



CHALLENGING CONSTRAINTS TO AFFORDABLE HOUSING



URBANARIUM
COMPETITIONS

COMPETITION BRIEF 2023.12.11



URBANARIUM
FOR SMART CITIES



CHALLENGING CONSTRAINTS TO AFFORDABLE HOUSING

PRESENTED BY Vancouver Urbanarium Society

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1. COMMITTEE SUMMARY

Missing Middle and Mixing Middle housing forms, the subjects of Urbanarium's previous ideas competitions, are becoming mainstream policies. Urbanarium's next competition again explores missing middle housing, this time at the high end of that density range.

Decoding Density is an international invitation to imagine new possibilities for six-storey **plus** apartment forms by addressing two of the most existential problems of today: climate change and housing affordability. Submissions will challenge the constraints of code and other regulations to do so.

The six-storey wood frame apartment building is becoming a standard for municipalities in the Metro Vancouver region for increasing density. And yet, designers exploring these apartment forms find that code and other regulations, combined with financial factors, generate boxes that are not affordable, do not address climate change, and struggle to offer outdoor space, light, and cultural, communal and family-orientated features.

2. LAND ACKNOWLEDGEMENT

Urbanarium acknowledges that Metro Vancouver is the unceded, traditional, and ancestral territory of many First Nations including the Katzie, Kwantlen, Kwikwetlem, Matsqui, Musqueam, Qayqayt, Semiahmoo, Squamish, Tsawwassen, and Tsleil-Waututh. As an organization that focuses on city-making, Urbanarium knows that how we relate to the land especially matters. Our programming and other outputs work to reflect and honour Indigenous perspectives and elevate respectful approaches to land use and rights, planning, policy, practices, and governance.

3. OBJECTIVES OF THE COMPETITION

Urbanarium is presenting a design competition to solicit ideas that explore solutions to the two most urgent challenges of today: housing affordability and climate change, at the upper range of Missing Middle density.

Housing affordability is an urgent challenge that is focusing the policy directions of municipal and senior governments on ways to increase housing supply. Major urban redevelopment projects promise to provide a substantial number of new units, primarily in the form of apartments, often in towers. Ways to increase housing opportunities in large areas of low and medium density residential zoning are also gaining momentum as a parallel policy approach. Planning policies are now calling for apartment forms, generally up to six stories to comply with wood-frame construction codes, to be permitted in low density zones.

As an alternative to condo towers, wood-frame (stick built or prefabricated) multifamily buildings in the six-storey range provide many benefits: simple, low-carbon construction, participation opportunities for smaller local developers and builders, less strong ties to global financial fluctuations, less excavation for underground parking, better contextual fit, and less shadowing/overlook. And yet, designers exploring apartment forms find that zoning, parking, and building code restrictions, combined with the financial and marketing factors to achieve affordability, generate buildings that struggle to offer access to outdoor space, family-oriented amenities, and other aspects of sociability. Cross-ventilation and access to sunlight are difficult to achieve within standard building footprints.

In urban areas, the challenge of housing affordability is undeniably significant. However, it is crucial to recognize that this issue cannot be viewed in isolation. Urban environments are facing a convergence of overlapping crises that demand our attention. Alongside housing affordability, we must address the urgent concerns of climate change, social isolation and mental health, and ecological decline – factors that normally are at odds with lowering construction costs. These challenges are interconnected, and the future of cities depends on tackling them simultaneously, while recognizing the intricate relationships between these crises.

Housing designs that prioritize efficiency alone can lead to uncomfortably tight units in buildings that lack shared spaces that promote neighbourliness and community. While other factors are also at play, the way our homes and neighbourhoods are designed can exacerbate feelings of isolation and result in decreased community ties and support systems. Alternatively, new approaches to the way we design, or going back to ways we have done things in the past, can help to address these challenges and

create living spaces that foster a sense of connection and well-being. Co-housing and co-living arrangements, including multi-generational households and other formats that encourage sharing, are seeing renewed interest. Designers are rethinking housing typologies that focus on the nuclear family.

As the impacts of climate change become more real in our daily lives, we need to deepen our commitment to reducing carbon emissions while simultaneously adopting strategies to adapt to increasingly extreme heat events, poor air quality resulting from summer wildfires, summer drought, and more intense rain and wind events. Exploring potential ways that new buildings can anticipate and adapt to heating and cooling needs, rainwater management, and air quality impacts are part of the competition brief.

Climate change ideas require that current codes be reviewed and queried. While maintaining life safety, entrants are encouraged to propose strategic code or other regulation changes that could produce tangible changes to improve affordability, climate change adaptation, and/or sociability, including ones that adopt approaches already in use in other jurisdictions. The generation of ideas through the competition will show the public what may be possible and stimulate informed discussion.

The six-storey apartment form is ripe for reconsideration. It holds the potential for low-cost construction using traditional methods of stick-framing or pre-fabrication and it avoids the intensive use of concrete, a significant contributor to global climate change. As municipalities work to intensify low-density areas, this scale of building will be increasingly used to answer the need for more housing at low end of the market cost. It is achievable by smaller-scale design practices and builders. This scale can be multiplied and adapted easily to different available sites without large land consolidation.

Consideration of the lifetime operations and efficiencies of the building in terms of low dependence on energy sources and simplicity of systems is also part of the challenge in order to imagine less expensive buildings that will not be complicated and time consuming to build or costly to maintain over the years.

The affordability crisis experienced in Metro Vancouver and other cities and towns around the world is complex. Global financial systems, local and national housing policies, migration patterns, escalating construction costs, labour shortages and stagnating wages all contribute to the problem. Meaningful solutions to the housing crisis need to happen across all of these interconnected factors. Making housing easier and more affordable to build is just one piece of the equation but it is likely where the design community can have the biggest impact. As such, entrants will be asked to present a pro forma for their ideas based on cost of construction and that will be compared to the cost of construction of a basic six-storey wood frame building of the same density that meets current codes and regulations in BC. This will allow the jury to assess if the proposal is more or less expensive than the baseline form.

A final FSR between 2.0 and 3.0 will be an outcome of the design and pro forma, informed by the typical densities achieved by six-storey wood-frame building in many municipalities. While six-storey wood-framed buildings are the intended focus, entrants can consider a range from 4-8 stories and propose their own construction methods.

Greener is most often more expensive. The entrants are encouraged to reverse this by looking at historical building forms and models in other countries, as well as benchmarks for the size and type of accommodation provided, with an eye to simplifying and optimizing requirements in order to enhance affordability. They might also consider alternatives to the requirements of the building code that would have the effect of simplifying construction and enhancing affordability. They should demonstrate the positive results that could occur if those parts of the code were amended without a reduction of public safety.

Entrants are encouraged to explore ideas that could dramatically reduce both cost and environmental impact through shared living arrangements that support affordability. These could include, but are not limited to, strategies for the provision of increased shared amenities alongside reduced private living sizes as in co-housing.

4. PRODUCERS

The Competition is presented by
Urbanarium

598 West Georgia Street
Vancouver, BC V6B 2A3

Attention: Sara Chitsaz, 604-813-5099, competition@urbanarium.org

Co-Chairs of the Competition Committee:

Catherine Alkenbrack, Kari Dow, Marta Farevaag, and Sara Stevens

Competition Committee Members:

Richard Henriquez, Shirley Shen, Travis Hanks, and Zoe Acton

5. ELIGIBILITY

This is a competition open to anyone from anywhere.

- A. Entrants need not be registered professionals or local.
- B. Entrants may be teams or individuals.
- C. Multi-disciplinary teams and teams that include youth members are encouraged.

Entrants that have business relationships with members of the jury or advisors of the competition should not discuss their entries with those members. Jury members will not know the identity of the entries until the winners have been decided. Jury sees only anonymous entries. Those affiliated with a firm that is sponsoring the competition are eligible to enter as are those that work for the same municipalities as members on the Planners' Advisory Panel. Immediate family members and employees of design firms of jury members are not eligible to enter.

6. PROFESSIONAL ADVISOR

The Professional Advisor is Travis Hanks, AIBC. Should a Juror be unable to serve, the Professional Advisor shall select a replacement.

7. JURY AND PLANNERS ADVISORY PANEL

The Jury will name the prize winners as well as the Planners Prize on advice from the Planners Advisory Panel. The Jury will be composed with a majority of architects. The Planners Advisory Panel will be nominees from the planning departments of partnering municipalities alongside one additional invited guest planner.

The Jury shall have unlimited authority and discretion as the final arbiter of the competition. Its decisions shall be final. The jury shall appoint a chairperson whose role will be managing the work of the Jury.

The following individuals will make up the Overall Prize Jury:

1. Alfred Waugh, AIBC
2. Cedric Yu, AIBC
3. Francis Bula, Urban Issues/Housing Journalist
4. Inge Roecker, AIBC and Associate Professor, SALA, UBC
5. Ly Tang, Senior Development Manager, Rize Alliance Properties
6. Marta Maj, Principal, Timber Engineering Inc.
7. Richard Henriquez, AIBC
8. Sara Muir, Program Manager, UBC, Pacific Institute for Climate Solutions
9. Shirley Shen, AIBC

The following individuals will make up the Planners Advisory Panel:

1. Dr. Gary Hack, Fellow of the American Institute of Certified Planners
2. Edward W. Kozak, General Manager Planning and Development, City of Burnaby
3. Kevin Spaans, Assistant Director of Development Planning, City of Vancouver
4. Patrick Klassen, Community Planning Manager, City of Surrey
5. Suzanne Carter-Huffman, Program Manager, Urban Design, City of Richmond

8. TECHNICAL ADVISORS

The following technical advisors will be available to the jury for technical questions arising during the evaluation process. Individuals to be determined in the following categories:

1. Code Consultant
2. Contractor
3. Cost Consultant
4. Cultural Consultant
5. Sustainability/Green building expert

9. REGISTRATION

Each entry shall be registered in advance by filling out the online registration form on decodingdensity.com. There is a registration fee of \$140 Canadian, payable to the Vancouver Urbanarium Society. There is a student rate for registration of \$40 for teams that are entirely comprised of students. Payment is made on the online form. If you wish to pay by cheque, please contact competition@urbanarium.org.

Early bird registration will be open with a discounted fee of \$95 Canadian per team until December 29th, with the additional advantage of first choice of site.

A set of generic sites that have application to Metro Vancouver have been selected within which entrants will situate their submissions. Each entrant will be assigned a site and digital plans will be emailed directly to entrants.

10. AWARDS AND PAYMENTS TO COMPETITORS

Overall Prize Winners

First Prize	\$12,000 CAD
Second Prize	\$8,000 CAD
Third Prize	\$4,000 CAD
5 Honourable Mentions	\$2,000 CAD each

Planners Prize Award

Planners Prize	\$10,000 CAD
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11. COMPETITION SCHEDULE

Early Bird Registration Opens*	Monday, December 11th, 2023
Site Allocation**	Monday, December 18th, 2023
Deadline for Questions Round 1	Tuesday, December 19th, 2023
Answers Posted Round 1	Friday, December 22nd, 2023
Early Bird Registration Deadline	Friday, December 29th, 2023
Deadline for Questions Round 2***	Friday, January 12th, 2024
Answers Posted Round 2	Tuesday, January 16th, 2024
Registration Deadline	Friday, January 19th, 2024
Submission Deadline	Wednesday, April 3rd, 2024
Jury Deliberation	Saturday, April 13th, 2024
Award Presentation	Tuesday, April 16th, 2024
Party! Publication & Solutions Video	June, 2024

*Registrants before December 29th at 11:59pm PST will be assigned their preferred site.

**The first wave of site packages will be distributed on Monday, December 18th, with subsequent packages being distributed on an ongoing basis.

***Round 3 of Questions TBD.

12. NEIGHBOURHOOD SITES

This will be a regional competition on four imagined sites in four imagined municipalities, with each entrant assigned to work on one. The sites, in low density, formerly single-family residential use zones, vary in size but are generally approximately one third of a standard block. Entrants will be asked to focus their idea on a specific project site/site area and discuss the hypothetical implications of the idea for a larger area specified around each one over time.

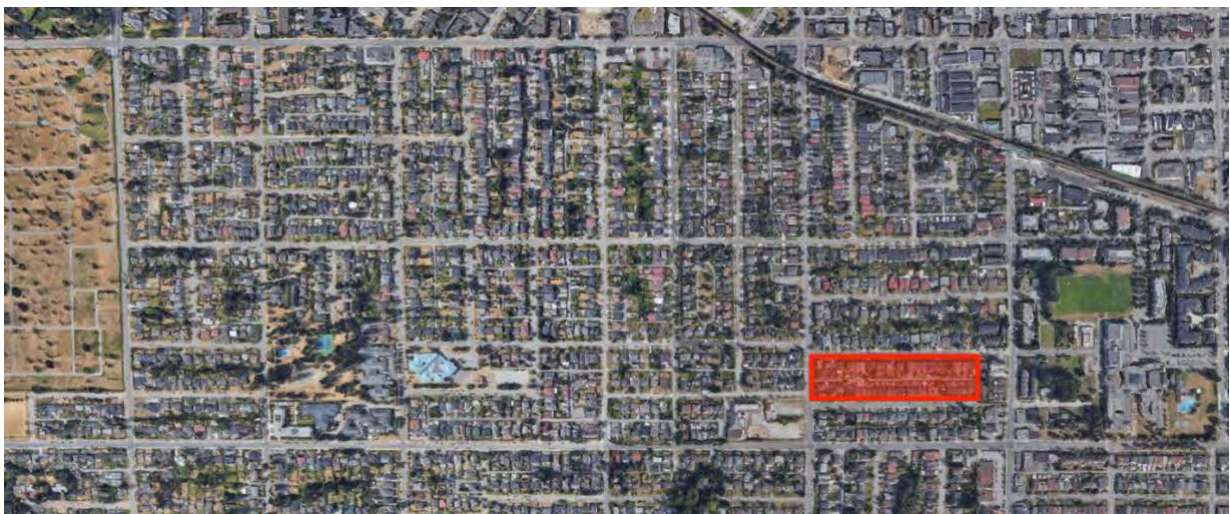
Entrants must propose ideas for the site they are assigned following registration. The intent is to request detailed ideas for low end of market residential development at a suggested density with FSR between 2.0 and 3.0, and to encourage experimentation with different land uses and public realm configurations. Consequently, entrants will be asked to consider the context surrounding their chosen site both as it is presently and as it might be redeveloped in a way that complements their proposal.

It is not a requirement that the proposed development include non-residential uses, however the integration of any such uses that benefit residents and that will make the residential component more affordable, is permitted; the amount is at the discretion of the entrants.

Please note that though these sites may be similar to real sites, for the purpose of this competition any specific resemblance is not intentional. This competition does not refer to specific properties.

Site A

Site A is in a Community Plan area, on a south slope. It has a strong relationship with the local rapid transit station, just over 400m to the north, and a secondary school, about 220m to the east. Under recently announced legislation from the province, this site, which is currently designated for continuing single and two-family housing under the adopted Plan (under review), now has the potential for multi-family residential development at a density of 3.0 FAR and a height of up to eight-stories. It is within walking distance of existing and planned commercial services. Participants may select groupings of 3 to 4 lots, but they must be contextualized within an overall plan for the block.



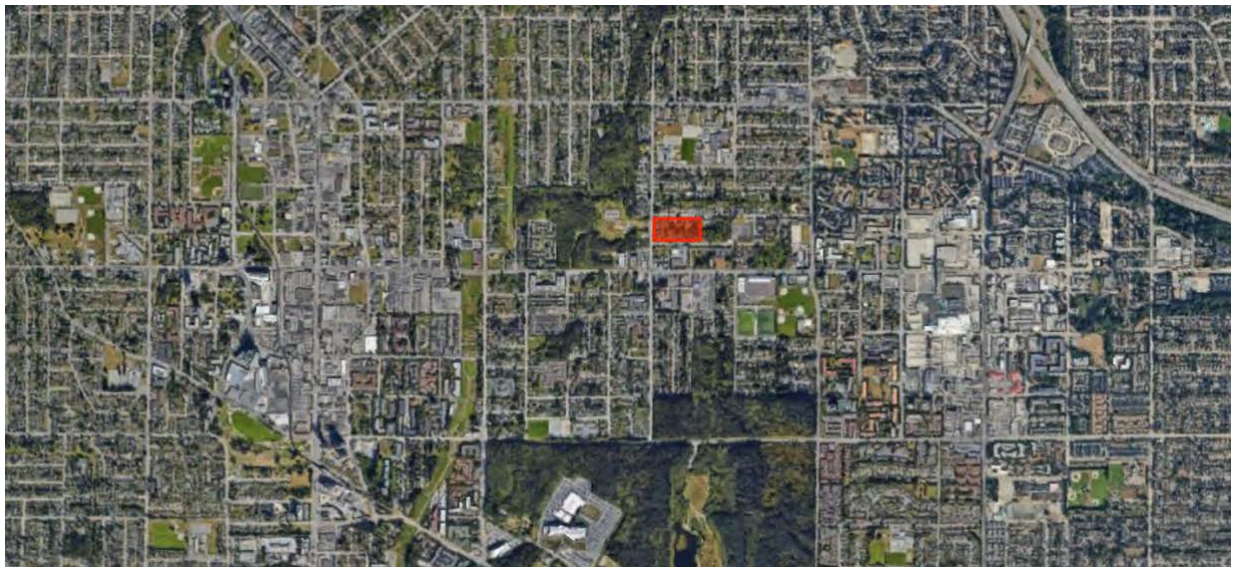
Site B

This site area is adjacent to the City Centre, in a cul-de-sac in an area that is affected by air traffic noise from a nearby airport. Roughly 800m from a new rapid transit station, this area would fit well with proposed legislation, which may result in areas like this being designated for development in the 3 FAR range. Participants may select 3 to 4 lot groupings.



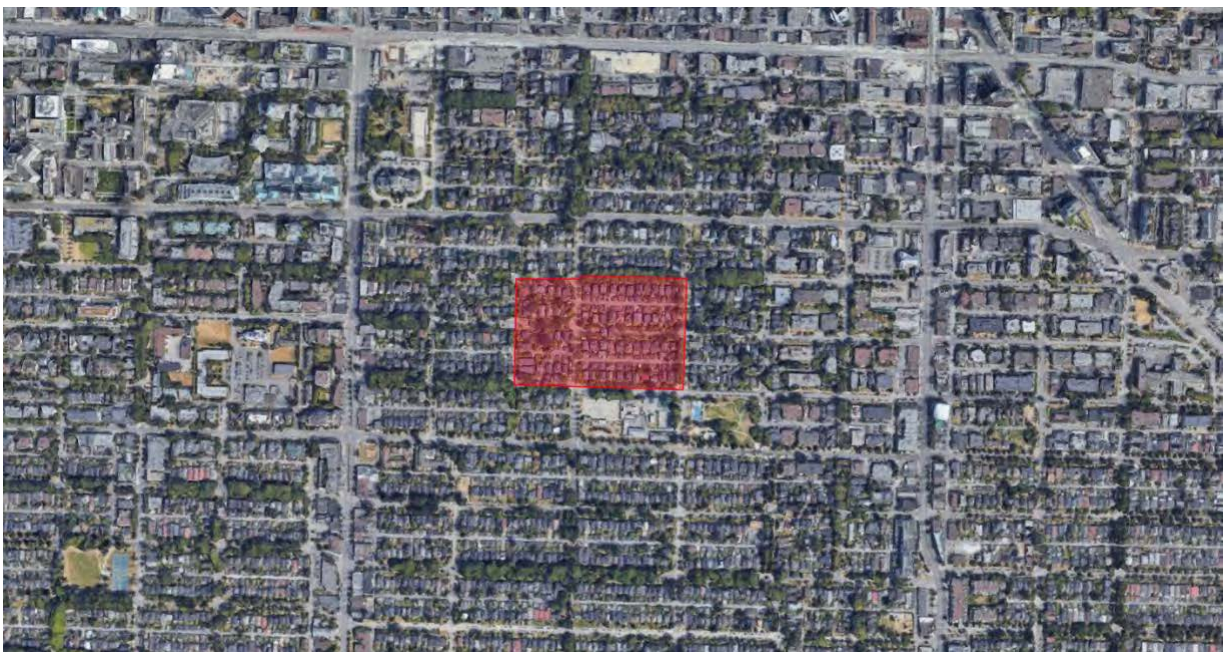
Site C

The Site C area is situated within a low-density neighbourhood with policy that enables up to six-storey residential apartments in the future. It is within walking distance of the town centre and two parks. It is served by bus routes along the west side of the area. A future road is planned along the east side of the area. Participants may select a grouping of 3 to 4 lots on which to develop their scheme. The lots selected must be within the blocks identified in the image.



Site D

The Site D area is situated within a Community Plan area in an existing low-density neighbourhood with policy that enables up to six-storey residential apartments in the future. It is within walking distance of one rapid transit station to the northeast and one to the northwest, as well as shopping areas along two streets in the area. Participants may either select 1 parcel with a minimum 50' frontage or a grouping of 3 to 4 lots that result in roughly 100-200' street frontages on which to develop their scheme. The lots selected must be within the blocks identified.



13. SUBMISSION REQUIREMENTS

Submissions will be delivered in:

- (1) PDF should not exceed 10 MB or 6 pages, 8.5x11 inches in landscape orientation
- (3) JPGs should not exceed 2 MB each
- (1) Video file should not exceed 50 MB or 1 minute
- (1) Short bio about individual or team including picture for press purposes in a separate PDF

Format requirements are intended for the following purposes:

- Digital review by the jury (note that the entries will be anonymous to the Jury and Panel during their deliberations)
- Digital publication on the Urbanarium website and social media; JPG's and video are mostly for social media, press and exhibition purposes. Cell phone quality of video is fine, ideal JPG dimensions are 1080 X1080 pixels and these can repeat what is contained in the 6-page PDF. Content is open: the idea/key intentions of the submission, a before and after account of the site, an introduction to yourself and why you entered
- Print publication in the Urbanarium Competition publication (8.5 by 11 inches in landscape orientation).

Submissions selected for publication may be requested to provide InDesign files for layout and editing purposes. Each submission should provide six PDF pages that can be printed on standard 8.5 by 11-inch paper in landscape orientation with font sizes that can be read at that size.

The following is a suggested list of contents for the six pages of the submission; this outline lists information to be considered and included (on which page is optional) where relevant, with the design graphics and supporting text.

- A statement of the key intentions
- Graphics: building massing drawing; floor plan of each floor
- Project data: land uses and areas, size of each unit in the project, key features and amenities
- Design rationale: how the proposal contributes to affordability and sociability, and addresses climate change
- Social rationale: description of the contributions to the sociability of the neighbourhood
- Economic rationale: provide a business plan/pro forma for the concept for the full development without including land value or carrying costs for comparison to the base case that will be provided in the registration package
- Relationship to existing zoning and plans: where does it follow and where ignore existing zoning and guidelines, if applicable; how does it fit or ignore municipal plans for the area
- Relationship to existing building code: where is it compliant and where does it challenge code and why are these changes proposed
- Relationship and impacts to adjacent existing buildings
- Proposed alterations to municipal plans, development approvals processes, and/or legal mechanisms for ownership and financing, if applicable

- Potential for the competition ideas to provide a catalyst for change in the context area.

14. JUDGING CRITERIA AND JURY DISCRETION

The Jury and the Planners Advisory Panel will have discretion in the award of prizes and will include in their consideration such factors as:

- a. Design features and proposed code and regulatory proposals that contribute to low-end-of-market affordability as supported by the pro forma/business plan
- b. Proposed changes to code requirements, including ones based on codes and regulations from other jurisdictions, that are intended to produce more affordable, sociable, and efficient housing
- c. Potential to promote social engagement, access, and inclusivity among residents and with the neighbourhood
- d. Relationship of units to shared semi-private or community outdoor space at grade and/or on structure
- e. Innovative ways to both mitigate and adapt to climate change with appropriate, simple, and easily operated and maintained systems – for example, low energy, climate resilient approaches to comfort and livability
- f. Practicality and potential impact of the ideas if implemented
- g. Creativity and presentation quality.

The Jury will have latitude in the award of the prizes and honourable mentions to highlight the features that they were impressed by in each submission and these features will be highlighted in the jury statements. They may for instance declare two winners and split the winner and runner up prize money equally between the two, or vary the number of winners, however the total value of the prize money shall not be reduced.

15. POST-COMPETITION ACTIVITIES

Activities will entail the preparation and release of the jury report, media releases, social media and website postings, a video based on the winning entries, and publication of submissions with wide circulation including to the Councils and staff of partner municipalities of Metro Vancouver.