

Applicant's Submission



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Re: Bridlewood Affordable Housing
Land Use Redesignation Application – Applicant's Submission
Our File: 18.155

Introduction

The new Bridlewood Affordable Housing project is an opportunity to create a community that will provide access to homes for many individuals and families within Calgary. Not only will this produce a sense of place for those that find it difficult to rent or own their own home, it will also help to enhance the surrounding neighborhood and support new ways of living. The combination of smart master planning, built form, and a sustainable mindset will directly support the three areas of the City of Calgary's "Triple Bottom Line"; environmental, social and economic.

This project will provide a variation of multifamily developments including a combination of two and four-bedroom town homes equaling sixty-two (62) affordable housing units. Additionally, amenities including landscaped community/public space, waste management facilities and associated parking will be incorporated into the plan.

One of the key design objectives to successful affordable housing projects is to create a development that does not look like affordable housing projects. Through a series of design qualities and strategies, the Bridlewood Affordable Housing units will represent a high level of design and aesthetics that raise the bar for future developments while removing the stigma of low socio-economic demographics and their housing.

Sustainability

As the foundation of this project, sustainability extends beyond building systems and construction methods, and is applied to the social, cultural and economic constructs of the development. This sustainable mindset will achieve true affordable housing that considers not only the upfront costs of constructing a unit, but the vitality and life expectancy of the buildings, site and neighborhood. By doing this, the result of the Bridlewood Affordable Housing project will integrate seamlessly into the immediate and extended context, taking into account the adjacent residential development and character of the larger community. Design qualities that embody sustainability and accessibility, have formed a base line for all options of the project and include but are not limited to: massing, scale, material use, ground floor access, vehicular and pedestrian circulation and shared open space. Factors such as transportation, connectivity, circulation and well landscaped community/public spaces, will also work to enhance the overall health and wellbeing of the residents and improve their sense of place within the city.

In terms of green building, the Bridlewood project boasts a stringent set of requirements that exceed current energy standards. Beyond the typical building code and national energy code, each building designed for the site is required to exceed the 2015 National Energy Code by a minimum of 26%, with one of the buildings reaching a goal of above 40-50%. This energy efficient requirement, has provided several opportunities and constraints on the project, ultimately challenging how we design, build and operate City housing. This set of requirements have provided the design team with a set of guidelines that have facilitated our goals in challenging the delivery of Affordable housing developments, while pushing the project in new areas in terms of construction techniques, materiality, spatial relationships, building systems and maintenance. As a pilot project for this exciting challenge, the Bridlewood project will propel not only Affordable housing, but all housing projects to where we need to be as a city.

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Principals

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Masterplan Strategy

The site for the new Bridlewood Affordable Housing project is located within the community of Bridlewood in the south west of Calgary, at 2375 - 162 Ave. SW. The site is surrounded by 162 Avenue to the north; a service road and commercial properties to the east; a municipal reserve site to the south; and residential condominiums to the west. With various community amenities and networks of pedestrian and vehicular activity, the site has been currently used as a connector from various highly used areas. The choice to place another residential development within this site optimizes opportunities for amenity areas such as soccer fields, commercial and employment situations and access to various schools and churches.

Site Design

The overall site design and master planning strategy focuses on a public space network of multiple nodes that will work to mediate the gap between private and public realms and encourage interaction with the larger community. These connective amenity spaces will be woven throughout the site and contribute to the activation of streets, the assembly of people and promote a sense of security throughout the site. Utilizing the existing pathway networks, we were able to establish site trajectories that influenced the locations of buildings, public green spaces and the living street; Woonerf concept. The design of this public network will inspire access to the larger community, encourage people to penetrate and move through the site, and reduce the possibility for a slum or private areas of crime to be established. The creation of such public spaces will be anchored and leveraged through the south forested site and existing public pathway.

Pedestrian Oriented Site

The concept of the living street focuses on the notion of a pedestrian orientated site that encourages pedestrian circulation and community interaction. Similar to that of a village or campsite concept, MTA is proposing a singular one-way route for vehicular access that was dictated by the City's fire access route requirements and roadway sections. Through strategies such as curving the road, removing site curbs and varying the surface treatments, we reduced the importance of vehicles on site which will slow traffic and encourage activity and play. Through the Woonerf concept, we will enhance the already existing public pathway networks, and facilitate safer, more interactive public circulation paths. Additionally, we will apply CEPTD strategies through an 'Eyes on the Street' principle, as well as enhanced lighting through all public spaces and circulation. Design and Landscape strategies will also include lit wayfinding devices, site furniture and varying surface treatments to delineate public circulation paths and help guide community members through the site, not along the perimeter of the site. To further reduce the need of vehicles on site, the development will include one (1) parking stall per unit in addition to the bylaw required visitor stalls. Where there are stalls on site, they are intended to be used as supplementary hardscape play spaces when not in use.

Community Focus

The community centered focus of the project provided us opportunities in designing an entire portion of the site dedicated to integrating the community and the local residence of the affordable housing development. Through a series of civil, landscape and architectural strategies we have proposed a community area that blends the natural qualities of the south forested area into the site, encourage pedestrian circulation and also serve as a shared neighborhood amenity that will work to integrate the entire community. This area will include a Community Hub building, children's playground, sloped green space, community gardens and hardscaped pavilion space for larger community functions. In areas where we are proposing community gardens and public art walls we will encourage the incorporation of local student groups to use them as teaching and education opportunities.

Site Opportunities

Initial site investigations led us to uncover various conditions that would allow us to maximize density along the west most property line which would allow the team to imbed additional play spaces while maintaining the circulation and community amenity areas. Additionally, the natural slope of the site suggested various construction opportunities such as using the foundations of the side by side townhome garages as both the retaining wall for the site and the foundation for the buildings. This construction strategy would eliminate the need for duplicating foundation/retaining solutions, and reduce project construction costs.

Outdoor Space

The Bridlewood Affordable Housing landscape design is rooted foremost in acknowledging the experiential value of its residents and providing a welcoming, free-flowing environment. In keeping with the concept of providing a strong community feel in the site, a number of unique outdoor programming elements were established to interconnect the homes and provide inviting passageways for the public finding their way through the site from neighboring communities. These aspects are positioned in a manner that provides connectedness to nature throughout all seasons.

Interspersed throughout the site's interior loop are a variety of scales of outdoor rooms for residents, visitors, and the public passing through the community. The landscape design is intended to foster areas for respite as an individual, for small social interactions, and for larger group activities in a holistic manner. Within each of the landscape's various outdoor rooms is an ever-present physical and visual connection to the natural environment, bolstered by a variety of sensory plantings offering year-round interest. A strong emphasis on hardy, native vegetation has been maintained in honor of the region and its natural surroundings, as well as ensuring low watering requirements for all forms of vegetation. Masses of Snowberry, Juniper, Wild Rose and Willow intersperse with family clusters of Aspen trees in homage to the forested park along the community's southern edge. Masses of Blue Lyme Grass plantings create lush interior courtyard areas; clusters of Saskatoon and Currant beneath Chokecherry trees invite the presence of singing birds, while the seasonal form and colour of Yellow Dogwoods add pockets of vibrant sensory experiences surrounding the Community Hub.

Accessible design, walkways and transitions to the outdoors

Each outdoor space has been designed with careful attention to the ease of resident travel, particularly with respect to grading and visual cues. Pedestrian areas and building entryways are each defined by contemporary pavers in complimentary tones to the site architecture. In high use areas, paver patterns and furnishings such as bollards, light poles and planter pots aid in delineating vehicular and pedestrian circulation. Planting areas in courtyards and park spaces are bordered by at-grade headers to assist with marking walkway edges, preserving ease of access and maintainability of clear travel space. Across the site, landscape pathways and plazas are designed to invite a continuous, meandering loop of discovered spaces free of obstacles and rife with natural borders. Each rest area is framed with trees, shrubs and groundcovers that foster a natural, passive space and provide shade in warm summer months. At minimum, all walkways provide a clear space of 1.5 meters in width. Concrete seat walls are largely proposed to be precast in modular lengths for ease of construction and efficiency of cost, with modular wood slat benchtops installed in areas of social seating or smaller rest nodes.

Working closely with the architectural team, a variety of outdoor transition spaces have been designed to foster a seamless and welcoming relationship from the building interior to the landscape outdoors. Sheltered spaces abutting building exits and front patio spaces for each unit provide comfortable areas for residents to rest, gather, and interact with nature in all seasons. A variety of contemporary outdoor furnishings have been selected to ensure accessibility and comfort, while maintaining an aesthetic that characterizes these patio, balcony and courtyard spaces as part of the residents' home.

Planting

In keeping with the City of Calgary guidelines, all aspects of the landscape proposed have been designed to be in accordance with Bylaw requirements and Urban Design standards. Tree, shrub and groundcover quantities meet and exceed requirements set forth by the Bylaw.

All plant material has been specifically chosen as hardy to the Calgary region, to be sourced from nearby nurseries in the appropriate 2-3 zoning. Attention has been paid to ensuring the appropriate depth of planters is followed while maintaining an accessible height for residents to sit at or garden within. Surrounding the buildings, the majority are bordered by a mass of vegetation softening the building edges and naturally capturing storm water runoff for infiltration.

Throughout the planting masses, understory planting is typically proposed to be a mixture of native groundcover seed (grasses and wildflowers) to ensure high-visibility for security, low-maintenance, eliminate need for supplemental watering, and to provide an engaging mass of regional vegetation atypical to standard manicured sod spaces. Where taller shrubbery is proposed, breaks in sightlines have been maintained to allow visibility between any two groups of clusters. Principles of CPTED have been factored into the arrangement of plant masses and pathway arrangements throughout the design in this manner – ensuring a balance of high visibility while aiming to provide a balanced sense of security and privacy.

Trees in the design range from small to large stock in family groupings mimicking the surrounding regional habitat, both to invite avian visitors and to reinforce the beauty of the community's nearby natural palette. The landscape pays close attention to the survivable and resilient nature of plantings with natural disasters in mind – the majority of the site is vegetated with low-growing, herbaceous groundcover in keeping with recent standards put forth by the Fortified for Safer Business Resilience and Wildfire recommendations.

FireSmart Landscape Principles

The landscape design takes into account FireSmart principles for landscaping through selection of materials and plant species. Plant beds are proposed to be surfaced with rock mulch, eliminating the risk of ignition from wildfire embers or cigarettes. Populus and Fraxinus deciduous trees species consist of the majority of tree planting and shrubs and groundcovers have been chosen for their low fire risk. Using fire smart plant material that are hardy to the regional climate and planting them in groups requiring similar watering requirements ensures water is used in an efficient manner.

Sustainability – Landscape Architecture

A number of landscape elements are designed to achieve sustainable and resilient goals wherever possible. Aspects of low-impact design and best practices in storm water management and erosion control have been incorporated where possible, shade trees have been placed in key areas to optimize reduction of heat island effect, and drought tolerant native tree, shrub and herbaceous perennial species are given preference to eliminate supplemental irrigation. With these design aspects employed, the goal of the landscape design is to capitalize on natural rainfall and snowmelt to give life to a lush, native plant palette – reducing maintenance time and costs, and allowing the landscape to naturally flourish in the community.

The landscape of Bridlewood's Affordable Housing Community is designed to be as accessible as it is engaging and inviting for its users and neighbours alike. The ability to connect with the outdoors, to interact socially in vibrant settings, and to live in a space with a variety of active and passive niches is fundamental to the restorative health of the residents. It is our hope that through the landscape design, all who live within and visit the community will be able to enjoy those elements and more throughout all seasons of the year.

Site Servicing

Sanitary Sewer

Sanitary sewer servicing currently extends onto the site as it has been used for the previous site uses. This public sewer drains east into the existing commercial / retail center within a utility right of way. This sanitary sewer will be reused for the new affordable housing project. The final 25m of pipe extending from the site's east property line to the first manhole is a 100mm pipe and must be replaced with a 200mm pipe.

Water

Water servicing currently extends into the site from 162 Ave SW. This pipe is only a 50mm service and is not suitable for the proposed development and must be abandoned. A new 150mm water service will be extended from 162 Ave SW within the access road just east of the site, and will enter the site at the proposed roadway access point. One hydrant will be located onsite such that all building units are within a 90m drivable distance (including corners) from the hydrant. A second existing hydrant is located on the south side of 162 Ave SW, just east of the east access road, located less than 50m from the nearest building, and approximately 75m from the site's roadway access.

Storm Sewer

The site is currently serviced by a 300mm storm sewer from 162 Ave SW. The sewer is located such that it cannot be used with the proposed development and must be abandoned. The storm servicing and unit area release rate (UARR) is noted in the Bridlewood Staged Master Drainage Plan, July 2003, by Urban Systems (SWM03188). This report notes drainage to 162 Ave SW at a rate of 104 l/s/ha. The new storm sewer will be extended from 162 Ave SW within the access road just east of the site (parallel to the Water line), and will enter the site at the proposed roadway access point. The site will be designed such that the 1:100-year event is contained within the site boundaries. Some property edge conditions will require that yards adjacent existing roadways must drain onto them.

Site Grading

The site is currently graded draining from west to east and dropping up to 3.8m. The site has been pre-graded with the overall development and for previous uses. There is a ponding area in the northeast corner of the site that drains to the storm sewer. The site is bounded on all sides by existing uses, and property line grades are essentially set. For the seven-unit cluster buildings, the main floors are intended to be specifically for handicap accessible needs. Minimum grade changes and limited or no stairs are needed for the accessible access points. Grades throughout the site are intended to be less than 5% to support accessible routes. The existing grade differential through the site is too high to fully permit this and the strategy is to use the westerly side by side units to take up a significant portion of the grade through the unit. Also, maintaining grades along the MR south of the site will require other grade adjustments and stairs. The majority of grade adjustments are made with retaining walls less than 0.8m high and are noted on the plans.

Site Lighting

Site lighting is currently design to take into account all the different community living spaces as well as main pathway lighting requirements. Light bollards are located throughout the site to provide proper light levels to designated sidewalks. Additionally, special glow top bollards have been provided on the main path in order to designate main pathway through the site. Building light wall packs are provided to supplement the bollard lights to provide proper street lighting and general site lighting. For special community living spaces, string lights were provided at the main centralized community hub and step Lights are

provided at stairs and surrounding area. Lastly, Pole Lighting is provided at the main site entrance to provide a safe and well-lit entrance.

Site Power servicing

Site power servicing will be provided from 4 utility transformers located strategically throughout the site. Transformer locations were chosen to take into account community living spaces and Enmax clearance requirements, all the while being mindful of transformer secondary conductor runs, in order to minimize cost. All transformers will be single phase, 75kVA and will service either two or three buildings.

Buildings Design

Three initial building concepts focused on the primary project drivers while embedding the affordable housing guidelines. Each of the concepts included a combination of main floor two-bedroom barrier free units and second and third floor two-bedroom and four-bedroom units. Through private and shared outdoor patios as well as direct connections to the 'Woonerf' living street, each of the units were designed with a greater access to biophilia and integration into the larger community. To do so, we developed units that would incorporate unit entries that all faced an amenity/green space, either hard or soft and also provided car port situation within the Back-to-back buildings. This onsite parking strategy provided several opportunities both formally and functionally to alleviate areas for additional landscaped buffers and better mobility on site.

Massing Strategy

In response to various site constraints and project opportunities, we developed a massing strategy to eliminate high density single masses on site. This strategy helped to alleviate concerns of the adjacent residential community while providing view corridors between the buildings and through the site, provide pockets of safe and secure public spaces, as well as provide each of the residents' access to private and shared amenity/green space. This building massing density strategy was created in order to achieve the requirement of the project while enhancing the primary project drivers. In order to achieve the density requirements, MTA identified the west most property line as an opportunity to increase the density through standard side-by-side townhome units, while addressing the large wall of neighboring residential units that overshadow the site. Similarly, to achieve the required barrier free and four-bedroom units, an additional back-to-back typology was developed. The combination of the community centered site design and the two typologies resulted in a series of whimsical village like buildings that offers multiple views through the site, efficient and clear vehicular traffic including, fire and waste collection, as well as multiple areas of public and private amenity space. Various studies of the existing neighborhood led us to multiple formal moves such as peaked roofs that mimic the dormer additions and roof lines of the various condominium and single-family homes in the area.

Side by Side Buildings 8 & 9

The standard side by side units resemble typical 3 storey units that include a garage, living space, kitchen and dining room, two-bedrooms, two full bathrooms, in-suite laundry, and significant storage space. Each unit include two private amenity spaces, one on the west side for privacy and one smaller covered patio that faces all of the site amenity spaces.

Back to Back Buildings 1-7

The back-to-back building typology is a far more complex programming and formal exercise that provided several opportunities for flexible livable spaces, covered parking spaces, and the incorporation of functional four-bedroom units. Requirements such as operable windows, doors and privacy were all requirements that we as a team would not sacrifice to achieve

the project guidelines. Each of the seven Back-to-Back buildings include a typical side-by-side unit within the mass of the building in order to achieve the required unit count.

Material Pallet

The material pallet looked to challenge typical residential cladding options while integrating the development into the surrounding community. As a complement to our strategy of incorporating natural vegetation, the buildings utilize natural elements, finishes and colors that help balance the grey, white and black facades. As part of the sustainable and green building requirements, we have chosen materials that would require minimal maintenance over the lifespan of the buildings, while achieving a high level of durability and aesthetics.

Community Hub

The Community Hub building is a small but very important link to the overall goals of the Bridlewood housing project. Not only will this building provide a gathering space for the residents within the Bridlewood site, it will also serve as a welcoming gesture to the public and community members that travel through the site. Its formal expression will reference the sites change in slope, mimic that of the gable like extrusion of the other nine buildings and will also be similarly expressive through a strong and energetic color, Yellow. The function of this building will primarily be a shared inclusive space for gatherings and community interaction including a small kitchenette, barrier free washroom and commercial grade laundry services. Additionally, this community hub building will house a large storage area for the services provided by the City of Calgary and Calgary Housing Company (CHC). All of the interior space will be translated through to the exterior, out onto a public patio that will be sheltered overhead by an extension of the buildings structure. This outdoor pavilion will help to increase the available area for larger gatherings but also maintain visual connections through the site down to the south lot. As part of the strategy for the community hub, we will look to integrate an artist or student group to paint a piece of public art along the face of the building, further enhancing the community integration.

Regards,



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