original site concept

Step 2: redefine planning parameters of the mid-block access

1. Building placement redefined
2. Green space connectors to mid block finalized
3. Density established
4. residential/ commercial ratio established

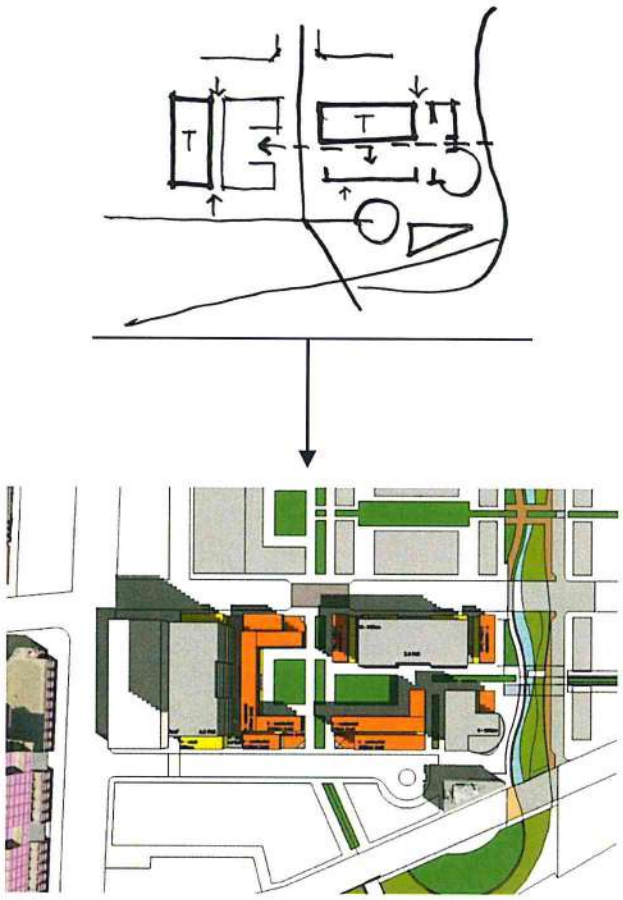


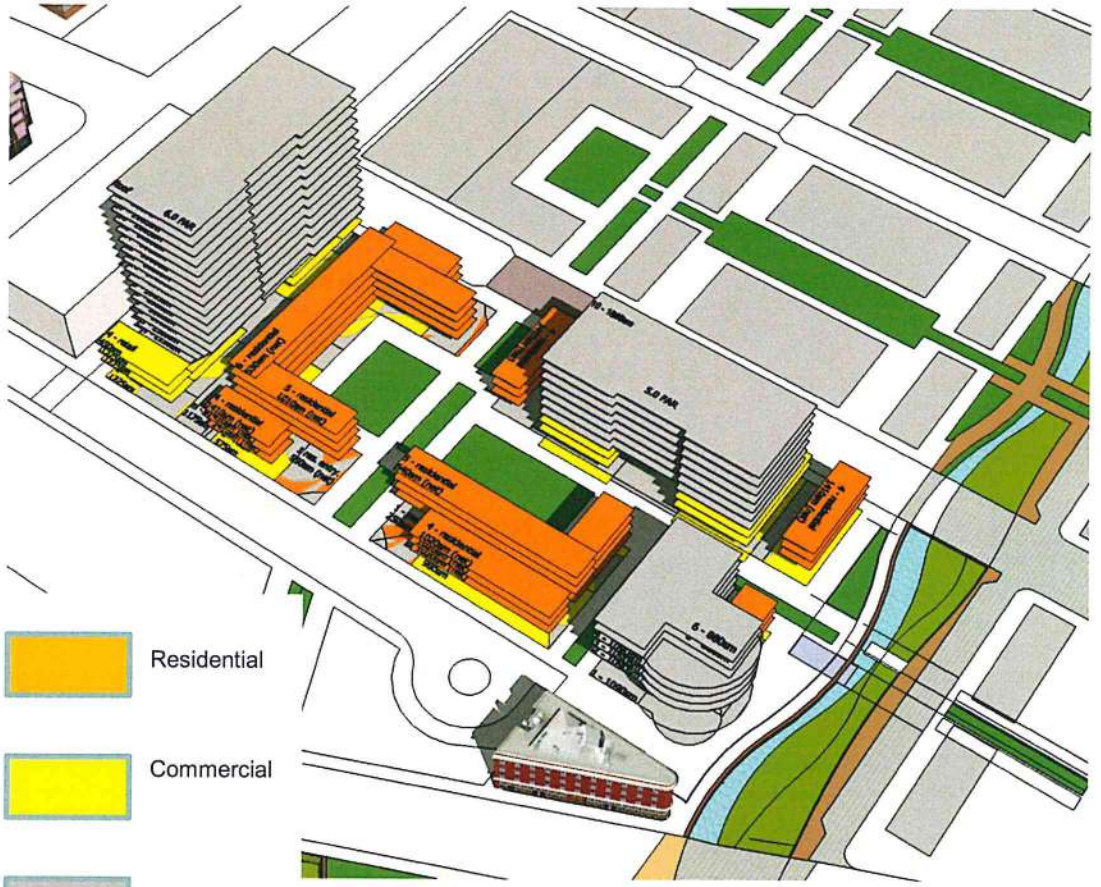
Option d

F. Concept Development

Blocking Plan Development

Step 2: redefine blocking of the original site concept





G. Functional Program

Conceptual Overlay – Preliminary Functional Program

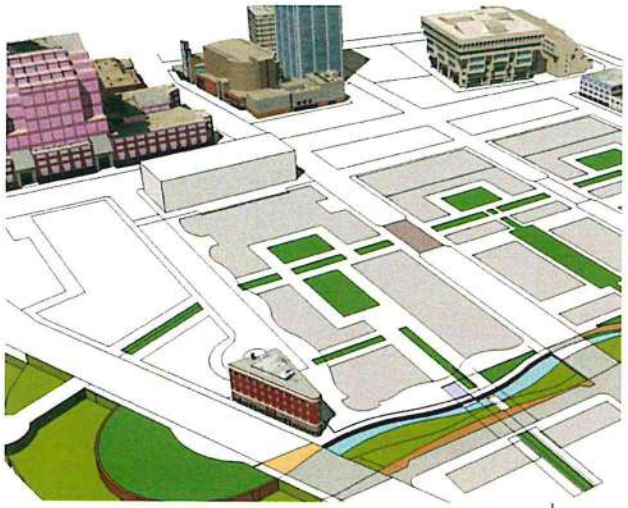
Function	Unit	Area (SF)	Total (SF)	Notes
Residential				
One bedroom units	40 ***(80)***	870	34,800 ***(69,600)***	
Two Bedroom units	60 ***(120)***	1250	75,000 ***(150,000)***	
Live/work 3 storey	-	-	-	incorporate into residential blocks
Penthouse	12 ***(24)***	2000	24,000 ***(48,000)***	
Office/Commercial		-	550,000 ***(740,000)***	density specific
Transitional Housing				
SOR	40 - 50			
Group Facilities				by design
Laundry facilities				1 per floor
Tenant Storage				by floor
Private street entrance				
Community Park	-	-	***by design***	***Armature***

Summary (Original Program Area A, B, C)

Total Residential	***195,800 (336,600)***
Total Office/Commercial	***561,5000 (751, 500)***
Update for Area A (Concept study area)	***730,000 (30% is residential)***

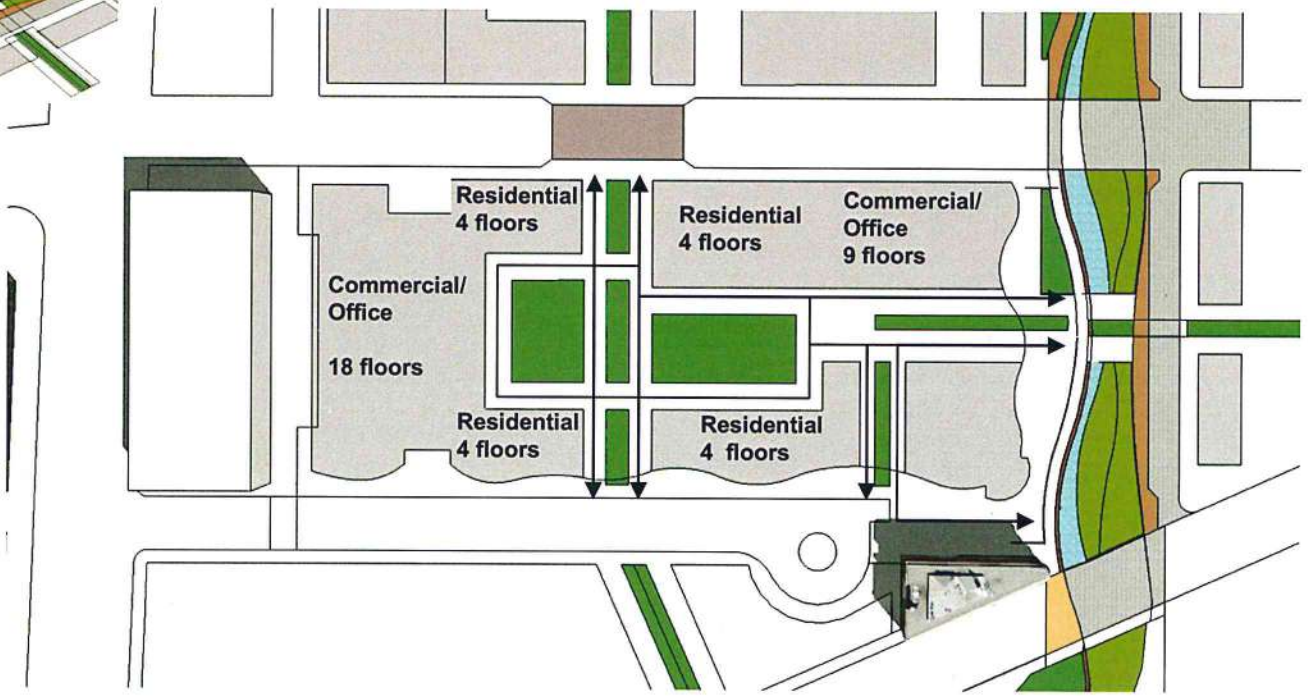
A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: a return **to space within building**

H. Concept Development



Step 3: Creating a Renewed Urban Context

1. Ground floor commercial
2. Mid-rise Residential
3. Hi – Rise Office
4. Walkable edge condition with cross block access



H. Concept Development

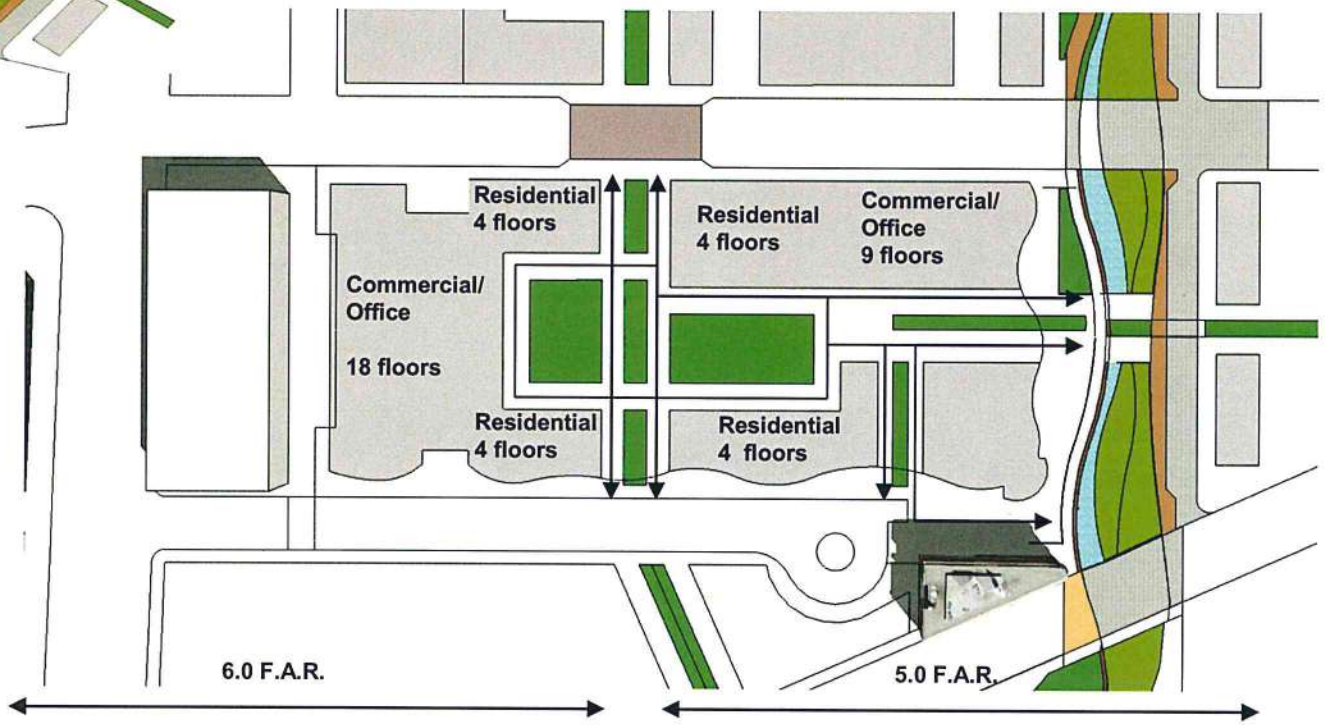
Step 3: Creating a Renewed Urban Context

Commercial: street level to mid rise location up to five storeys in height.

Supports both residential and office uses.

Residential: mid rise location up to five storeys in height.

Eyes on the street with direct view to streets and amenity space.



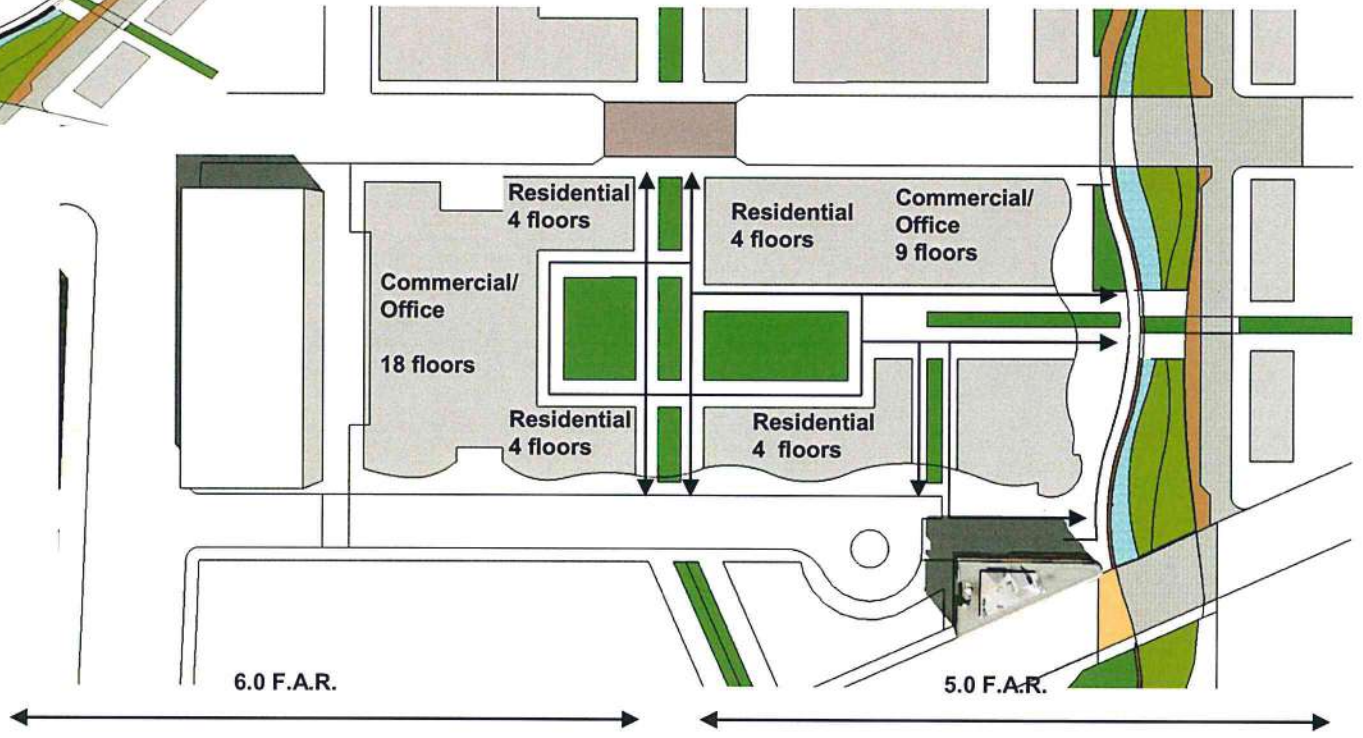
Total planned area: +/- 730,000 sf
(30% residential use)

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: a return **to space within building**

H. Concept Development

Step 3: Creating a Renewed Urban Context

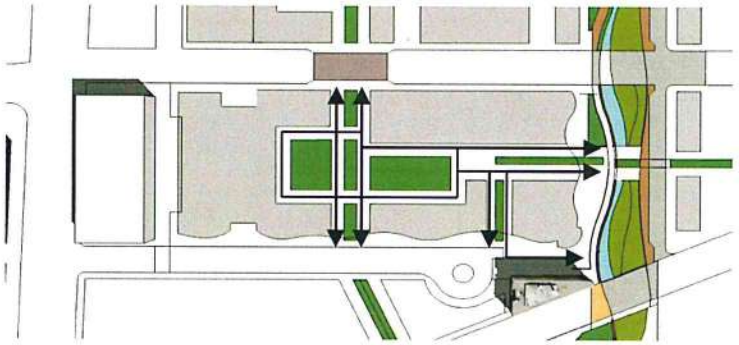
Office: Hi-rise location up to five storeys on the east ; 18 storeys in height on the west.



Total planned area: +/- 730,000 sf
(30% residential use)

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: a return **to space within building**

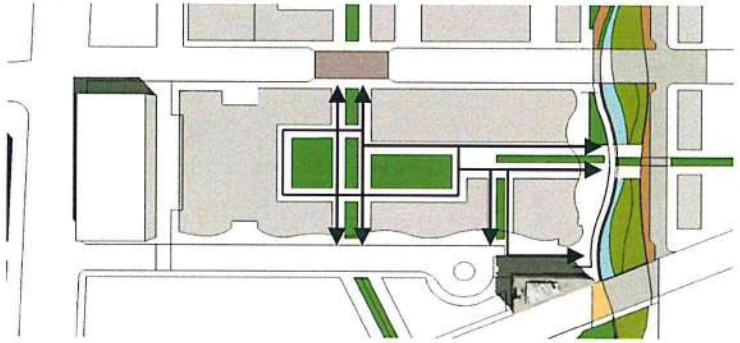
H. Concept Development

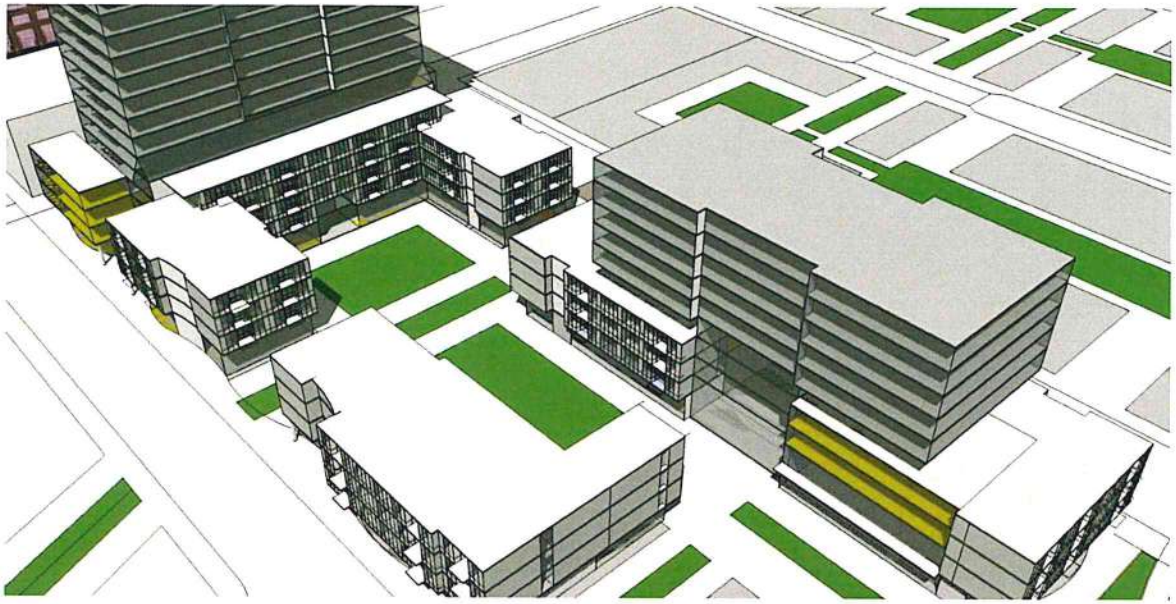


Street Edge Context

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: a return **to space within building**

H. Concept Development

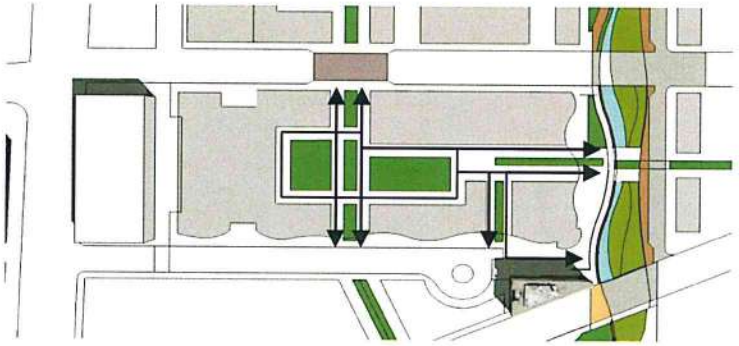




Mid Block Context

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: a return **to space within building**

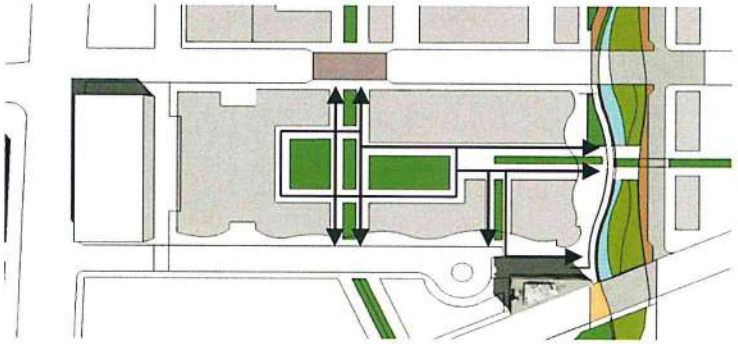
H. Concept Development

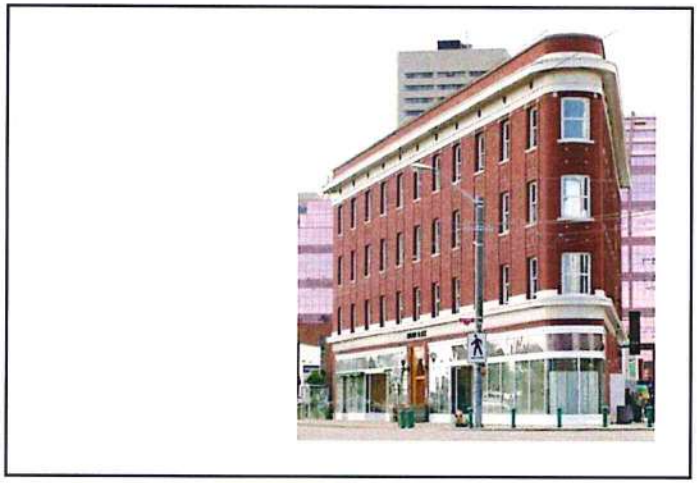


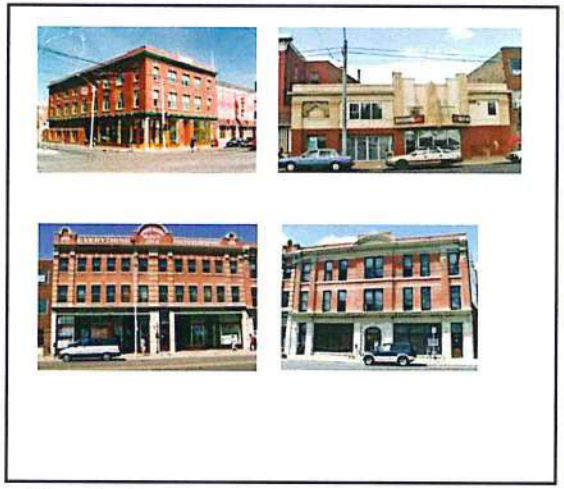
Multi Use Context

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: a return **to space within building**

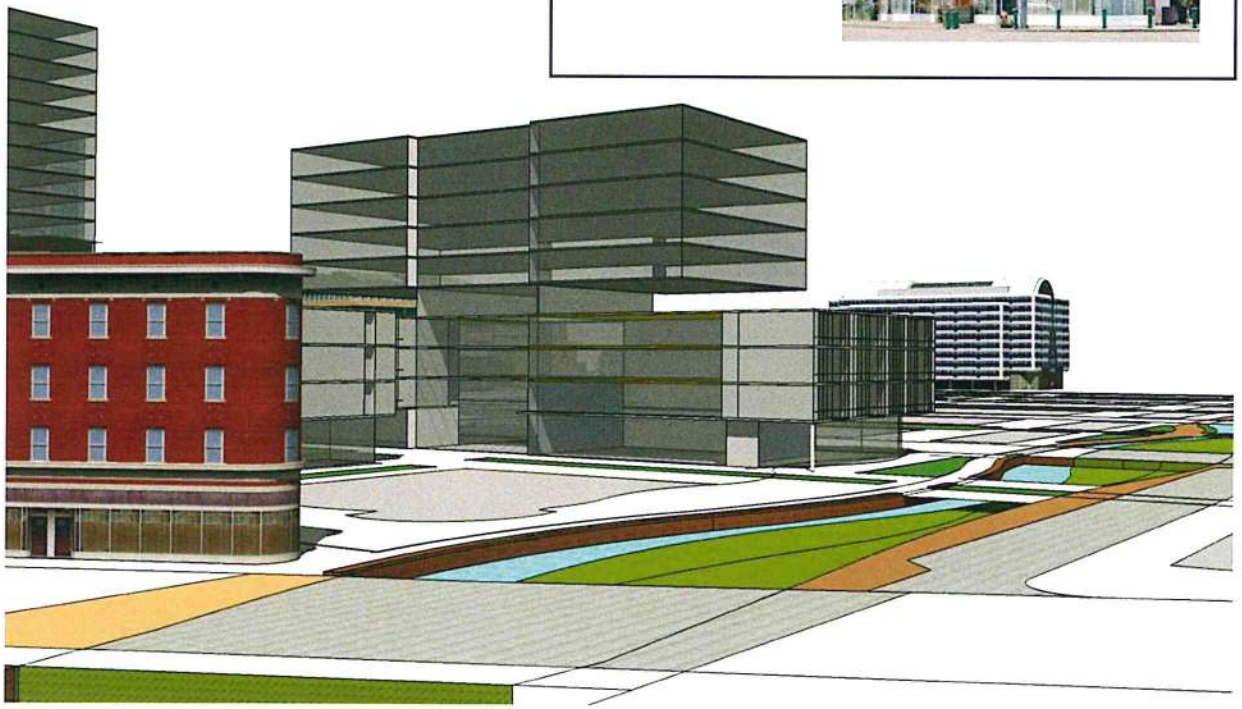
H. Concept Development







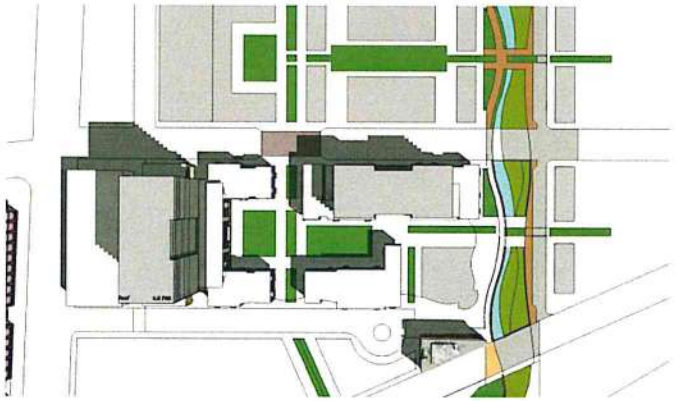
Historic Context



A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: a return **to space within building**

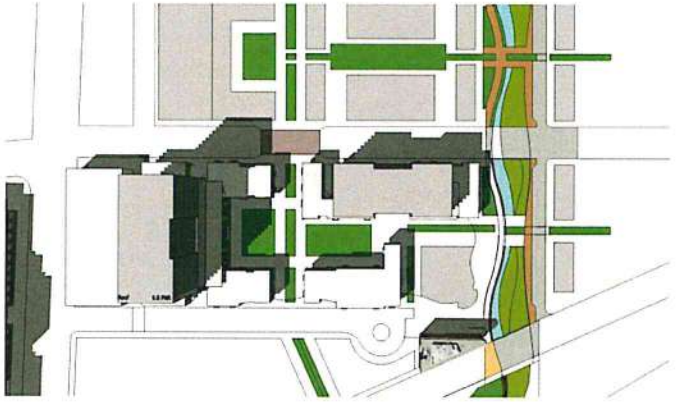
H. Concept Development

Spring:
March 21 mid morning.



Summer:
June 21 mid morning.

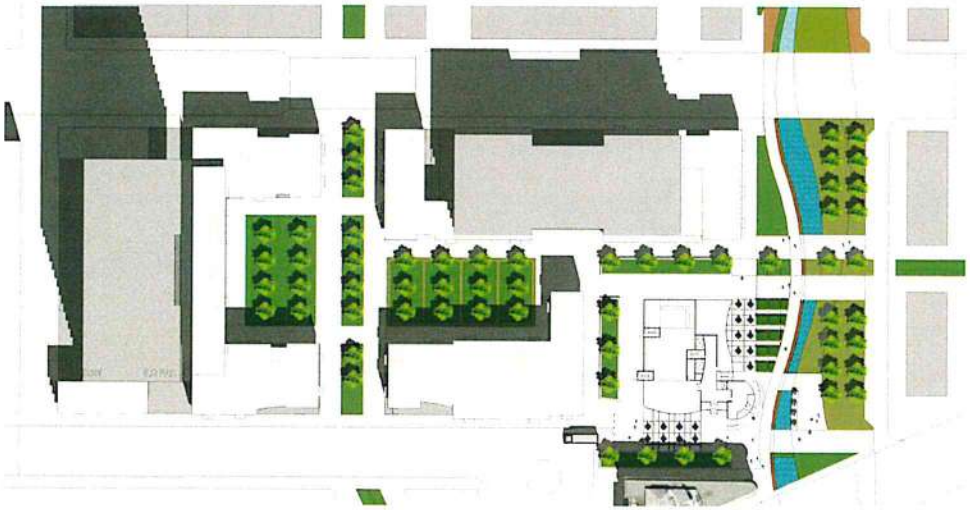
Spring:
March 21 mid afternoon



Summer:
June 21 mid afternoon

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: a return **to space within building**

H. Concept Development



Step 4: Urban Context

Final design of the Street Edge and Urban Park (Armature)

1. Walkable edge condition with cross block access
2. Pedestrians kept close to the building edge
3. Multiple building entrances dependent on use
4. Varied Pedestrian Experience
5. Varied active and passive outdoor spaces

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: a return **to space within building**

H. Concept Development

Step 5: Built Form as defined by the Context

1. Ground floor commercial

2. Mid-rise Residential

3. Hi – Rise Office

4. Walkable edge condition with cross block access

5. The built form has a connection to its contexr: nature, urban, and History

Ground Floor Commercial

Mid Block Residential

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: a return **to space within building**

H. Concept Development

Step 5: Built Form as defined by the Context

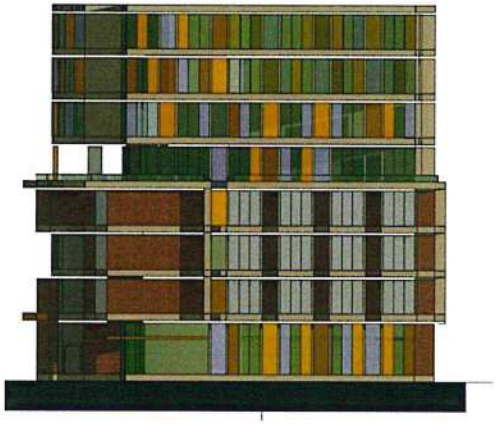
Roof Garden

Office

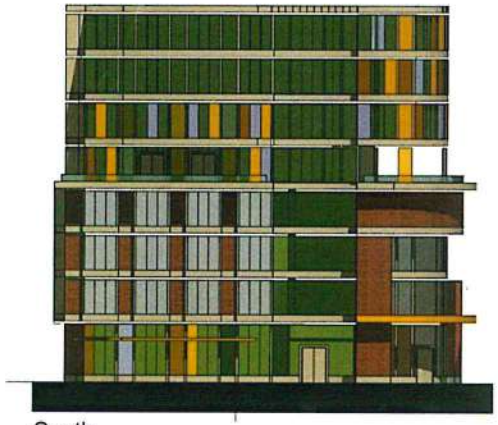
A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: a return **to space within building**

H. Concept Development

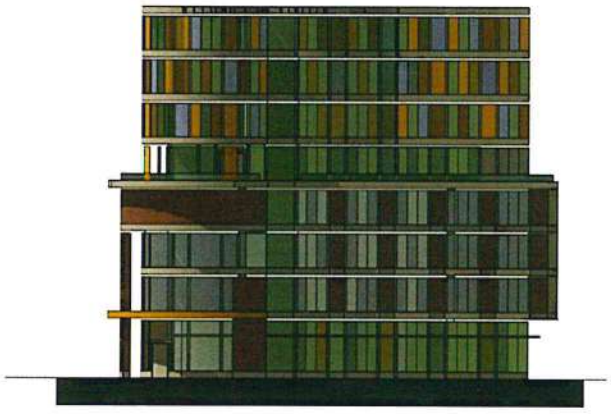
Step 5: Built Form as defined by the Context



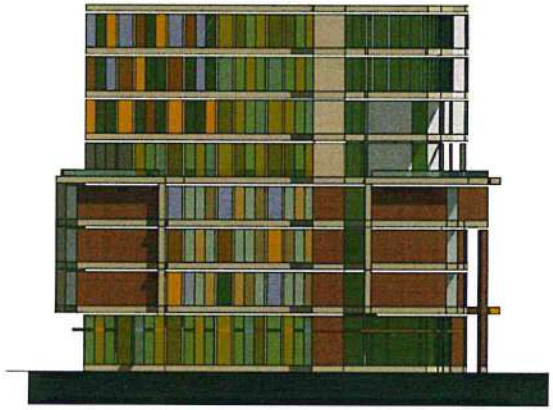
North



South



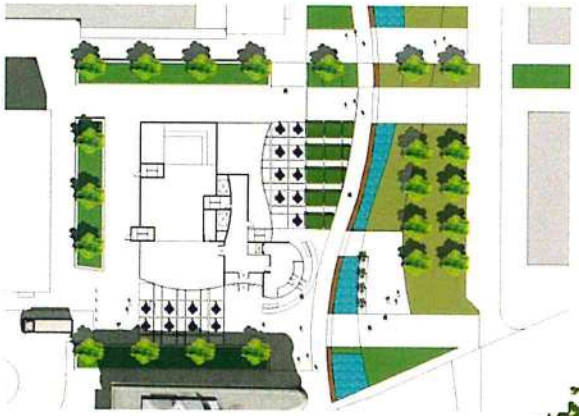
East



West

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: a return **to space within building**

H. Concept Development



Step 5: Built Form as defined by the Context

View Looking South

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: a return **to space within building**

H. Concept Development

Step 5: Built Form as defined by the Context

View looking mid block

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: a return **to space within building**

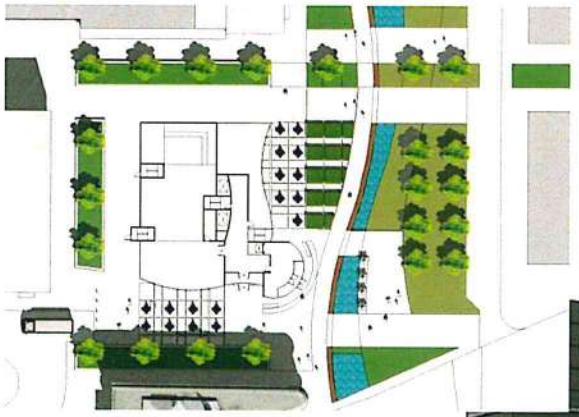
H. Concept Development

Step 5: Built Form as defined by the Context

View Northwest

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: a return **to space within building**

H. Concept Development



Step 5: Built Form as defined by the Context

View Northwest

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: a return **to space within building**

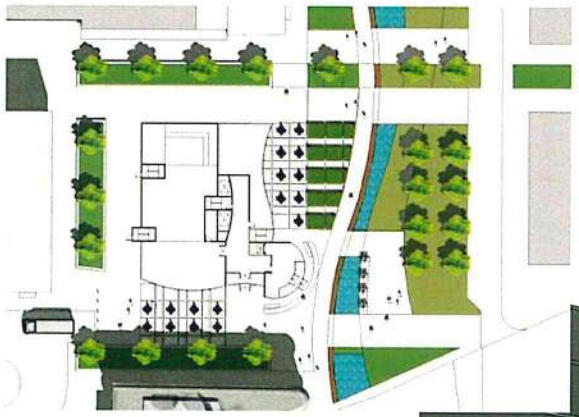
H. Concept Development

Step 5: Built Form as defined by the Context

View looking west

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: a return **to space within building**

H. Concept Development

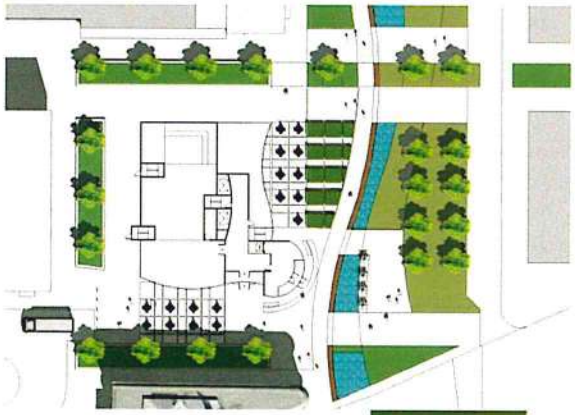


Step 5: Built Form as defined by the Context

Historical context

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: a return **to space within building**

H. Concept Development



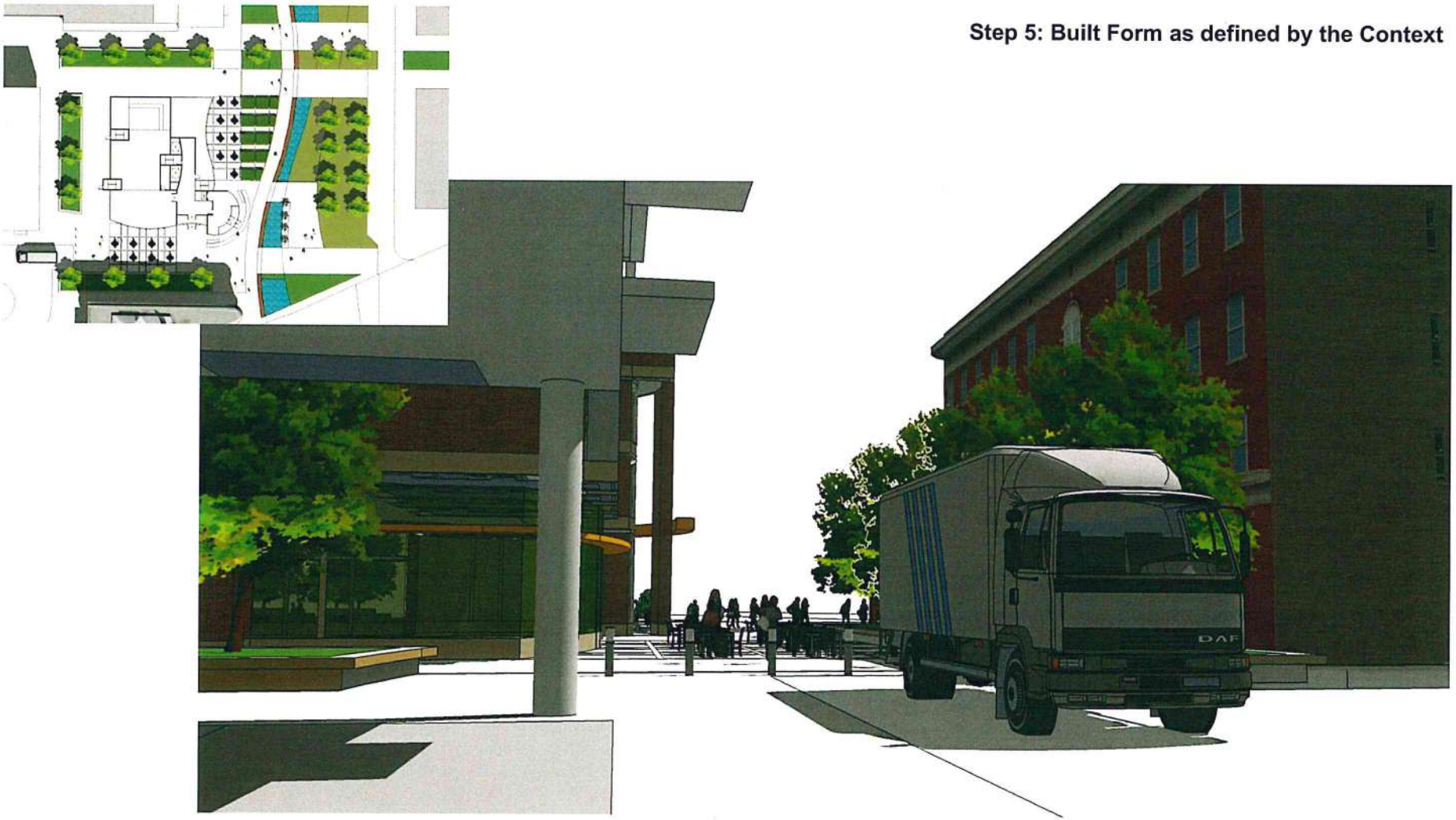
Step 5: Built Form as defined by the Context

Building Edge

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: a return **to space within building**

H. Concept Development

Step 5: Built Form as defined by the Context

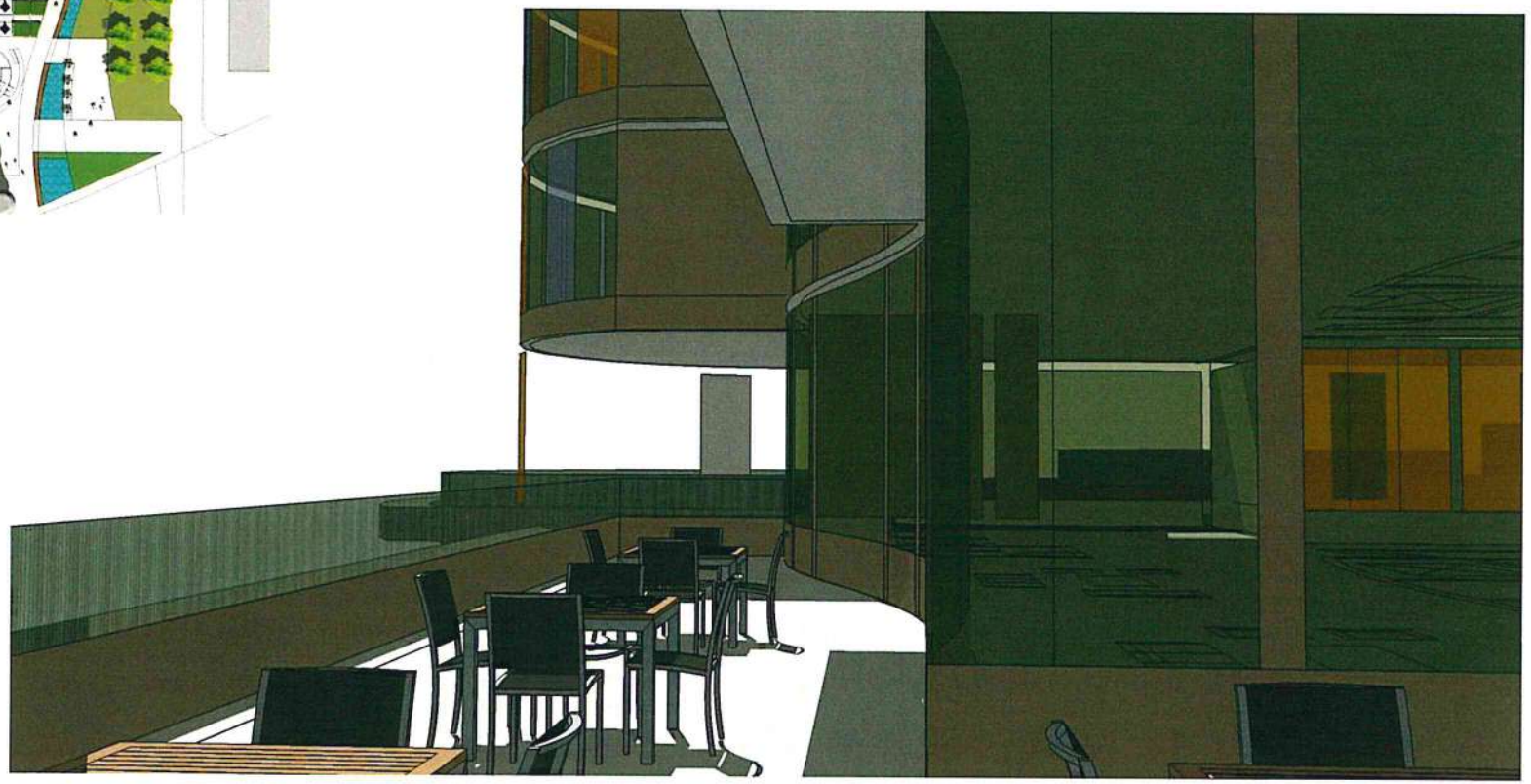


Building Edge

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: a return **to space within building**

H. Concept Development

Step 5: Built Form as defined by the Context



Building Edge

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: a return **to space within building**

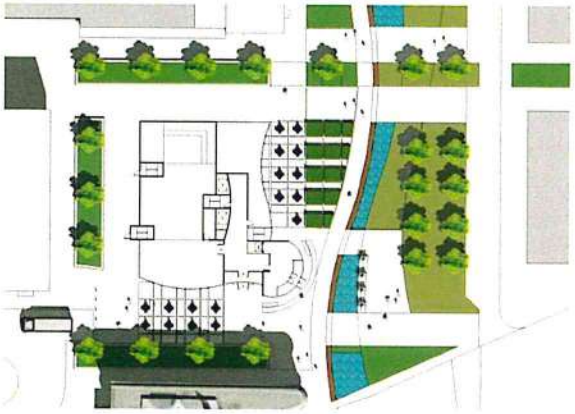
H. Concept Development

Step 5: Built Form as defined by the Context

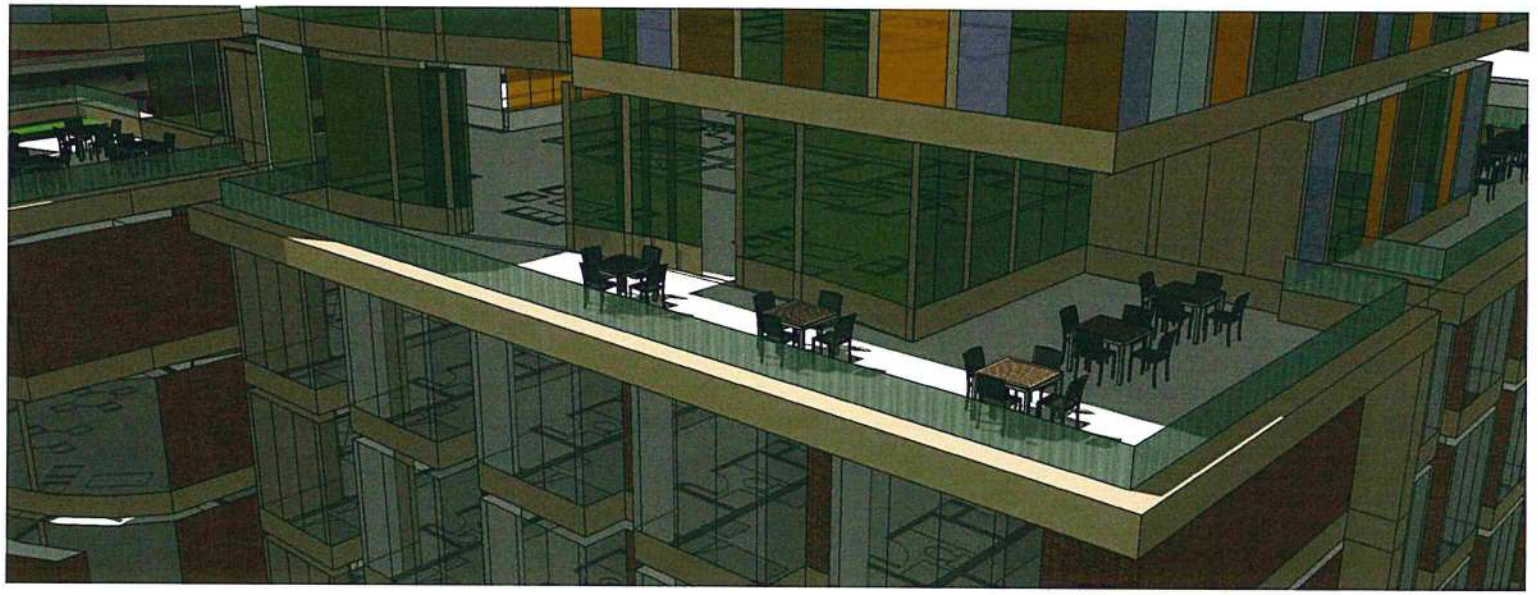
Building Edge

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: a return **to space within building**

H. Concept Development



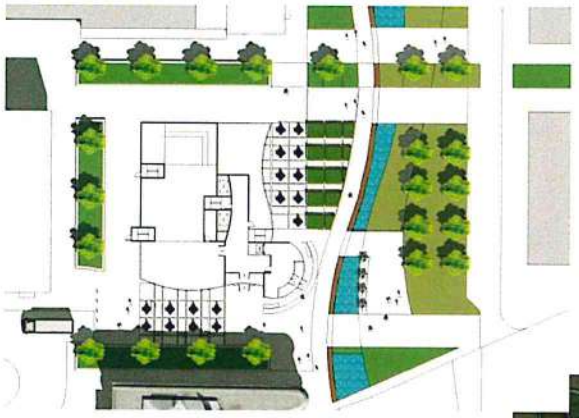
Step 5: Built Form as defined by the Context



Building Edge

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: a return **to space within building**

H. Concept Development



Step 5: Built Form as defined by the Context

Building Edge

A Sense of **Place**, **Setting**, **People** and **Design**
Concept Design: a return **to space within building**

H. Concept Development

The Project Checklist:

- ☐ The Infill of neighbourhoods and the respect of their surrounding context
- ☐ The development of walkable street and path networks
- ☐ Pedestrian friendly built form
- ☐ Crime prevention
- ☐ The creation of Mixed use buildings, and
- ☐ The design of Mixed-Use Neighbourhoods
- ☐ Based on FAR/ Mixed use percentages

Questions…..

APPENDIX E - 9B FINAL PRESENTATION BOARDS

A Sense of **Place, Setting, People** and **Design**
Final Design: **a return to space within building**

Thesis: Final Design Presentation

Research Overview

Urban Centre Growth:

Pre 1945 Urban Development

19thCentury and early 20th Century city's developed with industrial land uses located linearly along railways, rivers, canals, ocean or lake shores. Commercial/ residential districts were located with close proximity;

With the advent of transportation systems such as the streetcar and suburban railway lines, high-income residential area's developed beyond the city centre along such transportation routes;

1945 to 1975 Urban Development

In geographic terms, this new urbanization was characterized by rapidly growing suburban municipalities. This new growth occurred at a frantic rate, driven by the baby boom and a period of post-war sustained prosperity;

The relocation of the new middle-class to the suburbs triggered a filtering down of inner-city housing which in turn created a decline in the house-hold socio-economic status. This created a subsequent deterioration of aging housing stock.

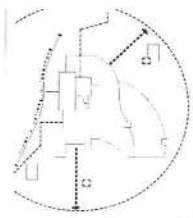
Governments helped suburban development by building schools, hospitals, and subsidized housing in the suburbs.

1975 to Present Urban Development

The last 35 years has seen the suburbs surpass the central city in terms of population size, retail activity, manufacturing, as well as office and public institution employment; Homogeneous planning exists with segregation of uses;

Dispersed styles of suburbanization over this period has resulted in a increased rate of outward expansion that far exceeds demographic growth; In terms of retail, the appearance of factory outlets, "big-box" stores and "power malls" have redefined the shopping centre hierarchy

The effects of Urban Sprawl



The economic cutbacks of the 1990's have made it increasingly difficult for the public-sector to provide the necessary infrastructure needed for a dispersed urban form;
Automobile ownership and increased automobile usage has made urban has raised serious environmental concerns in terms of air quality, land use and habitat protection in many North American cities;

Suburban living typically separates residence from employment, commerce and cultural/recreational activities by grater distances.

The increased commuting requires greater energy use, which in turn, contributes to traffic congestion, air pollution and ultimately non-sustainability.

- **…e current urban setting, 30% to 60% of urban land use** is dedicated to **roads, highways, driveways**, and **…rking lots;**

- The Sierra Club of Canada reports that the **City of Edmonton currently has 38 partially built community developments.** All of these community's are located in the city's periphery "even though the **total amount of undeveloped land** (within the city boundary) **could accommodate over 16 years worth of single-family development"**

Research Principles:

The **sprawling condition of today's cities** not only **creates a lack of sense of place**, but also creates **unsustainability from both a financial and energy efficiency** standpoint.

Learning form the past, *Good City Form* requires a careful blend of **fine-grain mixed use land designations**: a **combination of new and old architecture; pedestrian friendly** environments; and a **careful balance of green space and/or amenity space** to create a vibrant urban environment. The key elements for the success of the urban environment are:

1. Creating Urban growth Boundaries
2. The Infill neighbourhoods and their surrounding context
3. The development of Walkable street and path networks
4. Pedestrian friendly built form
5. Crime prevention
6. The creation of Mixed use buildings, and
7. The design of Mixed-Use Neighbourhoods

"Architecture must be positioned responsibly between landscape and urbanism"

Brad Kimball: AB900011

1.

By defining a **no-development boundary** line around the perimeter of today's cities can provide the stimulus to encourage compact regional land development;

2.

Urban redevelopment should reflect and or compliment existing surrounding building forms and neighbourhood contexts.

Any new urban intervention proposed such an infill environment should respect local built form, historical, cultural, and natural elements.

As part of the initial study of any urban redevelopment, a neighbourhood context plan should be completed to fully understand the contextual impact of the infill site.

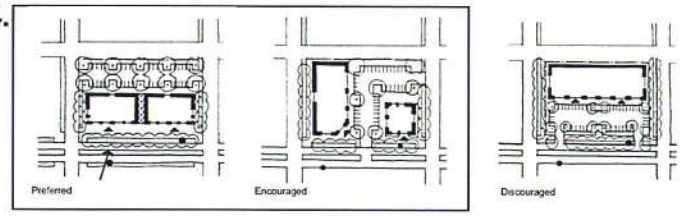
3.

The street and neighbourhood block layout within **the urban intervention should allow for direct and safe pedestrian movement**. The resultant design approach should involve a **grid-based system with interconnected streets and sidewalks along short, narrow blocks**. This will provide a **walkable environment providing more direct and convenient** access for pedestrians. The design requirements for pedestrian friendly environments should include:

- City blocks should measure no more than 200 m long on one side. This will allow for street and **block patterns to remain walkable and porous**. Intersections should occur between 80 and 180 m;

- Provide **mid block pedestrian paths** through blocks or buildings that cover the majority of the block when blocks lengths are more than 200 m. These paths should be paved, possess clear, direct sightlines and be well-lit for public safety

4.



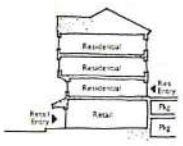
Streets are most desirable and comfortable when they provide pedestrians a feeling of enclosure. A successful walkable street is defined by its **edge condition** which can be created by **buildings, objects and/or trees**, all of which can give the illusion of an **outdoor room**

5.

Safety and a sense of personnel security are essential components of a successful ICP planning approach for new development. CPTED tactics should be incorporated into new **site and facility design**:

- maximize opportunities for **natural surveillance**;
- provide **unobstructed and transparent sightlines** to exits and destinations;
- foster territoriality and **a sense of ownership**;
- provide **natural and artificial lighting** to all areas frequented by **pedestrians**;
- require the use of CPTED tactics in all public paces and areas frequented by pedestrians and in neighbourhood structure plans.

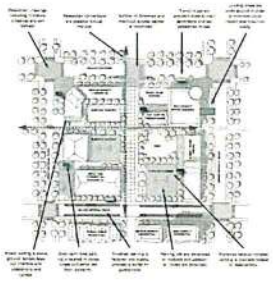
6.



Mixed use/ higher density building design:

- A combination of single family, multifamily, mid rise/ hi rise mixed use
- Ground floor retail;
- Commercial, office, or residential above;
- Parking below, above or behind, but not in front on surface lots
- Building Entrances
- Architectural Variety

7.



Neighbourhoods containing multiple **Mixed Use Buildings** are the basis of the ICP theory due to the fact that such neighbourhoods **have higher concentrations of people day and night, seven days a week.**

Design elements to create successful mixed use urban environment include:

- Building Placement
- Building Location
- Careful balance of Green Space and/or Amenity Space
- Careful placement of Parking

Thesis: Final Design Presentation

Site Selection and Analysis

Existing Context – Google Earth

Intent to Study

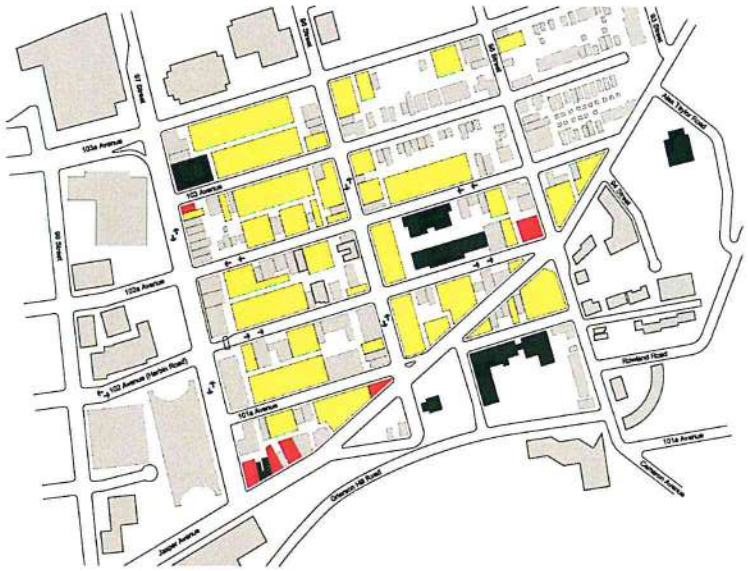
Create a catalyst building as the impetus for development of the Quarters.

The challenge for the next stage of this thesis is to study, challenge, and/or apply the ICP methodology to a **large scale urban infill solution.**

The setting chosen for this thesis is the Jasper East area (*currently known as the Quarters*). Located immediately east of Downtown Edmonton between 97th Street to 95th Street and Jasper Avenue to103A Avenue.

This project will define the planning parameters for the Quarters Initiative and develop the design for catalyst building for the development.

The Existing Condition



Drawing Legend:

Open lot:

Historic Buildings:

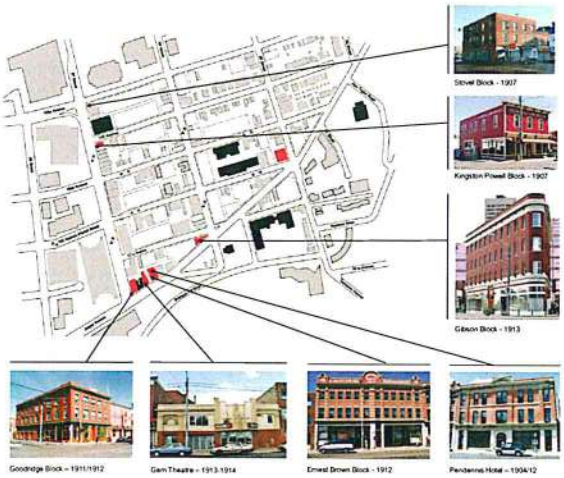
Buildings of Note:

Traffic Direction:

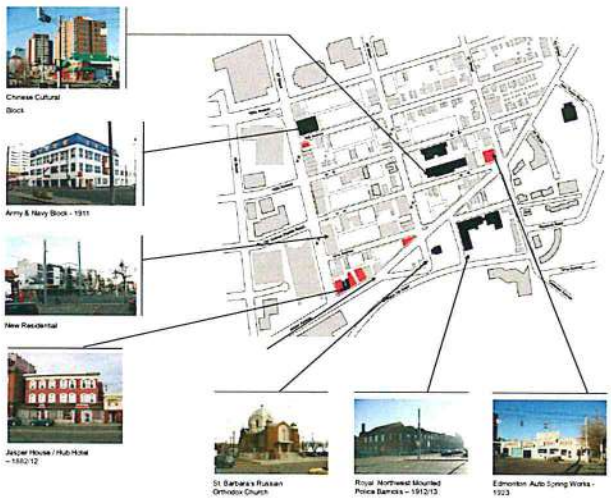
One way traffic

Two way traffic

Historically Designated Buildings



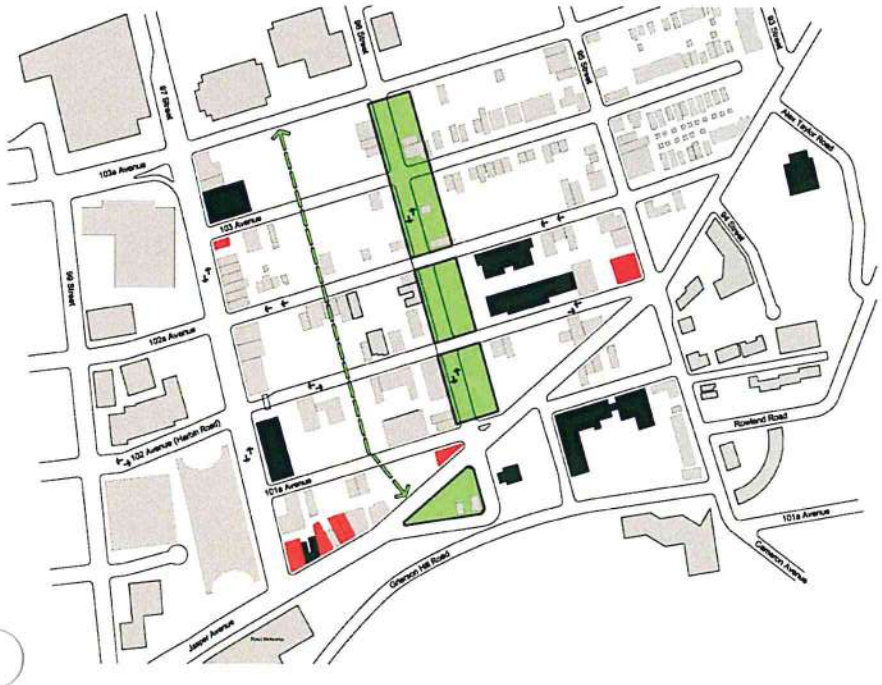
Buildings of Interest



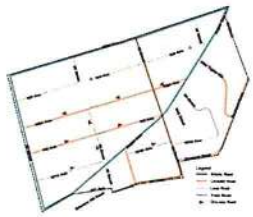
Thesis: Final Design Presentation

Site Selection and Analysis

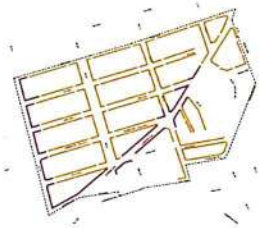
The Quarters Planning Overlay



Green Space Requirements

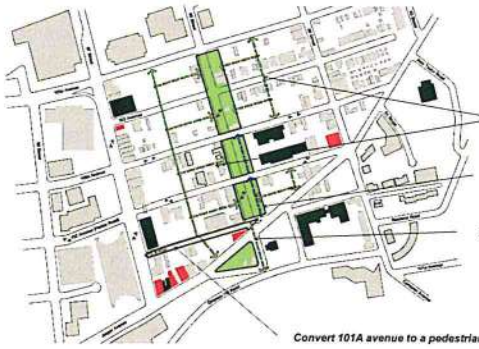


Road Networks



Street Frontages/ Planning Boundary

Proposed Modifications to the Quarters Planning Overlay



The proposed design changes to the quarters overlay provides the urban framework to study the ICP methodologies of urban infill.

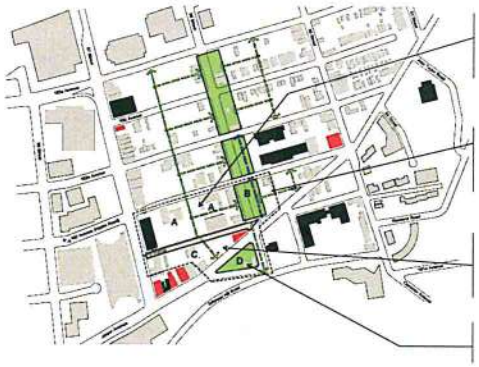
Add mid block pedestrian corridors

Add one way vehicle access north south

Address connectivity to the river valley

Convert 101A avenue to a pedestrian zone

Density Requirements



Development Requirements: Area A

1. Up to 15 storeys in height
2. FAR: min 3.0, max 6.0
3. 33% of total building area dedicated to residential

Development Requirements: Area B

1. Up to 6 storeys in height bordering green space
2. FAR: min 3.0, max 4.5
3. 33% of total building area dedicated to residential

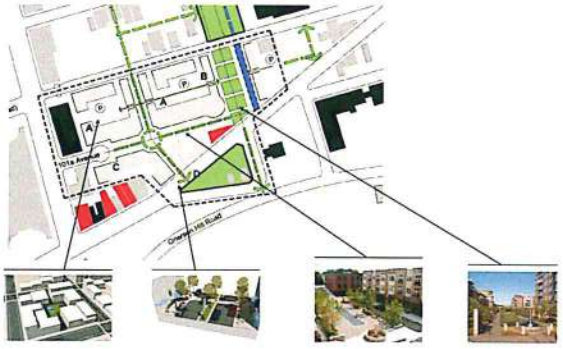
Development Requirements: Area C

1. Up to 6 storeys in height
2. FAR: min 3.0, max 4.5
3. 33% of total building area dedicated to residential

Development Requirements: Area D

1. Reconnect to the River Valley

Create a Project Checklist:



- ☐ The Infill of neighbourhoods and the respect of their surrounding context
- ☐ The development of walkable street and path networks
- ☐ Pedestrian friendly built form
- ☐ Crime prevention
- ☐ The creation of Mixed use buildings, and
- ☐ The design of Mixed-Use Neighbourhoods
- ☐ Based on FAR/ Mixed use percentages

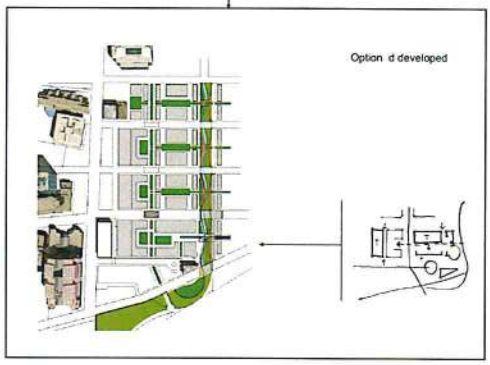
Thesis: Final Design Presentation

Program and Project Concept

Master Planning Development

Step 1: define planning parameters within the armature

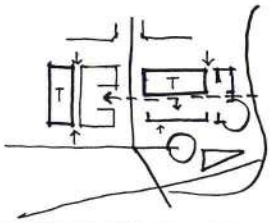
1. Storm water management
2. Green space connectors to mid block
3. One way north bound access with parallel parking
4. Virtual Extension of the River Valley

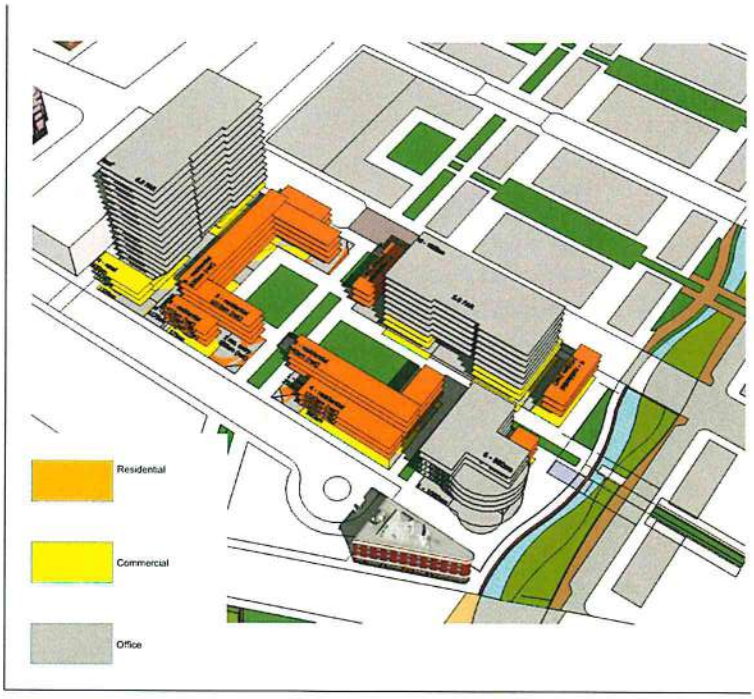


Density and Block Development

Step 2: redefine planning parameters of the mid-block access

1. Building placement redefined
2. Green space connectors to mid block finalized
3. Density established
4. residential/ commercial ratio established





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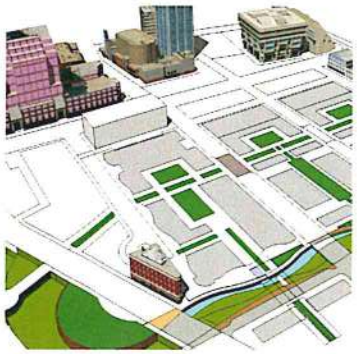
Preliminary Design: Urban Renewal Context

Conceptual Massing Development



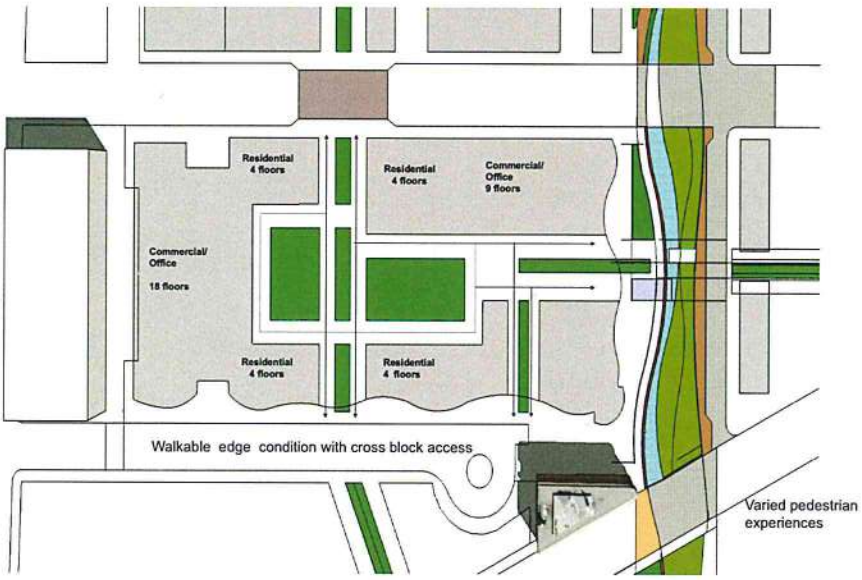
Ground floor commercial

Mid-rise Residential

Hi – Rise Office

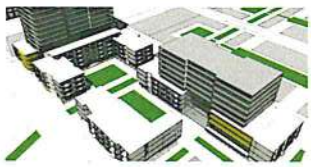
Step 3: Creating a Renewed Urban Context

1. Ground floor commercial
2. Mid-rise Residential
3. Hi – Rise Office
4. Walkable edge condition with cross block access
5. Pedestrians kept close to the building edge
6. Multiple building entrances dependent on use
7. Varied pedestrian experiences



Context

Street Edge

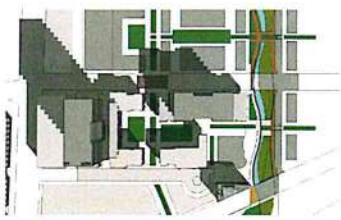


Mid Block

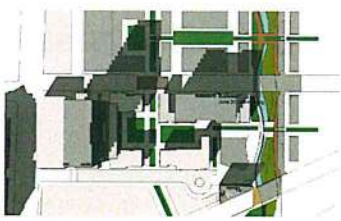
Multi-use Context

Historical Context

Sun Shadow Studies



Spring/ Fall:
March 21/ September 21 mid morning



Spring/ Fall:
March 21/ September 21 mid afternoon

Summer:
June 21 mid morning

Summer:
June 21 mid afternoon

Thesis: Final Design Presentation

Final Design: Urban Renewal

Final Urban Design: Plan

Step 4: Urban Context

Final design of the Street Edge and Urban Park (Armature)

1. Walkable edge condition with cross block access
2. Pedestrians kept close to the building edge
3. Multiple building entrances dependent on use
4. Varied Pedestrian Experience
5. Varied active and passive outdoor spaces

Final Urban Design: 3D View looking West

Step 5: Built Form as defined by the Context

1. Ground floor commercial
2. Mid-rise Residential
3. Hi – Rise Office
4. Walkable edge condition with cross block access
5. The built form has a connection to its contexr: nature, urban, and History

Plaza Design

Street Level Retail Outdoor Patio Design

Thesis: Final Design Presentation

Final Design: Built Form as defined by the Context

Plan Development

Ground: Public Zone

2 to 4 Floors: Residential

5th Floor: Roof Garden

Upper Floors: Office

View Looking West

View Looking Northeast

View Looking Southwest