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West Springs Land Use Concept Plan

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A proposal Prepared by

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This document has not, to the best of our knowledge, previously been presented for the award of a degree in any university.

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Executive Summary

The West Springs Land Use Concept Plan has been created to develop a conceptual framework for land uses, transportation routes, and open space system in the community of West Springs, Calgary. The site amounts to approximately 370 hectares (915 acres) and is contained by Old Banff Coach Road S.W. to the North, the 69 Street S.W. road alignment to the east, Bow Trail S.W. to the south and the future Transportation Utility Corridor to the West.

Currently, the site has been largely developed and as of 2012, has a population of 13,000. Having said this, this Plan focuses its attention on the undeveloped areas the community. It seeks to create a complete, cohesive community to accommodate the 15,000 residents and 800 jobs anticipated by the West Springs Area Structure Plan. Through a detailed site analysis, HWC Consultants have identified five site issues that should be prioritized while achieving this:

- *Preservation of vegetation and forested areas where possible.*
- *Minimization of shadow casting along the commercial corridor (85 St SW).*
- *The need for housing diversity.*
- *A design solution for the prevalence of 5-acre lots to improve residential density.*
- *The need to improve site connectivity.*

Through the rectification of these issues and a collaborative design process, HWC Consultants have created a Plan that will refine and implement the strategic objectives and policies identified within the Municipal Development Plan (MDP), Calgary Transportation (CTP) and the West Springs ASP. The West Springs Land Use Concept Plan will guide the community's development to one that is vibrant, safe and complete. It will be a community where the daily needs of its residents will be able to be met through the use of a variety of transportation modes. From a residential standpoint, the community will feature three new Neighbourhood Areas that will encompass a variety of housing types to ensure accessibility to a diverse range of households. These neighbourhoods will be connected by a pathway-linked Open Space System that will integrate with the existing pathway system, in order to promote public health and overall well-being.

In addition to policy and design goals, this Plan contains accurately dimensioned street sections and lot configurations that will allow it to be used in concert with the Land use bylaw and other more specific policies to transform West Springs into a vibrant, safe and complete community.

Purpose

The West Springs Land Use Concept has been prepared to describe the proposed land uses, transportation routes, and transit service for three undeveloped areas within the Community of West Springs. It is intended to provide a conceptual framework for development. The conceptual framework may be modified in response to changing circumstances, such as market conditions.

The focus of this plan is to create the framework which will guide the development of areas currently characterized by 5-acre country-residential lots. Residential development will be guided towards a mix of low and medium density area. Along with single family detached housing, a mix of multiple family pods including duplex housing, townhouses, and mix use apartment buildings will be developed. Mixed-use development will be proposed along 85th St to reinforce the activity generation of the existing retail uses. An open space system interconnected with pathways will be proposed to create pedestrian linkages the community's neighbourhoods.

Process

Municipal Government Act – Sets out Provincial Land Use Policies and identifies the process to be followed prior to development

Municipal Development Plans (existing) – Defines broad-brush Policy's and growth patterns for the entire town and are used in preparation of subsequent documents.

Calgary Transportation Plan - Provides long-term strategy for a more sustainable city through the integration of mobility policies.

Area Structure Plan (ASP) – A statutory document with conceptual plans, which are "for purposes of providing a frame work for subsequent subdivision of an area of land."

- ASP's are adopted by a bylaw passed by Council in accordance with the Municipal Government Act (MGA). Section 633 of the Act states:
    - o 633 For the purpose of providing a framework for subsequent subdivision and development of an area of land, a council may, by bylaw, adopt an area structure plan.

- The ASP is more detailed than Municipal Development Plans.
- They may involve more than one landowner.
- They Address allocation of land uses in greater detail, phasing of development, transportation, storm water management and municipal servicing.
- The Area Structure Plan allows for Public input through one or more informal Open Houses and Formal Open House leading to three readings of the by-law and adoption of the plan.

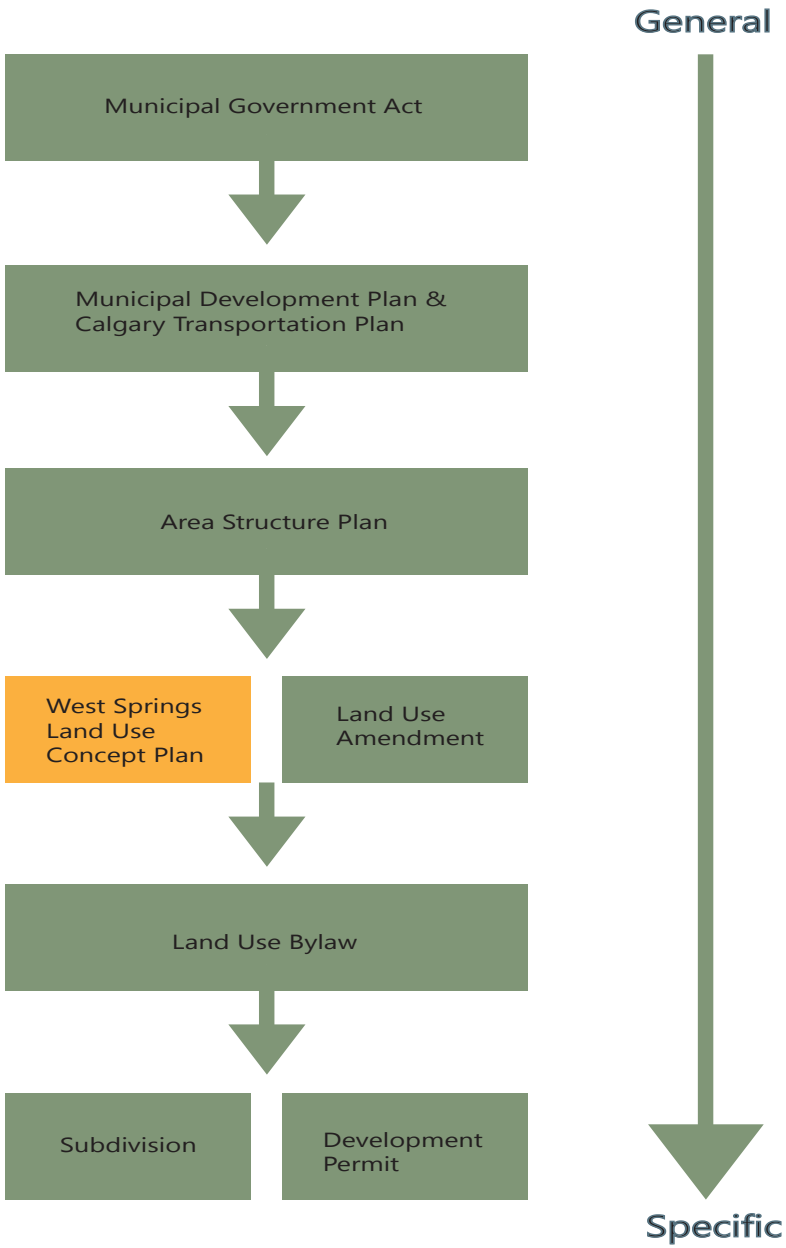


Figure 1: Policy summary

Land Use By-Laws – Prepared to control development of subdivision or stage and phases within an ASP.

- They are required for all municipalities in Alberta.
- They implement councils policy expressed through MDP's, GMP's and ASP's.
- They Establish rules and regulations for all development and subdivision:
    - o Lot area requirements
    - o Yard setbacks from streets and property lines
    - o Design, character and appearance of buildings
    - o Parking and Loading space
    - o Separation distances for incompatible uses
    - o Development densities.
- Land Use Designation (Zoning).
- Permitted and discretionary uses.
- Processes for making and approving development and subdivision applications.
- Forms to be used.
- Conditions to be applied to approvals.

Subdivision Plan(s) – Approval – usually involve a state or phase of the overall ASP, which will be taken through a process (Planning and Engineering), to development.

- A subdivision plan will involve:
    - o Engineering studies (detailed) related to, Transportation, Geotechnical, Storm water Management, Environmental concerns and Municipal Services
    - o Preparation of an Outline Plan (Plan of Subdivision), Reclassification of the subject lands, Amendments to existing Statutory Plans if applicable, Approval Processing and Public Participation
    - o Fulfillment of Conditions of Approval.
    - o Document registration at Land Titles Office.

Building/Development Permit/ Agreements

The Process at several levels involve Public Participation, at which time area residents and other parties are given the opportunity to gather information and present any questions they may have regarding the subject development.

As time progresses and market conditions change amendments may be required to ASP's, Land Use Classifications or Plans of Subdivisions. Processes and Public Participation programs noted herein would be repeated at this time.

Planning Area

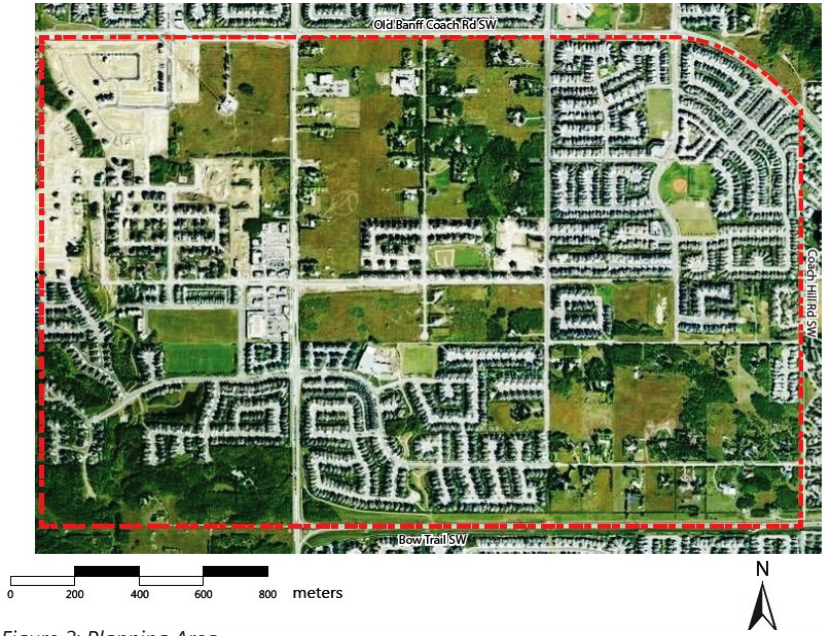


Figure 2: Planning Area

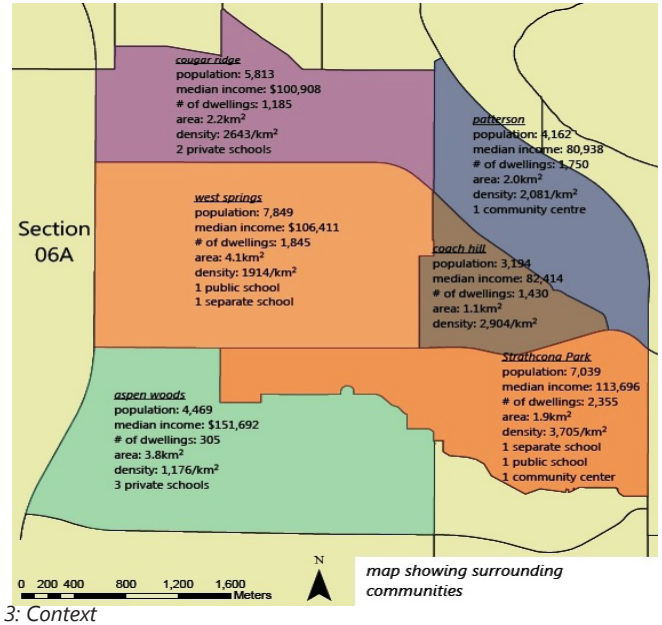


Figure 3: Context

The project planning area within the West Springs ASP consists of approximately 370 hectares (915 acres) of land located within the west sector of the City of Calgary. The area is bounded by Old Banff Coach Road S.W. to the North, the 69 Street S.W. road alignment to the east, Bow Trail S.W. to the south and the future Transportation Utility Corridor (TUC) to the west. (Figure 2)

Communities surrounding this development are Cougar Ridge, Patterson, Coach Hill, Strathcona Park and Aspen Woods, with Section 06A yet to be annexed by the city. (Figure 3)

It can be seen that much of the land within the community has already been developed. However the West Springs Land Use Concept will focus its attention on the development of three principal areas in the community:

- South West – currently covered with semi-forested land.
- North – Between 85 St SW and 77 St SW. Currently characterized with numerous 5-acre country residential lots.
- South East – between 77 St SW and Coach Hill Road SE. Currently characterized with numerous 5-acre country residential lots.

It is assumed that each of these 5-acre lots are individually owned. This Plan can only suggest a conceptual framework for development. It will be the responsibility of the developer to acquire the land necessary for building. To date, a significant portion of the land along 85th St SW and some in the SE is owned and to be developed by Bri-mor Developments. It is hoped this plan can help inform some of their decision making.

Enabling Legislation

It is intended that the West Springs Land Use Concept Plan will serve as a more detailed extension to West Spring's Area Structure Plan (ASP). The preparation of an ASP is a process guided by Section 633 of the Municipal Government Act (MGA). The MGA sets ASP Plans "for the purpose of providing a framework for subsequent subdivision and development of an area of land". As a statutory document, all ASP's require adoption by the respective Town Council.

While the West Spring's Land Use Concept Plan is intended to go into greater detail then the existing ASP, it will be less detailed then the Calgary Land Use Bylaw. Having said this, the West Springs Land Use Concept Plan is consistent with the MGA and Calgary's Municipal Development Act. These and other relevant documents should be consulted and considered prior to any amendment to this Plan being adopted in order to ensure continued alignment and legality.

Site Analysis
Natural.

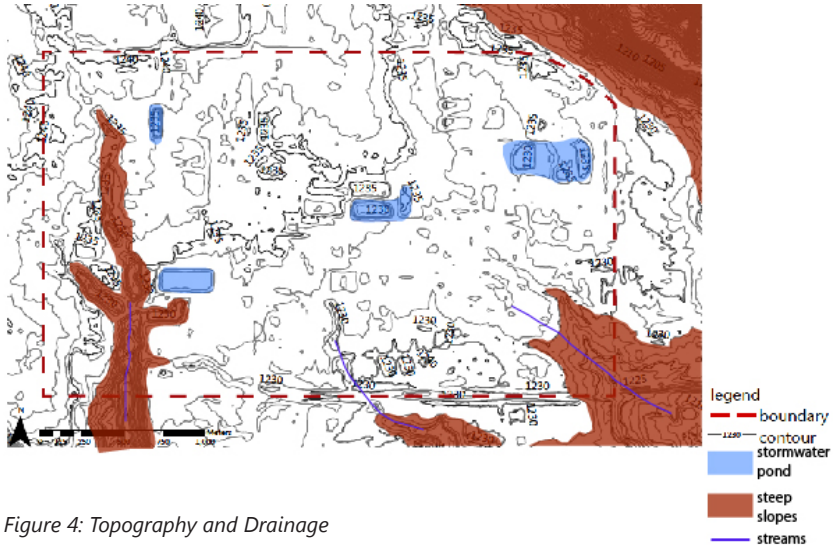


Figure 4: Topography and Drainage

Figure 5: Tree Cover

i) Topography and drainage

The area is between 1220 – 1240 meters above sea level and most of the land is relatively flat. The South West area has a steep slope which would make development in that area rather difficult. As such, development in that area should be kept to a minimum so as to preserve the natural environment and slope.Preservation of the slope would help protect the natural environment as slopes have important ecological uses as well as provide a habitat for animals and insects.

In the South Eastern Side, some of the natural slopes create intermittent streams that flow towards the southern side. These streams are temporary and there shouldn't be a problem while the area is being developed, but effective drainage systems (like underground or roadside ditches) should be designed for that area of the site.

There are some areas within the site that have 5m differences in height and it is here that dry and wet storm water ponds are located. The storm water ponds are important for drainage as the area is generally flat. The areas have a significant height difference and this makes them perfect for storm water ponds.

ii) Tree Cover

Most of the area is covered by aspen trees, which naturally grow there. The South Western part, which is the most underdeveloped part of the site, has the most tree cover giving it a unique character. This area has been sighted by some of the residents as being the most beautiful part of the community and as such, there is need to preserve some of this aesthetic during development. This area has also been made a part of the pathway system that currently runs from North to South of the community on the Western end.

There seems to be a relationship between tree cover and slope especially in the South Western part of the site. The area with the most tree cover is also the area with the steepest slope, hence preservation of the slope would also help maintain tree cover which apart from being valued as an aesthetic element by the community members, is also important for ecological and habitat purposes.

Another area that has a lot of tree cover is the North central part of the community. That area is currently characterized by country residential houses and minimal development. Any design solutions that are suggested for that area should take into account the need for preservation of existing vegetation through creation of open green spaces and parks in the area.

iii) Sun and Shadow

The sun and shadow study helps determine the heights that would be adequate for certain areas of the community depending on the shadow that is cast by the building. Two shadow analyses were done; the first one to determine the setbacks that will be needed in the residential areas in the community and the second was to determine the heights along the main collector road (85 St SW).

The first shadow analysis (residential area) determined that single family detached,single family detached narrow, duplexes and multifamily houses in the area have minimal shadowing effect on the road during most of the year. The only time of the year when shadowing might be a problem is during the winter months but because of the setbacks, the street still receives minimal shadow.

The second shadow analysis showed that buildings more than two stories that are close to the street cause massive shadowing on the street and as such,if intensive development is to occur along 85 St SW, then setbacks need to be implemented on the buildings or they should be built away from the street and have a small front courtyard so as to minimize the effect of shadowing on the street.

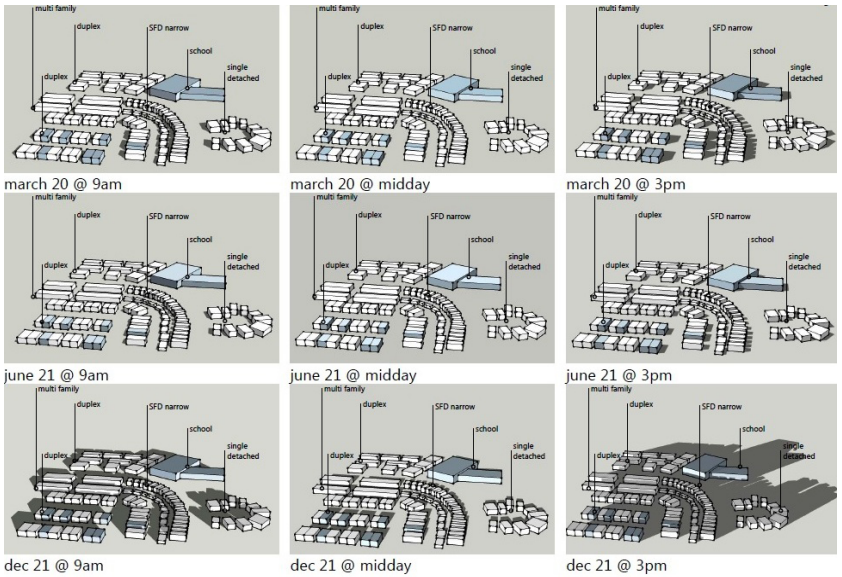


Figure 6: Shadow Analysis 1

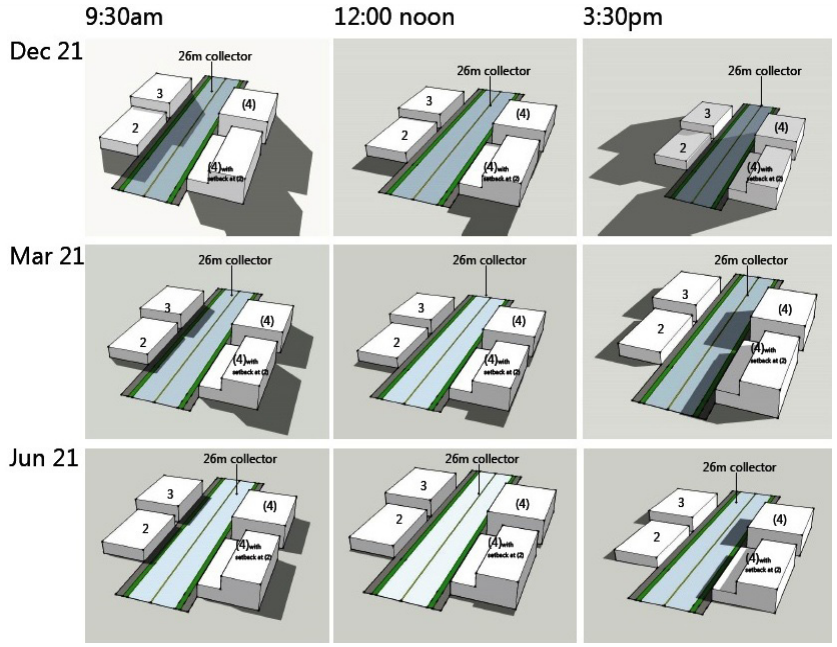
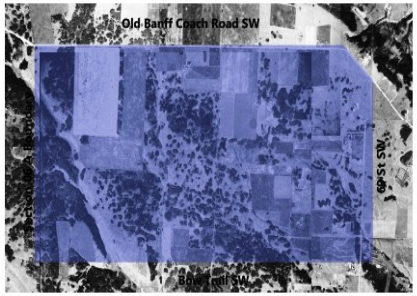


Figure 7: Shadow Analysis 2

Historical.



1948 Air Photo

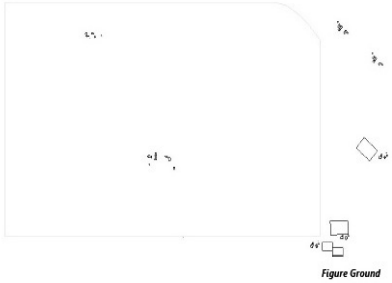


Figure Ground

Figure 8: 1948 Air Photo

1963 Air Photo

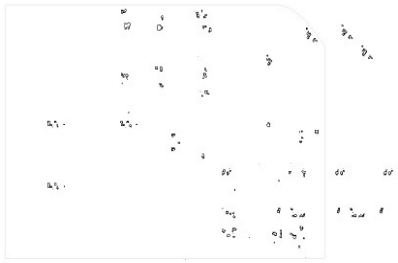
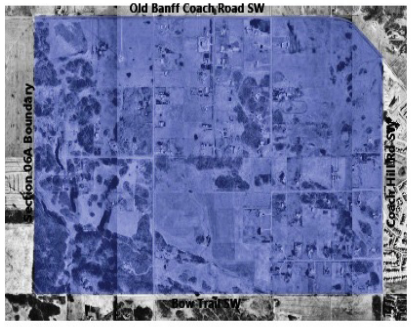


Figure Ground

Figure 9: 1963 Air Photo



1982 Air Photo

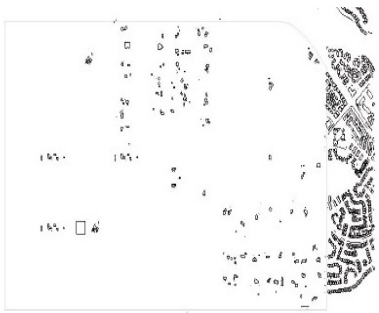


Figure Ground

Figure 10: 1982 Air Photo

West Springs was previously part of the East Springbank area of the Municipal District of Rocky View and was annexed to the City of Calgary in 1995. The community was established in 2001. Before 2001, the area was characterized by country residential houses and densely forested areas.

By 1948, two of the roads that define the boundaries of the community (Old Banff Coach Road and 69 St SW) had already been built, but there was barely any infrastructure or settlement in the community. The area was characterized by dense forests and prairie landscape as can be seen from the air photos and figure ground drawings. The radio tower site had already been built out with a few buildings on site suggesting that the radio tower site is an important part of the history of the community

By 1963, a few country residential houses had already been built at a section of the site and a few roads that lead to the individual lots had been constructed. This was mainly in the Eastern part of the site; the Western areas in the community were still densely forested. Surrounding communities had not yet started being developed by this year, but the infrastructure for the construction of the communities had been set up as seen from the air photo.

By 1983, the surrounding community of Coach Hill had already been established as well as more country residential houses, especially in the Northern area of the site. Majority of the Western part of the site still had densely forested areas, and no infrastructure had been established in that area.

By 2004, the community had already been annexed and established, and suburban development occurred especially in the Eastern and Southern area of the community. Most of the country residential houses remained intact and most of the tree canopies were in the South West as well as within the country residential roads. The community began to take a curvilinear form dominated by single detached housing

Currently, the site is almost fully developed except for the Country residential houses in the South East and Northern Sections of the site. The area has a mix of housing types including duplexes, single detached, multi family, row housing and townhouses. There has been an attempt to densify the area especially since the approval of the new MDP. The South West area remains densely forested and a few parts of the Northern area have dense forests, within the country residential lots.

From the historical analysis, it is clear that the following elements are important to the historical value of West Springs.

i) Country Residential Houses – The country residential houses have been part and parcel of the community since the early sixties but with the city's proposal to densify the area, they will have to be demolished so as to make way for new development. The design solution should provide a solution that will allow part of the area in the community maintain the country residential aesthetic; houses with huge backyards and an attempt at having trees planted within lots to maintain the country character that has been a huge part of the history of the area.

ii) Radio Tower Site – The Radio Tower site has been in existence since the 1940's and as such is an important part of the history of the site. The design proposal should recommend that the radio tower site remain untouched so as to preserve that important part of the community. The buildings that are in the site should be restored, and if the radio tower site were to be developed, the buildings on site should remain untouched, as that site is an important element of West Springs.

iii) Forested Areas – The site has always been characterized by densely forested areas and this is likely to be affected during the development process. The only area within the site that still maintains that character is the South West area. The proposed design should try to work within the constraints and maintain the South West area as it has historical significance in addition to the ecological, aesthetic and habitat benefits that the area has. If development occurs within that area, it has to be ecologically sensitive and maintain most of the trees within.

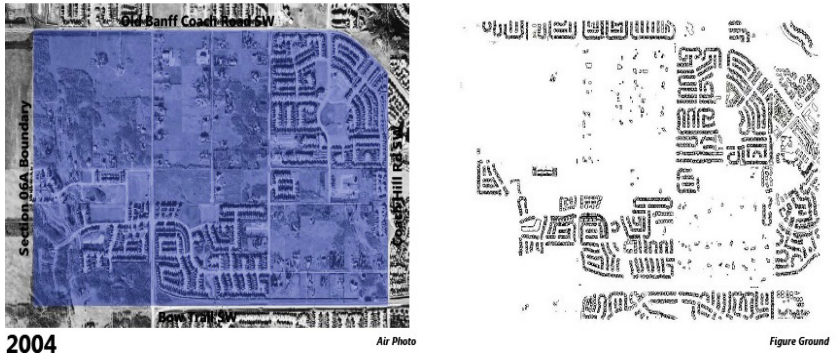


Figure 11: 2004 Air Photo

Figure 12: Current Air Photo

Figure 13: Country Residential and Forested Area

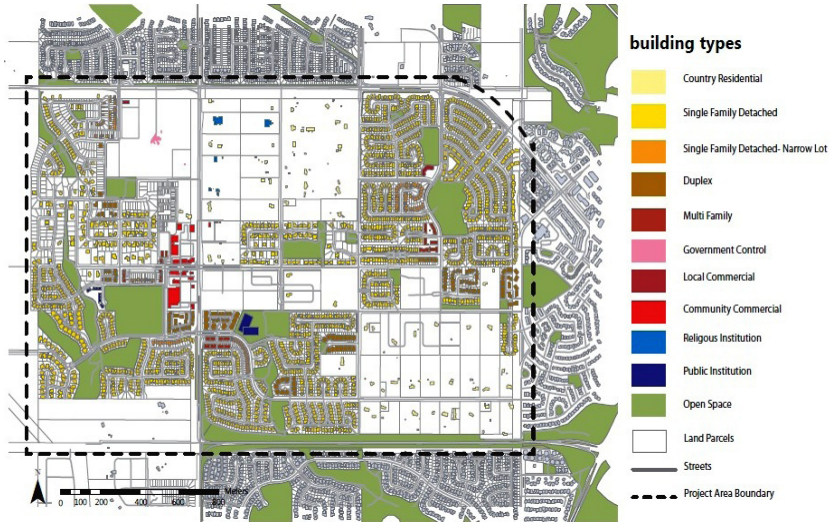
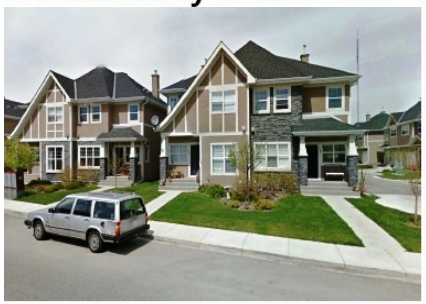


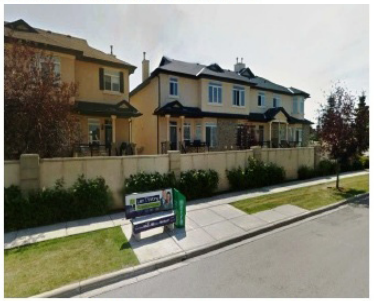
Figure 14: Built form typology

1. community commercial

2. local commercial



3. duplex



4. multifamily residential

Built form typology

Although there is a variety of housing types, the site is dominated by single family detached dwellings. There are also single family narrow lot (<12m width with back lane), country residential, duplexes, multifamily, commercial, Religious institutions and public institutions. The main commercial area is at the 85th St SW and 9 Av Sw Intersection, which has a large strip mall dominated by the co-op. The Western side of the community has a wider variety of housing as opposed to the Eastern and Southern areas that were developed in the late 90's and early 2000's.

The main building types that exist in the area are:

i) Community Commercial – As mentioned earlier, it is located at the 85th St SW and 9th Av SW. It is dominated by the co-op but also has a number of other stores that are meant to serve the whole community.

ii) Local Commercial – Currently, there is only one local commercial lot in the community and it is located in the North Eastern section of the development. The local community store has smaller businesses and specialty stores that people in close proximity can walk to. If the Southern Part of the community is to be developed, then there is need for more commercial development so as to serve the residents that will move to that section.

iii) Duplexes – These are residential houses that share a common wall. They are also unique as they also share a lot. They are better than single detached houses as they increase density and housing type diversity.

iv) Multifamily Residential – This type of housing is more common in the newer developments in the Western and Southern parts of the community. These types of houses comprise of more than two units sharing a lot. So as to increase density and diversity, the community will need a few more multifamily dwellings.

v) Country Residential – These are single houses on large 5-acre lots that currently occupy the Northern and South Eastern parts of the community. Although they give the area the country aesthetic that is appreciated by most of the community, they are blocked off from the rest of the community and as such they are impermeable. They also create a very low density count for the community which is undesirable as the new MDP proposes densification of the community.

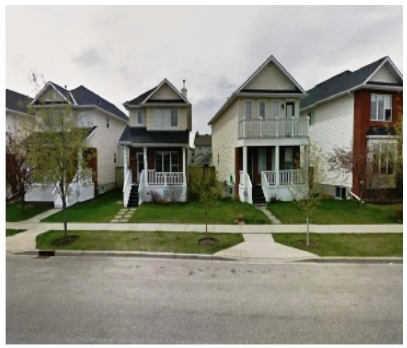
vi) Single Family Residential (Narrow Lot) – These houses are characterized by narrower frontages and laneway garages. They are perfect for street character as they create a pedestrian friendly environment as cars are taken off the streets to back laneways. Most of the laneways in the area though are not well maintained and if such houses are to be proposed in the area, then there is need for landscaping so as to make the laneways an attractive part of the public realm

vii) Single family residential (Regular lot) – This type of house is the most prevalent in the community. The lots that they occupy are >12m wide and this is because they have front door garages and as such do not need laneway servicing. They do not provide for an attractive public realm as most of them are designed in such a way that the garage occupies most of the front façade of the house. They are the most common and market-able types of houses and as such are favored by most developers who are willing to build within the community.

viii) Institutions – The community has two churches (West Springs Free Methodist Church and St. Michael Catholic Church) and a Sikh temple.These religious institutions are activity generators and as such are an opportunity for the creation of a community node that is currently lacking at West Springs. Apart from the religious institutions, there are also schools (1 public school and 1 separate school) that are enough to serve the needs of the residents.

The built form typology suggests homogeneity of housing types and this makes the street monotonus and boring. The proposal should encourage building of various housing types in the community so as to improve the quality of the public realm. Country Residential houses also have an aesthetic to them as they give the community the ' country feel' that is important and as such the proposal should also find a way of preserving some of this 'feel' in the community.

5. country residential



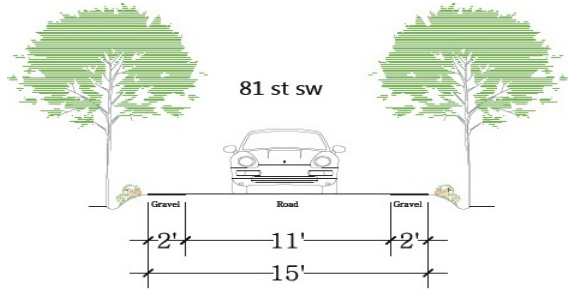
6. sfr-narrow

6. sfr-regular

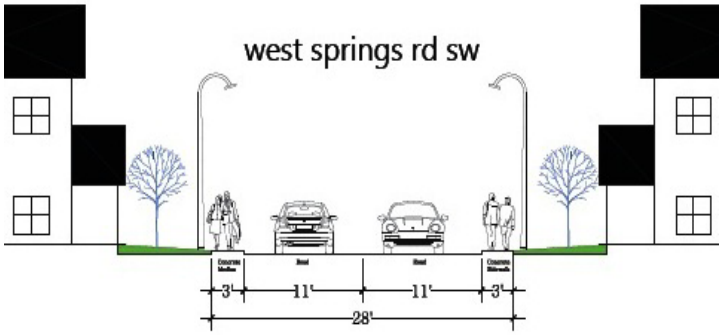
6. institutions

Figure 15: Building types on Site

Figure 16: Road and Pathway System



country streets



residential streets

Figure 17: Existing Country and Residential Streets

Circulation Infrastructure

i) Road Network

The community is bounded by Old Banff Coach Road SW, Bow trail SW and Coach Hill Rd SW and these are the main arterials that serve the community. The main collector street in the community is 85St SW, which cuts right through the community in a North South direction. Most of the roads connecting the country residential lots have been blocked off by the country lot owners and as a result, the road network is impermeable to most of the other residents

The main street types in the community are:

- *Country Streets* - One vehicle lane gravel roads; some of them have sidewalks and trees planted on either side. They are important as they connect the country residential lots have least traffic. Some of them are blocked off from the rest of the road network because of privacy and security issues.
- *Residential Streets* – These are two vehicle lane paved roads; some of them have side-walks and trees planted on either side. They are used to connect most of the newer residential developments. Most are curvilinear by design, and this is to enhance pedestrian safety as cars will drive slower, but they aren't very walkable as some of them end in cul-de-sacs (which affect permeability).
- *Collector Streets* - They experience the most amount of traffic within the community and have a median for safety and traffic control. These roads are wider and have double vehicular lanes on either side as well as sidewalks. The main one is 85th St SW which leads to the main commercial node at the intersection of 85th St SW and 9 Av SW.
- *Arterial Streets* – They surround the community and are the main feeder roads for traffic into the community. They experience a lot of traffic and as such have to be wider than the residential streets. Currently, 85th St SW (A collector) is wider than Old Banff Coach Road which is an arterial.

The current road network has a lot of incomplete streets, and lack bike lanes. Because of this, the proposal should encourage the creation of complete streets as proposed in the Complete Streets Guide by the City of Calgary. The curvilinear nature of the road network is a barrier to connectivity and walkability and as such the design proposal will have to adapt a modified grid or grid system with complete streets so as to solve this problem. There are also many cul de sacs and the new proposal should be designed in a way that eliminates this issue. Old Banff Coach Road which is an arterial street should also be expanded so as to accommodate the increased traffic that is likely to be in the neighborhood once development begins. The residential streets should also be widened and trees planted along the edge of the street so as to define it, as well as create a quality public realm that would encourage walkiability.

The community also has significant pathway gaps and this could be a result of the nature of roads (Some of the roads do not have sidewalks hence residents have to walk on the paved surface of the road), as well as the road network which is characterized by cul de sacs. The proposal should also address this issue by ensuring that the community is well connected by a pathway system that runs through the community, hence creating a quality public realm.

ii) Transit

Currently, the community is served by Route 93 – Coach Hill/ Westbrook, Route 98 – Cougar Ridge, Route 452 – Wentworth and Route 453 – West Springs. All the buses serve the community well and most of the stops are within the 600m walkshed. Once the new areas are developed, a proposal to re- route one or more of the buses should be made so that most of the residents within the community can be served by the transit. The proposed route should ensure that most of the people living in the community are within 600m of a transit route or bus stop. Rerouting the bus would encourage the use of transit and this has great benefits including reduction in green gas emissions.

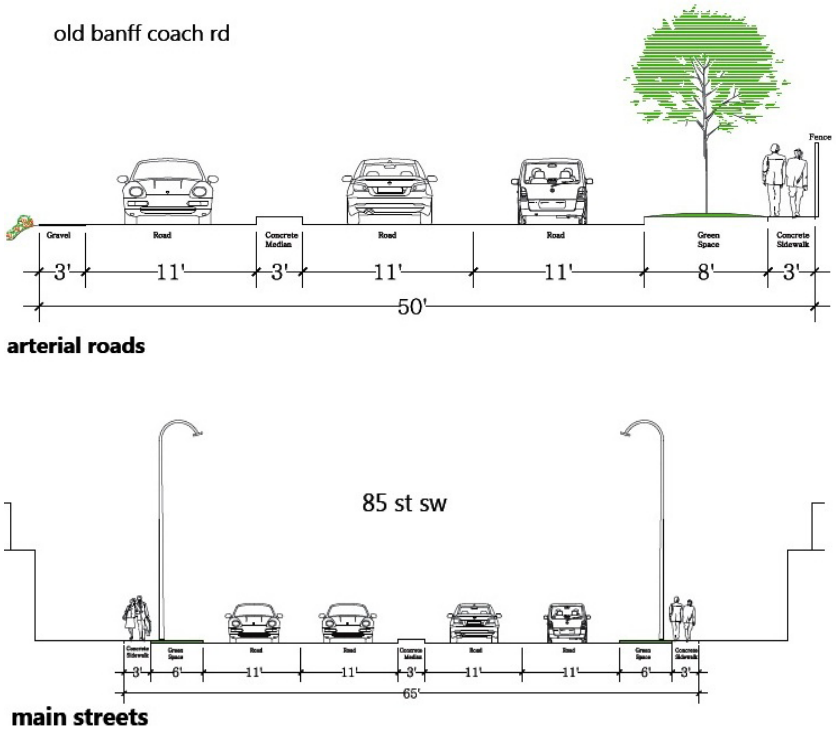


Figure 17: Existing Country and Residential Streets

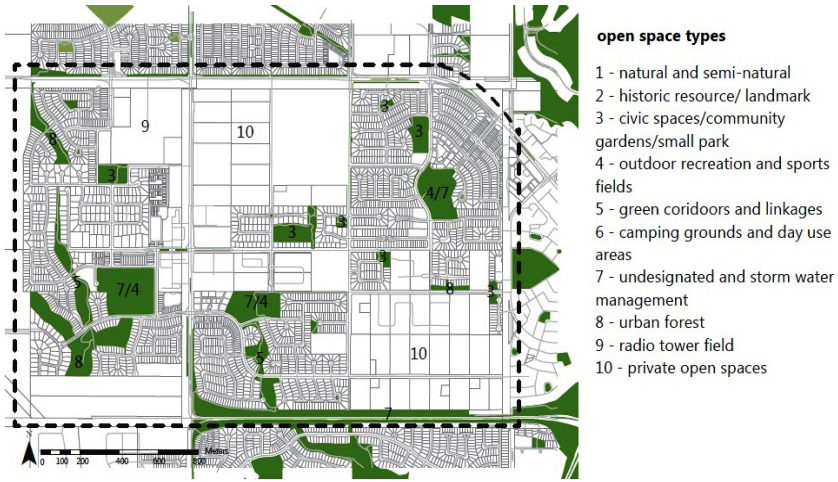


Figure 17: Open Space Typology

Figure 18: Open Spaces on Site

Open Space

The community currently has a wide variety of open space types that seem to serve the community members well. The main open space types currently existing in the area are:

i) Urban Forest s– These are mainly in the South Western part of the site. Urban forests are important as they serve an ecological function within the urban context. The urban forest in the South Western part is part of a pathway system that runs from North to South in the Western edge of the community. The proposal should ensure that the urban forest is preserved because of its value to the community.

ii) Storm water management – These are open spaces that have the dry ponds for storm water management. They are characterized by a depressed part of the landscape and play an important role in ensuring drainage of storm water. The proposal should ensure that these areas remain open because of their importance in storm water management.

iii) Small Park/Community spaces – There are small parks within the residential areas that are used by community members for different functions. These spaces serve the current population adequately, but once development occurs, there will be need for more of such spaces to serve the population that will be in the community. The proposal should make sure that such open spaces are created for the future residents of the community

iv) Outdoor recreation and sports fields – The community currently has three sports fields and these seem to serve the community members adequately. The community doesn't need any more outdoor fields as the land area that they occupy will be enough for the current and future populations.

v) Green corridors and linkages – Part of the pathway system in the community. The residents have mentioned that they use the pathway system and say that it is a valuable asset to most of them. When developing the new sections, there is need to ensure that there is a pathway system that is connected by green linkages and this will help contribute to a quality public realm.

vi) Private Open spaces – These spaces are blocked off the public through fencing by property owners. They do not contribute to the quality of the public realm as most of the fences make the space inaccessible to the community members. The proposal should ensure that all open spaces in the community are accessible and well connected to the existing public realm.

vii) Radio Tower Site – This site is currently under direct control and has radio tower masts in it. It is not used for any recreational activities and this is probably because of the dangers that result from the emission of EMF's. The proposal should ensure that recreational uses on the site are kept to a minimum because of the negative health effects that may be posed by the radio towers.

Figure 19: Radio Tower Site

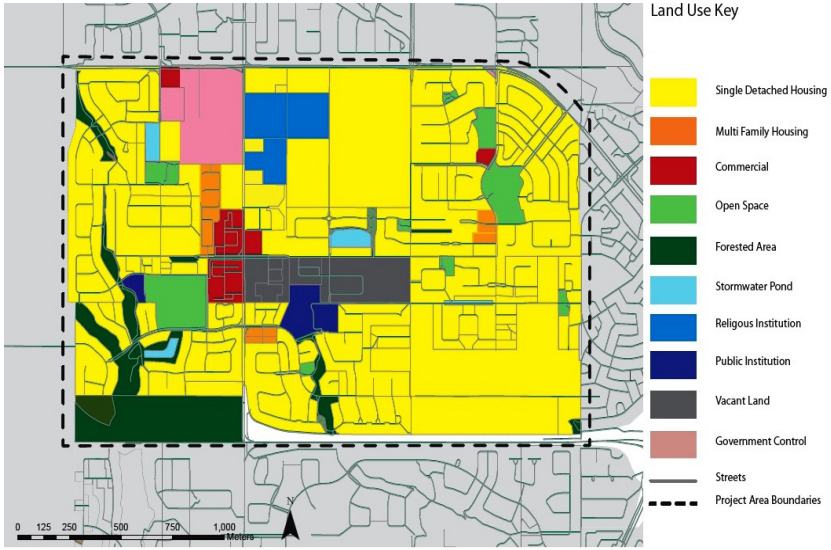


Figure 20: Existing Land Use Map

Current Land Use and Zoning

The current land use and zoning map suggests that most of the area is zoned for single detached housing with a few parts of the community being zoned as multi family, commercial and institutional. Although there is no Environmental Reserve on site, the proposal should recommend that some of the forested area be preserved and protected as part of ER. Land use re-designation will have to be undertaken by the developers and the city so as to allow development of different kinds of housing and land uses within the site, as per the proposal, so as to adequately serve the needs of the incoming population.

Analysis Summary

Assets and Issues

The analysis suggests that there are certain issues that the proposal will have to deal with and there are certain assets that will have to be accommodated in the new proposal.

Major issues include country residential lots, impermeability, homogenous housing types and pathway gaps. The assets include natural features, rich history, stormwater drainage and religious institutions.

These are summarized in the both spatially and in tabular format.

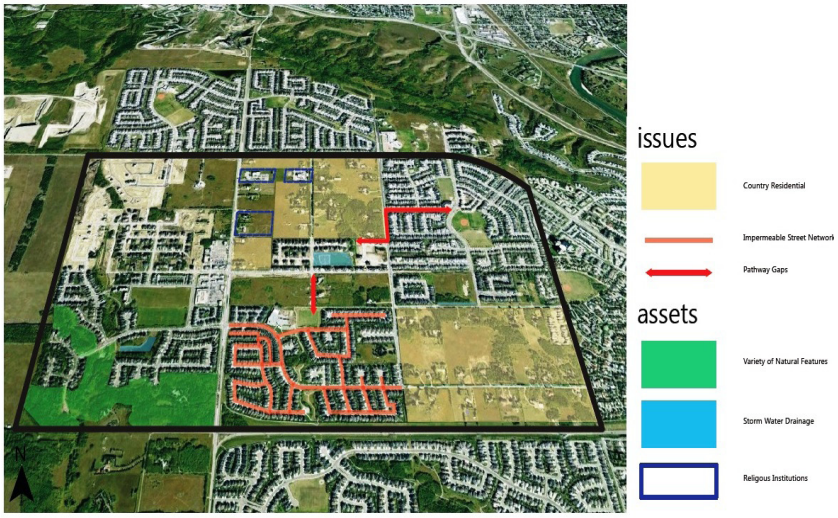


Figure 21: Graphical representation of Assets and Issues

issues	
country residential lots	huge lots occupy a lot of space and greatly reduce the density of the area. need for smaller lots to maximize use of the land
impermeability	because of the curvilinear design of the neighbourhood and the country lots, there are cul de sacs and blocked streets
Homogenous housing types	there is need for a larger variety of housing types as the community has a lot of single detached housing
pathway gaps	the pathway system has gaps in it and completeon of these gaps is essential to connectivity

assets	
variety of natural features	the area has a large number of urban forests, and great views to the foothills and mountains
rich history	the area has had a country feel to it historically and there is need to preserve that 'feel' and this should affect development
stormwater drainage	the area is well served by wet ponds and dry ponds, which is important as the area is generally flat
religious institutions	they provide potential for generation of activity as people frequent such areas

Figure 22: Tabular representation of Assets and Issues

Land Use Concept
General Overview

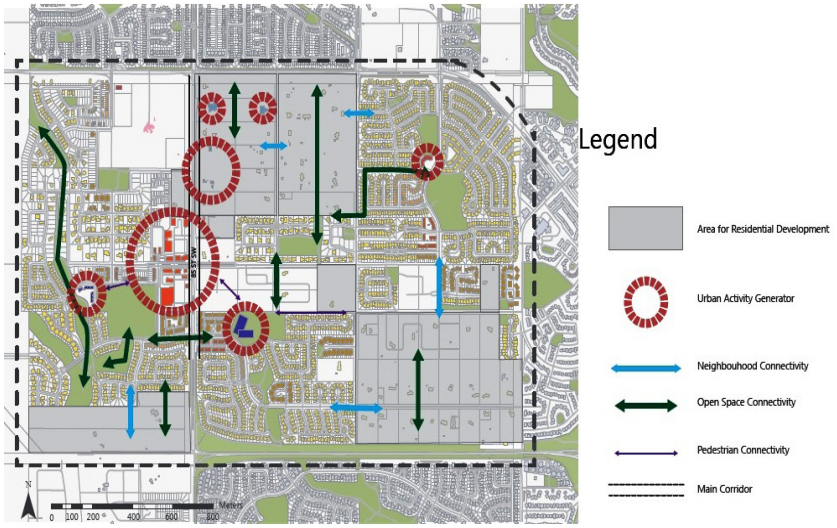


Figure 22: Conceptualization

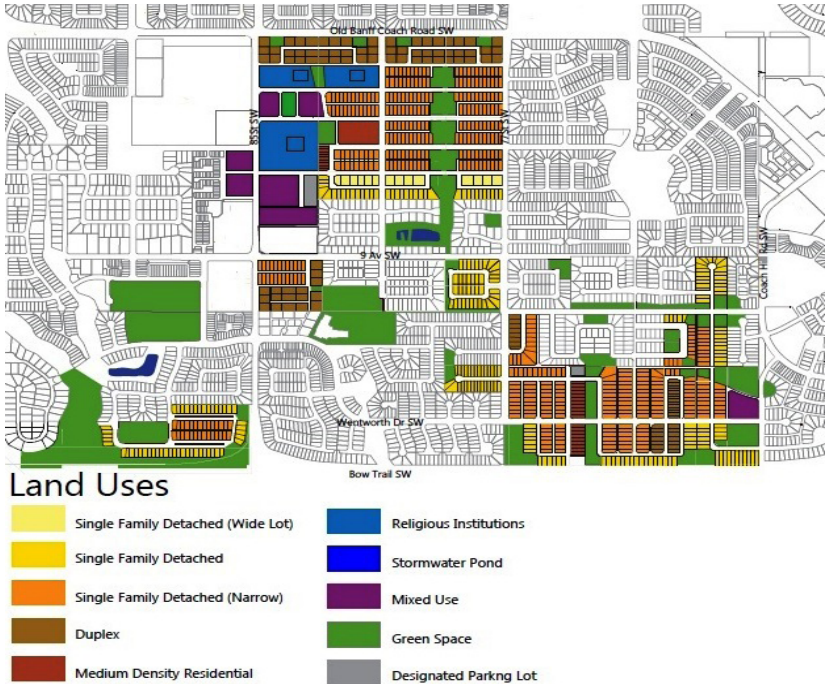


Figure 23: Overview of Land Use Concept

The Land Use Concept proposed in this plan seeks to mitigate the issues identified in the site analysis, by guiding West Springs' development towards a more complete and cohesive community. As defined in Calgary's Municipal Development Plan (MDP), complete communities are "vibrant, green, safe places, where people of varying ages, incomes, interests and lifestyles feel comfortable and can choose between a variety of building types and locations in which to live, and where daily needs can be met." To achieve this, HWC Consultants have identified six major areas to address in the land use concept to turn West Springs into a complete, cohesive community.

i) Commercial Core – To serve as the centre of public activity in West Springs. One that can meet the diverse needs of the community's residents.
ii) Neighbourhood Areas – Areas that are primarily of residential use, that provide a variety of housing forms and affordability levels.
iii) Community Activity Node – A public space that contributes to the urban vitality created by commercial and institutional land uses in the North of West Springs.
iv) Open Space System – Provision of quality public parks, open spaces and community amenities to make leisure and recreation activities available to West Springs' residents.
v) Transportation System – A grid street pattern that promotes connectivity and a multi-modal transportation system.
vi) Transit Service – Ensure all residents have access to public transit so as to enable transit, walking and cycling as preferred mobility choices.

Commercial Core

The Commercial Core will be located along 85th St Sw between 9 Av SW and Old Banff Coach Rd SW. It will be the centre of public activity in West Springs and will be centrally located with streets and pathways converging on the core area. To ensure accessibility, major transit routes in the area will pass through the Commercial Core. The Commercial Core will be designed to meet the service needs of all of West Springs' residents, and residential densities in close proximity to the core will be higher.

Policy and Design Goals:

1) The Community Core is will be a mixed use node consisting of retail, office and residential spaces.
2) Coordination of architectural and urban design elements to ensure the commercial core has a cohesive character and aesthetic.
3) The Scale of retail appropriate should follow that of the Community Retail Centre 1 typology described in Section 4.1 of the MDP.
4) Mixed use buildings should feature retail and service uses at grade, with residential and office uses on upper floors.
5) 85th Street S.W. will be the focus of street oriented building design with:
    a) Buildings that feature retail and service uses at grade with residential and office uses on upper floors.
    b) Along this corridor, auto-oriented uses and drive-through facilities will be prohibited.
    c.) New parking shall be located at the rear of buildings.
    d) In the case that existing parking is located at the front side of the building, infill developments are recommended to bring store frontages closer to the pedestrian realm.
    e) Architectural streetscape elements and landscaping to enhance the pedestrian environment.

Figure 24: 3D render of proposed infill and parking lot

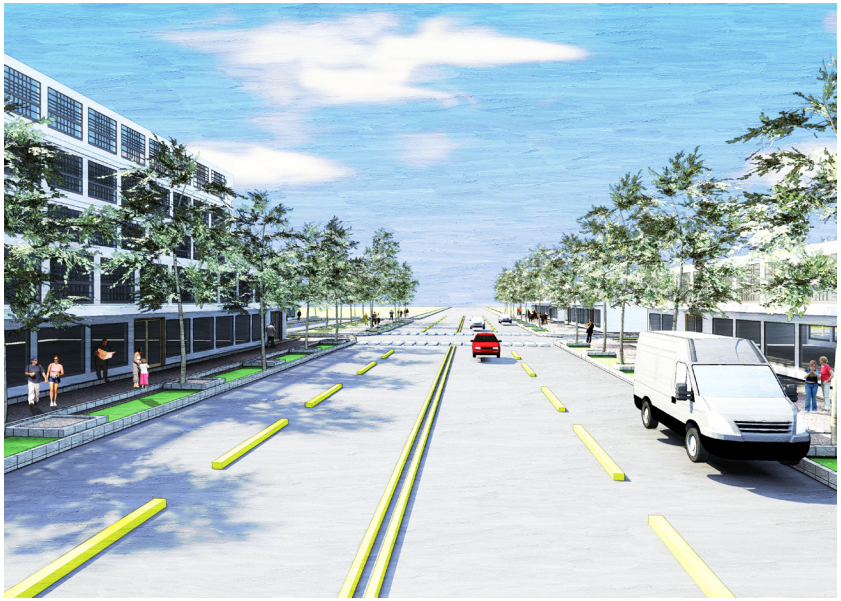


Figure 25: 3D render of proposed 85th Street commerical coridoor

Figure 26: 3D render of proposed front parking (if any)

Figure 27: 3D render of proposed 85 St charachter

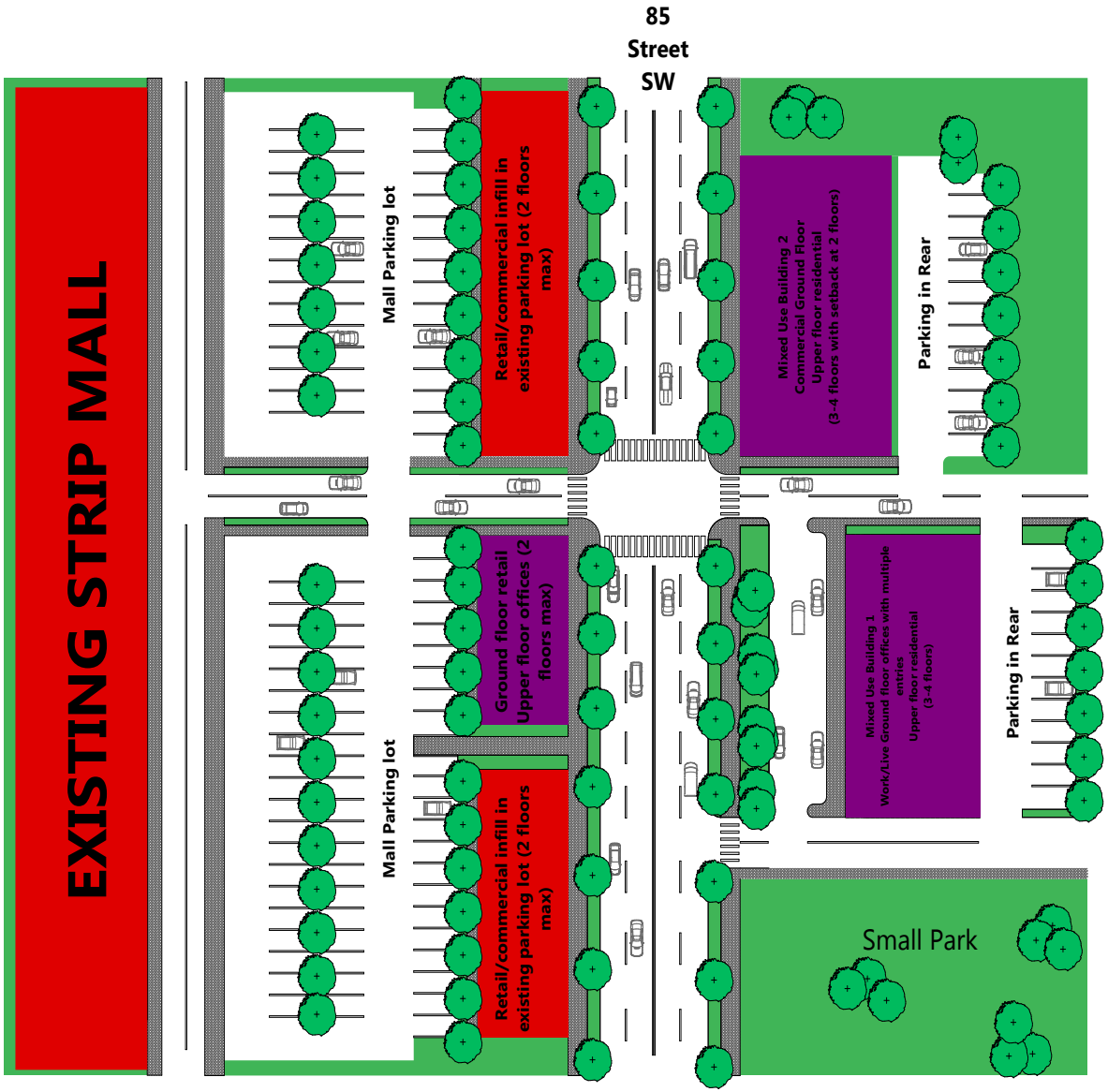


Figure 28: Overhead View of proposed street charachter

All images courtesy of hwc

Community Node: 'The Pointe'

'The Pointe' is a community that will be located between two mixed use buildings that will be part of the Commercial core along 85th Street SW, just south of the Calgary Free Methodist Church and the Sikh Centre, and North of the Catholic Institutions. It is has been designed with the intent of enhancing the activity generated by the surrounding institutional and commercial land uses. It will also contribute to the area's urban vitality by providing an activity space where residents can meet and recreate themselves. The West Springs ASP suggests that uses around religious institutions should be mixed use and the pointe satisfies this requirement as it is located between two Mixed Use buildings; retail on the ground floor, office and residental uses in the upper floors

Policy and Design Guidelines:

1) Outdoor space created to compliment activity generated by surrounding land uses.
2) Site will provide a variety of seating and flexible green space to enable recreation and leisure.
3) Green space to be surrounded by the ground level services to attract and retain users, thus generating continuous urban vitality.
4) Sightline from surrounding land uses to be maintained so as to better attract users.
5) This node will be accessible by transit and through the open space pathway system.

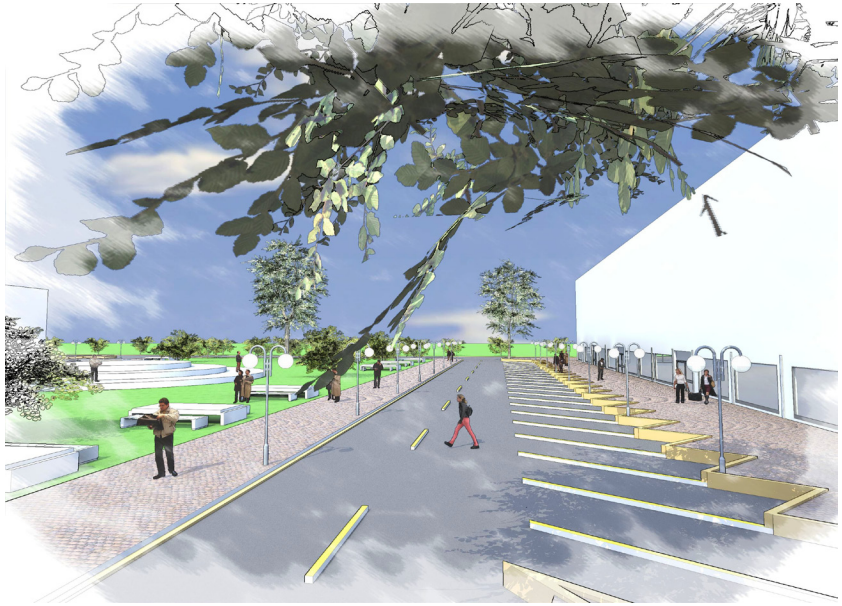


Figure 29: 3D render of proposed community node

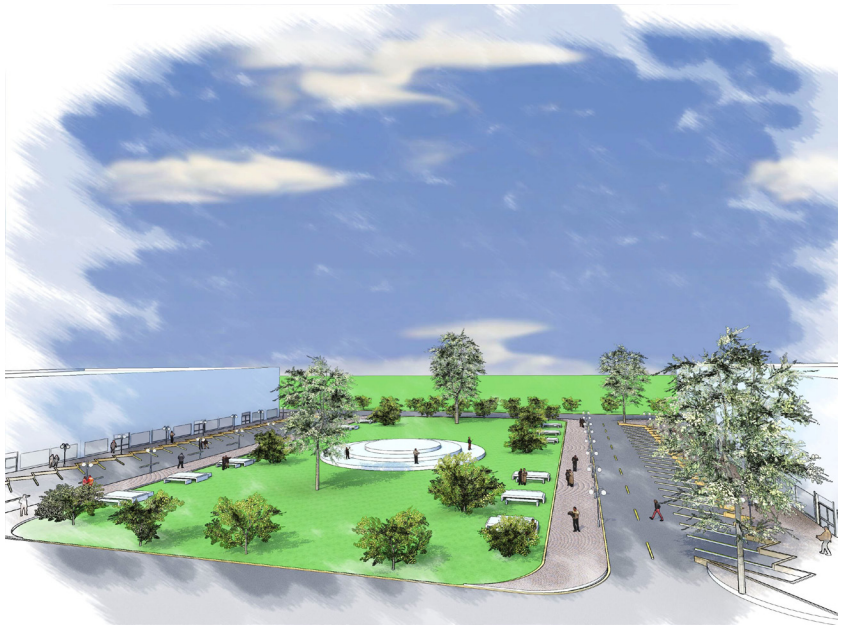


Figure 30: 3D render of proposed node showing permeable ground floor

Figure 31: 3D render of showing pedestrian and resting areas at the pointe

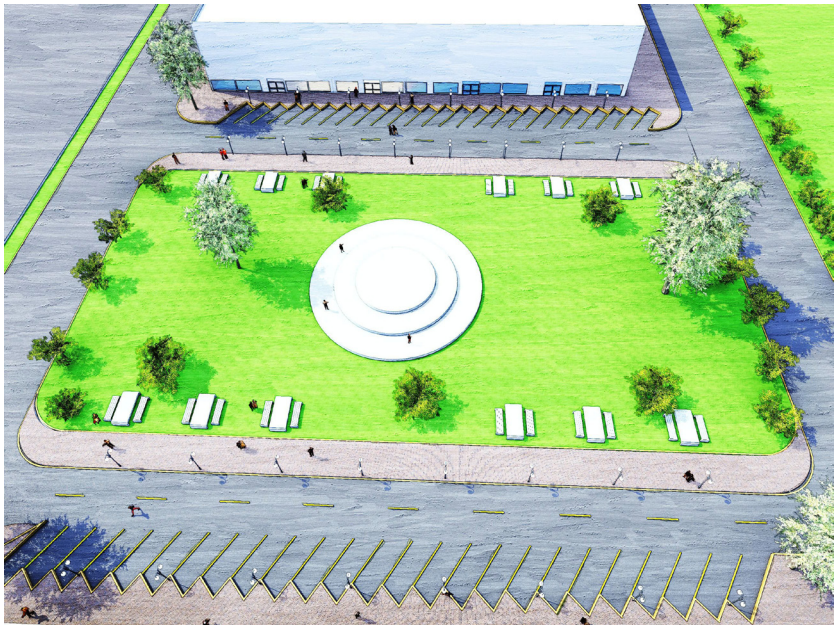


Figure 31: Overhead view of proposed community space

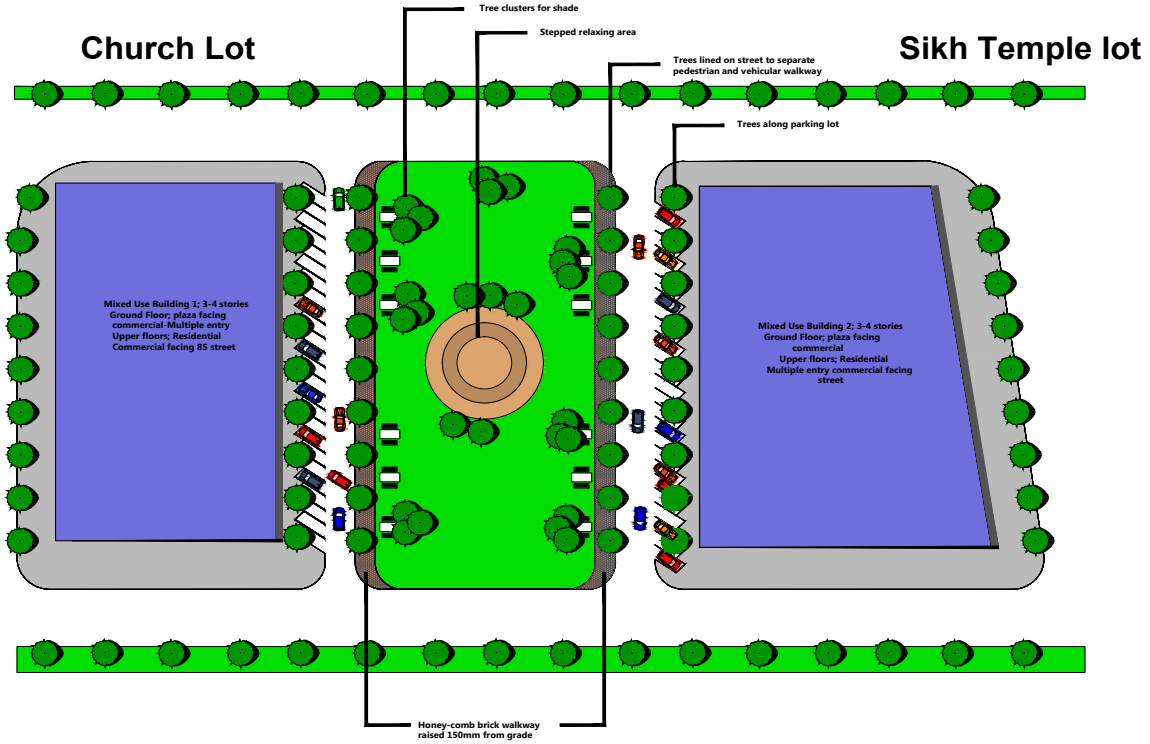


Figure 32: Overhead view of proposed community space

All images courtesy of hwc

Transportation Network

"Connecting the City" is an objective set out by the MDP. HWC Consultants aim to achieve this through the development of a multi-modal transportation system that supports land use, provides increased mobility choices for citizens, promotes vibrant and connected communities and supports a prosperous and competitive economy. The West Springs ASP recognizes that the community's transportation network will have a significant impact on the urban form and intensity of uses that can be supported. As such, HWC Consultants proposes a grid street pattern that supports walking, cycling, transit and automobiles within and between communities.

Policy and Design Goals.

1) A grid street pattern will be implemented in the land use concept to enhance walkability, permeability and connectivity.
2) Where possible, and in alignment with the Calgary Transportation Plan (CTP), HWC Consultants wishes to enable public transit, walking and cycling as the preferred mobility choices for more people.
3) The local street network should
a)Provide connections and multiple route choices to destination points within Neighbourhood Areas for all modes of transportation.
b)Ensure all street connection provides access to the Commercial Core and amenity spaces.
c)Efficient and direct transit routes.
d)Eliminate or minimize the development of culs-de-sac, crescents and p-loops; and
e)Form an interconnected street system that allows for multiple routing options for pedestrians, cyclists and motorists.
4) A safe, friendly pedestrian environment is to be provided to all residents in newly developed neighbourhood areas. As such, the following policies for walkways are suggested:
a)Walkways will be between 1.5-2.5 meters so that pedestrians can pass each other comfortably.

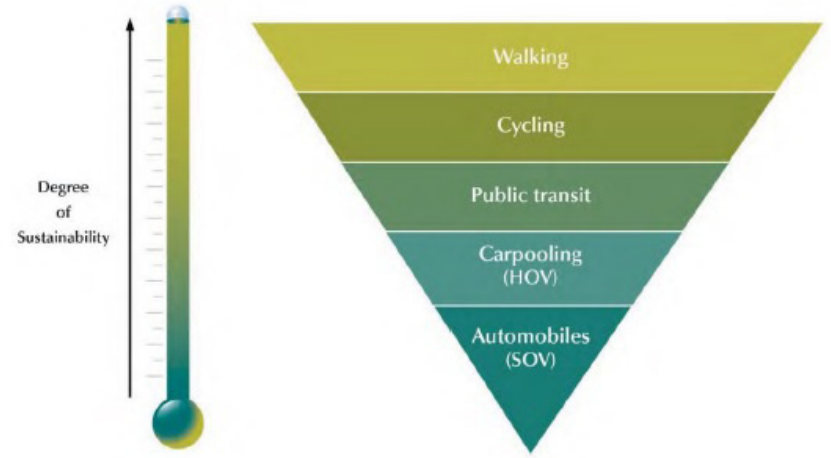


Figure 33: Sustainability Transport Triangle (CTP, 2009)

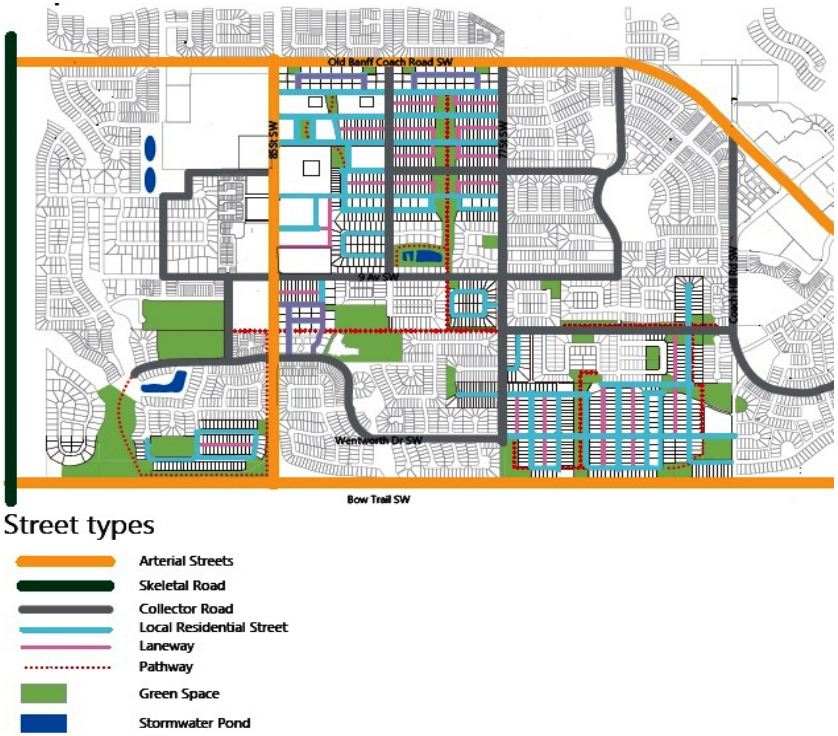


Figure 34: Proposed Road Network

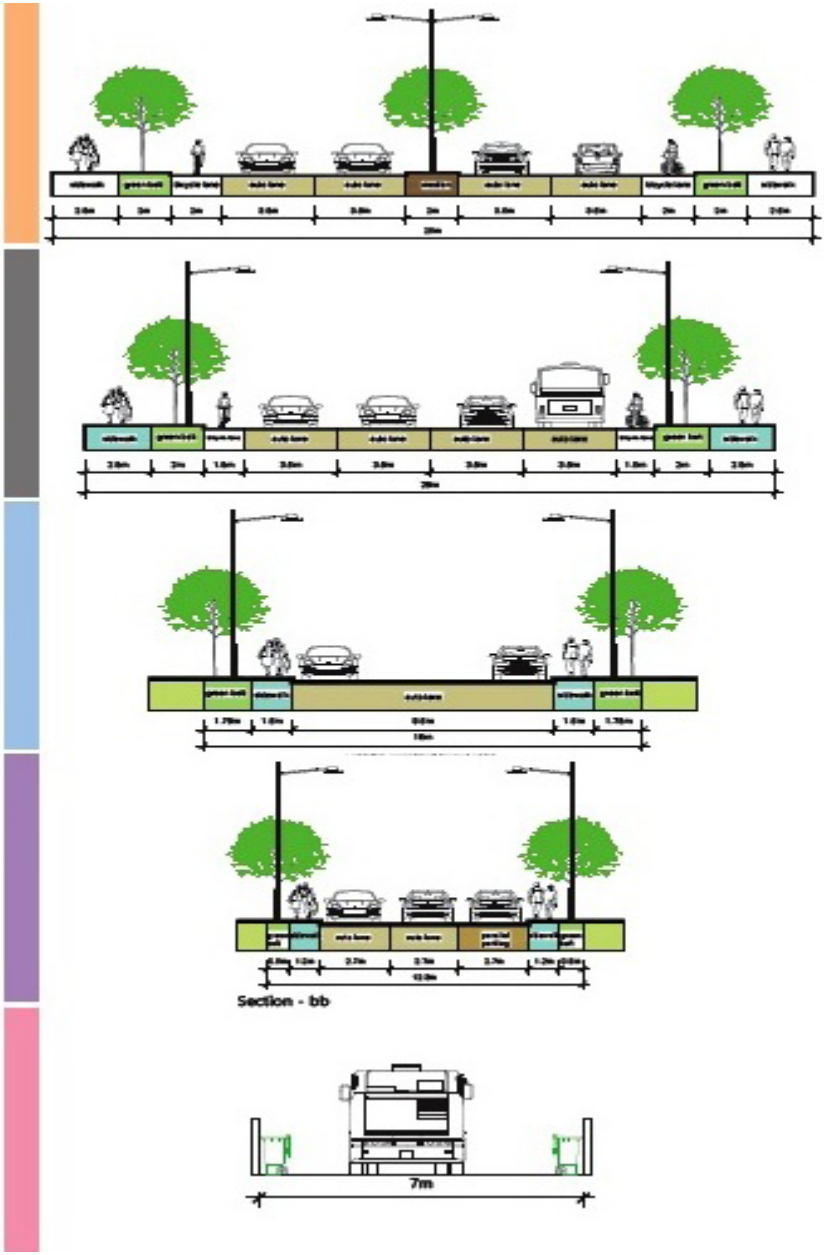


Figure 35: Proposed Street Sections

b) On arterial and collector roads, sidewalks shall be separated from the street by green belts.

c) Street Parking shall be located at the rear of buildings and setbacks will be augmented to avoid visual narrowing of walkways.

5) Parking should be located away from major pedestrian walkways and commercial corridors.

6) According to the MDP, complete communities are supported by "good service and ease of access." All residents in the newly developed Neighbourhood Areas are to be within a 400 m walk shed of transit access.

a) The achievement of this goal would require the buy-in and cooperation with Calgary Transit. HWC Consultants propose a service extension of Bus Route 453 in order to provide transit service to the proposed neighbourhood area in the southeast. The propose reroute will take Route 453:

i) Down 73 St SW - Across 10 Av SW - Down Coach Hill Rd - Across 11 Av SW - Across Wentworth Dr SW - and reconnect to 85 St SW.

ii)Despite this re-route, route 453 will join the rest of the existing routes in the community at the intersection of Wentworth Dr SW and 85 St SW, at the Commercial Core.

Open Space

It is indicated by the MDP that complete communities "provide access to nature…and support sports, relaxation, and outdoor activities."Additionally, complete communities also provide "…connection to the city's open space system and an integration of local natural systems with an urban development pattern that respects the natural function of the landscape." In accordance with the MDP, and as desired by the West Springs ASP, HWC Consultants propose a system of active and passive open space, with pathway connection throughout the Community.

The Open Space System will be an interconnected system of parks, schools, public plazas and natural areas that will provide social, biophysical aesthetic functions.

Policy and Design Guidelines

Social Function

Open Space are integral to residents' quality of life. It is a priority of HWC Consultant to promote public health through the encouragement of activity, and provide space for social gathering. Therefore, the Open Space System creates an overall sense of individual well-being.

1) Open space must be integrated into the Community through safe, efficient pedestrian and bicycle routes.
2) Provide linear parks and linkages to promote connectivity and encourage physical activity.
3) Ensure seasonal adaptability for year-long use through appropriate landscaping, site design, and the provision of street furniture.
4) Encourage a diversity of user activities and opportunities by providing flexible open space, recreational equipment.
5) In accordance with the MDP's and the CTP's requirements for pedestrian safety, public visibility to open spaces and pathways will be encouraged.

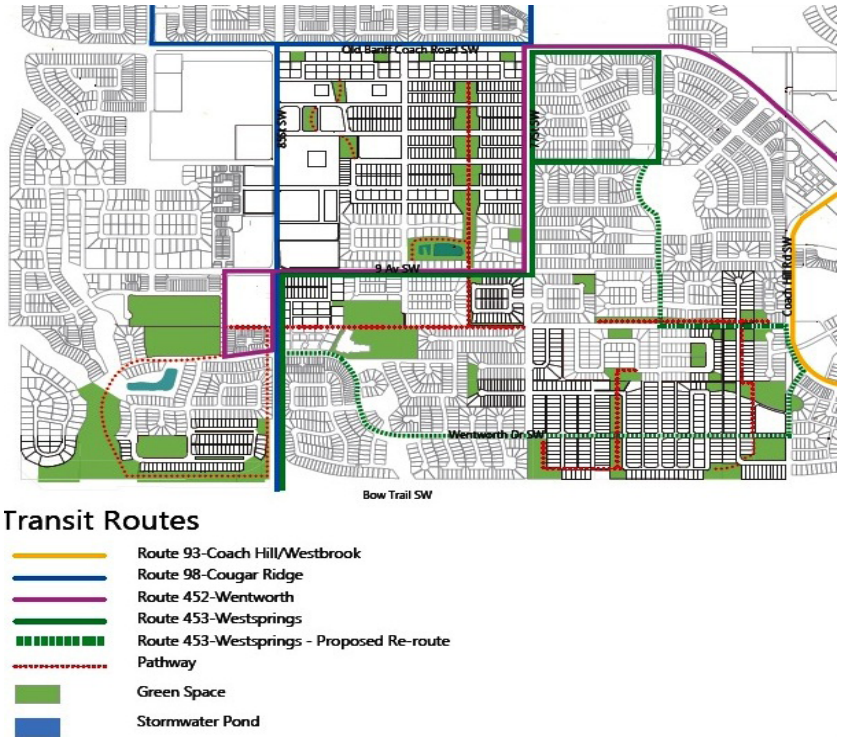


Figure 36: Proposed Transit Re-Route

Figure 37: Proposed Pathway Section

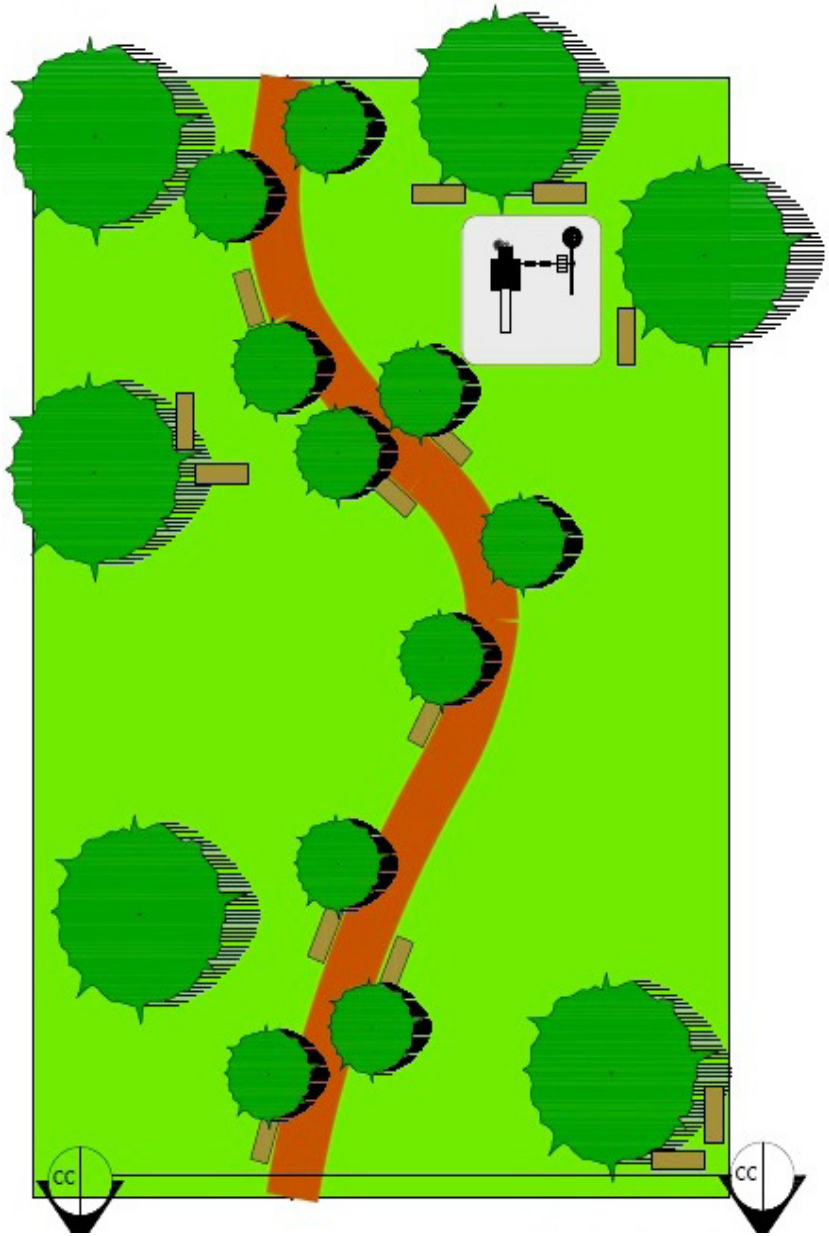


Figure 38: Plan view of proposed pocket park

Biophysical Function

The MDP indicates that the Open Space System will serve a biophysical function, as it will have a positive impact on air and water quality as well as the ecology of the physical environment. Ensure that the Open Space Function is biophysically effective, HWC suggests the following policies:

1) Where possible, natural vegetation and forested areas should be preserved and protected from developmental impact.
2) In the event that vegetation or forested areas are removed, efforts should be made to replace this greenery with native species to restore overall biodiversity and carbon sequestration capacity of the area.
3) Ensure that Open Space can sustain existing ecological areas, so plant and animal populations are not harmed.

Aesthetic Function

Open Spaces positively contribute to the aesthetic beauty of the urban area. This in turn will positively affect residents' well-being as well as real-estate values. To achieve the aesthetic function, HWC suggests the following policies:
1) Design open spaces to provide view corridors and visual focal points throughout the Community.
2) Space tree clusters appropriately as well and situate buildings so as not to create overshadowing.
3) Protect and restore natural features such as wetlands, slopes, and mature vegetation.

Acquisition of Open Space

As noted in the West Springs MDP, the acquisition of land for the open Space System can occur through the dedication of a Municipal Reserve (MR), Municipal School Reserve or Environmental Reserve (ER), as defined in the MGA; conservation easement; voluntary conservation; voluntary reserve dedication; land purchase or other means.

Neighborhood Areas

The residential land uses proposed by the West Springs Land Use Concept Plan, is perhaps the most significant element of the Plan. Due to existing development, there are three principal areas that can be built out. HWC Consultants have proposed to turn each of these locations into "Neighbourhood Areas", which are composed primarily, though not exclusively, of residential uses. In alignment with the MDP and West Springs ASP, these three neighbourhood areas encompass a range of housing choices, covering a mix of built forms, housing tenures at densities that support transit viability, local commercial and other services.

Policy and Design Goals

Composition of Neighbourhood Areas.

1) Neighbourhood areas should encompass a range of housing choices and built forms so as to make West Springs accessible to a variety of households. Housing types in these Neighbourhood areas will include some but not all of:

a) Single Family Detached
b) Single Family Detached – Narrow Lot
c) Duplex
d) Row Housing
e) Mix-Use Residential (Apartments)

2) Affordable housing, either through home ownership, rental tenure or Attainable Housing should be provided throughout the Neighbourhood Area.

3) Alternative Housing forms, including three or more bedroom dwelling units within multi-dwelling residential development, secondary suites, and laneway housing are encouraged throughout the Neighbourhood Area.

4) Multi-Dwelling residential development, where appropriate, should be:

a) Located in close proximity to transit stops.
b) Located in close proximity to natural features and usable open space
c) Located in close proximity to urban amenities.
d) Located in areas close to existing employment concentrations
e) Integrated with other housing types within the community.

Figure 39: 3D render of proposed Street network

Figure 40: 3D render of proposed Street Showing Pathway

Figure 41: 3D render of proposed Street

Figure 42: 3D render of paved and greened laneway

Public Realm in Neighbourhood Areas

1) Newly developed Neighbourhood areas will encompass a grid street pattern so as to promote a pedestrian-friendly environment.
2) Corollary to the above policy, cul de-sac, p-loop and crescent street design has been minimized.
3) Residents of all newly developed neighbourhood areas will be within walking distance of:

a) Open Space
b) Transit stops

4) Deciduous trees shall be provided along streets to provide shade and edging to enhance legibility. Deciduous Trees are preferable as they minimize snow accumulation on canopies.
5) Setbacks will ensure that front yards are spacious to avoid visual narrowing on sidewalks of residential streets.
6) Greening and permeable paving of laneways encouraged so as to improve the quality of the public realm in such areas.

Detailed Overview of New Neighbourhood Areas

a) North:

The Neighbourhood Area in the North of the community is characterized by higher densities due to its proximity to existing institutional uses, commercial and mixed use services, and transit routes. This density is mediated functionally and aesthetically with a portion of the Open Space System that runs North-south throughout the area. Additionally, a series of double-frontage wide lot estates are proposed just north of 9 Av SW.

North Area Lot Configurations

1) Blocks in the northernmost part of this neighbourhood area are characterized by street facing duplexes. These increase density and their large structures offer a compatible transition from Old Banff Coach Hill Rd.
2) Lot configuration 2 features single family narrow lot dwellings. They are serviced through laneways and encompass rear garages. It was important here to remove street parking as lot widths are narrower here. These lots do not provide ample open space, and are thus located along the open space pathways system.
6) Lot configuration 6 feature double frontage estate lots. These lots are the largest in the West Springs Land Use Concept Plan. Though lots are spacious they feature numerous clusters of trees that surround the house. These create park-like aesthetic to the lot and surrounding street frontages. Tree clusters also provide privacy to residents of the lot. Inspiration for these lots is deprived from the historical aesthetic deprived from country residential lots. As one walks down this street, they will be able to have a 'park feel' and be able to identify with the History of this space; country residential houses and foretsed areas

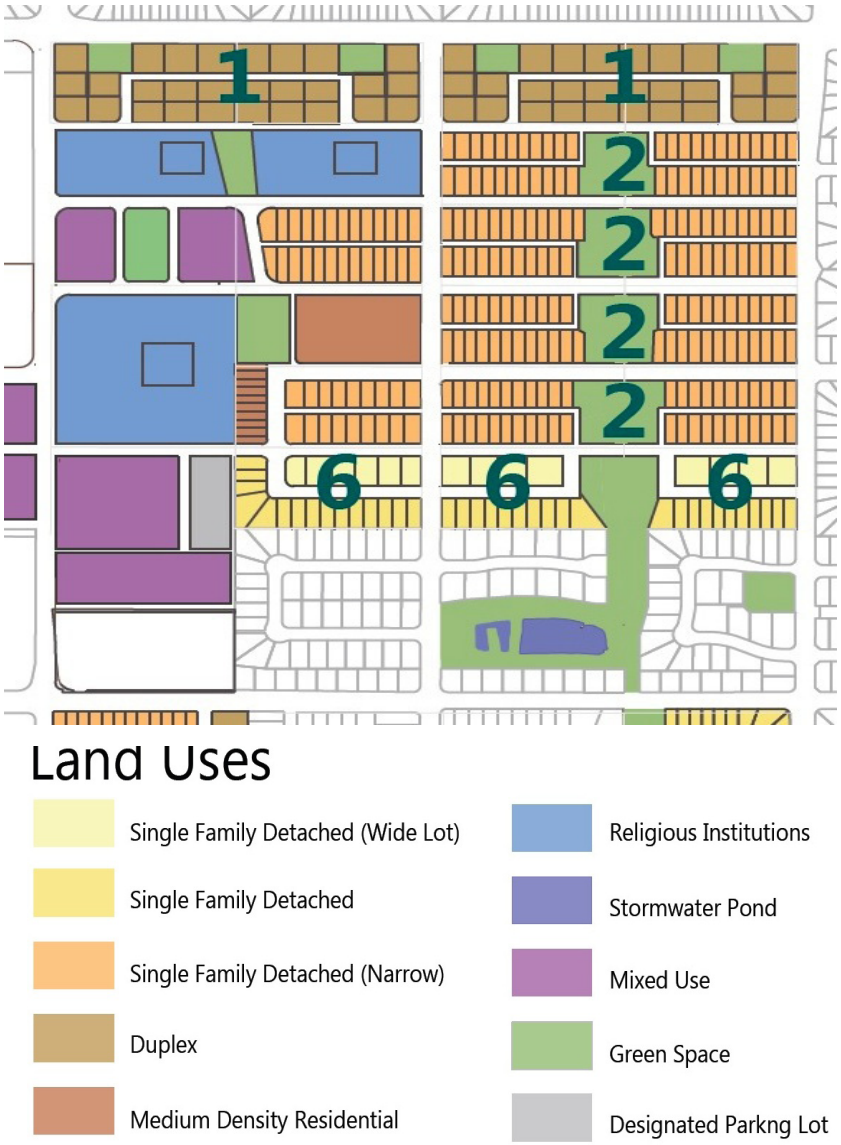


Figure 43: Plan View of Northern Section

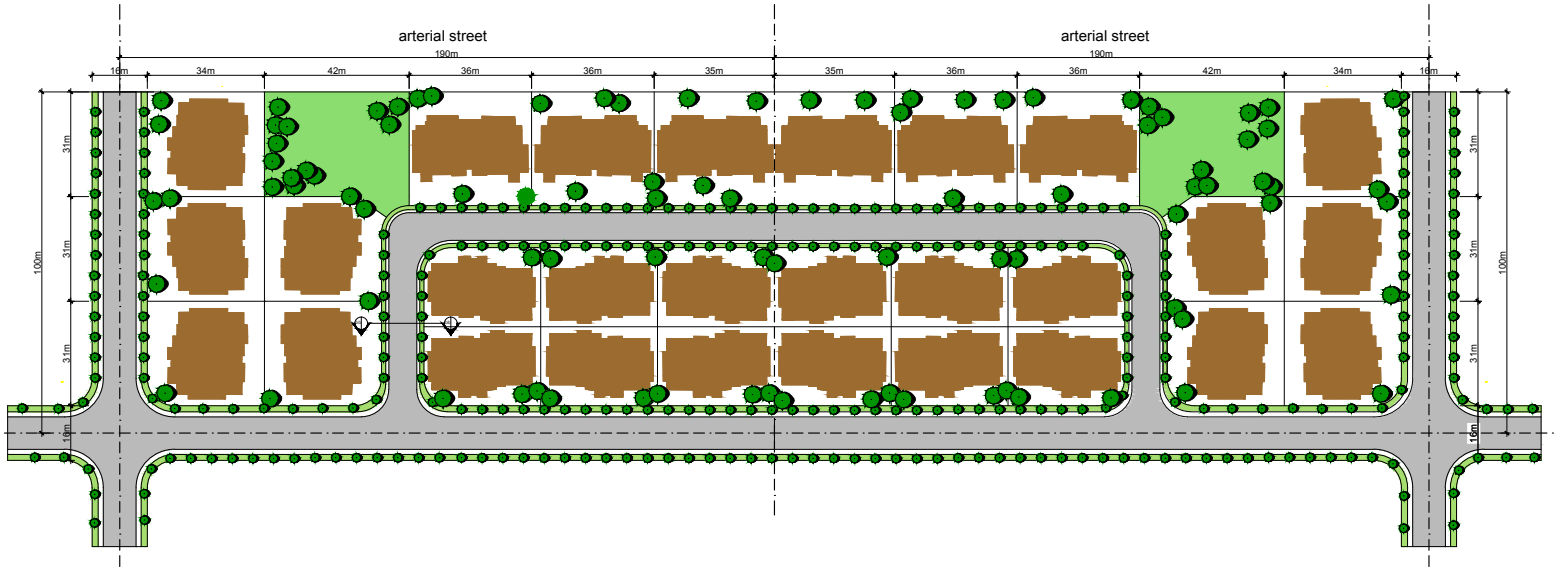


Figure 44: Lot Configuration - Section 1

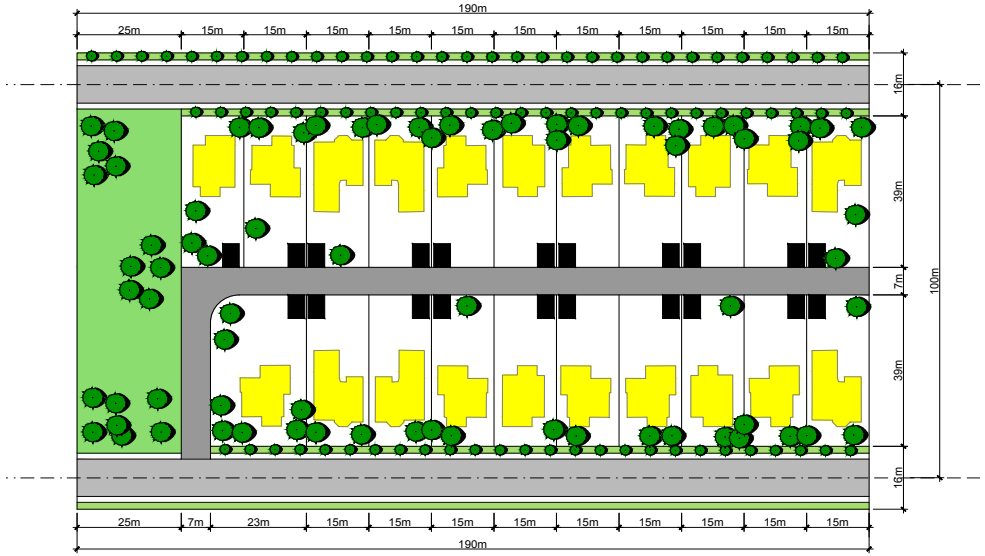


Figure 45: Lot Configuration - Section 2

Figure 46: Lot Configuration - Section 6

b) South East

The Neighbourhood Area in the southeast of West Springs displays high instances of single detached housing, with some low instances of medium density housing. A mixed use building in the eastern most part of the area provides local commercial services to the residents. Additionally, it can be seen that large parcels of open space are provided intermittently throughout the community. As this Neighbourhood area features many narrow lot dwellings, a pooled parking lot is provided to reduce the presence of street parking, so as to enhance the pedestrian environment.

South East Lot Configurations

3) Lot configuration 3 is similar to lot Configuration 2 in the North, but has a North South orientation. They are narrow lot detached dwellings, and are serviced by rear laneways. Though this is the most prevalent lot configuration in the Neighbourhood Area, they are separated by lot configurations 4 and 5 to create aestetic variation.
4) Lot configuration 4 displays the interaction between medium, density housing and single family detached housing. Though medium density dwellings do not encompass ample amounts of private open space, additional open space is provided to the east of the buildings. This green space serves as a buffer between the two types of densities and provides a desirable open frontage to the single detached housing.
5) Lot Configuration 5 features duplexes that alternate in frontage direction. Duplexes service to increase density but also provide a variation in building type. This block type breaks up the instances of single family detached housing. The block itself includes clusters of trees and similar to lot configuration 6 provides a park-like aesthetic to the surrounding street frontages.

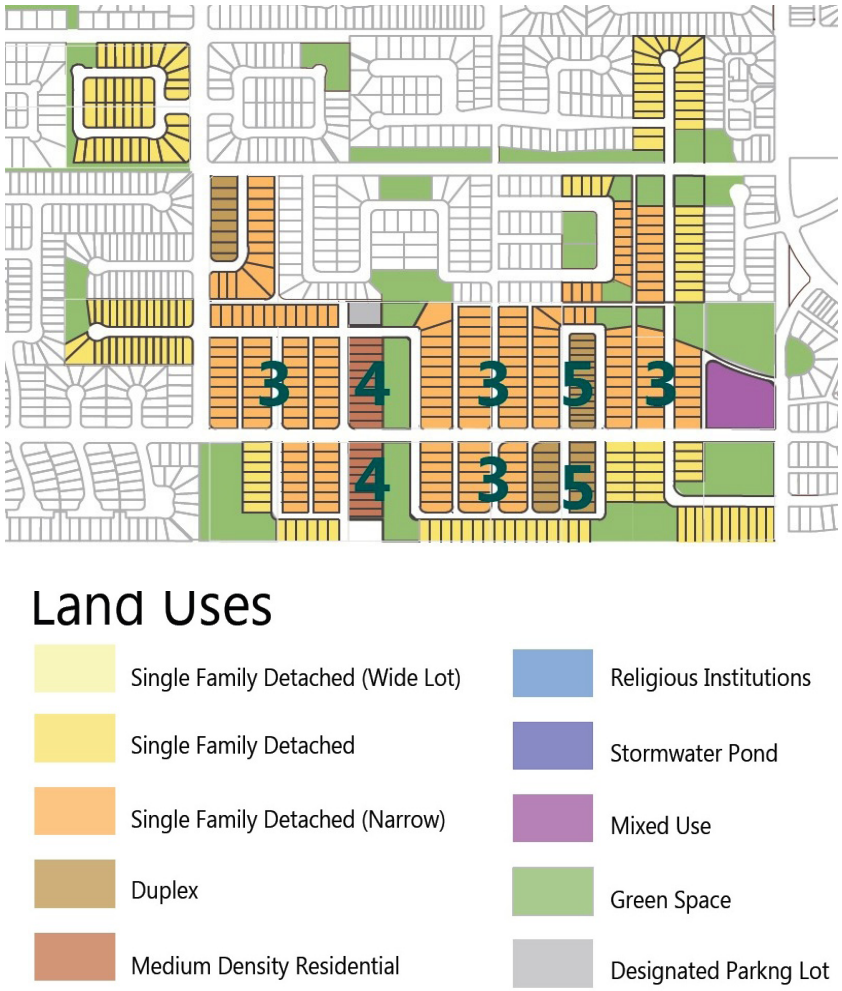


Figure 47: Plan View of South East Section

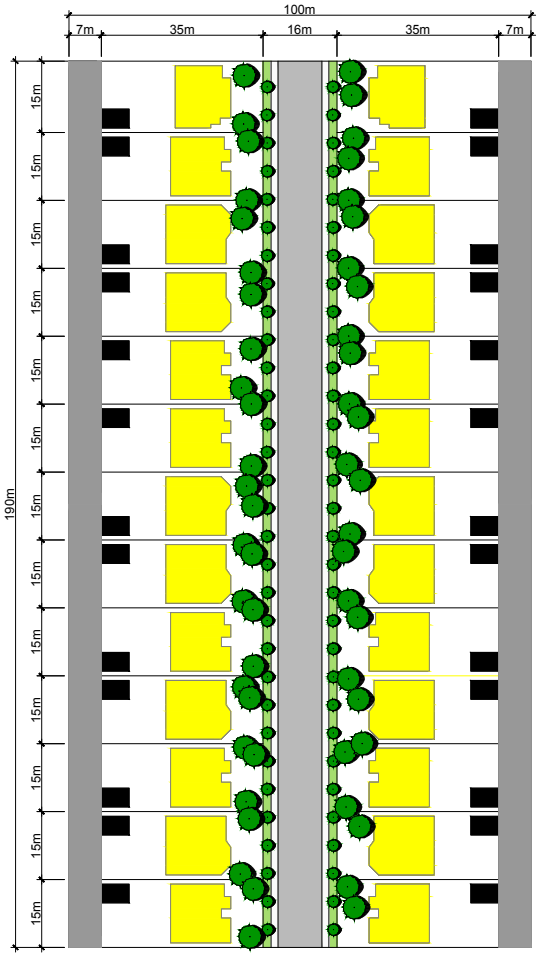


Figure 48: Lot Configuration - Section 3

Figure 49: Lot Configuration - Section 4

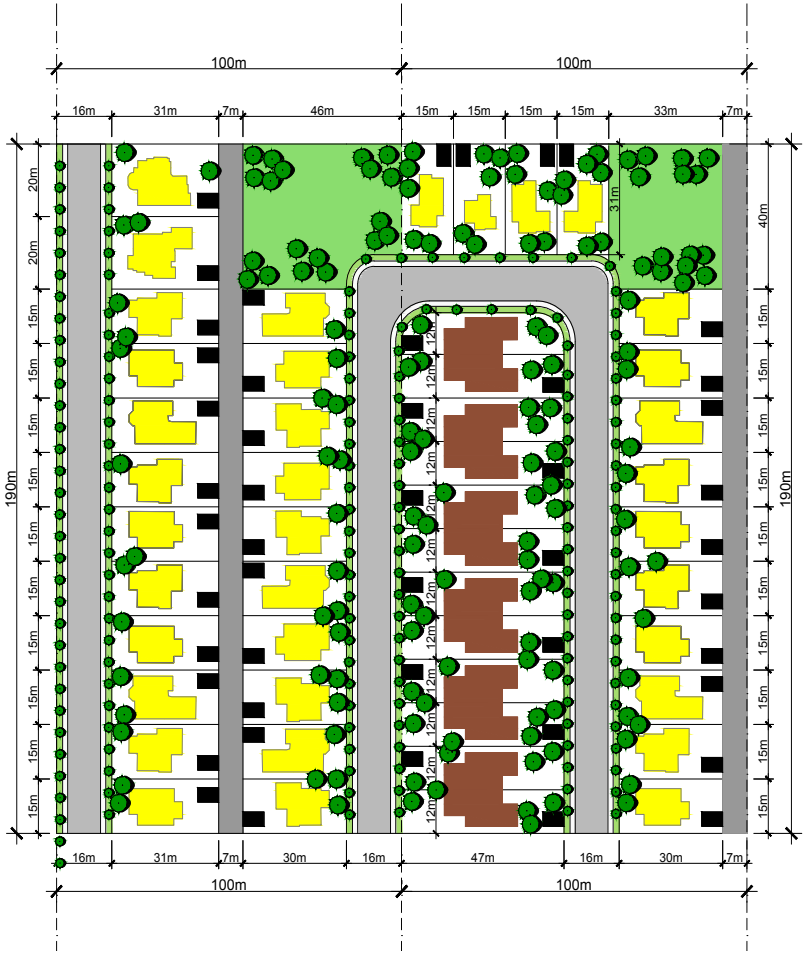


Figure 50: Lot Configuration - Section 5

c) South West

The Neighbourhood area in the southwest is located in a section of the community that had previously seen large amounts of development. Additionally, it is in an area where it was a priority to conserve existing forested areas. As such this Neighbourhood Area is comparatively smaller than the previous ones reviewed, and its aesthetic is characterized by the preservation of trees.

Design Goals

1) Though the area is comparatively smaller, efforts to increase density shall result in the introduction of duplexes.
2) The preservation or restoration of trees is a priority in this area. Policies to achieve this include
    a) Additional tree clusters in open spaces and rear yards.
    b) As the Neighbourhood Area is located close to Bow Trail, Rows of trees shall be planted as buffers to mitigate traffic noise and improve aesthetics.
    c) Green Medians separate single family detached frontages from duplex frontages. Medians feature intermittent tree clusters. Medians increase tree density and enhance the nature-aesthetic of the area.
3) Provide connectivity to the Open Space System via pocket parks in the east side of the area.
4) Southern most edge will feature a wall with stone masonry to acts a barrier between residential lots and the public pathways system and Bow Trail. Graffiti will be done on the walls so as to improve their apperance, making them less of an eye sore.
5) HWC recomends the designation of ER to the area West of the development. This green space serves a biophysical and aestetic function as described in the Open Space section above. Designation of this area as ER would help ensure that no further development occours on the site

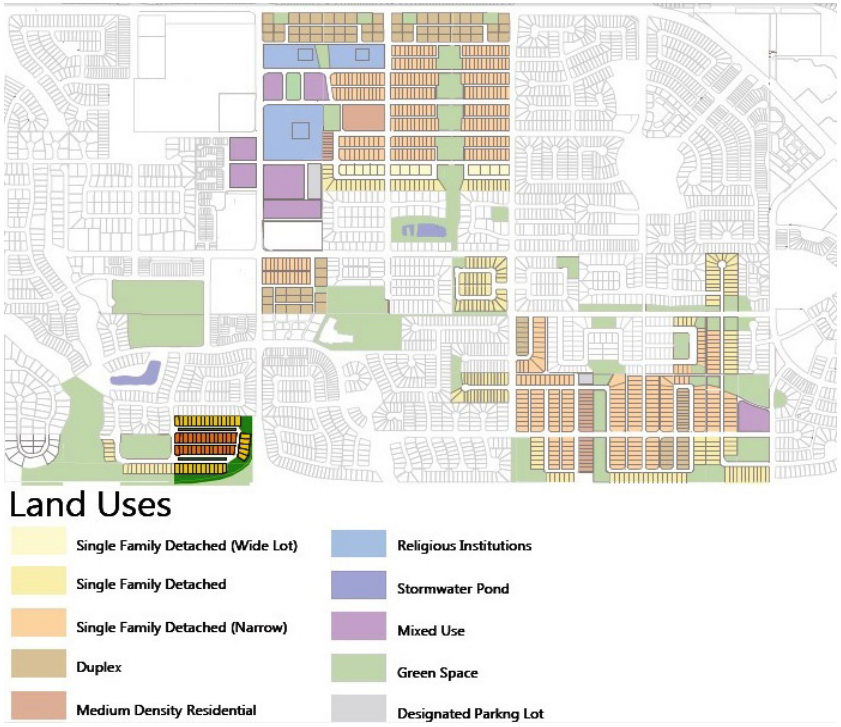


Figure 51: Location of South West Development

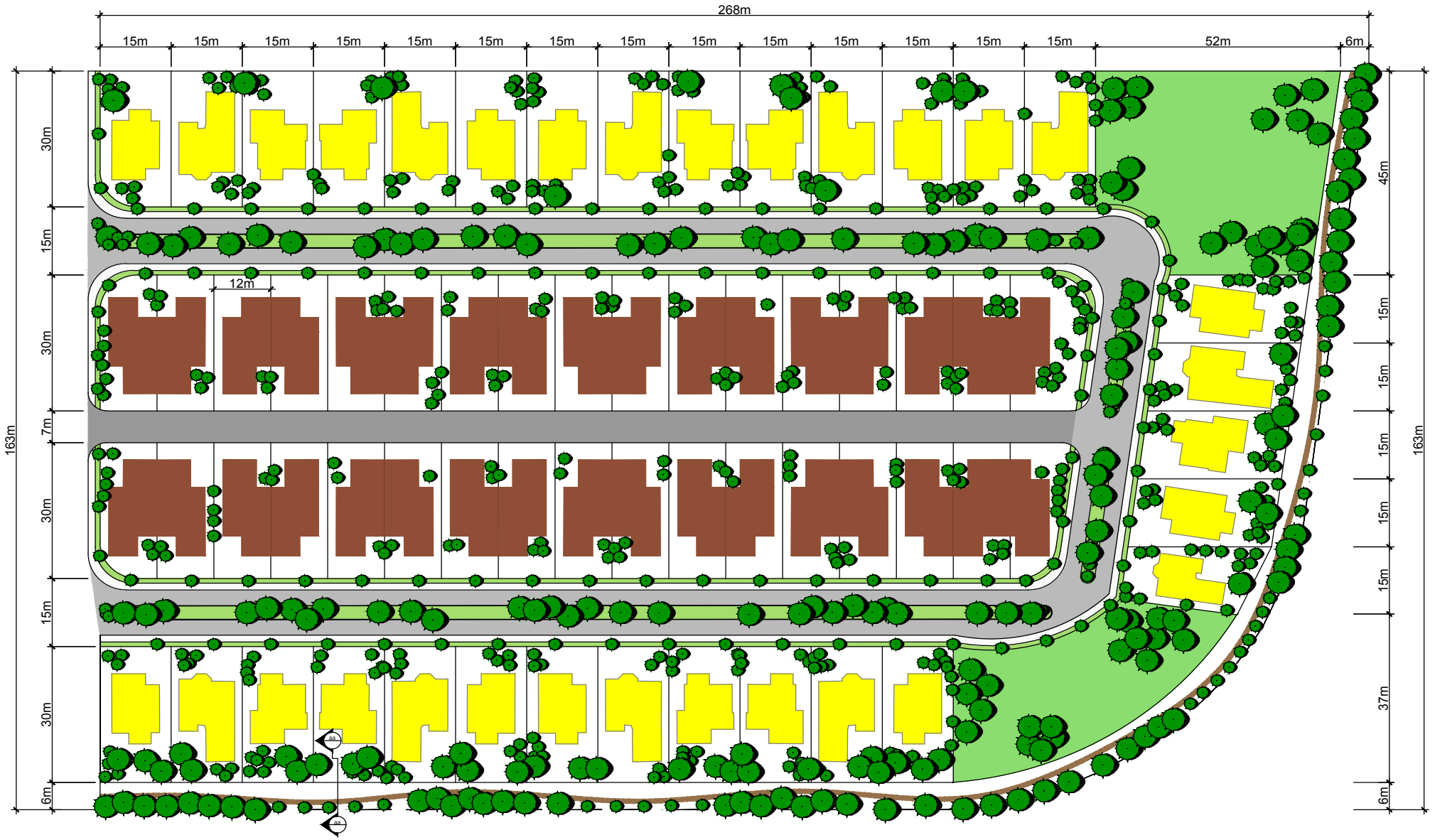


Figure 52: Detailed plan of South West Development

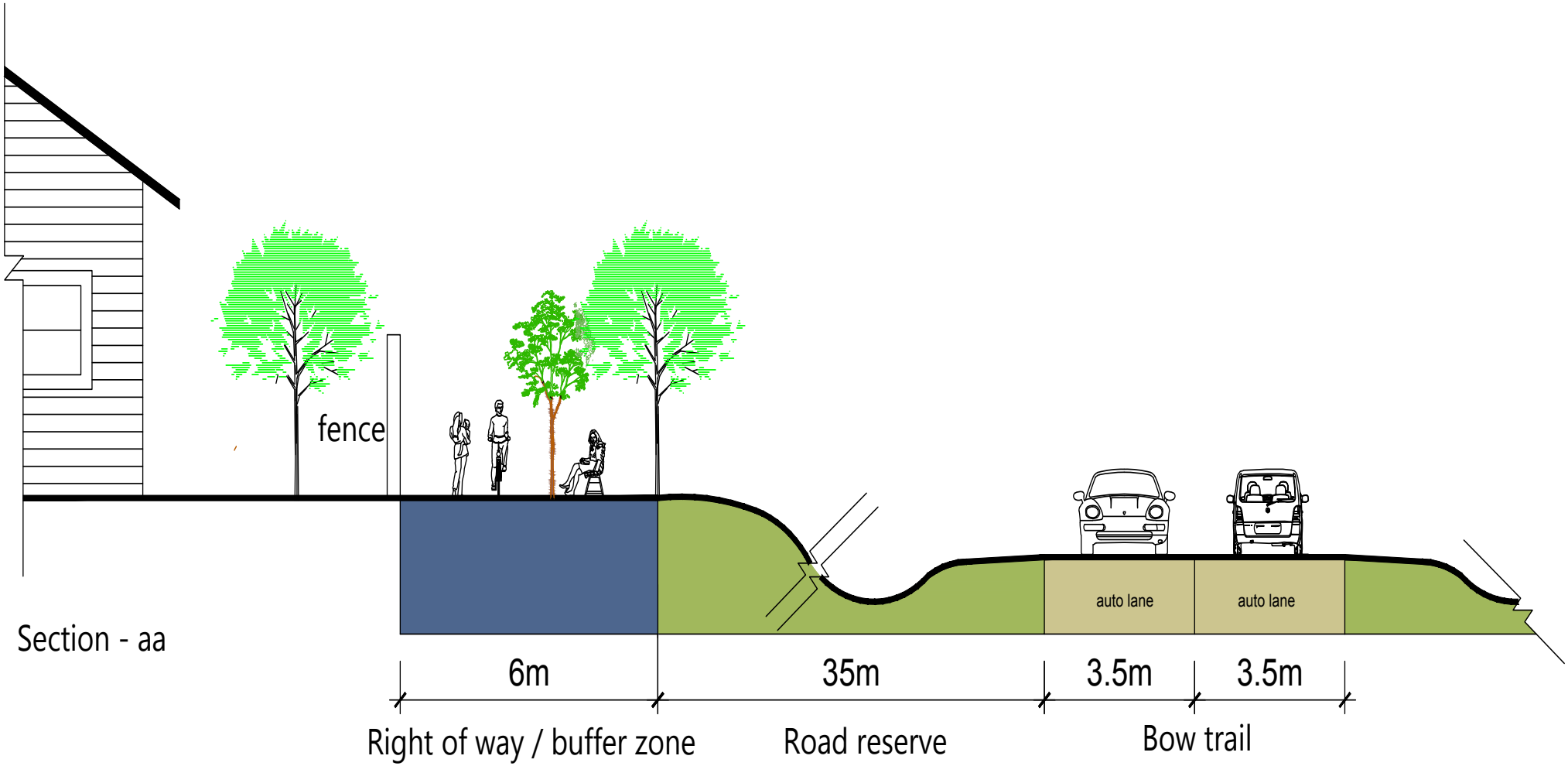


Figure 52: Relationship of Bow Trail to Development (Section aa-aa)

Figure 53: Radio Tower Masts at West Springs

Special Area - Radio Tower Site

The Radio Tower Site is located in the North Western Section and is currently under Direct Control under Land Use designation and is currently occupied by CBC. HWC highly recomends that the cell tower site remain undeveloped because of the historical value of the site (It has been on the site since the early 40's), as well as the negative health effects that exposure to electro - magnetic frequencies (EMF's) may pose to people who decide to use the site.

Decades of studies have demonstrated that artificial frequencies higher than 10 hertz can create stress and serious health problems. Cellphone tower wavelengths, microwaves have a significantly higher frequency than even radio waves. The higher the frequency, the more powerful the wave—and the more powerful effect on biological organisms. (Mobile towers emit microwaves at 1900 MHz.). These higher energy waves can actually destroy chemical and molecular bonds, creating chaos in our basic biochemical structures.

Because of the dangers posed by exposure to EMF's, HWC would recomend research to be done by scientists and other professionals so as to assertain the dangers of the EMF's produced by the Radio towers on site.

If the research findings indicate that the area is safe for human activity, HWC recomends that the area first be designated as a recreational site where people can walk their dogs, play around and even have barbeques before future development is contemplated.

HWC also recomends that the buildings on site be restored and preserved as they are a part of the long history associated with the West Springs Community.