
## Background

This annual international competition is one of the activities organized by the CIB W104 commission Open Building Implementation. The aim is to call on all architectural students around the world to become active in response to the challenge of designing long lasting buildings. While lasting 100 + years, these buildings must nevertheless have the capacity to accommodate change of use and upgraded performance. We want to see the evolution of new thinking and new methods focused on the design of buildings that can become part of a coherent built fabric while responding to the changes inherent in dynamic social and technical development. A coherent built fabric means that many architectural and spatial "themes" such as patterns, types and systems are shared among all the architectural interventions. Just as old Beijing, old Amsterdam, and old Paris have an urban coherence, so must newly developing areas find their own unique coherence. Always, the balancing of shared (community) interests with individual interests and needs must be considered in our attitudes about architecture-over-time.

Beijing - in the post 2008 Olympic Games period - is developing into an international and cosmopolitan metropolis. People at all levels of society are determined to see Beijing become a sustainable city too. This transformation process provides the context for the competition – designed to challenge the next generation of architects.

The competition focuses on eight major topics:

- **An urban tissue scheme** giving morphological and spatial structure to the whole development area, while enabling thematic variation of the individual development blocks
- **Open Building** - being capable of accommodating changes of use and performance over 100 years or more, with a strong emphasis on the freedom of inhabitants to shape their own spaces to suit their preferences.
- **Long lasting base - building architecture** (community values) with shorter-life fit-out (reflecting individual values and interests)
- **Hybrid uses** (multiple uses, emphasizing capacity, not detailed programming)
- **Sustainability** and energy/resource management
- **A livable / accessible/ healthy environment** for residents and users
- **Basic urban life services**
- **Health facilities/clinics** for all ages but focused on elderly

# Competition Brief: Gradual Change

## 1. Long lasting and functionally varied buildings

The site of the competition is located two kilometers to the east of the Olympic Center in Beijing, and is within the larger Olympic District. Via planning and design of the district's urban fabric and building clusters within the fabric, the competition calls for ideas to accommodate intensified changes and diversified needs within a coherent (yet evolving) urban tissue. It should be noted that, along with the changes facing the urbanizing environment, the functions in the Olympic Games Center area will continue to evolve.

The competition calls for ideas at two levels of intervention. First, competition entries are challenged to propose an urban "tissue model" (urban design) for the site (8.5 hectare in area). A "tissue model" lays down the basic infrastructure of public spaces, as well as the general morphological framework (height, footprint, set-back, "build-to" limits), general distribution of land uses, and density/sq. meter rules for each separate development site and building. The proposed "tissue model" must specify a sector or block to be the focus of the second part of the competition.

Second, competition entries must propose a multi-functional "open" building in that specified sector or block, designed to accommodate varied and changing functions. The "open building" scheme will be essentially a public service facility for the elderly. This requires a multi-functional architecture, designed with capacity to accommodate gradually evolving functions. These functions or uses will include health services and clinics for all ages, housing for multi-generational households, a kindergarten for small children, live-work accommodations, and housing especially designed for the active elderly (50+) as well as continuing care for more senior citizens.

Thus, there are two major challenges of this competition:
1. The planning strategy for urban tissue coherence and variation;
2. The architectural design response for functional uncertainty.

**Urban context:** the site of the competition is located within the Olympic district in the Chaoyang district in Beijing. This is the district, north of the urban core of Beijing, where the 2008 Olympic stadium and conference facilities greatly stimulated development, and the implementation of new transportation infrastructure further changed the city's character. No matter the unique urban pattern and historical architectural traditions of Beijing, or the "world city" ambition of Beijing, this newly developing district has its own position and historical opportunities. It will constantly face new development opportunities and challenges, which have already formed its distinctive urban characteristic: tolerance of gradual, incremental change. The rich context of this district provides multiple choices and adequate imaginative space for each parcel's development.

**Architectural capacity:** The ultimate goal of the architectural project development in this competition is to design a facility with comprehensive services for Beijing's aging population, while at the same time embedding the facility within a multi-generational and multi-service setting. The architectural scheme should at least contain an elderly medical care center, a research center for elderly care, related commercial space and cultural facilities, as well as appropriate urban space and environment appropriate to its scale and size. In fact, the inner functional composition of the facility will gradually change, because such change is inevitable in a dynamic society. Behind this ambition is the strong demand of urban life-enhancing functional complexity and spatial adaptability. Competition sponsors expect that participants will provide an architectural "base building" design within the selected urban "block," capable of adapting to changes of population, technology, and management patterns with only minor and modest (if any) building mass adjustment.

# 2. Site introduction (see appendix PPT and CAD document)

**2.1 Site Location: Chaoyang District, Beijing**

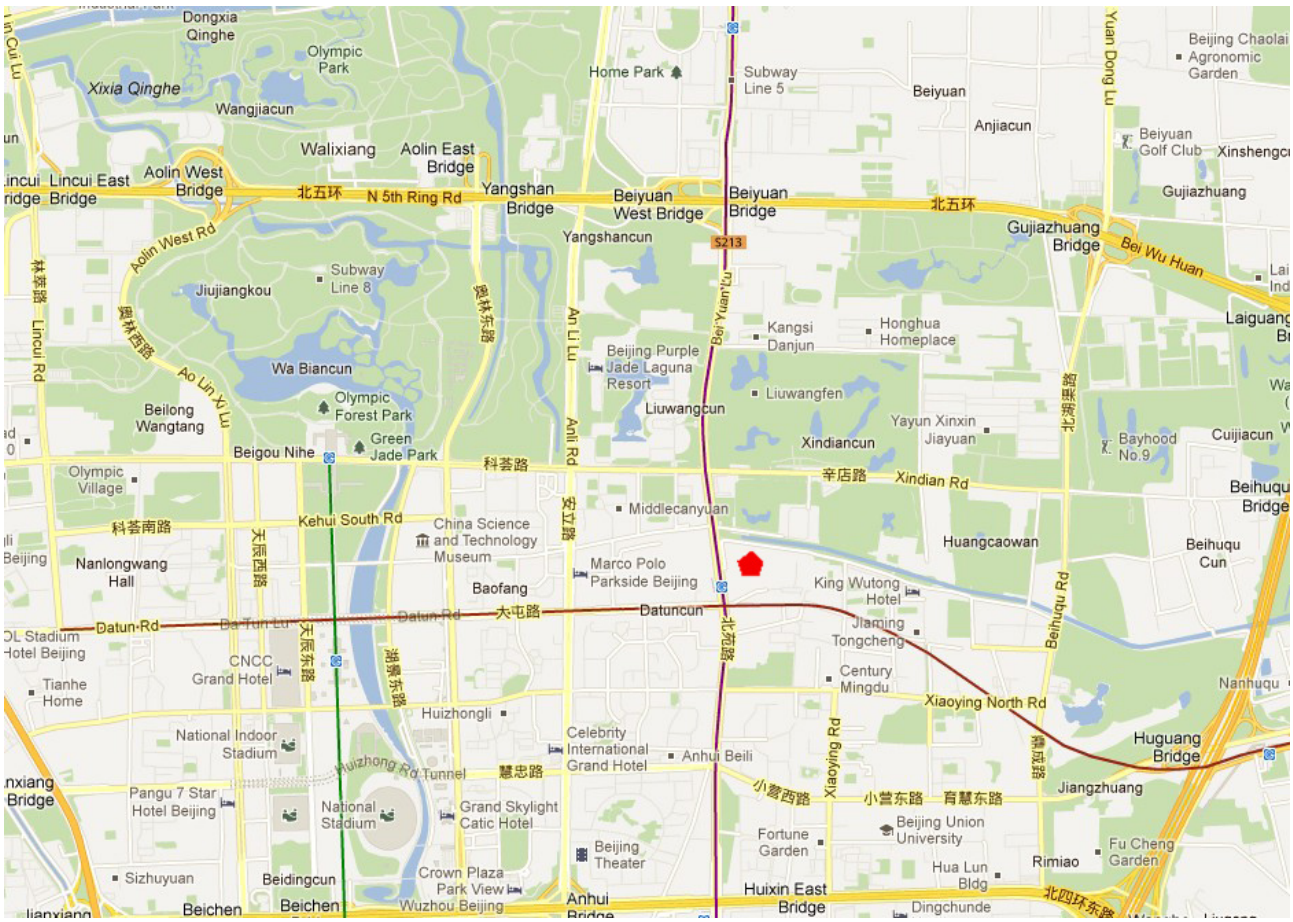
The project is located on the north side of Beijing between the fourth and fifth ring roads, in the Chaoyang district. The Olympic Park is 2km to the west.

The Olympic Park is the core of this area, around which are gathering many large-scale sports facilities, hotels, conference centers and high-end residential areas. These include the National Stadium, National Aquatics Center, and the National Conference Center. Also part of this area are a large number of urban ecological parks and green spaces. Since the 2008 Olympic Games, many facilities of this central area are in the process of turning their functions from game services to urban life services. For example, part of the National Stadium has turned into a 5-star hotel; the National Aquatics Center has combined exhibition and commercial functions, etc. At the same time, the National Science & Technology Museum, the National Gallery and other cultural facilities have been introduced into this area. Furthermore, Metro line 8 - which used to only serve the Olympic Games – has been integrated within Beijing's urban transportation system. All of these developments reveal that the specific construction of the Olympic Games was only a beginning.

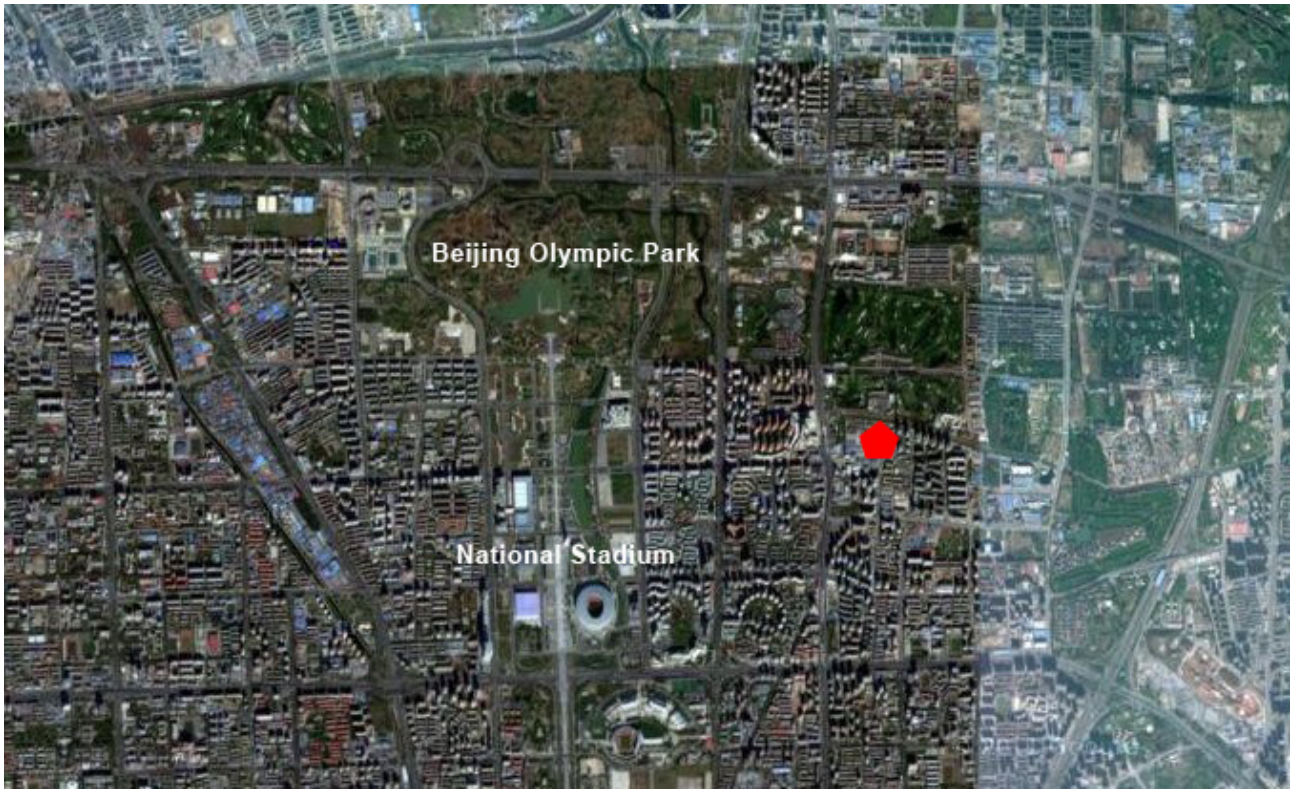
**Surroundings:**
**Transportation Infrastructure:** Beiyuan Road to the west, Bei xiaohe to the north, Datun Road to the south;
**Open Space Planning:** A green belt is planned east of the site;
**Current Site Functions:** Old industrial buildings and office functions currently occupy the site, but all buildings are planned to be demolished to make way for new development.
**Surrounding functions:** High-density high-rise residential communities to the east, west and south and a golf course to the north;
**Competition development Area:** 8.5ha and plot ratio should be between 2.0-2.5. (Plot ratio of a site is the gross floor area of the building divided by the site area)

Beiyuan Road - west of the site - is a major north-south artery connecting the north fourth ring road and north fifth ring road. It is a major thoroughfare of the city that connects a large urban community - Tian Tongyuan - to the north of the site, to Beijing's central area to the south. In addition, Metro line 5 runs underneath of this highway with a station on the west side of the competition site.

Given the scale and superior location, this site has great potential impact and development opportunities.




**Map of site location in the city**




**Satellite image of site location in the city (a)**


**Satellite image of site location in the city (b)**

**2.2 Existing Site Condition**

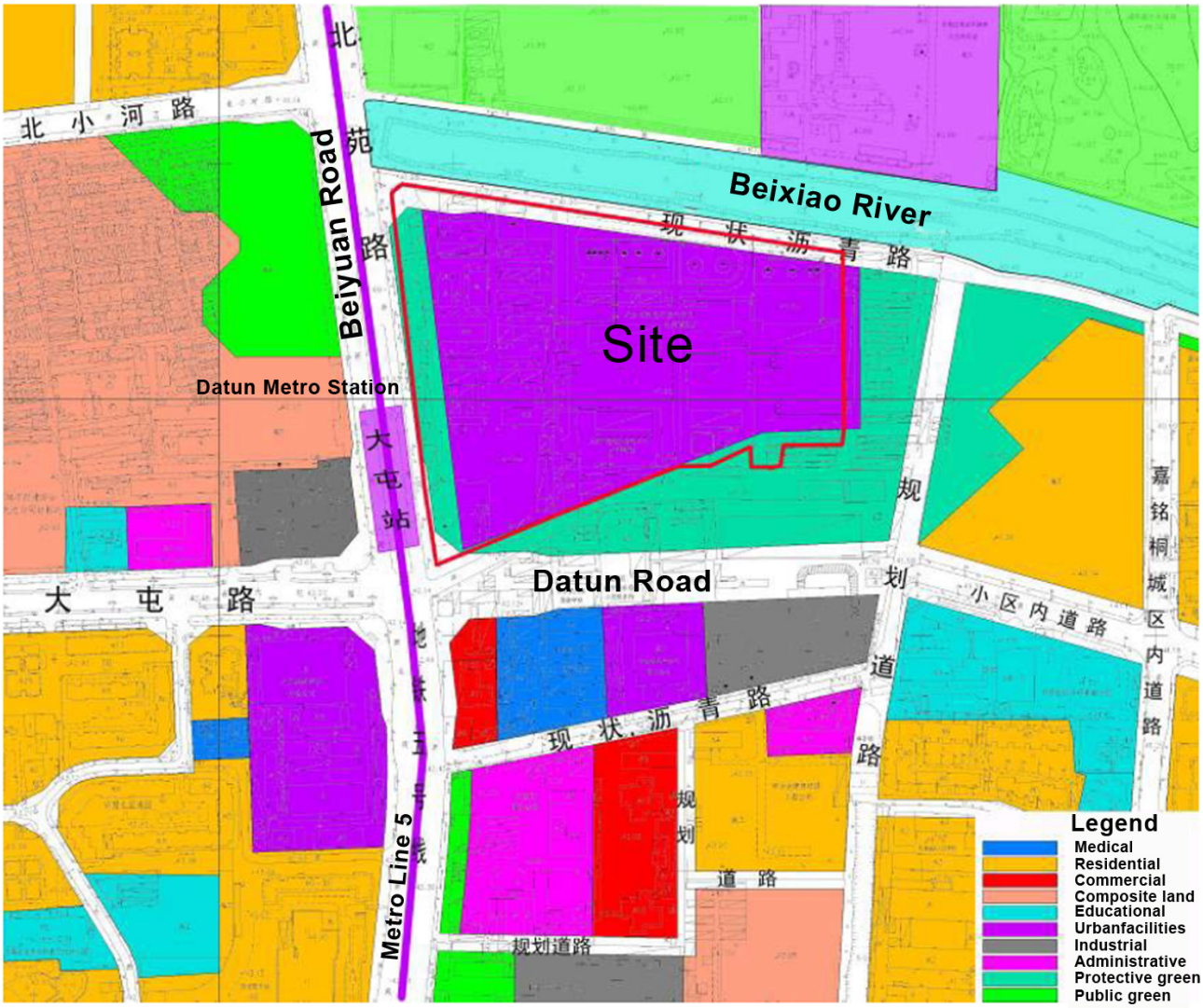
- Existing Owner: Beijing Liquefied Petroleum Gas Company
- Existing Buildings: one office building (4 floors), five workshop buildings, several other accessory buildings;
- Gross Floor Area: the GFA of existing buildings is 202,250,000 m2, and the existing buildings' fates depend on the designer. (such as removal or re-use)

**Satellite image of site location in the city (c)**

**Existing situation**

**2.3 Existing Land Use Condition**

Total site Land Area (in purple color in the map below): 84,964.96 m2




**Existing zoning plan**

# 3. Design intent: An inter-woven community focused on elderly citizens of a world city

This project is related to replacement, regeneration or rebuilding of existing office and workshop buildings on the site. The new major functions of the site should include at least the following: a health or medical center; a disease research center; elderly industry research and education center; health services and clinics for all ages; a kindergarten for small children; etc. At the same time, the architectural design proposal should include an appropriate residential living program for present and potential development, such as housing for multi-generational households, live-work accommodations and housing especially designed for the active elderly (50+). Furthermore, appropriate office and retail functions responding to the area are needed. Each part's size and scale depend on the design concept and requirements, and should be understood as not fixed but variable over time.

**3.1 Participants will provide the following:**

In order to assure the integrity and workability of the project, competition participants must provide several things.

- First: At least one conceptual “urban tissue model” design for the entire site;
- Second: The planning and architectural ground and floor areas (see table 1: participants will complete the table according to basic design requirements and their design intentions);
- Third: A clear representation of the interrelation between the proposed architectural scheme and urban space, traffic and pedestrian circulation, public and private green area;
- Fourth: An analysis of the proposed base building’s capacity for functional adaptability; and
- Fifth: One typical aspect and area for detailed architectural/technical design.

**Table 1: Planning and architectural ground and floor area chart**

| Serial Number | Category | | Numerical Value | Unit |
|---|---|---|---|---|
| 1 | Total Land Area | | 84965 | $m^2$ |
| | Road Area | | | $m^2$ |
| 2 | Gross Floor Area | | | $m^2$ |
| | In which | Above ground | | $m^2$ |
| | | Underground | | $m^2$ |
| 3 | Plot ratio | | | |
| 4 | Site Coverage | | | |
| 5 | Open Space Ratio | | | |
| 6 | Greening Space Rate | | | |
| 7 | Building Height (cornice) | | | m |
| 8 | Maximum Building Height in Story（above ground） | | | Story |
| 9 | Maximum Building Height in Story（underground） | | | Story |
| 10 | Motor Vehicle storage | | | Vehicle |
| | In which | Above ground | | Vehicle |
| | | Underground | | Vehicle |
| 11 | Non-motor Vehicle storage | | | Vehicle |
| | In which | Above ground | | Vehicle |
| | | Underground | | Vehicle |

The project proposals should at least contain elderly medical care (H), research (R), related commercial and cultural functions (C), and fundamental supporting facilities (F), as well as appropriate urban space and surrounding environment in response to its scale and dimension. The architectural plot ratio should be between 2.0-2.5. Greening rate is no less than 30% according to China Design Code for Residential Buildings.

Under the basic spatial framework of the proposed urban tissue, and in order to represent open building principles and functional variability and change both in urban planning and architecture scales, participants should at least provide drawings of two combinations for the four functions mentioned above and explain the possible reason and method of this variation. Those two functional scopes are illustrated as follows:

**First pattern of occupancy:** H-50%; R-15%; C-30%; F-5%
**Second pattern of occupancy:** H-25%; R-25%; C-40%; F-10%

The four functions above can be selected from following occupancies. Participants can also develop new functions in accordance with their design intentions.

**Type H:** such as elder medical care center (specialist hospital for elderly people), health recovery center, community health care center and elderly housing etc.
**Type R:** such as geriatric research, health research, information center and elderly industrial production research (elderly industrial production research means the research offices focus on the research of housing accessories and furniture for elderly people) etc.
**Type C:** such as elderly medical tourism, commerce, industry education, cultural activities, cultural experience and children center etc.
**Type F:** such as on-ground parking, motive power center like substation and other device rooms (parking should be 0.8 cars/elderly housing unit and 65 cars/10,000m2 of office building, can be designed underground or on ground).

It has be demonstrated how these functions will transform in 100 years within a stable architectural form or infrastructure, by completing Table 2 and presenting these transforming patterns of use in the drawings.

**Table 2: Program transformation in 100 years**

| | 25 years | | 50 years | | 75 years | |
|---|---|---|---|---|---|---|
| Programs | Building Area （m2） | % of Total Area | Building Area （m2） | % of Total Area | Building Area （m2） | % of Total Area |
| H | | | | | | |
| R | | | | | | |
| C | | | | | | |
| F | | | | | | |

There is no limit for building height (other than in the urban tissue proposal).

In order to meet this challenge, we strongly recommend that participants make good use of open building theories and methodologies. Design methods, case studies and detailed information can be checked from following website: **http://www.open-building.org and reference list:**


- Allen, Stan. **Points and Lines, Diagrams and Projects for the City.** Princeton Architectural Press, 1999.
- Bell, Jonathan and Sally Godwin: **The Transformable House (Architectural Design),** Wiley-Academy, 2000.
- Chow, Renee. **Suburban space: the fabric of dwelling.** University of California Press, 2002.
- von Vegesack, Alexander and Jochen Eisenbran (editors): **Open house : architecture and technology for intelligent living,** Weil am Rhein : Vitra Design Stiftung, 2006.
- Cook, Peter (editer), with a new foreword by Mike Webb: **Archigram** / New York : Princeton Architectural Press, 1999.
- Habraken, N.J. et al; **Variations: The Systematic Design of Supports** Laboratory of Architecture and Planning, M.I.T., Cambridge Mass., 1976, 216 p. 王明蘅 譯. (1997). 變化：集體住宅的設計方法. 成功大學建築學系環境與設計理論研究室.
- Kendall, Stephen et TEICHER, Jonathan **Residential Open Bulding,** E & FN Spon, Londres, 2000
- Kendall, Stephen. **Systems Separation: Open Building at the Inselspital Bern,** INO Project. Buch Staempfli Publishers, Bern, 2008. ISBN: 978-3-908152-27-9
- Kronenburg, Robert: **Flexible : architecture that responds to change.** London : Laurence King, 2007.
- Leupen, Heijne, van Zwol: **Time Based Architecture,** 010 Publishers, Rotterdam, 2005
- Trulove, James Grayson: **The Smart House,** New York: Harper Design International, 2002
- Marie-Ange Brayer & Béatrice Simonot (Editors): **Archi Lab's Future House : radical experiments in living space** London : Thames & Hudson, c2002.
- Ngo, Dung: **Open House : Unbound space and the modern dwelling;** essays by Adi Shamir Zion. 2002
- Ruano, Miguel. **Eco-Urbanism: Sustainable Human Settlements - 60 case studies.** Watson-Guptill Publishers. 1998.
- Sadler, Simon: **Archigram : Architecture without architecture.** Cambridge, Mass.: MIT Press, c2005.
- Schneider, Tatjana & Jeremy Till: **Flexible Housing** / Amsterdam : Elsevier, 2007.
- Topham, Sean: **Move house** /. Munich ; New York : Prestel, c2004.
- Waechter-Böhm, L. (ed.) **Carlo Baumschlager / Dietmar Eberle: House-ing,** Wien / New York: Springer, 2000.


**3.2 Drawing submission requirement (PDF file)**

Two to four “boards” (A1 landscape) which clearly represent design content. Text height requirement: text height: 25mm; headline text height: 30mm; second title text height: 15mm; name of drawing text height: 10mm; design explanation text height: 8mm; dimension style text height: 6mm. A separate competition document written in English using ARIAL text font is required.

Drawings should include following content:

(1) Master urban tissue plan 1:500-1:1000 (plan and selected sections and/or 3D views)
(2) Typical floor plans 1:200-1:500;
(3) Building facades 1:200-1:500;
(4) Perspectives and other representational drawings such as cross sectional drawings
(5) Specific detail drawings of construction methods, structural design, mechanical equipment installations, etc (all following open building principles of uncoupling the base building decisions from the more changing fit-out decisions);

(6) Other important drawings and diagrams.;

**Each individual participant or team entry must submit a registration form (down- loaded from website) which includes:**

Name of participant(s), e-mail address (s), and cell phone number
Name of instructor teacher (if any)
Full name and address of school and faculty
Name of organizer (if any)
TITLE of the design
Number of drawings
Brief design description (including necessary design introduction and analysis drawings; economic and technical concepts and information, etc).

# 4. Organization of competition

| | |
|---|---|
| Organizer: | CIB W104 Open Building Implementation<br>China National Engineering Research Center for Human Settlements<br>Faculty of Architecture, the University of Hong Kong |
| Sponsors: | Beijing Enterprises Group Real-Estate Co., LTD. China |
| Coordination: | Jia Beisi, Professor of Faculty of Architecture, the University of Hong Kong, Joint Coordinator, CIB W104 |
| Supporting website: | http://www.open-building.org<br>http://www.house-china.net/ |

# 5. Evaluation Process, Award and Publishing of results

The projects are submitted and evaluated in digital format by an international jury, including local experts and others from Japan, the USA, and Europe. Evaluation criteria will be posted on the website.

# 6. Jury Members:

**Cui Kai:** China architecture design & research group, Beijing, China (CHAIRMAN)
**Dietmar Eberle:** Baumshclager Eberle (BE) Architects
**Andres Mignucci:** Andrés Mignucci Arquitectos, Puerto Rico
**Paul Lukez:** Paul Lukez Architecture, Boston, USA
**Renee Chow:** University of California, Berkeley
**Shigeru Aoki:** Tokyo Metropolitan University, Japan
**Shinichi Chikazumi:** Shu-Koh-Sha Architectural and Urban Design Studio, Tokyo Japan
**Jos van Eldonk:** partner, Soeters van Eldonk architects, Holland
**Duan Meng:** China National Engineering Research Center for Human Settlement, Beijing, China
**He Jianqing:** the Special Committee of Human Settlements of Chinese Society for Sustainable Development, China
**Mo Fei:** Beijing Enterprises Group Real-Estate Co. Ltd. China

# 7. Competition Schedule

| | |
|---|---|
| February 10 2012: | Competition announcement |
| January - April 2012: | Questions and answers |
| August 31 2012: | **Submission deadline** |
| September 2012: | Internet jury review, 15 projects selected as semi-finalists |
| November 2012: | Final evaluation will be held in Beijing with the authors of finalists invited to the scene to present their projects |
| November 2012: | The 18th International Conference on Open Building |

**Prizes**

| | |
|---|---|
| One first prize | 3000 US$ |
| Two second prize | 2000 US$ |
| Four third prize | 1000 US$ |

Fifteen honorable mentions

# 8. Submission to e-mail box:

Final drawings are to be uploaded to the following website, following instructions provided in the announcement.
Obi2012@yeah.net

# 9. Contact address for Q and A

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http://www.house-china.net/obi2012/index.html

Microblogging:
http://weibo.com/u/2628546890

# 10. Copyright Terms

Before submitting your design projects, please read the following terms and conditions carefully, you acknowledge that you have read, understood and agree to these terms or referred to all the terms and to comply with relevant laws and regulations. Any "participants" or "authors" who are initiative to submit design projects, the organizers believe that their submitted works already have an irrevocable copyright statement:

**10.1 The original statement**

The Entrant confirms that he/she is the legal owner of all intellectual property outlined above. The design project must be original and not in breach of a third party's intellectual property rights. The work has never been published in newspapers, magazines, websites and other media, no patent or copyright registration of works, not participating in other competitions, not going into commercial channels in any way. Participants ensure that they do not participate in other design competitions with this work, nor transfer to another party using the same work. Otherwise, the organizers will cancel the competition participation, entries and winning qualify, recover the bonuses, prizes and reserve the right to legal liability.

**10.2 Intellectual property ownership of participation projects**

Except authorship, copyright of all participation projects belong to the competition organizer: China national engineering research center for human settlements, including but not limited to the following manners of intellectual property: organizer have rights to the re-design, production, sales, display, publishing and advertising for projects belonging to the competition. Organizer also has the right to display and publish for all projects. Without authorization from the competition organizer, any other organizations and individuals (including the author(s)) may not transfer, copy, reproduce, republish, post, transmit or distribute the projects in any way.