Multi-Comfort House

Regeneration and community development in Trent Basin, Nottingham, UK

ISOVER MULTI-COMFORT HOUSE STUDENTS CONTEST

8th International Stage – Bratislava 2012

CertainTeed SAINT-GOBAIN

IZOCAM

ISOVER SAINT-GOBAIN

Bratislava, Slovakia May 22–25, 2012

Willkommen!
Сардэчна запрашаем!
Добре дошли!
Dobro došli!
Vítame Vás!
Tere tulemast!
Tervetuloa!
Кош келдіңіздер!
Добро пожаловать!
Ласкаво рпосимо!
Hoşgeldiniz!
Laipni lūgti!
Sveiki atvykę!
Bine ati venit!
Vítáme vás!
Dobrodošli!
Bienvenido!
Welcome!
Witamy!

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Multi-Comfort House

Content

Introduction

HISTORY

The 8th International Stage of ISOVER Multi-Comfort House Students Contest took place in Bratislava, Slovakia during 22nd and 25th of May.

A record number of almost 1000 students from over 100 universities on 3 continents registered for the participation in this year national stages.

The best 3 projects from each country participated at the international stage. During the 3 days of the competition, 60 students teams from from 21 countries presented their projects.

The newcomers from Poland, Russia and Ukraine, joined the participants from: Belarus, Bulgaria, Croatia, Czech Republic, Estonia, Finland, Germany, Kazakhstan, Latvia, Lithuania, Romania, Serbia, Slovakia, Slovenia, Spain, Turkey, United Kingdom and the Pennsylvania (USA).

ASSIGNMENT

The subject of the 2012 competition was the design of a sustainable community within the regeneration program of the Trent Basin area, Nottingham, UK.

The project consist in developing a sustainable neighbourhood, providing accommodation for 12-15 families and essential services to assure an effective live work scheme, plus to develop a vision of regeneration of a larger area where this neighbourhood is placed, in which infrastructure, offices, leisure and recreation are conceived to reutilize existing buildings and to provide an effective integration to the city.

FINAL STAGE

The contest started with the opening of poster exhibition giving the participants as well as jury members a first change to see all the proposed projects.

The members of the jury were:

- Eng. Arch. Ľubomír Závodný from Faculty of Architecture STU, Slovakia
- Eng. Jean-Baptiste Rieunier from Saint-Gobain ISOVER
- Arch. Roland Matzig from RMP Architecten, Germany

Participants in the ISOVER Multi-Comfort House Students Contest 2012 International Stage

The International Winners 2012

During the second day each participating team had the opportunity to present their design and ideas to the jury as well as to the other participants and to friends and colleagues watching them online as the event was webcast live.

THE INTERNATIONAL WINNERS 2012

- 1ST PRIZE: TAMARA KULJANIN, NEMANJA KOCIĆ from University of Belgrade, Serbia.
- 2ND PRIZE: ANDREY ANDRAYUK from Belarusian National Technical University in Minsk, Belarus
- 3RD PRIZE: AUŠRA LEKAUSKAITĖ, MĖTA ŠALŪGAITĖ from VDA - Kaunas Art Faculty, Lithuania

Special prizes:

- ZORNICA PETROVA, GEORGI GROZDANOV, IVAILO ALEXANDROV from Higher School of Civil Engineering, Sofia, Bulgaria
- AGNIESZKA WIECZOREK , PIOTR JUZWA from Silesian University of Technology, Poland

Winners of ISOVER Multi-Comfort House Students Contest 2012 International Stage

The Professors

PROFESSOR ARCH. ANNA LITVINOVA

Belarus

Architect, designer and a leading expert in the field of architectural design and coloring, design of color and their study in architectural school. Head of the department "Design of architectural environment" at Belarusian National Technical University since 2002, Associate Professor. In 1980, graduated from the Dnepropetrovsk Civil Engineering Institute in speciality "Architecture," in 1992 - postgraduate studies (by correspondence) at the Belarusian State Polytechnic Academy. Since 1986 - Member of the USSR Union of Architects, the Belarusian Union of Architects. Full member of the AAU MOOSAO of the Republic of Belarus. Winner of the Special Prize of the President of the Republic of Belarus in the field of criticism and art history in 2003, Vth BSA National Festival of Architecture, International Science Project Competition and Exhibition mode on-line "Artistic Design Culture In the Era of Information Technologies", Russia, 2008. For creative achievements in the training of future architects awarded diplomas of the Belarusian Union of Architects and the Belarusian Union of Designers. The head of 30 graduation diploma projects (starting with 1998) marked by I and II degrees certificates in international and national contest of the best graduation projects (2 Grand Prix of the Republican contests.) Co-author of a textbook, "Architectural coloring"(two books), author over 50 scientific publications in domestic and foreign editions. The participant of republican and international conferences, symposiums, congresses and exhibitions. Jury member of international and national competitions in the field of architecture and design. Author and coauthor of over 50 completed and implemented significant works of architecture and design (Belarus, Russia, Ukraine, Crimea, Armenia, Lithuania).

DOCTOR OF ARCHITECTURE ARMEN SARDAROV

Belarus

Doctor of architecture, Dean of the Architect department of Belarusian National Technical University. The Belarusian scientist, architect and teacher. He graduated from the Architectural Faculty of the Belarusian Polytechnic Institute. In 1974 he successfully defended his thesis, for the first time in the Soviet Union on the theme "Road architecture". From 1973 to 2005 he worked in the national road organizations in Belarus, starting as a senior engineer at the Institute "Belgiprodor" to the Deputy Director General - the chief architect of RUP "Beldortsentr." Since 2005 - Dean, Faculty of Architecture BNTU. Doctor of Architecture. Researcher in the field of transport architecture and history of the roads development in Belarus. Author of 7 books and over 200 other scientific papers. Works of A. Sardarov were translated to different languages in the United States, China and Poland. From 1992 to 1998 - Member of the Transportation Research Board (TRB) at the National Academy of Sciences of the USA. Editor in chief and associate editor of three scientific journals. Member of the Scientific and Methodological Council on the Protection of Historical and Cultural Heritage issues under the Ministry of Culture of Belarus. Author of the project of the memorial sign "Pachatak darog Belarus" on October Square in Minsk, the architectural design of bridges and overpasses in Minsk, Vitebsk, Mogilev, Gomel, Orsha, the projects of public buildings in Minsk and Minsk region. He developed over 120 projects of architectural and graphic design, facilities improvement of roads in Belarus. Awarded with six silver medals at USSR Exhibition of Economic Achievements, signs "Honorable roader" I and II degree, the medal of St. Cyril of Turov, Diplomas issued by Minsk Regional Executive Committee, Minsk City Council, the Ministry of Education, Ministry of Construction and operation of highways, the Ministry of Nature and the Environment.

ASSOCIATE PROFESSOR DR. ARCH. BORIANA GENOVA — Bulgaria

Boriana Genova was born in 1950 in Sofia. She graduated Architecture at Engineering Institute for Higher Education major in urban planning in 1974 and started her career as an architect. In 1976 she started work as a research associate at the Health Research, Technological and Design Institute. For the next three years arch. Genova worked for her doctor's degree at the Moscow Architectural Institute. Since 1982 arch. Doctor Genova works at the University for Architecture, Engineering and Geodesy in Sofia first at the research laboratory and later at the department for residential buildings. Since 2000 she leads the Department for residential buildings. As a scientist and research arch. Genova worked on different problems and regulations in the field of health and social service buildings, education and residential buildings. At the Architectural University arch. Genova holds lectures in Residential and Social Buildings as well as Urban Planning.

PROFESSOR LJUBOMIR MIŠČEVĆ D.I.A. — Croatia

Born in 1954 and graduated from the Faculty of Architecture in Zagreb in 1979. Since 1979 has been working in the Institute of Architecture and as an associate at the Department of Architectural Design. Since 1991 has been teaching Energy and Ecology Architecture. He became a senior lecturer in1994/95 and an assistant professor in 1996/97. Since 1997/98, has been a supervisor for Graduation thesis courses and in 1999/00 the head for courses in Integral Work. Completed the post-graduate program in Urban and Physical Planning in 1982; registered scientist. He attended a specialist seminar in Architecture and Practical Design in Lisbon in 1993: EU DG XVII. Since 1985 has been engaged in the Croatian project Passive Solar Housing Architecture and in international research projects in Energy and Ambience Rehabilitation in Housing. He received awards from the Croatian State Administration of Environmental Protection in 1995 and from Ford Motor Company for the protection of nature and cultural heritage in 2000. Since 2000, has been head of the International Summer School of Architecture in Motovun. Chairman of the Association of Zagreb's Architects from 2001-2005. The president of Croatian section in International Solar Energy Society (ISES) and vice-president of Croatian Centre for renewable energy sources (CERES). Head of EU projects for Croatia; PASS-NET (with the support of Intelligent Energy Europe - IEE) - the three years project (2007-2010) that promotes passive house as a standard of building in EU as of PERFECTION, IDES-EDU projects etc.

DR. ING. ARCH. RADEK KOLAŘÍK — Czech Republic

Born in 1964 he graduated in 1987 at Faculty of Architecture, Urban and Lanscape Design, Univ. of Technology in Brno. In 1989 he obtains his postgraduate degree in Architecture at the Academy of Fine Arts in Prague. Since 1996 till 2007 he is young professor (design studio head with Prof. Ing. arch. Eva Jiřičná) at Academy of Arts, Architecture and Design in Prague, department Architecture. Since 2007 he is associated professor (design studio head) at Faculty of Architecture at Czech Technical University in Prague. www.fa.cvut.cz/Cz/Ateliery/AtelierKolarik, www.rkaw.cz.

ING. ARCH. LADISLAV KALIVODA, CSC. — Czech Republic

Born in 1949 he graduated in 1974 from CVUT - Czech Technical University in Prague. He started his teaching career in 1975 as assistant in Faculty of Civil Engineering at CVUT. Since 1992 he is the head of ateliers Stavmont Ltd and Stavba 15 Ltd. Starting from 2004 he is also teaching as a part time lecturer at CVUT – Faculty of Civil Engineering.

ARCH. TOMOMI HAYASHI — Estonia

Born in Toyama, Japan in 1971. Earned Bachelor of Architecture from Yokohama National University, Japan in 1994, then Master of Architecture from Virginia Polytechnic Institute and State University, USA in 1999. Had worked at Maki and Associates, Tokyo in 1994-1995 and Rafael Viñoly Architects, New York in 1999-2001. Left USA for Estonia to set up an architecture office Head Arhitektid with two Estonian partners in 2001 and had practiced for two years. After departing the partnership collaborated with Arhitektuuribüroo KOSMOS in 2003. Since 2004 has been a partner at HG Arhitektuur OÜ. Had received the Architecture Prize from the Estonian Culture Endowment in 2003 and 2009 as well as nominated for Mies van der Rohe prize of European Architecture in 2005 and 2008. Upon practicing has been actively giving lectures at several universities in Estonia, Finland and Japan. In 2012 started teaching at Department of Architectural and Environmental Engineering at TTK University of Applied Sciences in Tallinn as a Head of Architectural Institute. In 2011 as appointed curator by the BAUA (Baltic Associations of Union of Architects) curated a joint exhibition of 3 Baltic States for the 24th UIA Congress in Tokyo.

LECTURER ARCH. KAI SÜDA — Estonia

Graduated from University of Applied Sciences, Faculty of Architecture and Estonian Academy of Arts, Faculty of Architecture she is teaching since 2003 in University of Applied Sciences, Faculty of Architecture and Environmental Engineering. She is also involved in developing of local projects such as Restoration of the Viru Regional Unit Headquarters of Defence League or Tartu Nature House.

PROFESSOR JOUNI KOISO-KANTTILA — Finland

Born in 1947 he graduated from the Dep. of Architecture at the Univ. of Oulu in 1973 and made his PhD in architecture in 1976. He has been teaching architecture at the Dep. of Architecture, Univ. of Oulu since 1976. He is professor of Architecture from 1988 and now he also acts as the coordinator of Candidate of Technology program at the department. He has had his own architect's company for thirty years and has designed numerous buildings in northern and central Finland. He's been actively involved wood constructions, wooden architecture and energy efficiency research. He is also the head of the National Graduate School of Wood Constructing and Design and the leader of national Modern Wooden Town Program financed by the Finnish Government. He is a member of Finnish Academy of Technology and has received several national awards for wooden architecture.

ARCH. PETRI AARNIO

Finland

Graduated from Department of Architecture at University of Oulu 1994. Member of the Finnish Association of Architects since 1995. Worked in architecture offices 1984-2003 focusing on public buildings, apartment buildings and wooden buildings. Teaching architecture at the university of Oulu in the department of architecture in the laboratory of architectural construction since 2003. The main aspects in teaching: wooden structures, detailing of structures, sustainability, energy efficiency, planning of flats. Member of the management team of the architecture department of the university of Oulu. The Good Teacher Award of Oulu university 2010.

PROFESSOR DIPL. ING. LUDWIG RONGEN

Germany

Since 1992 is appointed Professor on the Faculty of Architecture - University of Applied Science in Erfurt for design, structural theory and in particular for energy efficience building. In 1993 he has organized and managed department for the restoration. From 2004 till 2006 he was Dean of the Faculty of Architecture and since 2008 is the executive supervisor of the Master degree program “passive house +”. He has also built up the cooperation with the Faculty of Architecture on the University Chengdu, China. He is the guest professor on the Sichuan University Chengdu and Southwest Jiaotong University Chengdu in China. He is constantly proving the current arch. praxis in the own office in Wassenberg (Germany), which has currently 20 employees and is working on the projects around energy efficient buildings in the new buildings and renovation. Since May 2011 he carries on an architectural office also in China (Changzhou). He has realized numerous passive houses as a pioneer such as the first European nursing home and the first prefabricated modulated multi-family passive house worldwide. He is an author and co-author of numerous publications and books and is permanently proving his architectural know-how by taking a part on the competitions. He is also working closely with the PHI (Passive House Institute) and DBU (German Federal Foundation for Environment) on research and development projects, actually the DBU-research project “Passive Houses for different climates (Dubai, Las Vegas, Yekaterinburg, Shanghai and Tokio)”, together with the Passivhouse Institute Darmstadt (Germany).

PROFESSOR ROLF GRUBER — Germany

Born in 1953, graduated from Technical University Munich. He worked on the Art Academy Munich on the professorship for urban renewal and residential issues. After 2 years work and study in USA (UCLA Los Angeles, CUNY New York, projects with Charles Moore) he taught on the University of Hannover and worked in own architect office. Since 1991 he is the Professor for architectural design and building theory on the University of Applied Sciences in Erfurt. His work is always related to the building praxis and since 1996 he managed the office “Lofthaus” with partner Rolf Bollwahn in Erfurt. His main focus is on the public buildings, energy efficiency and all aspects of the sustainability. For the wooden frame office building he got the Thuringian architecture prize in 2001. One of his most important projects were Judiciary canter in Jena and extension of the German radio station building in Erfurt. His pedagogic work he is related to the architectural design, building typology and the designing methods. He is also very active in the creating the networks and cooperation with Universities in China, USA and Indonesia and is organising the international workshops for the cultural exchange.

SENIOR LECTURER ARCH. OLEG ESYUTIN — Kazakhstan

Graduated from Moscow Institute of Architecture in 1978, postgraduate at the Department of Architecture of residential and public buildings at Almaty Architecture and Construction Institute between 1984-1987. He is curently senior Lecturer, "Architecture and Design," at Institute of Architecture and Construction, KazNTU. He is curently involved in the developement of different projects as a designer or as a supervisor in the corp. of city planners of Kazakhstan.

ASSISTANT PROFESSOR DINARA SADVOKASOVNA KARPYKOVA — Kazakhstan

Assistant professor of the department of Architecture at KasGASA, the Republic of Kazakhstan. Karpykova D. S. is an architect, highly skilled expert having the wide range of professional creative works. The sphere of her activity is connected with architectural, design, sculptural, art and decorative works. During practical work she has cooperated with creative teams of Moscow, Kiev and Volgograd, took part in city, republican and international exhibitions. She has creative experience connected with books in graphics and polygraph. Since 2000 she has been teaching the main disciplines on architectural specialty at KasGASA . She supervises diploma projects and term papers which are highly appreciated at the international, republican and city competitions. For participation at competitive projects of company “IZOVER” student’s projects under her guidance were awarded with diplomas in 2009 and 2012.

ARCH. UĢIS BRATUŠKINS — Latvia

Architect, born in 1961, Professional degree of Architect (1984), Master of Architecture (1995), Doctor of Architecture (2006). Doctoral thesis "Development of Public Open Spaces of Riga Medieval Centre in the 19th and 20th Centuries". Member of Latvian Association of Architects. Author of many public and dwelling buildings in Riga and other towns of Latvia. Dean of the Faculty of Architecture and Urban Planning of Riga Technical University. Regular publications in the almanac "Architecture and Construction Science"//"Scientific Proceedings of Riga Technical University" and local professional magazine "Latvijas Arhitektūra".

ASSOCIATE PROFESSOR LINAS TULEIKIS — Lithuania

Born in 1962 and gratuated from the Faculty of Architecture at the Vilnius Civil Engineering Institute in 1985. Till today is successfuly working in his own architect company. From 2001 started teaching architecture at the Department of Architecture, Vilnius Art Academy. 2002-2005 Lithuanian head of delegation in Architects Council of Europe (ACE), member of boards Lithuanian Fund of Architecture, Kaunas Development Forume, Architects Chamber of Lithuania.

LECTURER ARCH. GRAZYNA HRYNCEWICZ-LAMBER, PHD — Poland

My design experience embraces many fields of architectural practice: from industrial buildings to educational architecture, housing schemes and civic buildings. I have recently completed projects for a courthouse in Zabkowice Slaskie, urban rehabilitation/reuse scheme for a cultural centre in an old factory in Wroclaw. Currently I am involved in the design of a supercomputer technology building for Poznan based academic organisation PCSS. My university responsibilities comprise lectures in design ethics and intellectual property rights. I also lead design classes in communal architecture, urban infill, and rural planning. Tutoring students' design workshops is one of my favourite activities. I took part in organisation of a series of students' summer schools dedicated to the late MoMo heritage and the problems of its prospective regeneration or reuse. My PhD thesis was devoted to the factors behind the development of housing estates in Poland after the shift from socialist regime. I am currently involved in research on late MoMo buildings and their performance, architectural values, adaptive reuse, and the architecture of justice. I am one of the co-authors of the Lexicon of Wroclaw's architecture. I serve as the vice-president of the Disciplinary Jury of Lower Silesian Chamber of Architects. I am a member of SARP and DoCoMoMo International.

PROFESSOR ING. ARCH. JERZY WITECZEK, PHD — Poland

Jerzy Witeczek, Professor at Silesian University of Technology, PhD in Architecture, the former director of Department of Architectural Design. In 1999-2005 vice-dean of the Faculty of Architecture. As a young scientist, professor Witeczek got a professional internship in Austria and Germany. In 1976 he acquired professional building licence. He promoted over 150 diplomas, from which numerous were awarded in competitions for the Best Graduation Works, i.a. Skrypij Nowicki Award, Society of Polish Town Planners Award, W. Henn Award and Z. Majerski Award. Prof. Witeczek was awarded (as an author or co-author) in 25 national and international competitions i.a.: Development of Brownfield "Carolina" in Ostrava, Czech Republic - I prize, and Reactivation of the Mine Wasteland Prosper III in Bottrop, Germany – II prize. He is an author and co-author of publications and researches, author and co-author of many projects in Poland, i.a.: Factory Mokate in Ustroń and Żory, reconstructions of historic churches in Tworków, Racibórz and Bieńkowice, Educational and Conference Center of Silesian University of Technology in Gliwice, Technopark in Gliwice, Students Cultural Center “Mrowisko” in Gliwice, rebuilding of SDK on a new Faculty of Architectural Design of Silesian University of Technology in Gliwice, redevelopment of barracks on the Faculty of Organisation and Management of Silesian University of Technology in Zabrze, Faculty of New Technologies of Silesian University of Technology in Gliwice and many others. Jerzy Witeczek is the SARP member for 25 years, jury member, Member of the Scientific Council of the Joseph von Eichendorff Foundation, member of the Commission of Polish Town Planners and Architects Polish Academy of Science.

SENIOR LECTURER DR. ARCH. MAGDALENA BABORSKA-NAROŻNY — Poland

Dr. Magdalena Baborska-Narożny is Senior Lecturer in Architectural Design in the Faculty of Architecture at Wrocław University of Technology, Poland. She is also an architect with experience with award-winning competition entries and designs. Born in Wrocław and educated there and in Los Angeles, USA, she has degrees and professional qualifications in architecture form the universities of Wroclaw and Hull, UK. Her research interests to date focused on perception and evaluation of architecture, contemporary architecture of industry, particularly in terms of it's aesthetic, social and environmental quality. Director of Research Center for Sustainable Built Environment (RoSE) joining scientists from across the University.

PROFESSOR ING. ARCH. LECTURER ANDRZEJ DUDA — Poland

Andrzej Duda, born in 1953, graduated from Silesian University of Technology in Gliwice (1973-79), post graduate studies in The Berlage Institute of Amsterdam (1991-92), established architectural office INARKO (together with H. Zubel) in 1988. Winner of about 40 architectural competitions, Honoured with many awards for his architectural works. Since 1980 a teacher at the Architectural Department of Silesian University of Technology in Gliwice and a guest professor at Warsaw University of Technology, Wrocław University of Technology, Prague University of Technology and Tbilisi Art Academy. Since 2002 an independent expert of European Union Prize for Contemporary Architecture Mies van der Rohe Award.

PROFESSOR DR. ING. IRINA BLIUC — Romania

Prof. dr. ing. Irina Bliuc graduated from Civil Engineering Faculty, “Gh.Asachi” Technical University of Iasi. She accomplished the doctoral thesis in 1984, in the same university, the topic being related to Energy Efficiency and Comfort in Residential Buildings. The rich academic experience achieved in Faculty of Architecture and in Faculty of Civil Engineering and Building Services from “Gh. Asachi” Technical University of Iasi is reflected by course like: Buildings Physics, Constructions in Buildings, Renewable Energies, Modern Finishing Methods Used in Buildings Industry. The field of research is represented by: Energy Efficiency and Sustainable Buildings, Indoor Environment Quality and the Users’ Satisfaction, Adapting Buildings to Climate Changes. She encouraged the co-operation between universities, being the promoter of such a research project, its subject being “Systems of Integrated Solutions for Thermal Rehabilitation of Buildings”. Prof. Irina Bliuc is author and co-author of several technical books and papers published in important journals or proceedings of national and international congresses and conferences. She is also member of CIB, W077 – Facilities Management and Maintenance.

LECTURER DR. ARCH. MIHAI OPREANU — Romania

He is architect and lector at the Urbanism and Architecture University Ion Mincu, Bucharest, Technical science cathedra, since 1990. He has done serial research studies in ecological, bio-climatic and energy - efficient architecture as well as in historical monument restoration. Post-graduate in Architecture from UAIM Bucharest and Techniques History at EHESS Paris: Ambient Physics, Architectural Ecology and Technology, Restoration and Conservation. During 1994 and 2002 he participated to restoration workshop UAUIM - Ecole de Chaillot, Paris. He has regular articles in local architecture magazines “Arhitectura” and “Arhitext-Design” and also in “Monuments Historiques”.

ARCH. KIRILL TESLER, PHD — Russia

Born in 1984 in Moscow, he graduated in 2007 from the Faculty of Engineering and Architecture at the Moscow State University of Civil Engineering (MGSU). He made his PhD in architecture in 2010 with a thesis - "Formation of architecture of multifunctional centers". His scientific activities at MGSU include development of a training course for senior students and creating of the master's program to ensure a comfortable and barrier-free environment for disabled. That program is a new direction for MGSU and it is very actually both for Moscow and for Russia as a whole. The aim of that work is to organize "inclusive zones" - special centers that help adaptation of people with disabilities in society and promote science and technology in the design and creation of new solutions designed for people with disabilities. His main professional activity is focused on designing. Now he is working on projects of medical buildings, for example reconstruction of the Russian Cancer Research Center, Bakulev Children's Rehabilitation Cardiology Center, Burdenko Neurorehabilitation Centre and others. The plans for the future are to design of socio-rehabilitation center for disabled people.

PROFESSOR DEAN ALEVTINA BALAKINA, PHD — Russia

In 1972 graduated from Moscow Institute of Architecture MARKhI. From 1972 to 1977 worked at the Institute for Health and Tourist Planning. From 1977 to 1980 gained a PhD in the Planning and Construction of Private Hotels and B&Bs in Holiday Towns from the Moscow State Construction Institute. In 1980 began working as an assistant teacher at the Department of Architecture. Participated in various competitions and is a member of the Russian Architects Union. Won first prize in the Multi-atrium residential house competition organised by the Russian Academy of Construction Sciences (RAASN), supervisor to the winner of the degree show for 2008, 2009. Winner of the International Living House competition orgainsed by the international union of architects and the International Centre of Lomonosov Moscow University (Geneva). Other projects include: The Stavrople Hotel in Sochi, realised in 1980; a country house in Peredelkino, realised in 1985; Transportation Centre Leonozov, Project, 2011; Experimental ecovillage Genom, Project. Health and Educational Resort Complex, Project 2011; Multi-Functional Community Centre with Yacht Club, Project. Civil and Business Centre with high-speed tram connection in Kapotnya, Project 2010; Hotel Complex with Yacht Club in Kapotnya, Project, 2010; Business Hotel in Perevinskaya Poima, Project, 2008.

PROFESSOR OF ARCHITECTURE OLEG STAKHEEV — Russia

Area of scientific interests: architecture and town planning. Author of grants and methodical instructions. Author of more than 50 articles. Participant of many architectural competitions. The head of scientific programs in the field of architecture and town planning. Gives lectures and practical training according to the Architecture program at university. Member of council of town planning of Tomsk.

PROFESSOR DR. ING. SERGEY OVSYANNIKOV — Russia

Area of scientific interests: protection against noise, thermal protection of buildings and constructions, power efficiency in construction. Author of more than 80 articles. Author of grants and methodical instructions. The head of scientific programs in the field of a heat-shielding of buildings. Gives lectures and practical training according to the Construction program at university. A member of the union of builders in Tomsk.

ARCH. ZORAN LAZOVIĆ — Serbia

Born in London. He graduated from the Architecture University of Belgrade and perfected his professional career at the Royal Academy of Fine Arts in Copenhagen. Arch. Lazovic attended the Architectural Faculty DEA in Belleville, Paris and obtained his license for professional work in France. He was a major architect at DOMELA & SARFATI, Paris. Since 1989 arch. Lazovic has been teaching Methodology of Architectural Design at the University of Belgrade. Some of his recent big projects are the Residential complex in Novi Belgrade, a Sports complex in Belgrade and the Observatory at Geocentre in Denmark

ING. ARCH. HENRICH PIFKO, PHD — Slovakia

Born in 1959, he is currently teaching at the Faculty of Architecture of the Slovak University of Technology in Bratislava, at the Institute of Ecological and Experimental Architecture where he is the sponsor of the educational module "Architecture and Environment". In addition to teaching he is authorized architect (SKA), specialized in green architecture and passive houses (he is Certified Passive House Designer). He is chairman of the Institute for Passive Houses (iEPD) and founding member of ArTUR (Architecture for Sustainable Development) NGO. He participated in international research projects (e.g. EcoCity, Oikodomos) and he is co-author of the book "Effective Housing" and of a number of other publications.

ASSOCIATE PROFESSOR DR. MARTINA ZBAŠNIK-SENEGAČNIK — Slovenia

Martina Zbašnik-Senegačnik was born in Ljubljana. She graduated at the University of Ljubljana, Faculty of Architecture, Slovenia, in 1986. She received a Master Degree in 1992 and in 1996 a Ph.D. degree (Negative influences of building materials on the environment and human beings). Since 1988 she has been working at the faculty, first as a teaching assistant, in the year 2000 she became an assistant professor and in 2009 an associate professor. She teaches the subjects Ecological building principles, Technology of façade and Design studio. Her main working focus is the field of energy efficiency (passive houses, low-energy houses, energy efficient building technologies), ecological use of building materials, natural materials, sustainable architecture, contemporary materials for facades, building technologies. She was the research programme leader at Faculty of Architecture (Sustainable planning for the quality living space) in 2009-2011. She is the author of three monographs: Pasivna hiša (Passive house) and Fasadni ovoj (Façade) (co-author) (both Slovene language), Pasivna kuća (Passive house) (Croatian language) and numeral articles in scientific and professional magazines in Slovenia and abroad. She is a member of the Council for the efficient use of energy by Ministry of the environment and spatial planning, member of Fotovoltaic technology platform – working group Integration of solar power stations in the building. Her reference is also the organization and leadership of professional seminars for the architects since 2004 (the topics: energy efficiency, passive houses, building technologies). She is a founder and a leader of Passive House Consortium since 2008.

PROFESSOR ENRIQUE CORBAT DÍAZ

Spain

Architect from Barcelona School of Architecture ETSAB (UPC) since 1983 Speciality in bioclimatic architecture. Scholarship holder of Training Plan of Research Staff from Spanish Science and Education Ministry (1986-1989). Since 1989 professor in building construction department in Vallés School of Architecture ETSAV (UPC). Teaching centred in bioclimatic architecture and sustainable buildings. Investigations in Thermal Rehabilitation of Buildings. Since 1997 continuously teaches an elective course on Bioclimatic Architecture. In 1980 he won first prize in a competition for ideas for an exhibition center of alternative energy in the International Fair of Barcelona. He has designed and built several bioclimatic buildings along his career. Finalist at the FAD prizes of Architecture in 2001 by a bioclimatic natural cooled building housing located in old town district of Barcelona. Speaker at various courses and conferences in the Association of Architects, conferences always related to solar architecture issues and sustainability. Speaker at the Catalan Congress of Renewable and solar energy 1987 and Scientific meetings of the Mediterranean environment and building energy, 1990. Professor in Graduate Program Installations in buildings. Polytechnic Foundation of Catalonia. 2002-2008. Professor in sustainability, technology in architecture and integration of renewable energies UPC's masters.

PROFESSOR MANUEL MONTESDEOCA CALDERÍN

Spain

Construction Teacher, architect at the Architecture Technical School in Las Palmas of Gran Canaria University. (EA ULPGC) since 1986. Graduate Fellowship of the Investigator Personal Formation Plan of the Science and Education Ministry. (1987-1989). Associated Teacher of the Architectonic Construction Department since 1990 to 2006. Collaborator teacher in the Architectonic Construction department since 2006, teaching in Construction III subject, which is centered in the control of energy demand, energy efficiency, bioclimatic construction, sustainability and zero emission buildings. Has been researching about "Gran Canaria's Sands and their incidence in the concrete fabrication" and "Thermal and hydrothermal behaviour of north facing vertical enclosure". Participates in the development of a guide, " the Study of the building envelope with Canarian materials", in an specific agreement in collaboration with the public works and transport counsel of de Autonomous Community of the Canaries. Currently researching about the thermal envelope of buildings with high energy eficiency ubicated in sunny climates. Since 2010 member of LIP(a), Investigation Lavoratory of Architectonic Projects. The projects presented by the Architecture Technical School in Las Palmas of Gran Canaria University (ULPGC), for the International Competition ISOVER Multi-Confort House, have been developed in a workshop in which participates pupils of the Final Carree Project and the Construction III subject, 4º course. Collaborating in the mentioned workshop are the teachers of the Architectonic Construction Department (DCA), D. Manuel Montesdeoca Calderín (Workshop Coordinator), D. Manuel Martín Monroy y D. Juan Carratalá Fuetes, and of the Graphic Expression and Architectonic Proyects Department (DEGPA), D. José Antonio Sosa and D. Héctor Gacía Sánchez, members of the Investigation Lavoratory of Architectonic Proyects (LIP(a)). Posgraduate Courses: Conference on "el Código Técnico de la Edificación" (Technical Building Code). U.L.P.G.C. 2007. Since 2010, member of Laboratory of Investigation of Architectural Projects (LIP(a)).

PROFESSOR ENRIQUE ANTELO TUDELA

Spain

Born in La Coruña in 1973, he graduated from the Faculty of Architecture at the University of La Coruña where he is associate professor of the Department of Architectural Constructions. In addition to his academic activities, he is one of the founders of VIER arquitectos, an architecture and design office located in La Coruña. His work has been showed in many publications and exhibitions. He has given lectures at several forums, both in Spain and abroad and received several awards among which are the Ist Sustainable Building Award Castile and Leon 2006 and the Mediterranean Bio-architecture Award 2012.

PROFESSOR DR. OF ARCHITECTURE BENAI KHAFIZULA

Ukraine

Was born on October 9, 1945 in Herat, Afghanistan, in the family of employees, the family has 4 generations of architects. Currently is citizen of Ukraine. In 1969 was enrolled as the student of Kiev institute of civil engineering and graduated in 1975, receiving his Master's degree in Architecture (specialty – Architecture). 1975 - 1980 – Chief architect in Kabul construction plant (Kabul). 1980 - 1984 – post-graduate studies in Kiev institute of civil engineering. On February 21, 1984 has defended a thesis and received Degree of Doctor of Philosophy and Architecture. 1984 - 1988 – Deputy Director responsible for research work in the Central design institute. 1987 – practice in Kiev Scientific and Design institute of civil engineering (Kiev). 1990 - 1994 – work on doctor dissertation by the specialty 18.00.02 "Architecture of buildings and constructions" in Kiev institute of civil engineering. On December 9, 1993 has defended a thesis and received degree of Doctor of Architecture. 1998 - 1995 work in Dnepropetrovsk institute of civil engineering in the department of architectural design. March 1995 – until now – professor, Head of department of Architectural engineering and Dean of the faculty of Architecture in Donbas National Academy of Civil Engineering and Architecture (Donetsk). In 1997 was awarded with the title of Professor. Author of methodology instructions and guidelines for the specialty «Architecture» and more than 80 articles. Member of Training council of DonNACEA, deputy Head of State examination commission on defending of thesis and masters' works. Member of the Union of Architects of Ukraine. In 2001 was awarded with the "Excellent education" mark.

BARCH. DIPL. ARCH. MSC. LUCELIA TARANTO RODRIGUES, PHD — UK

Lucelia qualified as an architect in 1999 and spent the next five years working in practice on residential and commercial building projects where, among other things, she acquired experience in the use of recycled and reclaimed materials in sustainable architecture. Seeking to develop further her knowledge on sustainable issues, she completed an MSc in Renewable Energy and Architecture and explored the thermal performance of low-energy houses as part of her doctoral research. Lucelia is currently a lecturer at the department of Architecture and Built Environment where her teaching has a strong focus on environmental design and sustainable architecture. Her work has always been very cross-disciplinary, building the link between architecture, building science and renewable energy technologies. Having come from architectural practice, her research has always been very hands-on, aiming to inform the sustainable practice of architecture and enhance the quality of the built environment through research and consultancy in environmental science and design. Lucelia's areas of interest and expertise are related to sustainable architecture, the main focus being thermal performance of dwellings and its influence on energy use and human comfort. Students under her guidance have designed a number of award winning projects, including the Nottingham H.O.U.S.E (www.nottinghamhouse.co.uk) for the Solar Decathlon competition. She has also been actively involved in the development of the prestigious Creative Energy Homes project, recognised internationally as leading in the field of low-energy housing, since 2005 (www.creative-energy-homes.co.uk). Lucelia was one of the tutors supporting the winning teams of the national stage of the ISOVER student competition 2012.

BAAS (HONS) DIPL. ARCH. MSC. MPHIL (CANTAB) RIBA BENSON LAU — UK

Benson Lau is a chartered architect (RIBA) with expertise in integrated environmental design. He engaged in practice since 1996 as an architect and environmental / lighting design consultant in collaboration with Peter Eley Architects, Zaha Hadid Architects, Ateliers Jean Nouvel, John Pawson Architects, Fin Architects, Lotus Architects, Hong Kong, Isometrix Lighting Design, Fulcrum Consulting and Price & Myers Consulting Engineers, London before joining WSP Environmental Ltd in 2001, subsequently headed up the company's Far East operation. He joined the School of the Built Environment, Nottingham University in 2005. Current academic roles include course director of the MArch in Environmental Design Course and design studio tutor for postgraduate students. He also lectured at the Martin Centre, University of Cambridge, the Department of Architecture, London Metropolitan University, School of Architecture, Design and the Built Environment, Nottingham Trent University, the Architecture and Planning Department, Tongji University in Shanghai and the Shanghai Research Institute of Building Sciences (SRIBS). Supported by RCUK Summer School Award in 2008, he successfully organized and delivered a workshop on the theme of "Architecture, Climate and Environment" in collaboration with the Architecture Department at Tsinghua University, Beijing. Current research interests primarily address the integrated environmental design approach, environmental performance prediction of building and related issues of occupant comfort and behaviour. This design approach is a key component in his practice and teaching activities in the UK and Far East and the selective use of building performance prediction tools to support and enhance architectural decision-making has been adopted in his building projects worldwide.

PROFESSOR ARCH. BRIAN FORD

UK

Brian Ford is an architect and environmental design consultant who has over 25 years experience in architectural practice and consultancy, both as a partner and with his own practice. He has specialised in the field of environmental design. His experience in the design of naturally ventilated and passively cooled buildings in different parts of the world includes acting as consultant for the Sydney Olympic Stadium, Australia; Pittsburgh Convention Center, USA; Torrent Research Laboratories, India; the Stock Exchange, Malta, as well as theatres, offices and University buildings. In partnership with Professor Alan Short, he won awards for the design of the Queens Building for De Montfort University, Leicester, UK, and for the Simmonds Farsons Cisk Brewery Process building in Malta. Appointed Professor of Bio-climatic Architecture at the University of Nottingham in 2003, he completed a four year term as Head of the School of the Built Environment in 2008. He is currently Head of the Research Division in Architecture and Urbanism. Brian's own research experience has concentrated on natural ventilation and passive cooling (including six EC funded international collaborative research projects). He has recently completed an EC funded R&D project on Passive & Hybrid Downdraught Cooling (PHDC), which resulted in the book 'The Architecture & Engineering of Downdraught Cooling', published in June 2010. External activities include membership of Sub-Panel 16 (Architecture, Planning and the Built Environment), for the UK Research Excellence Framework 2014; Membership of the RIBA Research & Innovation Committee 2011- Membership of the UK Government Zero Carbon Task Force for Schools 2008 -2010; Membership of the Editorial Board for Architecture Research Quarterly 2004- and Board membership of the International PLEA Conference Organisation 2004.

PROFESSOR CHRISTOPHER M. PASTORE

USA

Professor of Transdisciplinary Studies, Co-Director of the Engineering and Design Institute, Philadelphia University. Started in 1995.
Education: BA Mathematics, MS Mathematics, PhD Materials Science & Engineering. Work on several projects around the composite renewable materials, especially flax and crab shells. By modifying the chemistry using natural materials the cross-linked polymer was produced that is capable of withstanding environmental forces, but when exposed to another naturally occuring agent will begin biodegradation. Exploration of shredded paper money to see what interesting building materials can be produced. We developed a hybrid shredded money/recycled PET fiber to make a board panel as a replacement for particle board. The water resistance and density showed very favorable results, with improved screw hold strength compared to particle board. After studying the construction and corresponding thermal transfer properties of medieval cathedrals in Europe designed and built a wine storage facility in the US which is almost entirely passive (there is a back up HVAC system in case of emergency due to the value of the stored wines). Work on Co-host of the podcast entitled "EcoMan and The Skeptic" which is about green homes and buildings and as well as science news.

Invitation for Competition Submissions ISOVER Multi-Comfort House - Students Contest 2013

Vision & Reality - Glückstein Quartier

International, two-stage, open competition, 2013 edition

Content:	Develop a vision based on today's reality for Glückstein Quartier, Mannheim, Germany
Participants:	Students
Organizer:	Saint-Gobain Insulation with the participation of national Saint-Gobain ISOVER, CertainTeed and IZOCAM organizations
Official Website:	www.isover-students.com

The subject of the 2013 competition is the design of a vision for future development of some parts of the “Glückstein Quartier” in Mannheim, Germany, taken into account the existing realities.

The project will require the development of residential function based on the Saint-Gobain Multi-Comfort principle that will assure a natural extension of the existing neighborhood. In addition, the development shall improve the usage of the green area while creating a link with the existing housing stock and the new development.

Participating countries in ISOVER Multi Comfort House Students Contest - 2013 Edition

More information about the new edition of the contest as well as full task, pictures and documents, site plan can be found at www.isover-students.com

CertainTeed SAINT-GOBAIN

IZOCAM

ISOVER SAINT-GOBAIN

8th ISOVER MULTI-COMFORT HOUSE STUDENTS CONTEST 2012

SUSTAINABLE COMMUNITY WITHIN THE REGENERATION PROGRAM OF THE TRENT BASIN AREA

isover SAINT-GOBAIN

2

II PRIZE
International Stage, Bratislava 2012

BELARUS
Belarusian National Technical University

I PRIZE Belarus National Stage 2012

ANDREY ANDRAUYK

more information on
www.isover-students.com

Revival of spirit

master plan

1 - hotel
2 - museum of modern art
3 - entertainment center
4 - offices

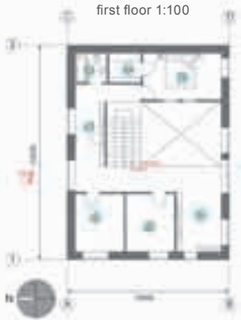
Accomodation of tourists

The most visited places by tourists

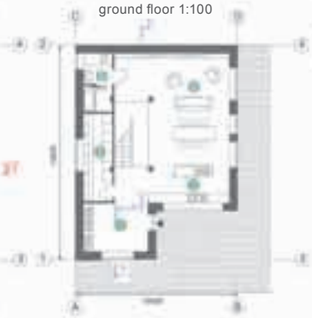
What we need to achieve

- Entering
- Kitchen
- Wash and Storage
- Livingroom
- Bathroom
- General bedroom
- Storage
- Bathroom
- Library
- Bedroom
- Bedroom
- Office

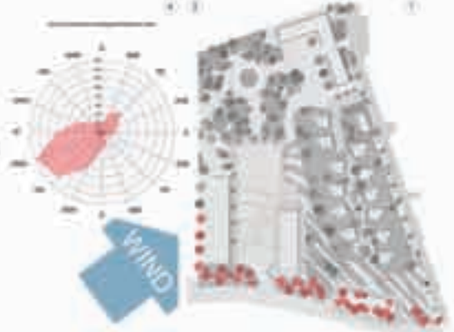
first floor 1:100



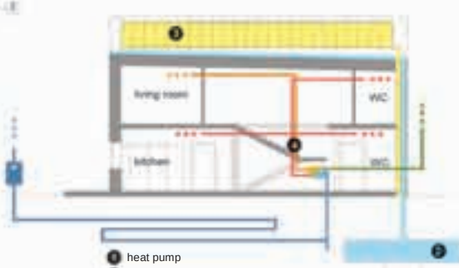
ground floor 1:100



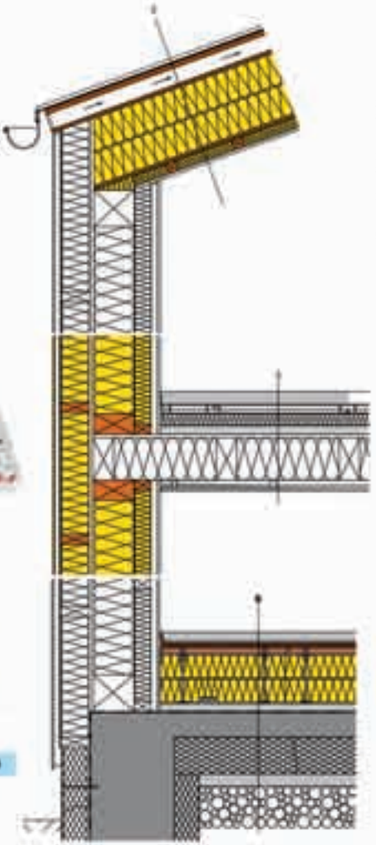
section (2-2) 1:100



section (1-1) 1:100



- heat pump
- reservoir of hot water
- ISOVER photovoltaic system
- ventilation system with heat recovery



Mono-pitch roof structure 1:20

Composition S in cm

	Tin roof covering
	Layer roof skin (e.g. polymer bitumen roll roofing)
2,4	**Under roof - rough formwork**
8,0	**Counter battens min. 8/8**
	Layer of vapour diffusion-permeable spunbonded
1,5	**OSB chipboard panel**
32,0	**ISOVER lightweight glass wool between TJI roof framing (2-layered)**
1,5	**OSB chipboard panel**
	Water vapour barrier - Climatic membrane, ISOVER VARIO KM Duplex
5,0	**SOVER lightweight glass wool between counter battens 5/5**
1,5	**Plaster board - fire protection board**

Ventilated outer wall with exterior facade cladding (hoard) 1:20

Composition S in cm

1,5	**Plaster board - fire protection board**
3,0	**Mounting lathing 3/5**
8.0	**ISOVER lightweight glass wool between squared timber 5/3 Water vapour barrier - Climatic membrane, ISOVER VARIO KM Duplex**
20.0	**ISOVER lightweight glass wool between wooden beams**
1.9	**Chipboard layer**
14.0	**ISOVER facade insulation board between timber construction Water vapour permeable wind protection layer**
3,0	**Ventilation area**
0,8	**Exterior facade board or 2,4 cm wooden weather borading**

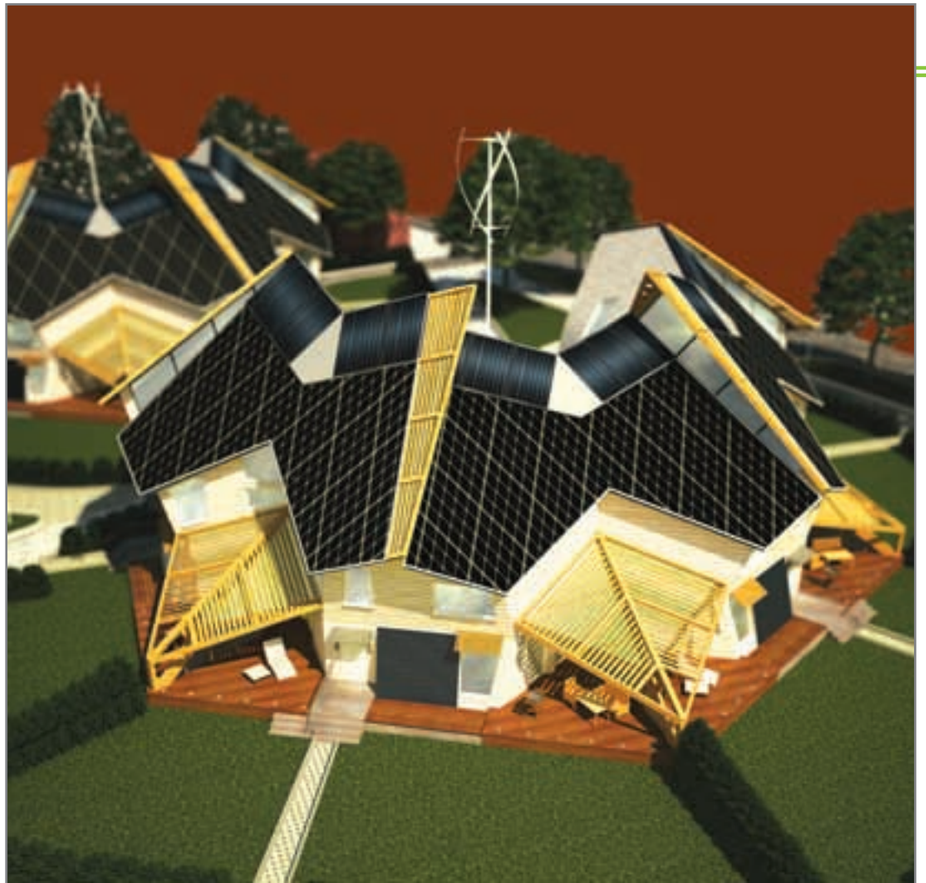
Raised floor above ground 1:20

Composition S in cm

1,5	**Parquet, floating layer**
0,02	**Vapour barrier**
3,2	**ISOVER Distansol chipboard panel with distance feet**
24.0	**ISOVER glass wool panel 2 x 12 cm**
4,0	**Protective concrete Seperating layer**
0,05	**Seperating layer (water barrier)**
12,0	**Sub-concrete Seperating layer**
18.0	**XPS-Extruded Polystyrene foam board Protective concrete Round gravel**

8th ISOVER MULTI-COMFORT HOUSE STUDENTS CONTEST 2012

SUSTAINABLE COMMUNITY WITHIN THE REGENERATION PROGRAM OF THE TRENT BASIN AREA



isover SAINT-GOBAIN

BELARUS

Belarusian National Technical University

II PRIZE Belarus National Stage 2012

ILYA LIKHOTA

VIKTOR BARAN

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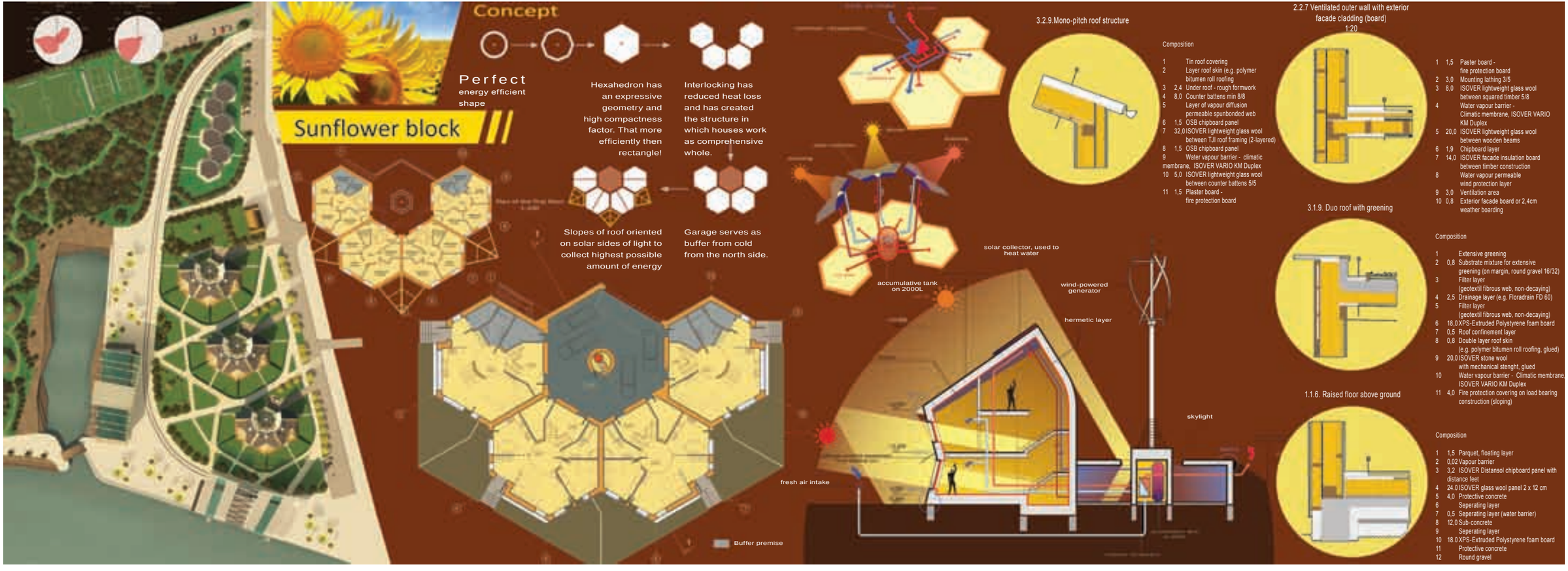

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BELARUS

Belarusian National Technical University

III PRIZE Belarus National Stage 2012

OKSANA ROZANSKAYA

SOFIA ARUTSUNYAN

ROMAN SEIDOV

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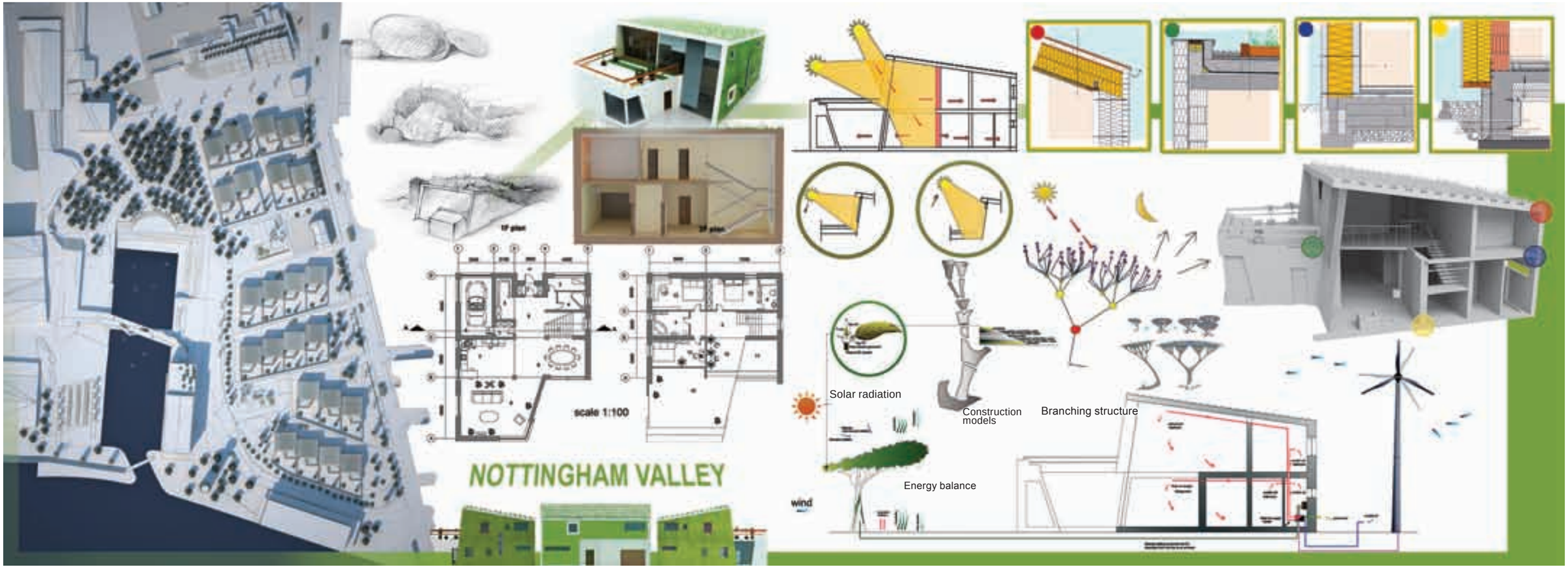

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SUSTAINABLE COMMUNITY WITHIN THE REGENERATION PROGRAM OF THE TRENT BASIN AREA

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BULGARIA

University of Architecture, Civil Engineering and Geodesy

PRIZE Bulgaria National Stage 2012

KATERINA
VASEVA

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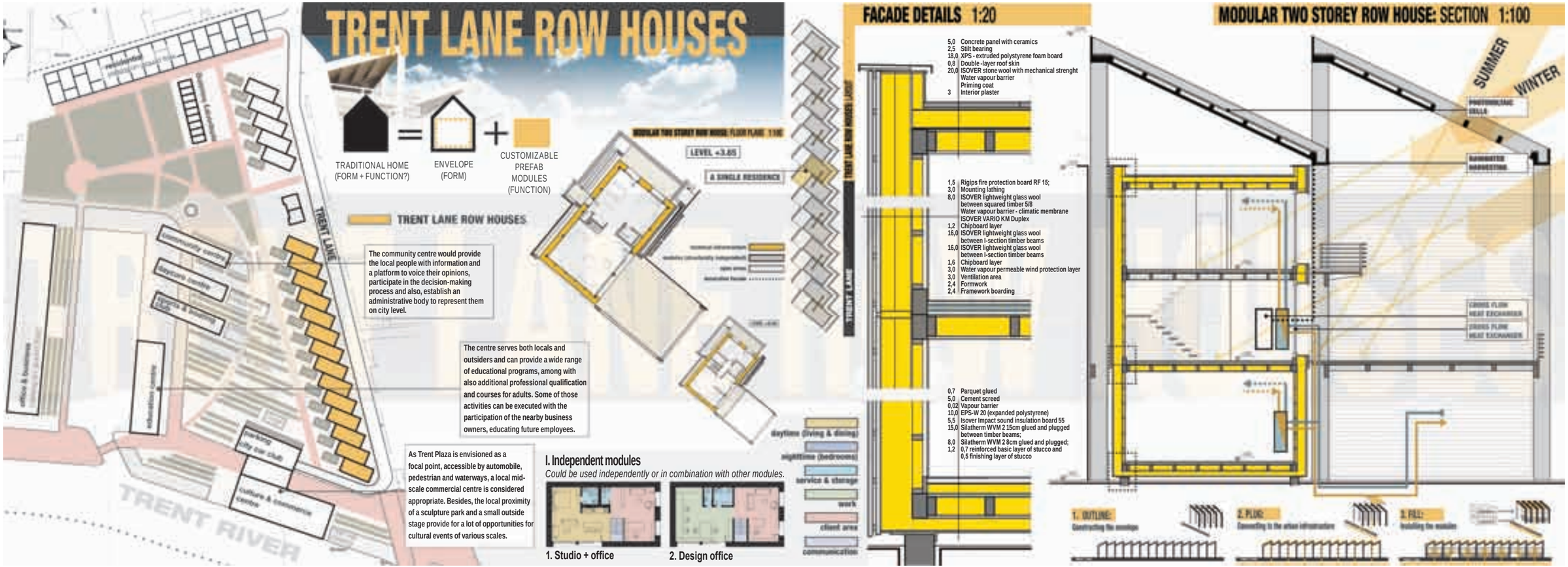
TRENT LANE ROW HOUSES
TRADITIONAL HOME (FORM + FUNCTION?)
ENVELOPE (FORM)
CUSTOMIZABLE PREFAB MODULES (FUNCTION)
TRENT LANE ROW HOUSES
The community centre would provide the local people with information and a platform to voice their opinions, participate in the decision-making process and also, establish an administrative body to represent them on city level.
The centre serves both locals and outsiders and can provide a wide range of educational programs, among with also additional professional qualification and courses for adults. Some of those activities can be executed with the participation of the nearby business owners, educating future employees.
As Trent Plaza is envisioned as a focal point, accessible by automobile, pedestrian and waterways, a local mid-scale commercial centre is considered appropriate. Besides, the local proximity of a sculpture park and a small outside stage provide for a lot of opportunities for cultural events of various scales.
TRENT LANE
TRENT RIVER
LEVEL +3.65
A SINGLE RESIDENCE
I. Independent modules
Could be used independently or in combination with other modules.
1. Studio + office
2. Design office
daytime (living & dining)
nighttime (bedrooms)
service & storage
work
client area
communication
FACADE DETAILS 1:20
5,0 Concrete panel with ceramics
2,5 Stilt bearing
18,0 XPS - extruded polystyrene foam board
0,8 Double -layer roof skin
20,0 ISOVER stone wool with mechanical strenght
Water vapour barrier
Priming coat
3 Interior plaster
1,5 Rigips fire protection board RF 15;
3,0 Mounting lathing
8,0 ISOVER lightweight glass wool
between squared timber 5/8
Water vapour barrier - climatic membrane
ISOVER VARIO KM Duplex
1,2 Chipboard layer
16,0 ISOVER lightweight glass wool
between I-section timber beams
16,0 ISOVER lightweight glass wool
between I-section timber beams
1,6 Chipboard layer
3,0 Water vapour permeable wind protection layer
3,0 Ventilation area
2,4 Formwork
2,4 Framework boarding
0,7 Parquet glued
5,0 Cement screed
0,02 Vapour barrier
10,0 EPS-W 20 (expanded polystyrene)
5,5 Isover Impact sound insulation board 55
15,0 Silatherm WVM 2 15cm glued and plugged
between timber beams;
8,0 Silatherm WVM 2 8cm glued and plugged;
1,2 0,7 reinforced basic layer of stucco and
0,5 finishing layer of stucco
MODULAR TWO STOREY ROW HOUSE: SECTION 1:100
SUMMER
WINTER
1. OUTLINE:
2. PLUG:
3. FILL:

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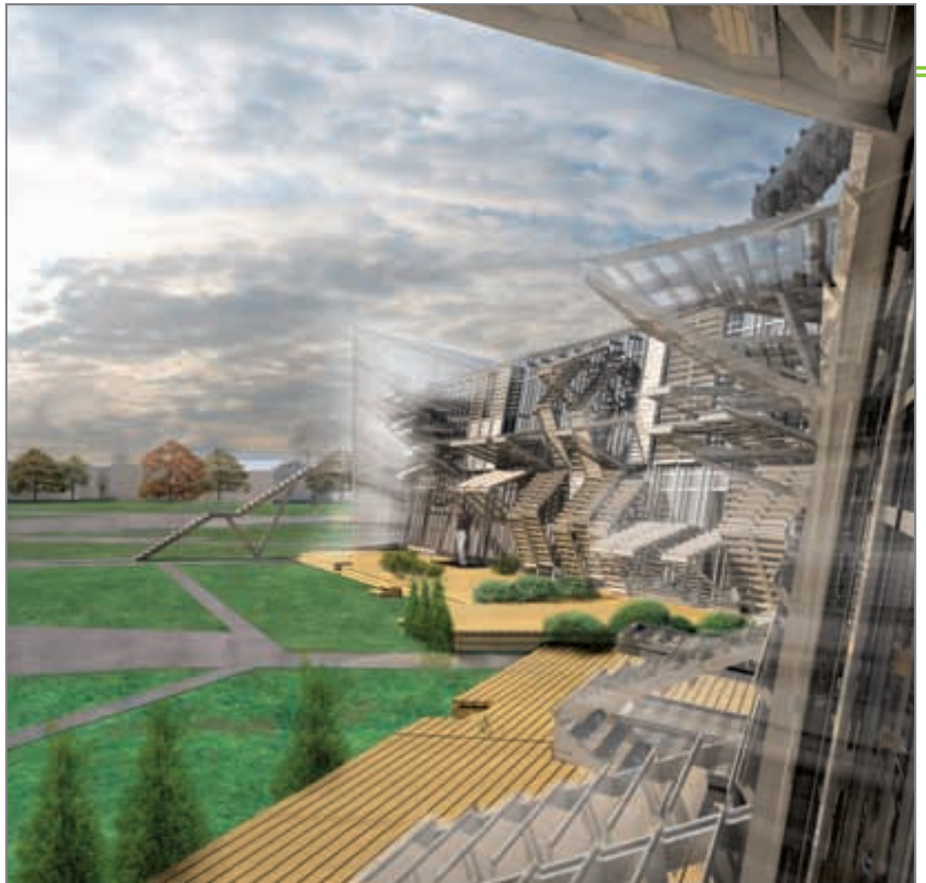
SUSTAINABLE COMMUNITY WITHIN THE REGENERATION PROGRAM OF THE TRENT BASIN AREA



BULGARIA

University of Architecture, Civil Engineering and Geodesy

II PRIZE Bulgaria National Stage 2012

PAVEL TSOCHEV

ALEXANDER TODOROV

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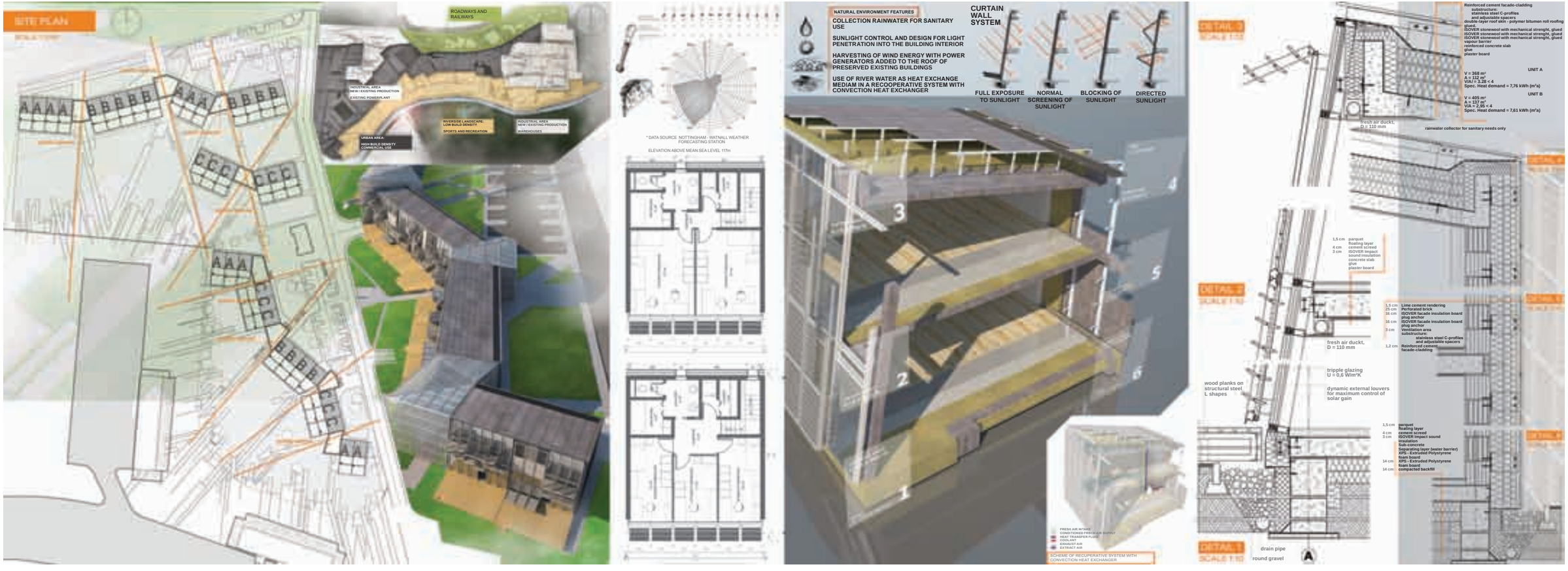

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JURY SPECIAL AWARD
International Stage, Bratislava 2012

BULGARIA
High School of Civil Engineering "L. Karavelov"

III PRIZE Bulgaria National Stage 2012

ZORNICA PETROVA

IVAILO ALEXANDROV

GEORGI GROZDANOV

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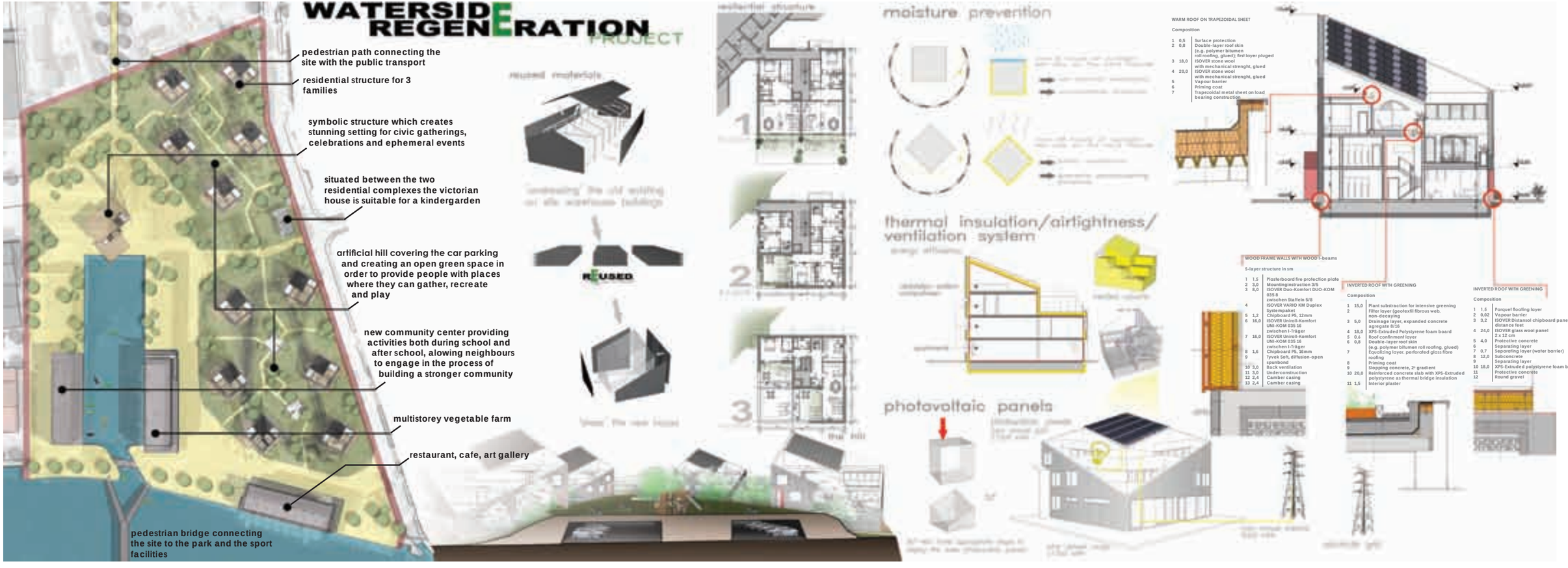
WATERSIDE REGENERATION PROJECT



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CROATIA
University of Zagreb, Faculty of Architecture

I PRIZE Croatia National Stage 2012

MARIN ČALUŠIĆ

MARKO NIKIĆ

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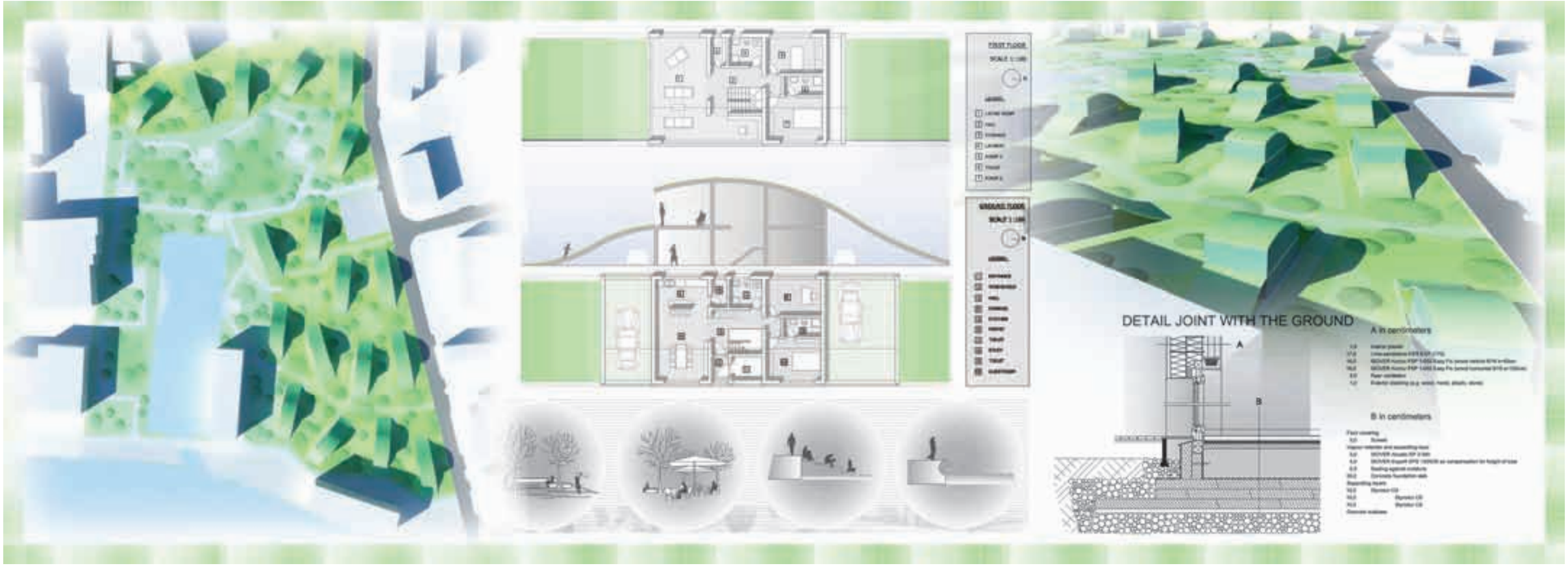
DETAIL JOINT WITH THE GROUND
A in centimeters
B in centimeters
A
B

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SUSTAINABLE COMMUNITY WITHIN THE REGENERATION PROGRAM OF THE TRENT BASIN AREA

CROATIA
University of Zagreb, Faculty of Architecture

II PRIZE Croatia National Stage 2012

KREŠIMIR ROMIĆ

MARTA RIŽANA DRMIĆ

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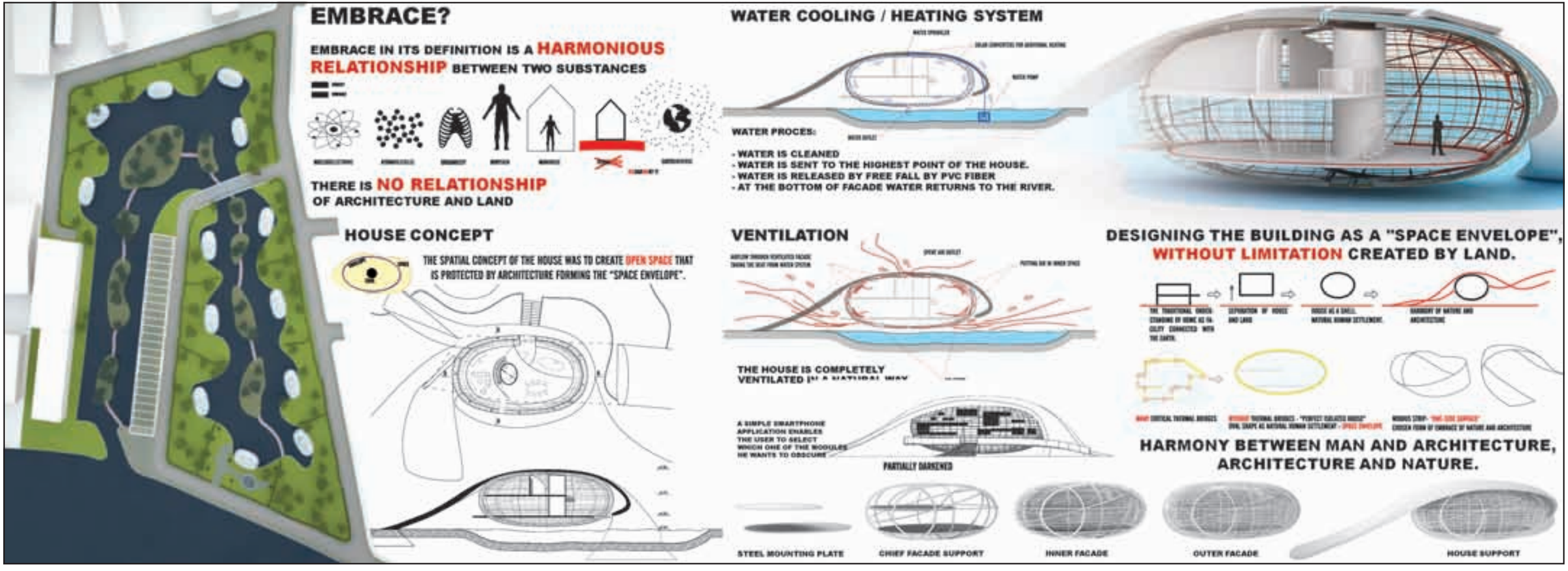
EMBRACE?
EMBRACE IN ITS DEFINITION IS A HARMONIOUS RELATIONSHIP BETWEEN TWO SUBSTANCES
THERE IS NO RELATIONSHIP OF ARCHITECTURE AND LAND
HOUSE CONCEPT
THE SPATIAL CONCEPT OF THE HOUSE WAS TO CREATE OPEN SPACE THAT IS PROTECTED BY ARCHITECTURE FORMING THE "SPACE ENVELOPE".
WATER COOLING / HEATING SYSTEM
WATER PROCES:
- WATER IS CLEANED
- WATER IS SENT TO THE HIGHEST POINT OF THE HOUSE.
- WATER IS RELEASED BY FREE FALL BY PVC FIBER
- AT THE BOTTOM OF FACADE WATER RETURNS TO THE RIVER.
VENTILATION
THE HOUSE IS COMPLETELY VENTILATED
A SIMPLE SMARTPHONE APPLICATION ENABLES THE USER TO SELECT WHICH ONE OF THE MODULES HE WANTS TO OBSCURE
PARTIALLY DARKENED
DESIGNING THE BUILDING AS A "SPACE ENVELOPE", WITHOUT LIMITATION CREATED BY LAND.
HARMONY BETWEEN MAN AND ARCHITECTURE, ARCHITECTURE AND NATURE.
STEEL MOUNTING PLATE
CHIEF FACADE SUPPORT
INNER FACADE
OUTER FACADE
HOUSE SUPPORT

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SUSTAINABLE COMMUNITY WITHIN THE REGENERATION PROGRAM OF THE TRENT BASIN AREA

CROATIA
University of Zagreb, Faculty of Architecture

III PRIZE Croatia National Stage 2012

IVANA PATRICIA ĐILAS

IGOR ČERANIĆ

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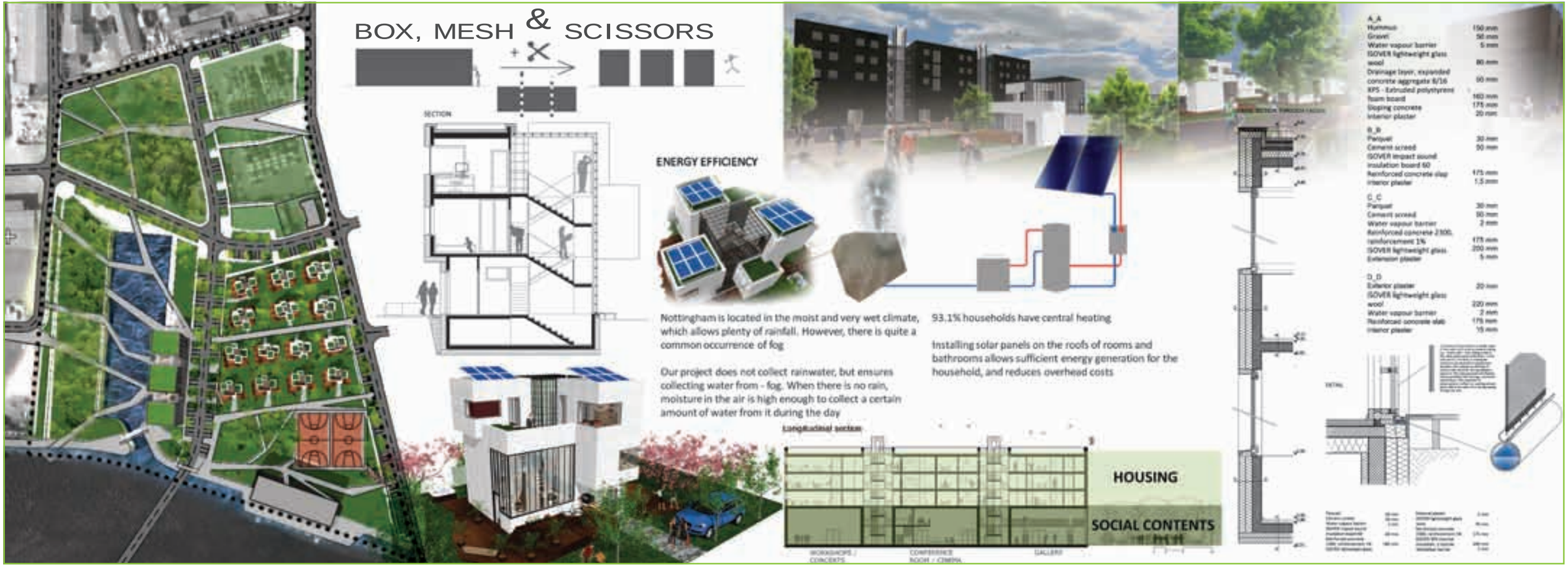

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SUSTAINABLE COMMUNITY WITHIN THE REGENERATION PROGRAM OF THE TRENT BASIN AREA

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CZECH REPUBLIC

Czech Technical University, Faculty of Architecture

PRIZE Czech Republic National Stage 2012

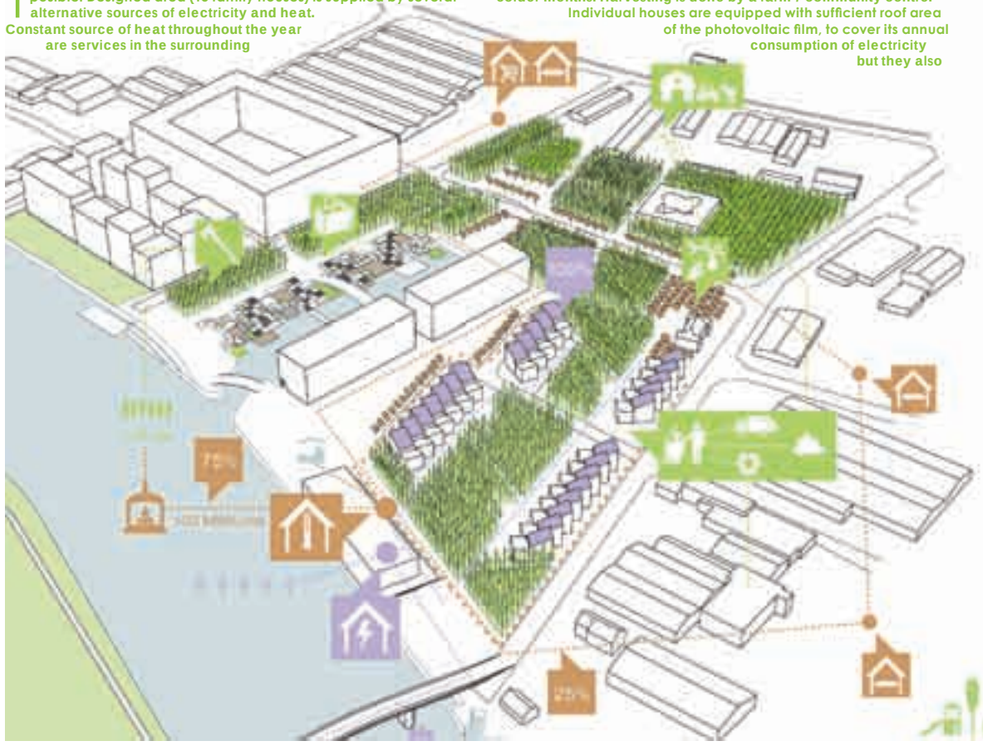
KATEŘINA BLAHUTOVÁ

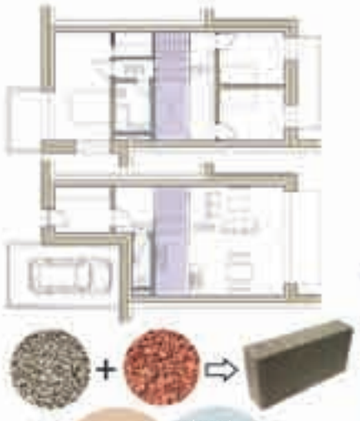
VERONIKA KOMMOVÁ

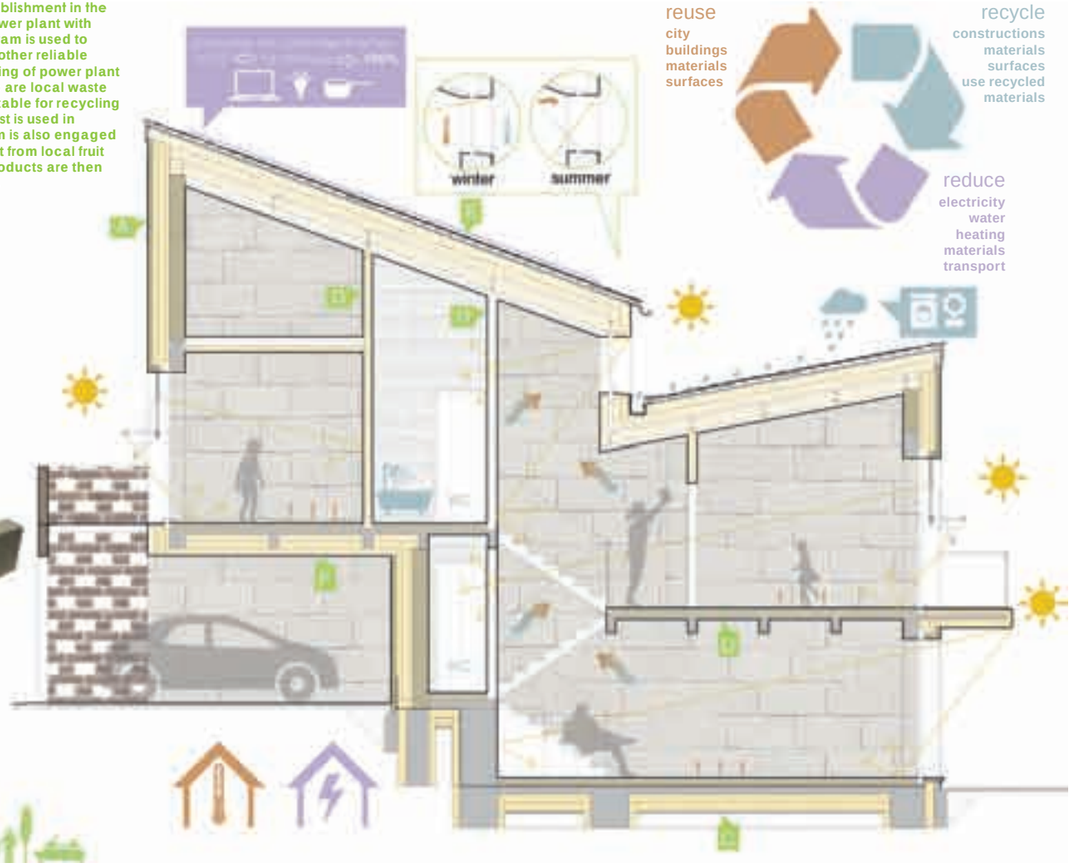
more information on
www.isover-students.com

RECYCLED NEIGHBOURHOOD

The idea is based on energetical independence in the greates posible. Designed area (15 family houses) is supplied by several alternative sources of electricity and heat.
Constant source of heat throughout the year are services in the surrounding area with surplus heat - supermarket, bakery and more. In this way, housing integrates into existing structure, services and housing are beneficial to each other. Heat is being recovered and transferred to a central heating plant. There is also a boiler burning wood chips. Trees in the territory - fast growing japanese poplars - have an economic function: they are gradually harvested and stored through the year and burned in a boiler to provide the desired heat in the colder months. Harvesting is done by a farm / community centre.
Individual houses are equipped with sufficient roof area of the photovoltaic film, to cover its annual consumption of electricity but they also supply network of senrvices, offices and other establishment in the daylight hours. For night supply there is a water power plant with turbines located in the pillars of a bridge. A water ram is used to pump the water up with no need for electricity. Another reliable source of electricity are wind turbines on the building of power plant that use strong southwest wind from the river. There are local waste sorting units in the designated areas. Materials suitable for recycling are processed in the surrounding facilities. Compost is used in gardens and farm fertilizer is thus ensured. The farm is also engaged in breeding of small animals and processing of fruit from local fruit trees. There is also a shelter workshop, the local products are then sold in markets on the west bank of the Trent Basin.







ISOVER SAINT-GOBAIN

8th ISOVER MULTI-COMFORT HOUSE STUDENTS CONTEST 2012

SUSTAINABLE COMMUNITY WITHIN THE REGENERATION PROGRAM OF THE TRENT BASIN AREA

CZECH REPUBLIC

Czech Technical University, Faculty of Civil Engineering

II PRIZE Czech Republic National Stage 2012

LUCIE JAROLÍMOVÁ

ZUZANA ČABALOVÁ

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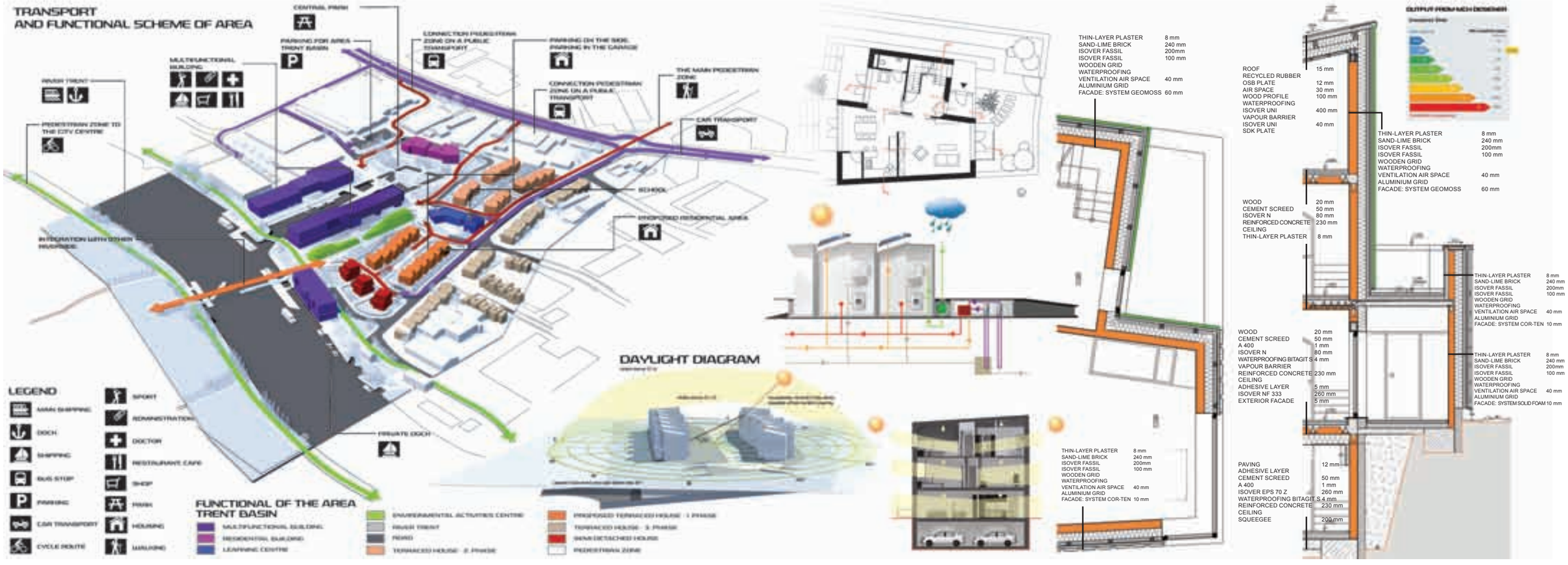

ISOVER SAINT-GOBAIN

8th ISOVER MULTI-COMFORT HOUSE STUDENTS CONTEST 2012

SUSTAINABLE COMMUNITY WITHIN THE REGENERATION PROGRAM OF THE TRENT BASIN AREA

CZECH REPUBLIC

Technical University in Liberec

III **PRIZE** Czech Republic National Stage 2012

JAN
HORA

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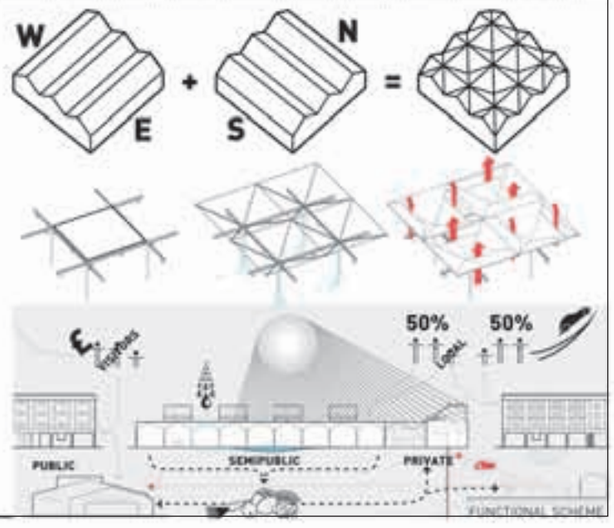
TECHNICAL REPORT



CONSTRUCTION

The construction of houses is jacketed concrete skeleton. The facade consists of painted concrete bricks.

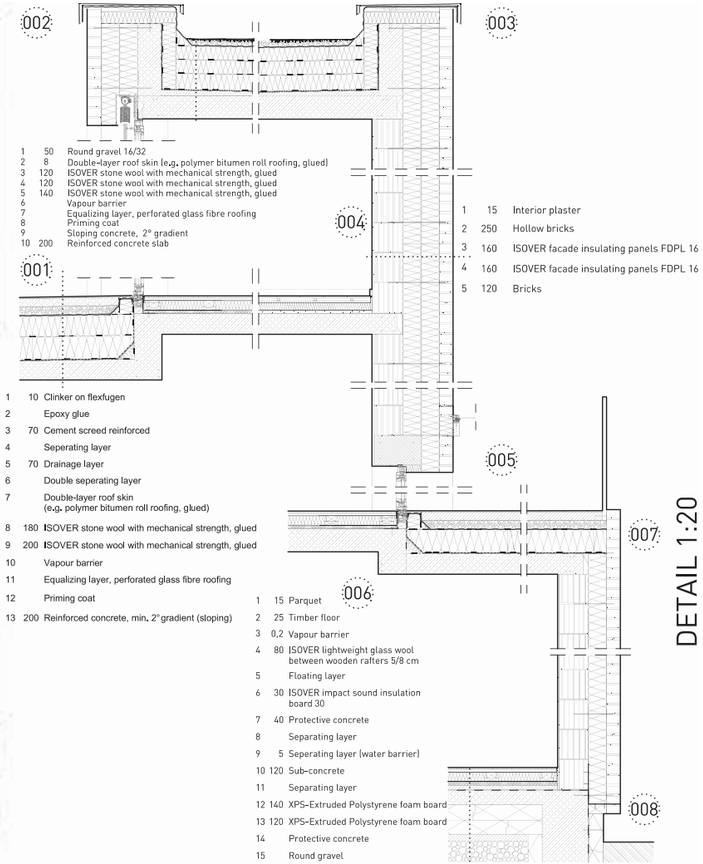
The windows to the exterior are proposed as triple glazing in aluminum profiles. The windows into the space of glasshouse are proposed with double glazing.
Thermal insulation ISOVER are designed in the passive house standard. The greenhouse maintains a stable climate, making it possible to reduce the amount of insulation in the walls directly adjacent to it. Acoustic insulation against impact noise ISOVER guarantee silence each household member. Fire resistance is guaranteed by structural system used.

SUSTAINABILITY

Houses use energy from the roof sun collectors for water heating. Warm is obtained by a heat pump and by windows on the south facade. Windows can be shaded with external blinds during summer months. All rainwater from the roofs of greenhouses is cherished in the reservoir. Water is reused for watering and improving the climate in the greenhouse.

GREENHOUSES

Construction of greenhouse consists of aluminum profiles. As the covering is used tubed polycarbonate and plexiglass, which has only a slightly lower transmittance of solar radiation than glass, but its much more lighter, which reduces requirements on the load carrying structures.



1	50	Round gravel 16/32
2	8	Double-layer roof skin (e.g. polymer bitumen roll roofing, glued)
3	120	ISOVER stone wool with mechanical strength, glued
4	120	ISOVER stone wool with mechanical strength, glued
5	140	ISOVER stone wool with mechanical strength, glued
6		Vapour barrier
7		Equalizing layer, perforated glass fibre roofing
8		Priming coat
9		Sloping concrete, 2° gradient
10	200	Reinforced concrete slab

1	15	Interior plaster
2	250	Hollow bricks
3	160	ISOVER facade insulating panels FDPL 16
4	160	ISOVER facade insulating panels FDPL 16
5	120	Bricks

1	10	Clinker on flexfugen
2		Epoxy glue
3	70	Cement screed reinforced
4		Seperating layer
5	70	Drainage layer
6		Double seperating layer
7		Double-layer roof skin (e.g. polymer bitumen roll roofing, glued)
8	180	ISOVER stone wool with mechanical strength, glued
9	200	ISOVER stone wool with mechanical strength, glued
10		Vapour barrier
11		Equalizing layer, perforated glass fibre roofing
12		Priming coat
13	200	Reinforced concrete, min. 2°gradient (sloping)

1	15	Parquet
2	25	Timber floor
3	0,2	Vapour barrier
4	80	ISOVER lightweight glass wool between wooden rafters 5/8 cm
5		Floating layer
6	30	ISOVER impact sound insulation board 30
7	40	Protective concrete
8		Separating layer
9	5	Seperating layer (water barrier)
10	120	Sub-concrete
11		Separating layer
12	140	XPS-Extruded Polystyrene foam board
13	120	XPS-Extruded Polystyrene foam board
14		Protective concrete
15		Round gravel

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SUSTAINABLE COMMUNITY WITHIN THE REGENERATION PROGRAM OF THE TRENT BASIN AREA

ESTONIA

University of Applied Sciences, Tallinn

PRIZE Estonia National Stage 2012

IVO RIET

TRIIN LEHTMETS

KÄRT MILSAAR

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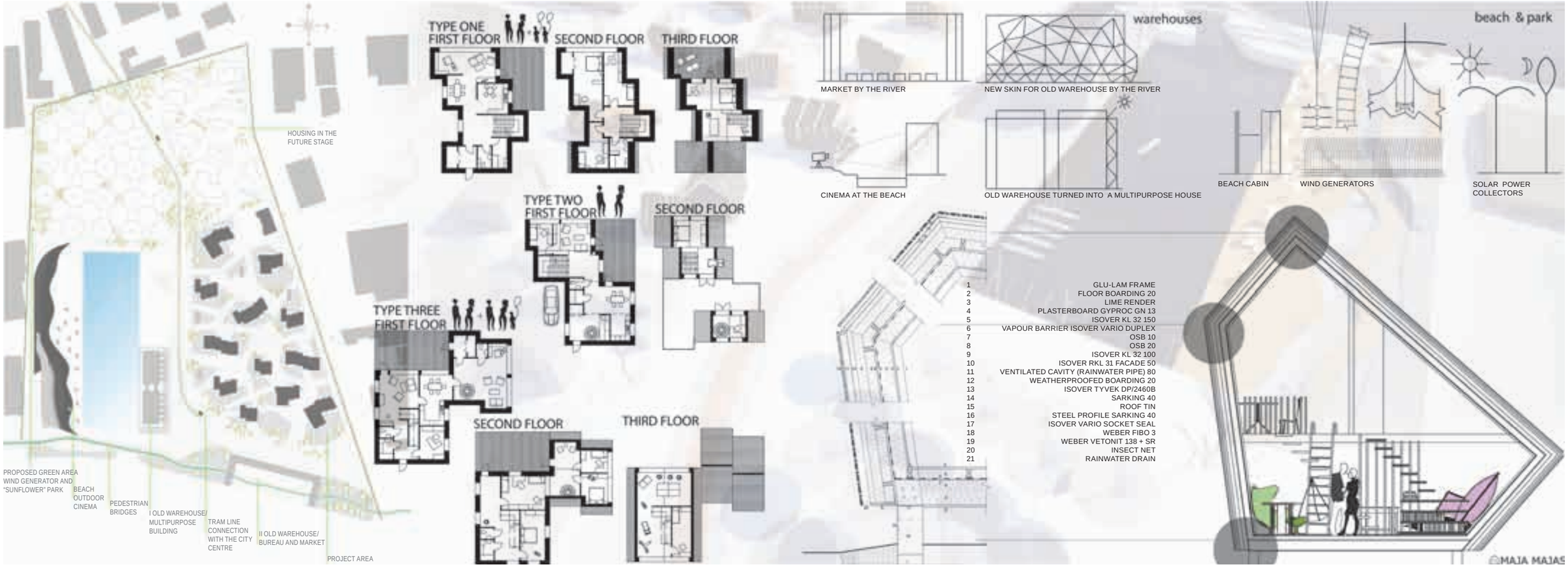
HOUSING IN THE FUTURE STAGE
PROPOSED GREEN AREA WIND GENERATOR AND "SUNFLOWER" PARK
BEACH OUTDOOR CINEMA
PEDESTRIAN BRIDGES
I OLD WAREHOUSE/ MULTIPURPOSE BUILDING
TRAM LINE CONNECTION WITH THE CITY CENTRE
II OLD WAREHOUSE/ BUREAU AND MARKET
PROJECT AREA
TYPE ONE FIRST FLOOR
SECOND FLOOR
THIRD FLOOR
TYPE TWO FIRST FLOOR
SECOND FLOOR
TYPE THREE FIRST FLOOR
SECOND FLOOR
THIRD FLOOR
warehouses
MARKET BY THE RIVER
NEW SKIN FOR OLD WAREHOUSE BY THE RIVER
CINEMA AT THE BEACH
OLD WAREHOUSE TURNED INTO A MULTIPURPOSE HOUSE
beach & park
BEACH CABIN
WIND GENERATORS
SOLAR POWER COLLECTORS
1 GLU-LAM FRAME
2 FLOOR BOARDING 20
3 LIME RENDER
4 PLASTERBOARD GYPROC GN 13
5 ISOVER KL 32 150
6 VAPOUR BARRIER ISOVER VARIO DUPLEX
7 OSB 10
8 OSB 20
9 ISOVER KL 32 100
10 ISOVER RKL 31 FACADE 50
11 VENTILATED CAVITY (RAINWATER PIPE) 80
12 WEATHERPROOFED BOARDING 20
13 ISOVER TYVEK DP/2460B
14 SARKING 40
15 ROOF TIN
16 STEEL PROFILE SARKING 40
17 ISOVER VARIO SOCKET SEAL
18 WEBER FIBO 3
19 WEBER VETONIT 138 + SR
20 INSECT NET
21 RAINWATER DRAIN
©MAJA MAJAS

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SUSTAINABLE COMMUNITY WITHIN THE REGENERATION PROGRAM OF THE TRENT BASIN AREA

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ANNA TEMMO

INDREK PALM

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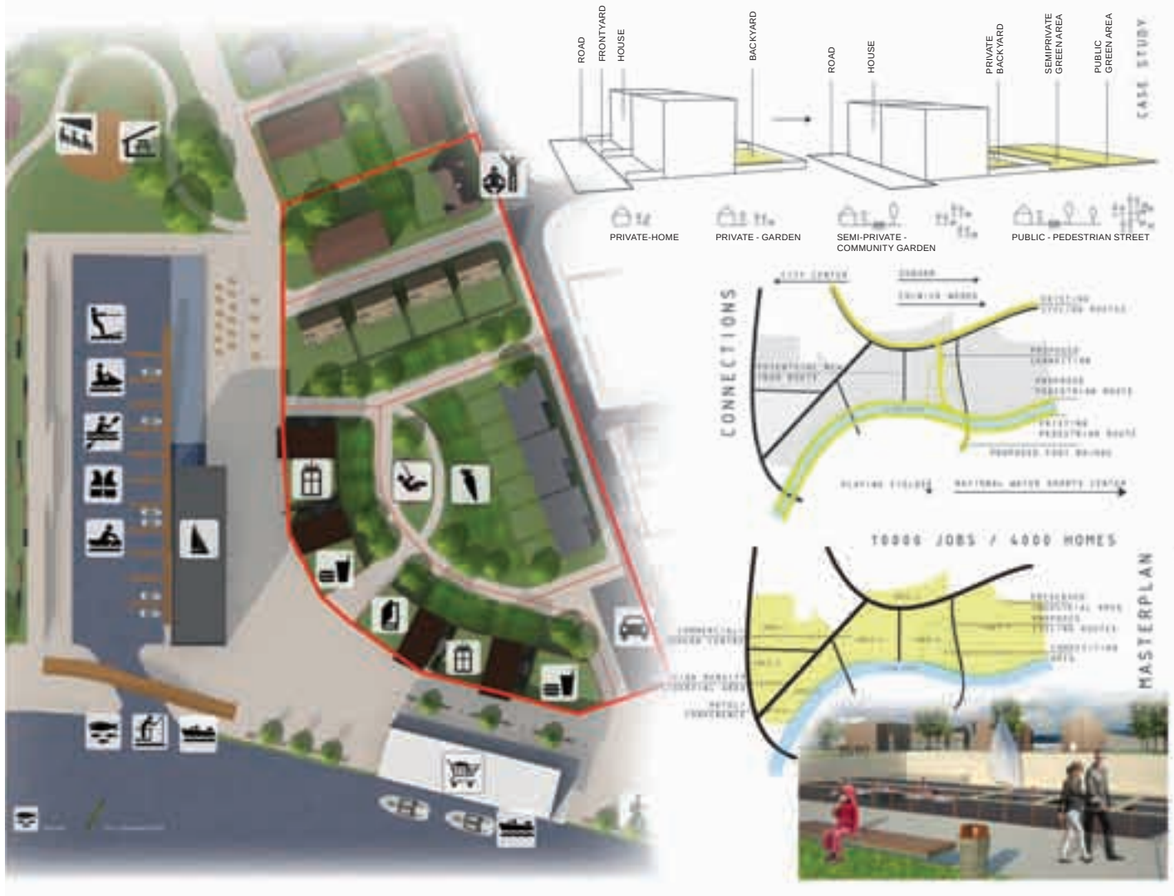
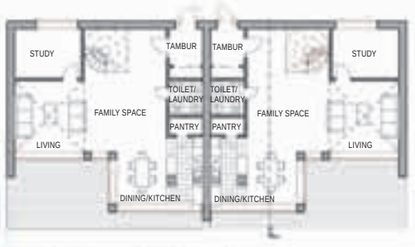


ROAD
FRONTYARD
HOUSE
BACKYARD
ROAD
HOUSE
PRIVATE BACKYARD
SEMIPRIVATE GREEN AREA
PUBLIC GREEN AREA
CASE STUDY
PRIVATE-HOME
PRIVATE - GARDEN
SEMI-PRIVATE - COMMUNITY GARDEN
PUBLIC - PEDESTRIAN STREET

CONNECTIONS

10000 JOBS / 4000 HOMES
MASTERPLAN


TAMBUR
TOILET
STUDY/ THIRD BEDROOM
PANTRY
KITCHEN
LIVING DINING
LAUNDRY
PRIVATE HOUSE

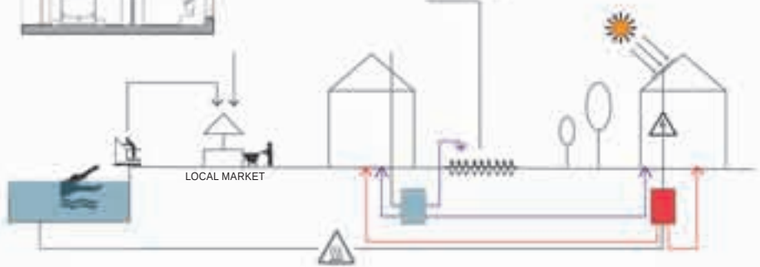

STUDY
TAMBUR
TAMBUR
STUDY
TOILET/ LAUNDRY
TOILET/ LAUNDRY
FAMILY SPACE
FAMILY SPACE
PANTRY
PANTRY
LIVING
LIVING
DINING/KITCHEN
DINING/KITCHEN

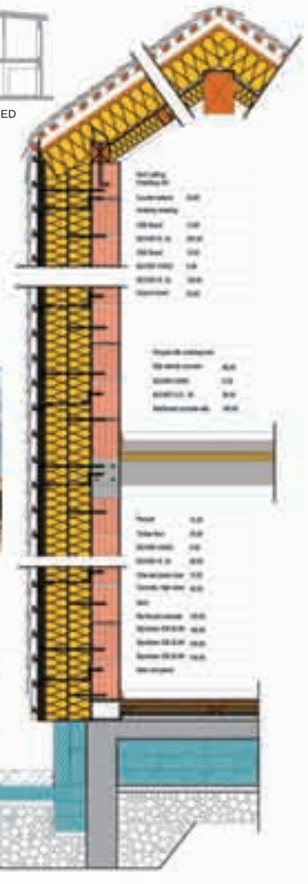

SEMI-DETATCHED HOUSE


MASTER BEDROOM
SECOND BEDROOM
FAMILY SPACE
BATHROOM
BATHROOM
FAMILY SPACE
MASTER BEDROOM
SECOND BEDROOM
APARTEMENT BUILDING


TAMBUR
SECOND BEDROOM
LIVING DINING
MASTER BEDROOM
BATHROOM
KITCHEN


MIXED USE


LOCAL MARKET



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SUSTAINABLE COMMUNITY WITHIN THE REGENERATION PROGRAM OF THE TRENT BASIN AREA

FINLAND

University of Oulu

PRIZE Finland National Stage 2012

SAIJA KAARINA LAURIALA

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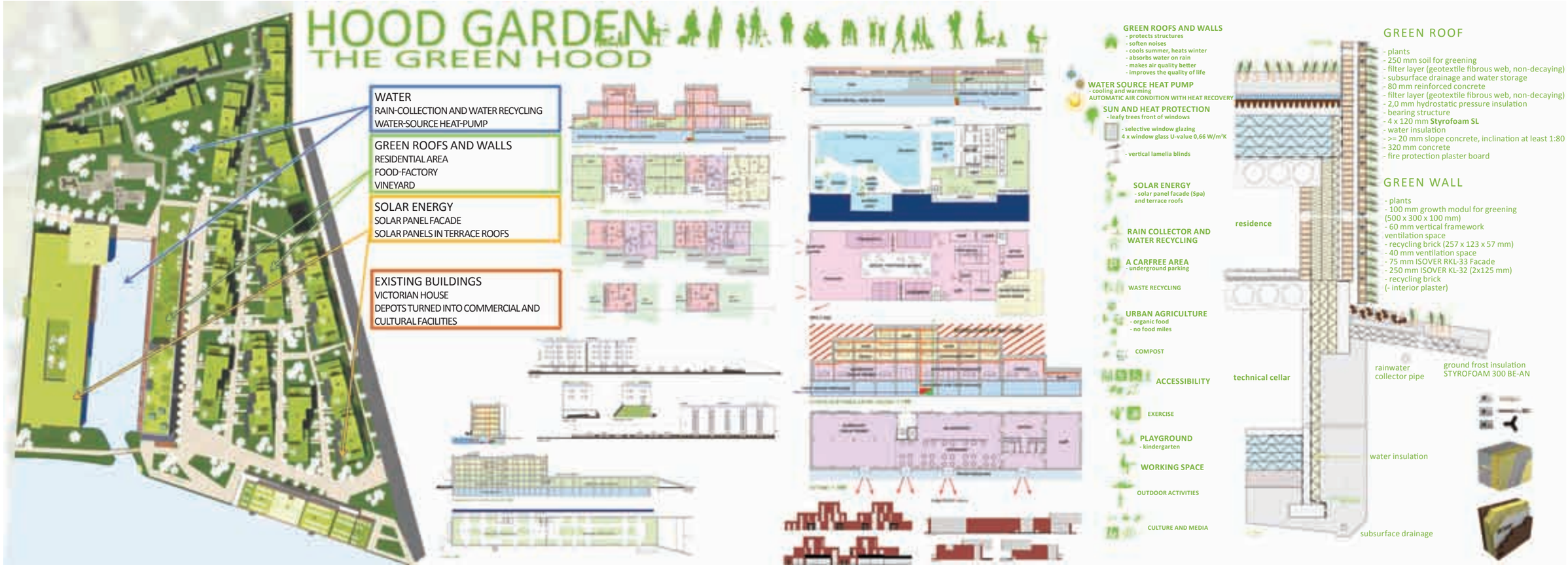
HOOD GARDEN
THE GREEN HOOD



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FINLAND

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EEMIL LUUKKA

SAMPO OJALA

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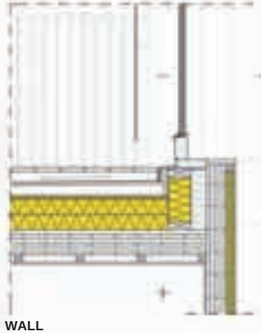
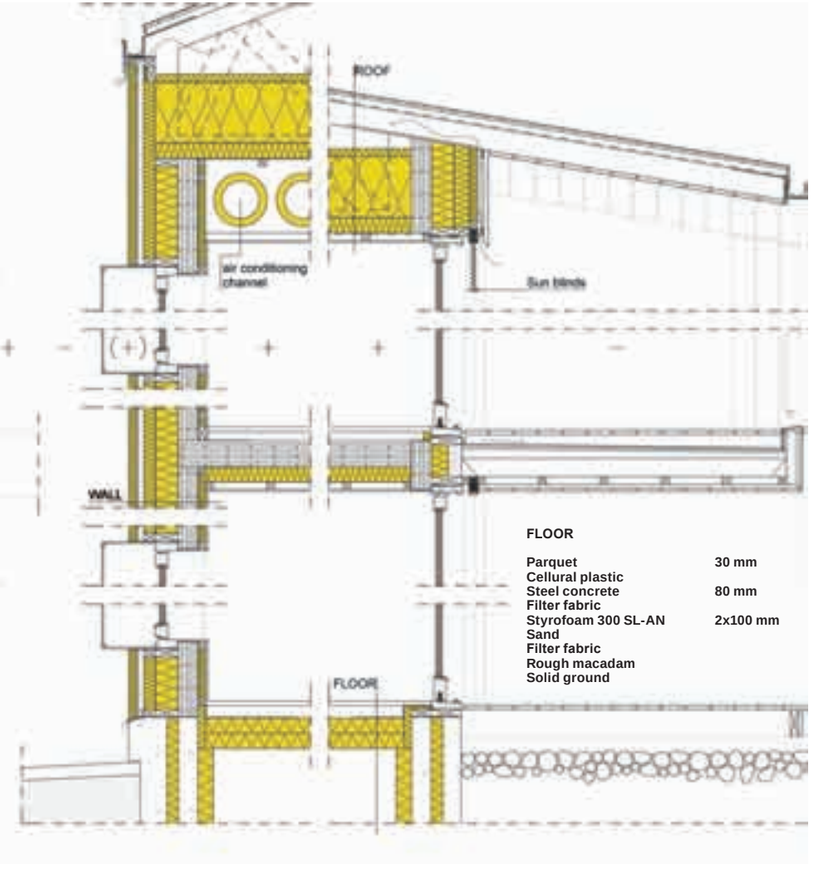
ROOF

Matelroof	
Roof board 22x100 k300	22 mm
Wood lath 50x50	50 mm
Under roofing	
Roof truss + airway	
Wind insulation	
Isover RKL-31	50 mm
Blown Wool Isover	400 mm
Insulation	
Isover KL-37	100 mm
Plastic coating	
Isover Vario KM Dublex UV	
Wood lath 50x50 k400	50 mm
Wood panel	



WALL

Slim plastering	
Insulation	
Isover FS30	50 mm
Cement sheeting	13 mm
Airway	32 mm
Wind insulation	
Isover RKL-31 EJ FACADE	75 mm
Insulation	
Isover KL-33	150 mm
Cross Laminated Timber	128 mm
Plastic coating	
Isover Vario KM Dublex UV	
Wood lath 50x50 k600	
+ lammoneriste	
Isover KL-33	50 mm
Wood panel	



FLOOR

Parquet	30 mm
Cellural plastic	
Steel concrete	80 mm
Filter fabric	
Styrofoam 300 SL-AN	2x100 mm
Sand	
Filter fabric	
Rough macadam	
Solid ground	

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HANNU KANKAANPÄÄ

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GERMANY

University of Applied Science, Erfurt

PRIZE Germany National Stage 2012

FRANZISKA SEIFERT

MARIA CHRISTIANE SCHMIDT

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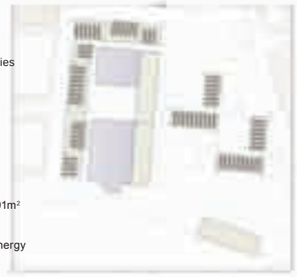
energy concept

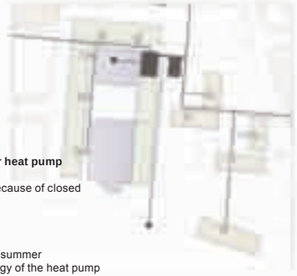
."Passivhaus" - Standard
.use of existing resources
.use of regenerative energies
.low primary energy
.low CO_2 emission

photovoltaik collector

.commercial used area: 691m²
.pro living yard: 318m²

solar battery, save solar energy



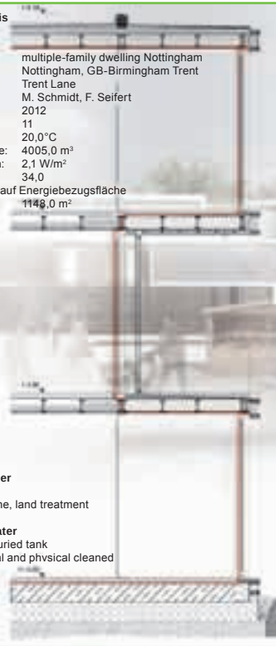


local heating grid I water heat pump

.low maintenance effort because of closed circuit
.use of existing ressouces
.ice storage
.for heating in the winter
. for air conditioning in the summer
.upgraded balance of energy of the heat pump

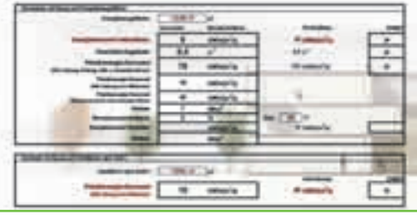
Passivhaus Nachweis

Objekt:	multiple-family dwelling Nottingham
Standort und Klima:	Nottingham, GB-Birmingham Trent
Straße:	Trent Lane
Bearbeiter:	M. Schmidt, F. Seifert
Planungsjahr:	2012
Zahl WE:	11
Innentemperatur:	20,0°C
Umbautes Volumen Ve:	4005,0 m³
Interne Wärmequellen:	2,1 W/m²
Personenzahl:	34,0
Kennwerte mit Bezug auf Energiebezugsfläche	
Energiebezugsfläche:	1148,0 m²



utilisation of rainwater
.water reservoir
.flush, washing machine, land treatment

utilisation of grav water
.water reservoir in a buried tank
.mechanical, biological and phvsical cleaned



roof system

50mm	gravel fill sealant
60mm	incline insulation
80mm	Isover Integra ZKF 1-032
25mm	OSB
200mm	Isover Integra ZKF 1-032 airtightness
15mm	2x gypsum fibreboard F90

U-value 0.09 W/m²K

Window
certified wood sliding door dripple glazed

Uw-value 0,70 W/m2K
Ug-value 0,50 W/m2K

floor construction

15mm	timber floor board
20mm	Drywall floor heating
20mm	mastic Asphalt
30mm	impact sound insulation
200/6mm	glued-laminated timber beam
25mm	OSB air
40mm	Isover Exporit EPS 100/035
60mm	split
15mm	2x gypsum fibreboard F90

Architrave block

15mm	timber floor board
20mm	Drywall floor heating
20mm	mastic Asphalt 30mm impact sound insulation sealant against moisture
300mm	Concrete foundation slab Separating layer
100mm	StyrodorCS
100mm	Styrodor CS
100mm	StyrodorCS Granular subbase

U-valie 0,11 W/m²K

wall to courtyard side

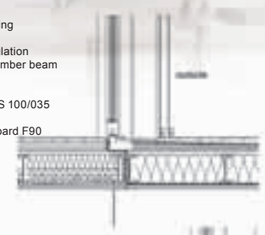
20mm	timber battens robinia, closed
30mm	incline contra-battens
120mm	Kontur FSP 1-032
15mm	OSB
160mm	Isover Integra ZKF 1-032
15mm	OSB sealant airtightness
60mm	Isover Integra ZKF 1-032
15mm	gypsum fibreboard

U-value 0,09 W/m²K

ceiling against ambient

15mm	timber floor board
20mm	Drywall floor heating
20mm	mastic Asphalt
30mm	impact sound insulation sealant airtightness
200/6mm	TJI beam
25mm	OSB
200mm	Isover Integra ZKF 1-032
15mm	2x gypsum fibreboard F90
50mm	incline contra-battens
20mm	timber battens robinia, closed

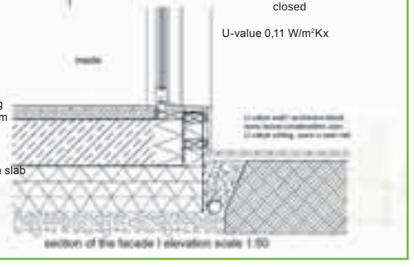
U-value 0,11 W/m²K



ambient against ceiling

15mm	timber floor board
50mm	incline contra-battens sealant
60mm	incline insulation
200/6mm	TJI beam
25mm	OSB
200mm	Isover Integra ZKF 1-032
15mm	2x gypsum fibreboard F90
50mm	incline contra-battens
20mm	timber battens robinia, closed

U-value 0,11 W/m²Kx



section of the facade I elevation scale 1:50

ISOVER SAINT-GOBAIN

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SUSTAINABLE COMMUNITY WITHIN THE REGENERATION PROGRAM OF THE TRENT BASIN AREA

isover SAINT-GOBAIN

GERMANY

University of Applied Science, Erfurt

II PRIZE Germany National Stage 2012

ANJA
HESSE

ELINA
SCHWARZ

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Specific Space Heat Demand: 7 kWh/m²a
Primari Energy Characteristic Value: 38 kWh/m²a

Roof construction U = 0,110 W/mK
gravel, 100 mm
bitumen, waterproofing membrane
insulation, Styrodur NEO 300CS by Isover, 60mm, 0.033 W/mK
OSB, 12,5 mm
wooden beam / insulation, Ultimate clamping felt by Isover, 240 mm, 0.035W/mK
OSB, 12,5 mm
interior plaster, 10 mm

Exterior wall (wooden construction) U = 0.100 W/mK
wooden paneling, 40 mm
battens / air layer, 30 mm
counter battens / air layer, 30 mm
sealing membrane
insulation, Ultimate clamping felt-035 twin by Isover, 240mm, 0.035 W/mK
OSB 12,5 mm
installation layer / insulation, Ultimate clamping felt by Isover, 100mm, 0.035 W/mK
plasterboard panel, 12,5 mm
interior plaster, 10 mm

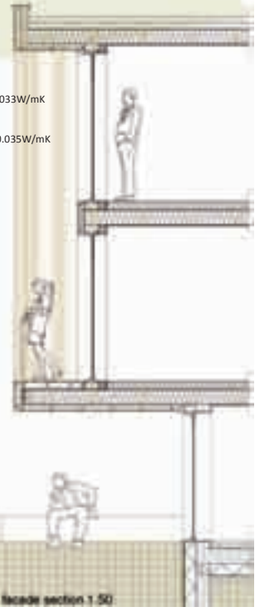
Suspended ceiling (wooden construction)
wooden floor covering, 20 mm
screed with floor heating, 60 mm
insulation, Styrodur NEO 300CS by Isover, 60mm, 0.033 W/mK
OSB 12,5 mm
wooden beam / insulation, Ultimate clamping felt by Isover, 240mm, 0.035 W/mK
OSB 12,5 mm
interior plaster, 10 mm

Projected ceiling = 0.107 W/mK
wooden floor covering, 20 mm
screed with floor heating, 60 mm
insulation, Styrodur NEO 300CS by Isover, 60mm, 0.033 W/mK
OSB 12,5 mm
wooden beam / insulation, Ultimate clamping felt by Isover, 240mm, 0.035 W/mK
OSB 12,5 mm
battens / air layer, 30 mm
counter battens / air layer, 30 mm
wood paneling, 40 mm

Window U = 0.7 W/m²K
Passivehouse-windows, tipple-glazed
g-value = 0.5 W/mK Ug-value = 0.6 W/mK

External wall (concrete construction) U = 0.131 W/mK
facing concrete, fixed with "VHF facade anchor" by mCon,
free of thermal bridges
waterproffing membrane
insulation Styrodur NEO 300CS by Isover, 4x60mm, 0.033W/mK
sealing membrane
reiforced concrete, 240mm
interior plaster, 10mm

Basement ceiling U = 0.126 W/mK
honed screed with floor heating, 60 mm
insulation Styrodur NEO 300CS by Isover, 60mm, 0.033W/mK
waterproofing membrane
reinforced concrete ceiling, 200mm, 2.10 W/mK
insulation, Styrodur 5000 CS by Isover, 2x100mm, 0.035W/mK
sealing membrane
subbase, 100 mm
soil



facade section 1:50

facade section 1:50

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GERMANY

University of Applied Science, Erfurt

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FLORIAN KÜHN

DANIEL YO REGNER

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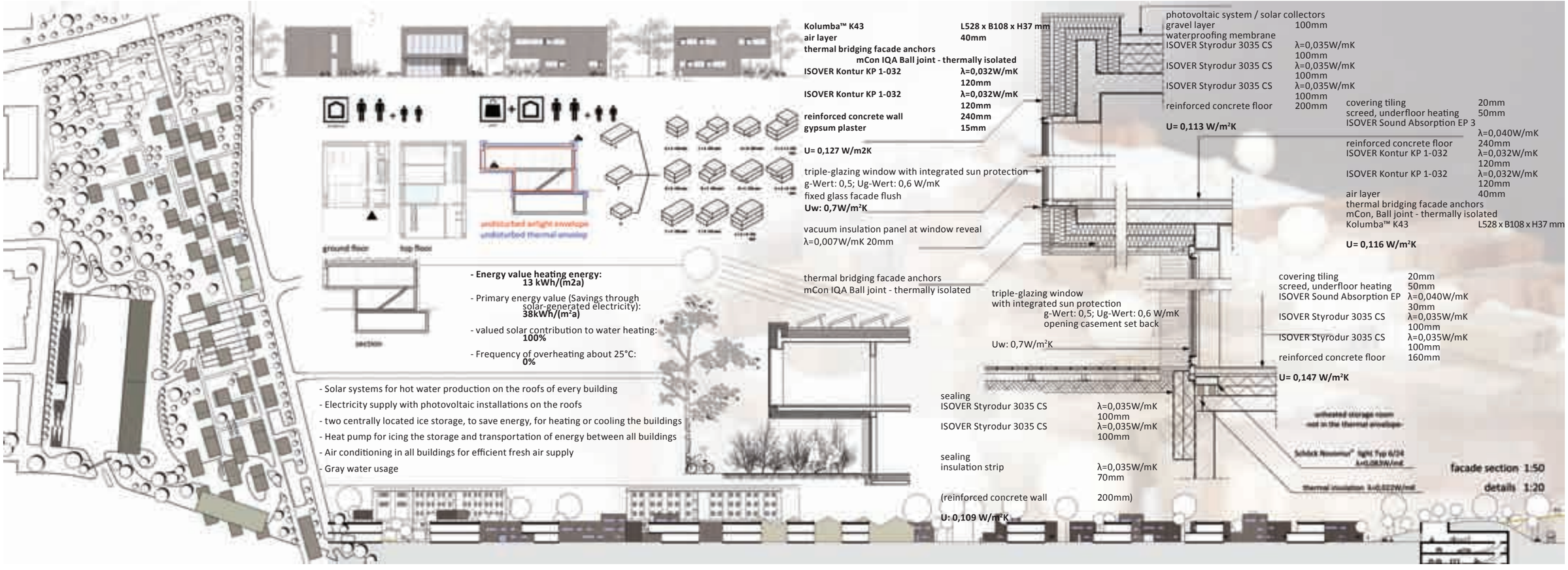
Kolumba™ K43 L528 x B108 x H37 mm
air layer 40mm
thermal bridging facade anchors
mCon IQA Ball joint - thermally isolated
ISOVER Kontur KP 1-032 λ=0,032W/mK
120mm
ISOVER Kontur KP 1-032 λ=0,032W/mK
120mm
reinforced concrete wall 240mm
gypsum plaster 15mm
U= 0,127 W/m2K
triple-glazing window with integrated sun protection
g-Wert: 0,5; Ug-Wert: 0,6 W/mK
fixed glass facade flush
Uw: 0,7W/m²K
vacuum insulation panel at window reveal
λ=0,007W/mK 20mm
thermal bridging facade anchors
mCon IQA Ball joint - thermally isolated
photovoltaic system / solar collectors
gravel layer 100mm
waterproofing membrane
ISOVER Styrodur 3035 CS λ=0,035W/mK
100mm
ISOVER Styrodur 3035 CS λ=0,035W/mK
100mm
ISOVER Styrodur 3035 CS λ=0,035W/mK
100mm
reinforced concrete floor 200mm
U= 0,113 W/m²K
covering tiling 20mm
screed, underfloor heating 50mm
ISOVER Sound Absorption EP 3
λ=0,040W/mK
reinforced concrete floor 240mm
ISOVER Kontur KP 1-032 λ=0,032W/mK
120mm
ISOVER Kontur KP 1-032 λ=0,032W/mK
120mm
air layer 40mm
thermal bridging facade anchors
mCon, Ball joint - thermally isolated
Kolumba™ K43 L528 x B108 x H37 mm
U= 0,116 W/m²K
triple-glazing window
with integrated sun protection
g-Wert: 0,5; Ug-Wert: 0,6 W/mK
opening casement set back
Uw: 0,7W/m²K
covering tiling 20mm
screed, underfloor heating 50mm
ISOVER Sound Absorption EP λ=0,040W/mK
30mm
ISOVER Styrodur 3035 CS λ=0,035W/mK
100mm
ISOVER Styrodur 3035 CS λ=0,035W/mK
100mm
reinforced concrete floor 160mm
U= 0,147 W/m²K
sealing
ISOVER Styrodur 3035 CS λ=0,035W/mK
100mm
ISOVER Styrodur 3035 CS λ=0,035W/mK
100mm
sealing
insulation strip λ=0,035W/mK
70mm
(reinforced concrete wall 200mm)
U: 0,109 W/m²K
unheated storage room
not in the thermal envelope
facade section 1:50
details 1:20
ground floor
top floor
section
- Energy value heating energy:
13 kWh/(m2a)
- Primary energy value (Savings through solar-generated electricity):
38kWh/(m²a)
- valued solar contribution to water heating:
100%
- Frequency of overheating about 25°C:
0%
- Solar systems for hot water production on the roofs of every building
- Electricity supply with photovoltaic installations on the roofs
- two centrally located ice storage, to save energy, for heating or cooling the buildings
- Heat pump for icing the storage and transportation of energy between all buildings
- Air conditioning in all buildings for efficient fresh air supply
- Gray water usage

8th ISOVER MULTI-COMFORT HOUSE STUDENTS CONTEST 2012

SUSTAINABLE COMMUNITY WITHIN THE REGENERATION PROGRAM OF THE TRENT BASIN AREA

KAZAKHSTAN

Kazakh Leading Academy of Architecture and Construction, Almaty

PRIZE Kazakhstan National Stage 2012

JULIYA KONOVALOVA

VIKTORIYA LAZAREVA

SVETLANA BOLSHAKOVA

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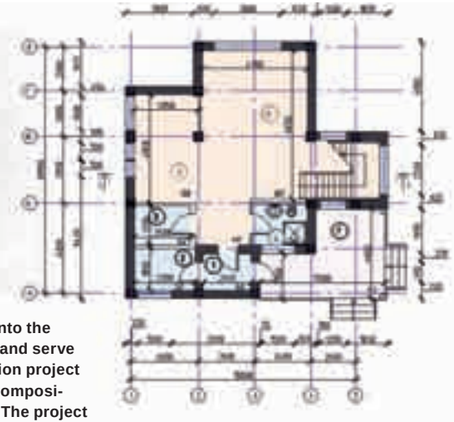
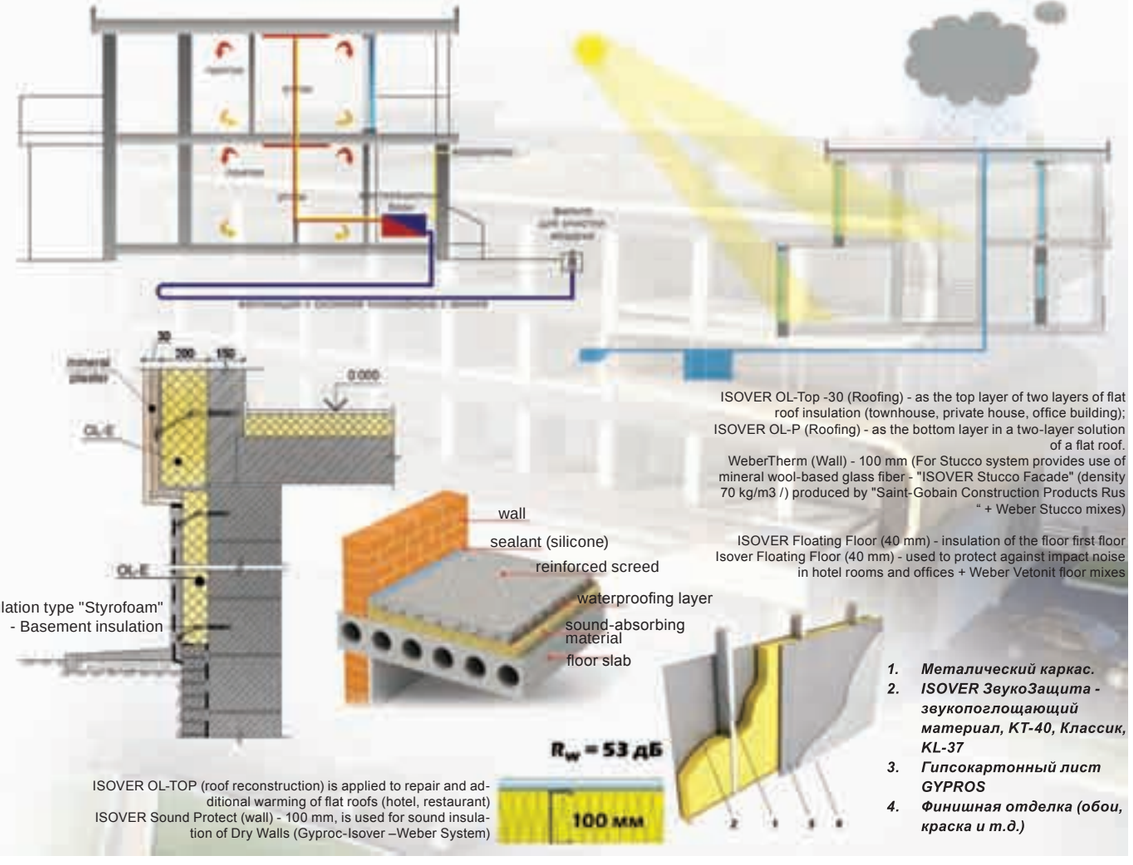
www.isover-students.com



The planned reconstruction should give life into the existing obsolete and abandoned buildings and serve to create a new, attractive habitat. Reconstruction project proposes asymmetrical, free-situated spatial compositions consisting of simple geometric objects. The project is economical, functional, energy-effective and rational.

(The use of receiving a "double capsule" on the south facades of buildings allows to avoid overheating of the inner area of housing accommodation, that necessary to maintain a comfortable temperature in the building).

The project is a modern design house with a flat roof and a large terrace on the second floor. The internal layout of the building was performed in a functional and spacious solutions that are convenient and comfortable for accommodation.



ISOVER OL-Top -30 (Roofing) - as the top layer of two layers of flat roof insulation (townhouse, private house, office building);
ISOVER OL-P (Roofing) - as the bottom layer in a two-layer solution of a flat roof.
WeberTherm (Wall) - 100 mm (For Stucco system provides use of mineral wool-based glass fiber - "ISOVER Stucco Facade" (density 70 kg/m3 /) produced by "Saint-Gobain Construction Products Rus " + Weber Stucco mixes)

ISOVER Floating Floor (40 mm) - insulation of the floor first floor
Isover Floating Floor (40 mm) - used to protect against impact noise in hotel rooms and offices + Weber Vetonit floor mixes

ISOVER OL-TOP (roof reconstruction) is applied to repair and additional warming of flat roofs (hotel, restaurant)
ISOVER Sound Protect (wall) - 100 mm, is used for sound insulation of Dry Walls (Gyproc-Isover –Weber System)

1. ***Металический каркас.***
2. ***ISOVER ЗвукоЗащита - звукопоглощающий материал, КТ-40, Классик, KL-37***
3. ***Гипсокартонный лист GYPROS***
4. ***Финишная отделка (обои, краска и т.д.)***

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SUSTAINABLE COMMUNITY WITHIN THE REGENERATION PROGRAM OF THE TRENT BASIN AREA

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Kazakh National Technical University, Almaty

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YELENA PUZAKOVA

OLGA PAVLENKO

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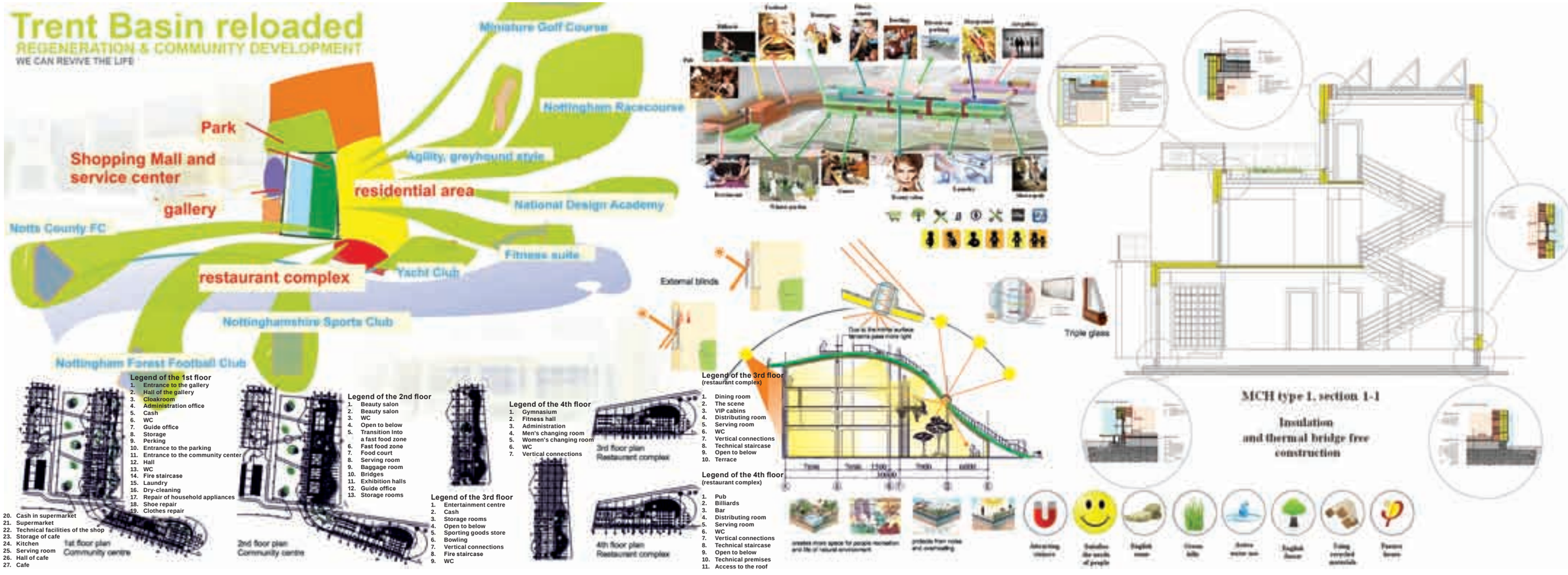

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SUSTAINABLE COMMUNITY WITHIN THE REGENERATION PROGRAM OF THE TRENT BASIN AREA

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XENIA RAKOVA

MAXIM MALETIN

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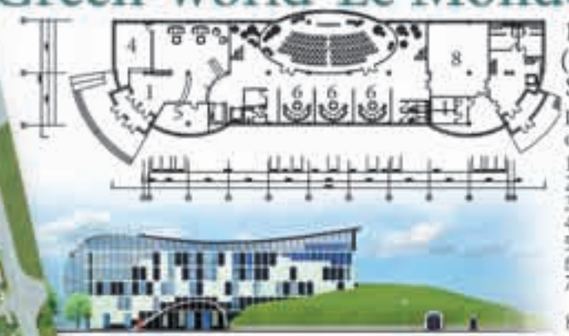
Green-world-Le Monde-Vert



1st floor plan
(Office building)
Scale 1:400

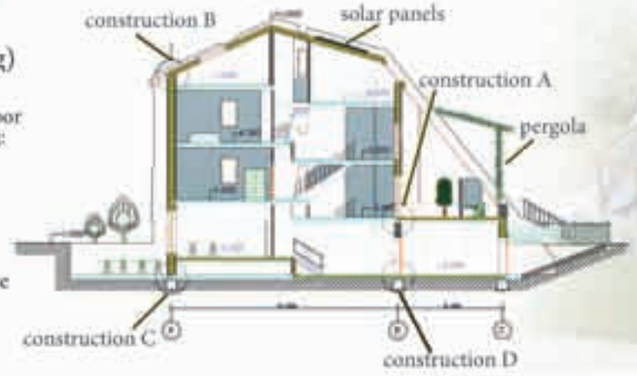
Legend of the 1st floor of an office building:

1. Entrance
2. WC
3. Smoking area
4. Wardrobe
5. Security
6. Meeting rooms
7. A large conference - hall
8. Kitchen

Legend to the general plan:

1. Multi-Comfort House type A
2. Multi-Comfort House type B
3. Multi-Comfort House type C
4. Kindergarten (reconstruction)
5. Office Building
6. Social and entertainment center
7. Cultural tourism and entertainment complex
8. Regular Park
9. Promenade with reservoirs
10. Bicycle path
11. Bus stop
12. Loading zone
13. 3 level parking garage
14. Charging area
15. Embankment with a fountain
16. Rotunda - specific platform
17. Summer Cafe
18. Bridge
19. Embankment
20. Playground
21. Footbridge
22. Guest parking
23. Sundial
24. Water taxi repair zone

Section 1-1 (Type A) Scale 1:200



COMPOSITION S IN CM

1,0	LIME CEMENT RENDERING
10,0	BRICK WALL
19.0	ISOVER FACADE INSULATION BOARD (λ= 0,034)
19.0	ISOVER FACADE INSULATION BOARD (λ= 0,034)
10,8	OUTER BRICK WALL

COMPOSITION S IN CM

	ROOF COVERING
3,0	ROOF LATHING 3/5
5,0	COUNTER BATTENS MIN. 5/5 -VENTILATION AREA LAYER OF VAPOUR DIFFUSION - PERMEABLE SPUNBONDEDWEB
20,0	ISOVER LIGHTWEIGHT GLASS WOOL BETWEEN BATTENS
20,0	ISOVER LIGHTWEIGHT GLASS WOOL BETWEEN BATTENS WATER VAPOUR BARRIER - CLIMATIC MEMBRANE, ISOVER VARIO KM DUPLEX
2,4	UNDER ROOF - ROUGH FORMWORK
5,0	ISOVER LIGHTWEIGHT GLASS WOOL BETWEEN RAFTERS
1,5	PLASTERBOARD - FIRE PROTECTION BOARD

COMPOSITION S IN CM

1,5	TILES
	TILES CEMENT
7,0	CEMENT SCREED WITH HEATING ELEMENTS
0,02	VAPOUR BARRIER
6,0	ISOVER IMPACT SOUND INSULATION BOARD 60 SEPERATING LAYER
3,0	COMPOSITE INFILL
12,0	SUB-CONCRETE SEPERATING LAYER
18,0	XPS EXTRUDED POLYSTYRENE FOAM BOARD
18,0	XPS EXTRUDED POLYSTYRENE FOAM BOARD PROTECTIVE CONCRETE ROUND GRAVEL

COMPOSITION S IN CM

30,0	REINFORCED CONCRETE WALL
0,1	BITUMEN PRIMING COAT
0,5	SEPERATING LAYER (WATER BARRIER)
12,0	XPS-EXTRUDED POLYSTYRENE GLUED AND PLUGGED VENTILATION WITH DRAINAGE PIPE

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SUSTAINABLE COMMUNITY WITHIN THE REGENERATION PROGRAM OF THE TRENT BASIN AREA

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Riga Technical University

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MĀRTIŅŠ RUSINS

LIVA NORDMANE

MATISS MAILITIS

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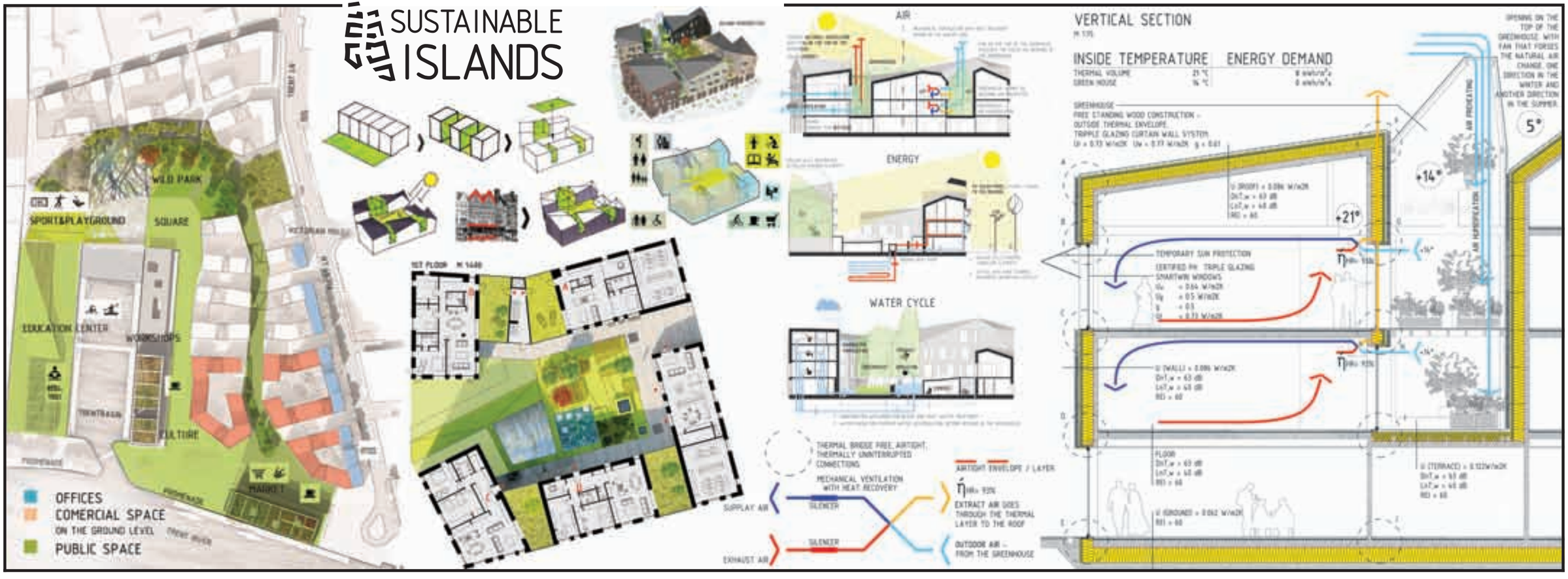

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JEVGENIJS BUŠINS

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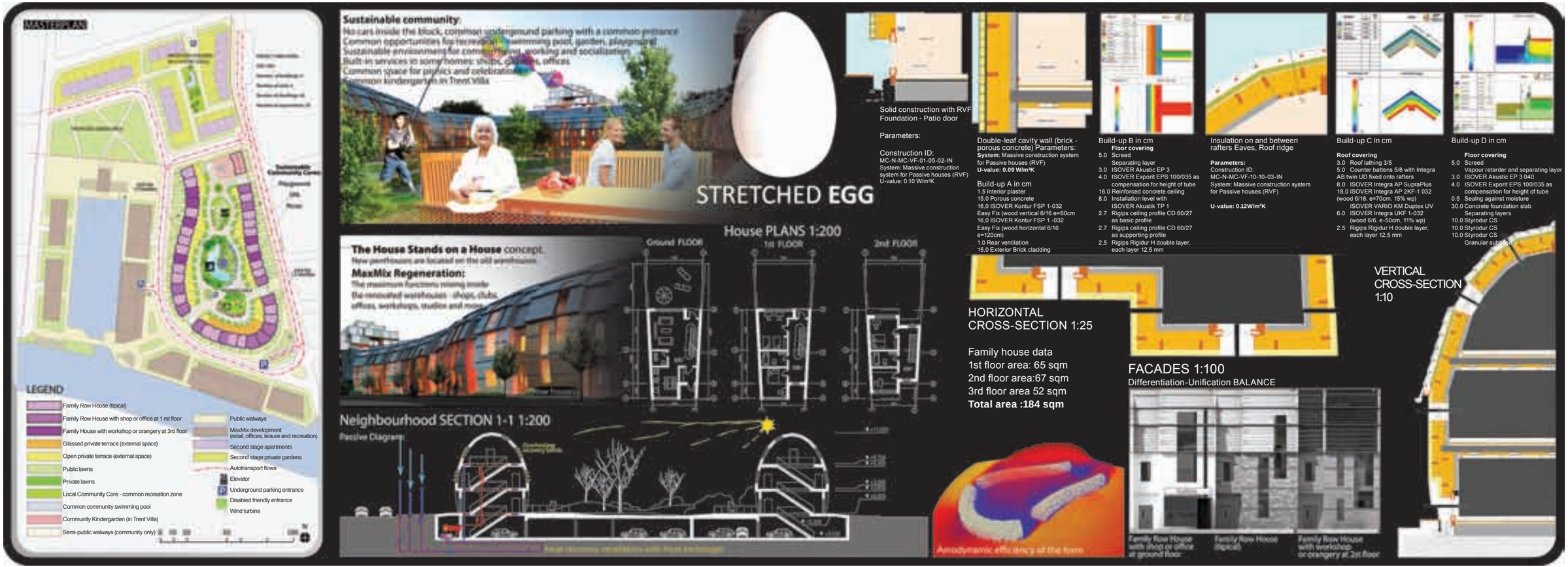

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DIDZIS JAUDZEMS

MARTA CERINA

OSKARS KOTELLO

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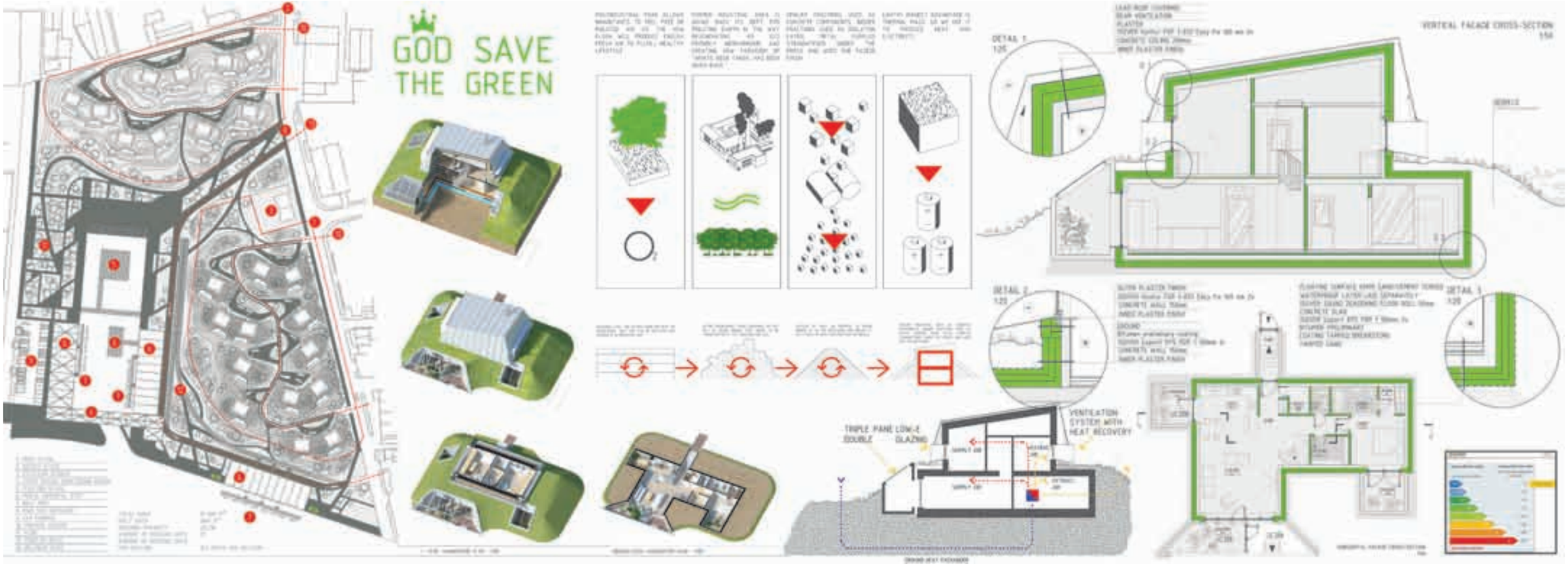

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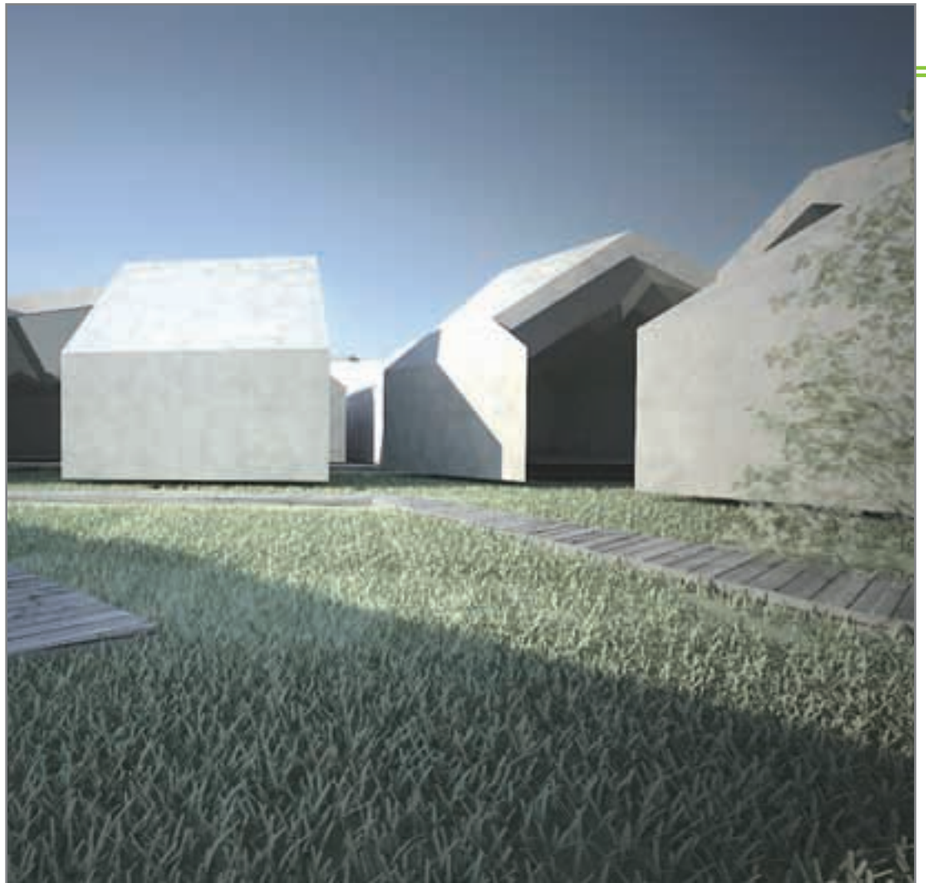

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LITHUANIA

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RŪTA JUREVIČIŪTĖ

EGLĖ JUREVIČIŪTĖ

GABRIELĖ BALEIŠYTĖ

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This place will include living, leisure and work, creating and environment that will bring people and families to live and work in this new district, demonstrating that moving into a well designed and sustainable city block is an affirmative action leading to a healthier, more productive and craetive lifestyle. Our idea is conceived as a living factory of ecology where will be spurring innovations, and demonstrating that people libing in urban environments will enjoy a better quality of life in the future because of their homes, work places buildings, districts and cities that are driven by ecological design principals.

Flexible buildings which are in our projected area can accommodate a wealth off programs from different types of residences to organic food restaurant with green vegetables garden, bath and sauna complex, offices, recycling space, yoga studios, lectures. Here professionals will meet with visitors and inhabitants to participate in the healthy lifestyle and to reach peace of mind.

Warehouses electricity, heating, cooling, natural ventilation and enhance daylight to help to reduce dependence on artificial systems. Common heating and cooling strategies provide flexibility for future interchangeability of uses. The buildings will be fitted with very efficient heat recovery systems and insulated with high performance building fabric to minimise heat loss.

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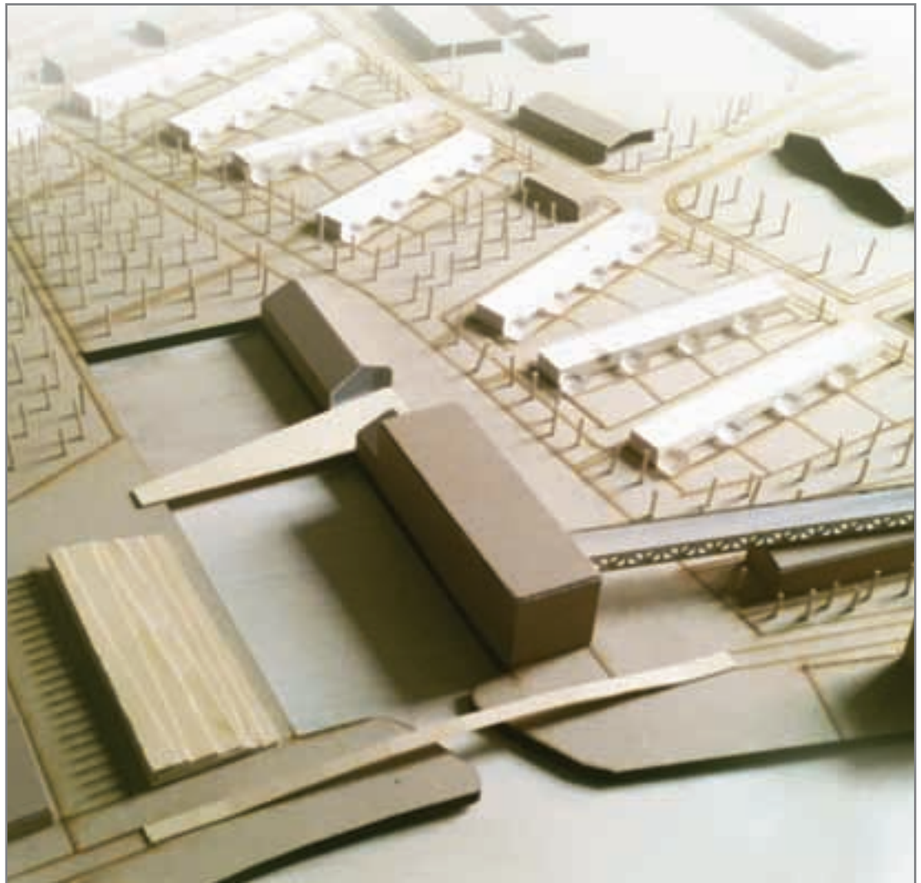

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MĖTA ŠALŪGAITĖ

AUŠRA LEKAUSKAITĖ

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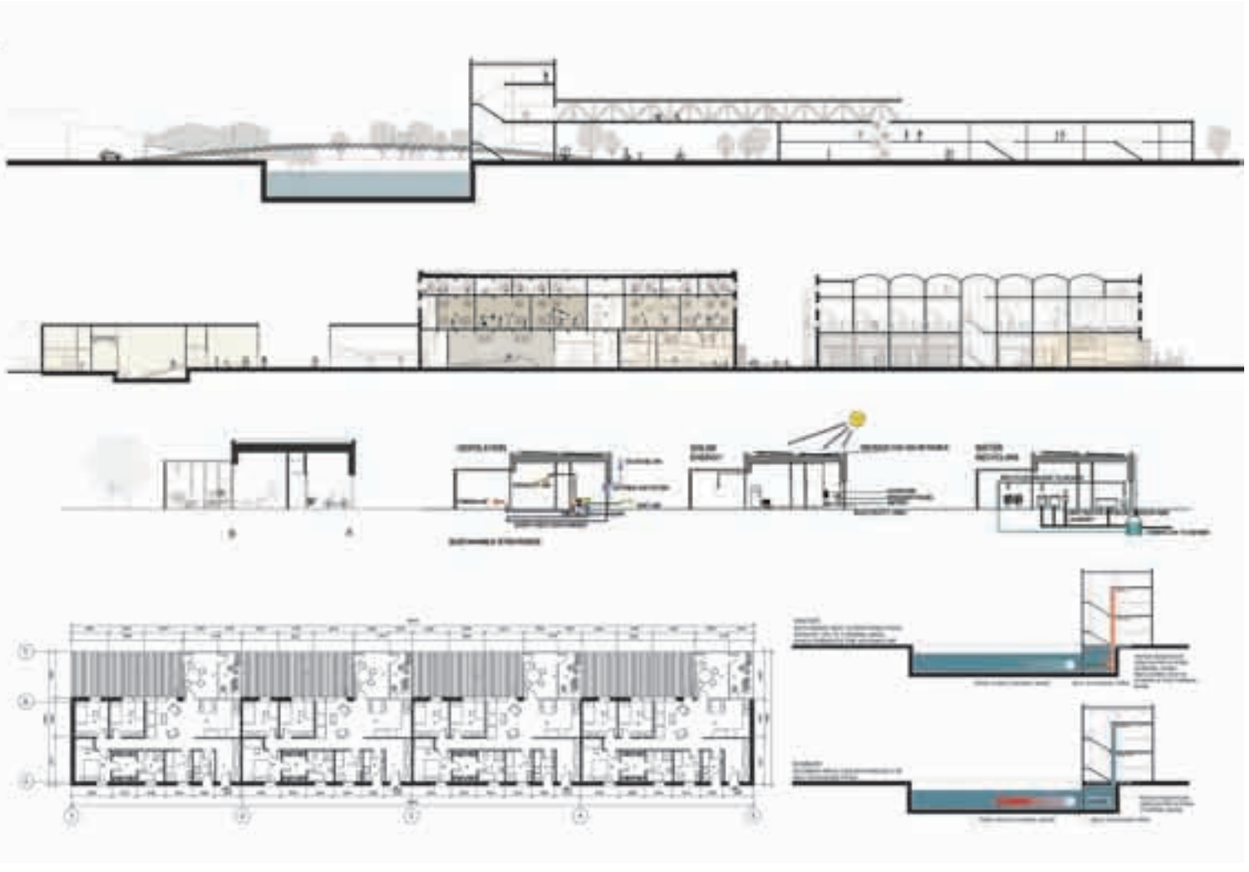
THEATRE AND MOVIE ART COMMUNITY



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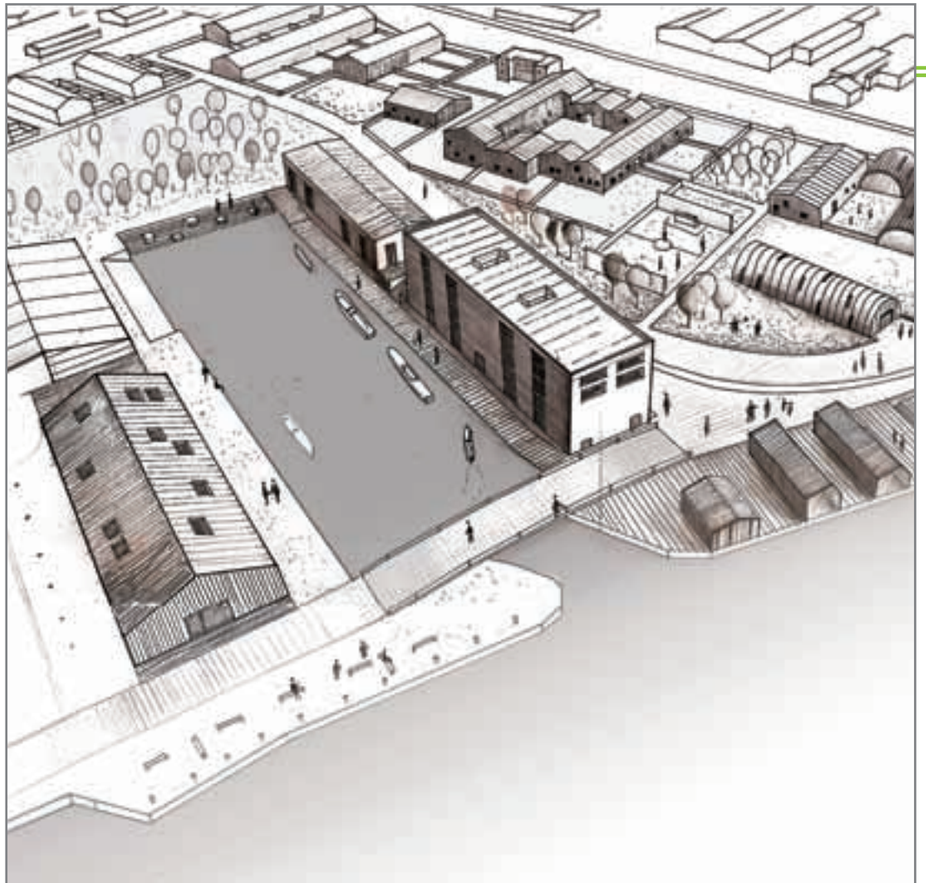

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EDITA BRUŽIKAITĖ

KĘSTUTIS KAIRYS

MINDAUGAS BUČAS

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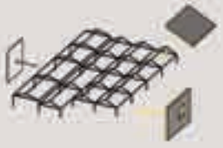
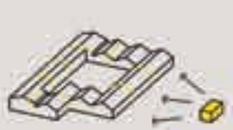
EXISTING WAREHOUSE BUILDING



OLD MATERIALS ARE REPLACED WITH PRE-FABRICATED FACADE AND ROOF PANELS

INNER YARD IS FORMED TO GAIN NATURAL LIGHT

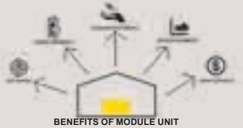


PRE-FABRICATED MODULES ARE PLACED IN EACH APPARTMENT

STRUCTURE OF MODULAR BLOCK IS MADE OF WOODEN FRAMEWORK, ISOVER SOUND INSULATION AND FINISHING MATERIALS

UNIT OF MODULE CONTAINS ENERGY BLOCK, BATHROOM AND KITCHEN

DEPENDING ON WAREHOUSE CONSTRUCTION HEIGHT MAIN UNIT COULD BE EXTENDED.



BENEFITS OF MODULE UNIT

RE TRENT BASIN
REMAIN REUSE RENEW

THE SITE IS LOCATED IN THE TRENT BASIN, NOTTINGHAM,UK, ALONGSIDE THE RIVER TRENT. IT IS MARKED BY BRITISH WATERWAYS WAREHOUSES AND THE BASIN. SEVERAL OTHER INDUSTRIAL BUILDINGS FORM THE BASICS OF AN UNUSUALLY DIFFERENT RESIDENTIAL AND WORKING ENVIRONMENT.

A PROPOSAL FOCUSES ON THE PRESERVATION OF EXISTING WAREHOUSE BUILDINGS IN THE SITE AREA. REUSING THEM TO ACCOMONDATION AND INTEGRATING COMMUNITY FUNCTIONS.

EXISTING WAREHOUSES ARE ADOPTED TO NEW FUNCTIONS. BUILDINGNO.2 BECOMES A HOTEL WITH ATTRACTIVE RESTAURANT NEAR THE RIVER. BUILDING.5 BECOMES A MARKET ON THE GROUND FLOOR AND OFFICES ON THE UPPER FLOORS. MARKET SQUARE.3 GOES ALONG THE OLD TRAIN LINE. DURING WEEKLY MARKET TRAIN LINE IS FILLED WITH OPEN MERCHANT TRAILERS. MARKET IS TO BE SEEN AS A CATALYST FOR NEW ACTIVITIES AS WELL AS FUNCTIONS OF RECREATIONAL PORT, SPA AND RETAIL

1 HOUSING
ALLOTMENT GARDEN
SECOND PHASE
2 HOTEL
3 MARKET SQUARE
4 BISTRO
5 MARKET HALL/OFFICES
6 COMMUNITY CENTRE
7 BOATHOUSE/PARKING
8 SPA
9 KINDERGARDEN
10 GREENHOUSE
11 WORKSHOP
12 BIKE RENTAL

A NUMBER OF EXISTING WAREHOUSE BUILDINGS AND DEPOTS EXIST DIRECTLY AROUND THE SITE AND THIS SCHEME COULD ACT AS A CATALYST TO FUTURE DEVELOPMENT.

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International Stage, Bratislava 2012

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AGNIESZKA WIECZOREK

PIOTR JUZWA

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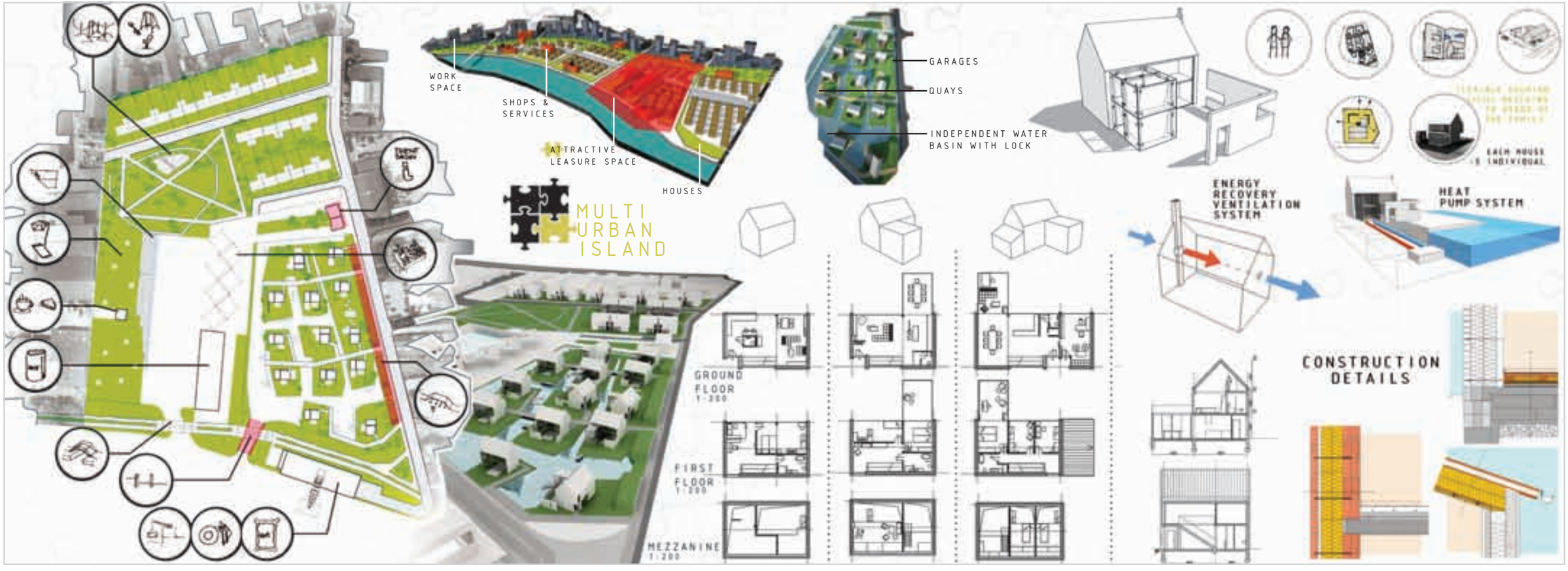

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KAROLINA SEWERA

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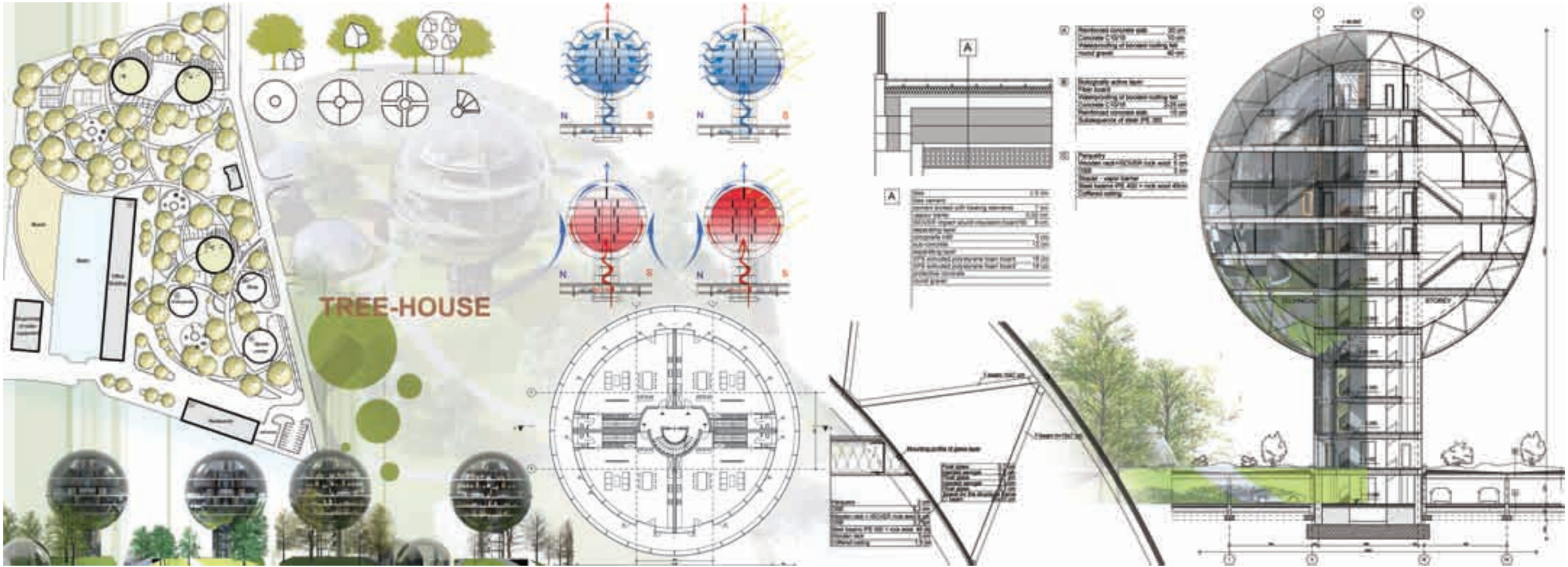

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ZUZANNA GORA

ALICJA HACZYNSKA

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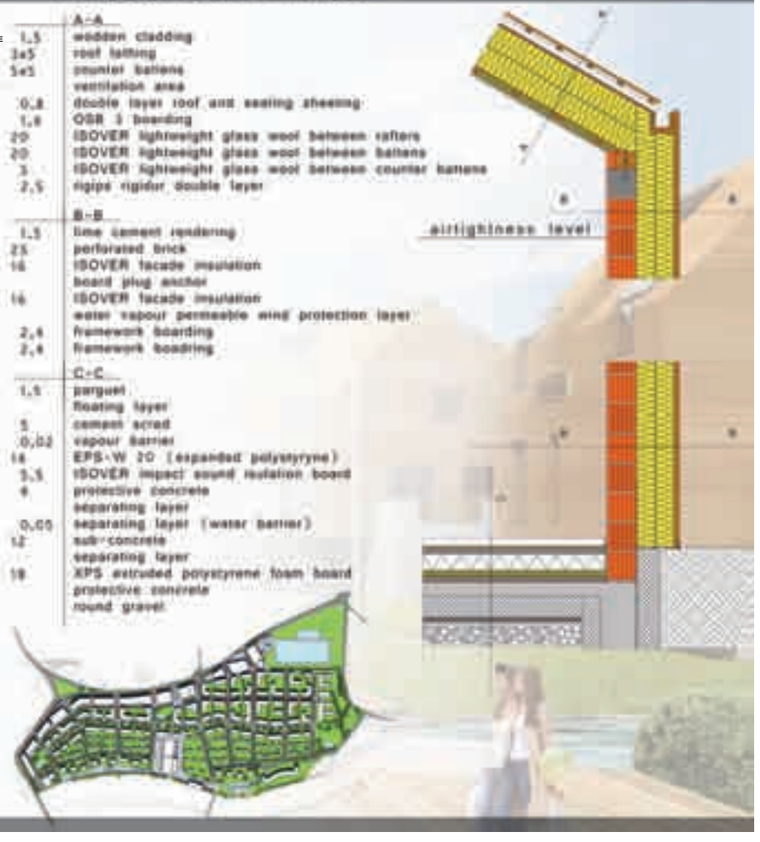
REGENERATION & COMMUNITY DEVELOPMENT

MULTI-COMFORT HOUSE PLANS

URBAN CONCEPTS

INSULATION DETAILS



	A–A
1,5	wooden cladding
3x5	roof lathing
5x5	counter battens
	ventilation area
0,8	double layer roof and sealing sheeting
1,8	OSB 3 boarding
20	ISOVER lightweight glass wool between rafters
20	ISOVER lightweight glass wool between battens
3	ISOVER lightweight glass wool between counter battens
2,5	rigips rigidur double layer
	B–B
1,5	lime cement rendering
25	perforated brick
16	ISOVER facade insulation
	board plug anchor
16	ISOVER facade insulation
	water vapour permeable wind protection layer
2,4	framework boarding
2,4	framework boarding
	C–C
1,5	parquet
	floating layer
5	cement scrad
0,02	vapour barrier
16	EPS-W 20 (expanded polystyrene)
3,5	ISOVER impact sound isolation board
6	protective concrete
	separating layer
0,05	separating layer (water barrier)
12	sub-concrete
	separating layer
18	XPS extruded polystyrene foam board
	protective concrete
	round gravel

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SUSTAINABLE COMMUNITY WITHIN THE REGENERATION PROGRAM OF THE TRENT BASIN AREA

ROMANIA

Gheorghe Asachi Technical University of Iasi

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BIANCA DOBRU

GEORGE CARAPANU

SEBASTIAN LUPU

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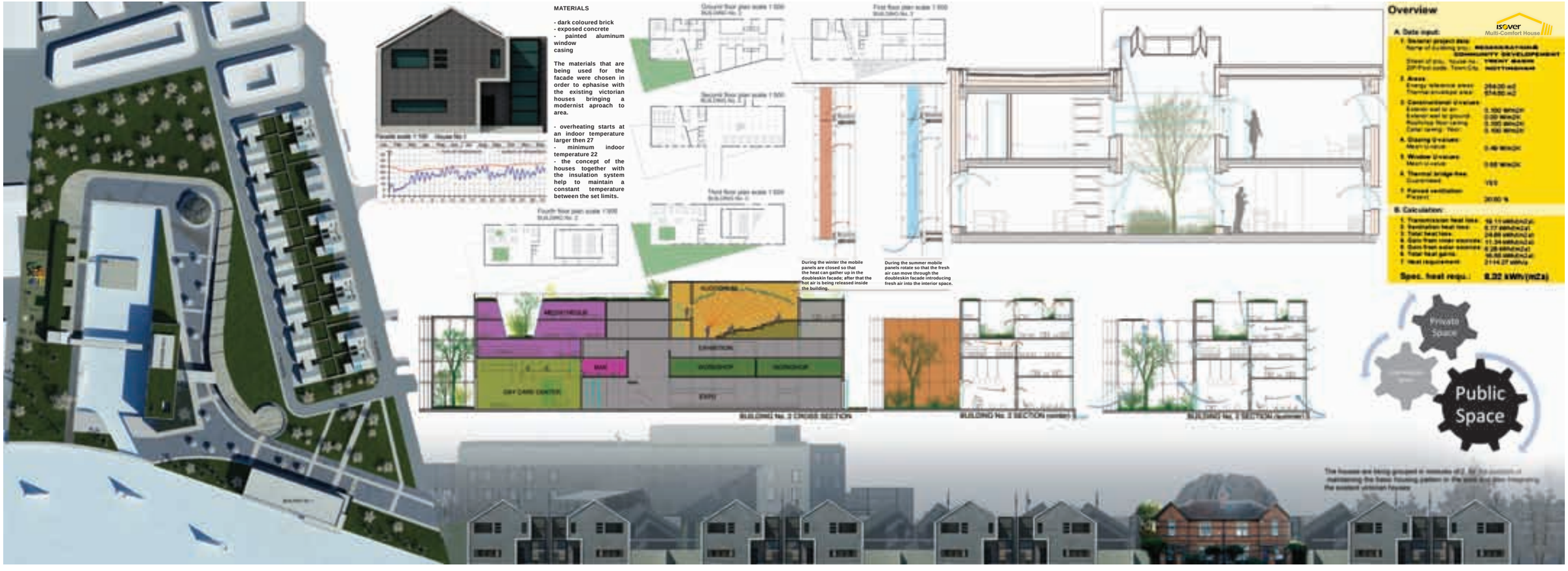

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isover SAINT-GOBAIN

ROMANIA

Gheorghe Asachi Technical University of Iasi

II **PRIZE** Romania National Stage 2012

LARISA GHEORGHIU

ANDREI NEDELCU

SERGIU POPA

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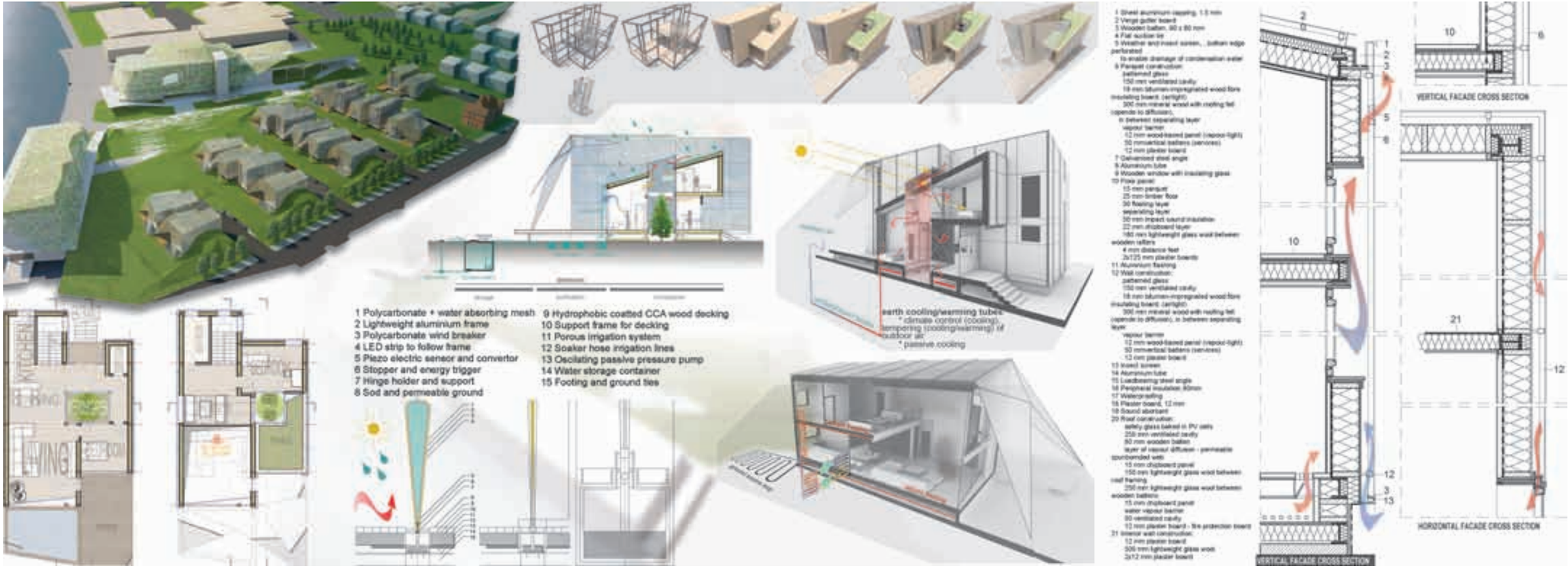

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Ion Mincu University of Architecture and Urban Planning of Bucharest

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RAZVAN-MARIAN AMBARUS

ANCA-MARIA DRAGAN

ANCA-MARIA JIANU

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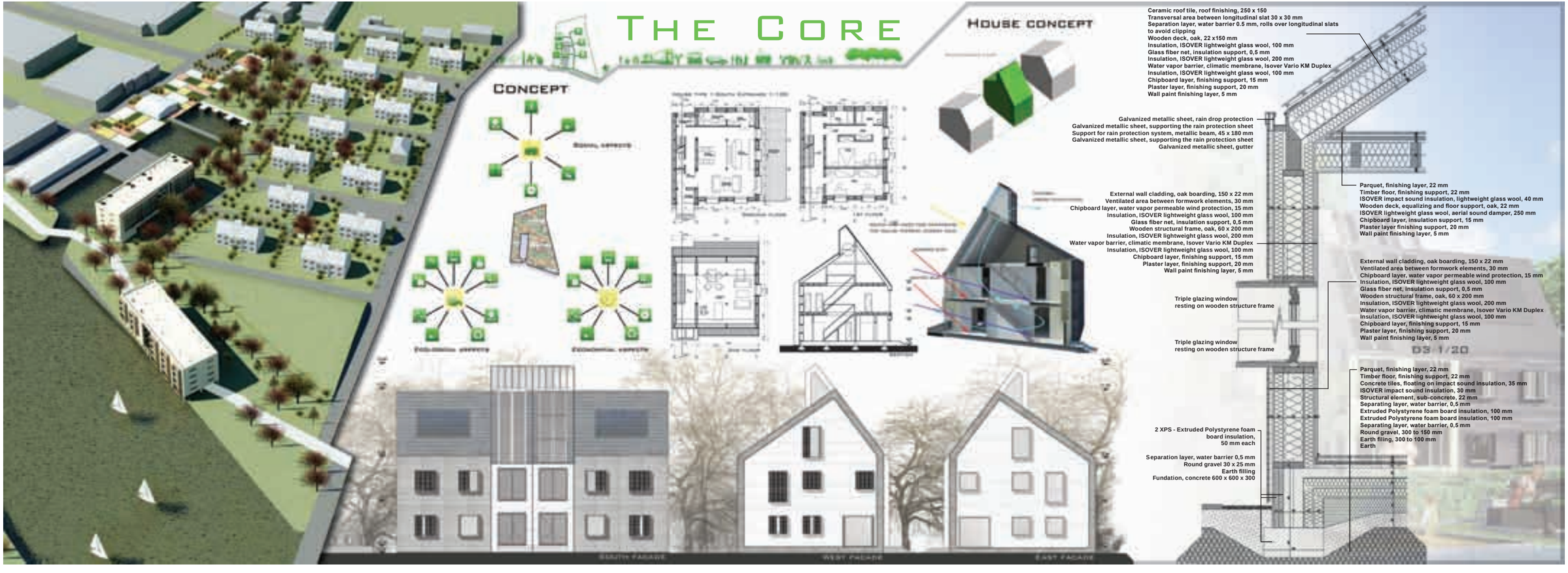
THE CORE



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Moscow State Construction University

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ALEXANDER IVANOV

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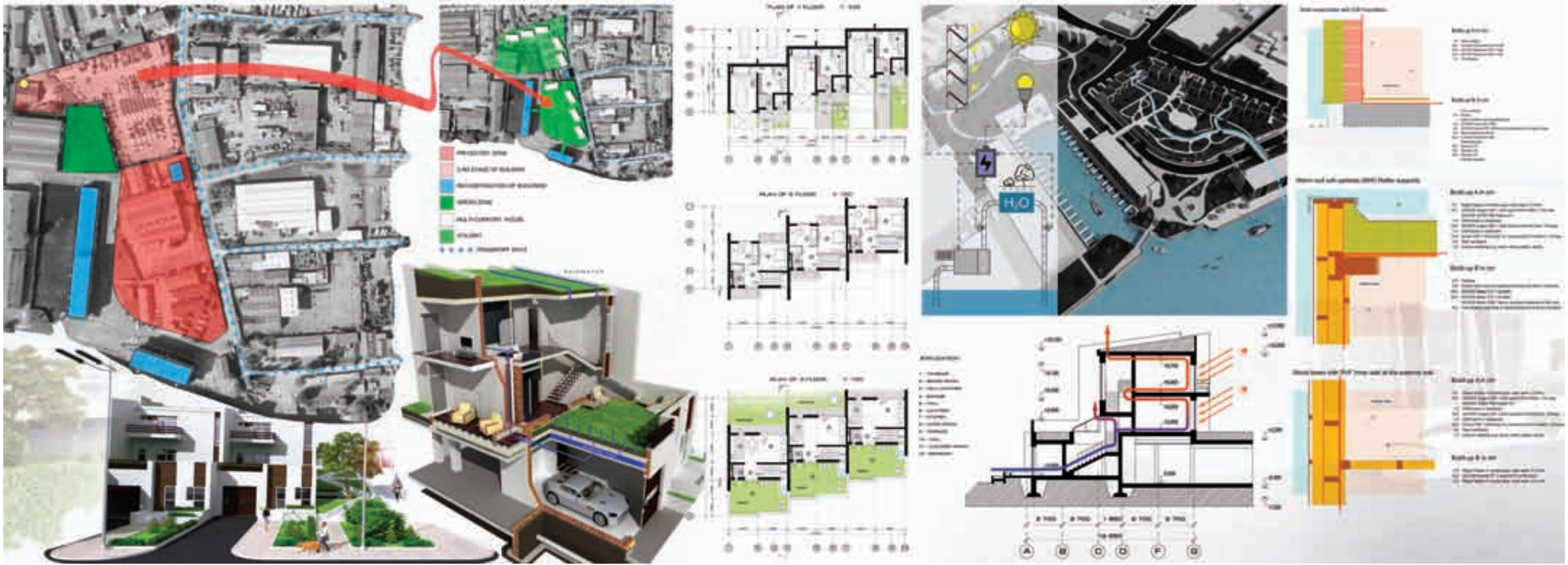

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8th ISOVER MULTI-COMFORT HOUSE STUDENTS CONTEST 2012

SUSTAINABLE COMMUNITY WITHIN THE REGENERATION PROGRAM OF THE TRENT BASIN AREA

RUSSIA

Moscow State Construction University

II PRIZE Russia National Stage 2012

IVAN ANISIMOV

KSENIA VORONOVA

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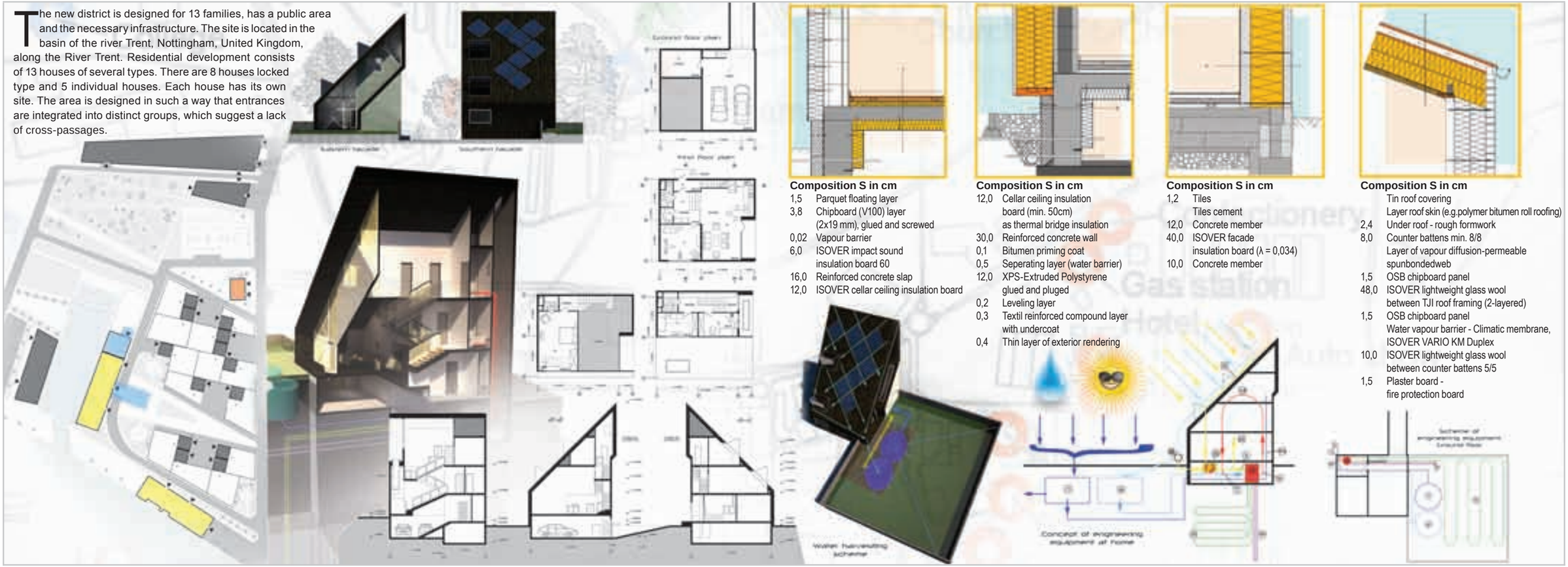
The new district is designed for 13 families, has a public area and the necessary infrastructure. The site is located in the basin of the river Trent, Nottingham, United Kingdom, along the River Trent. Residential development consists of 13 houses of several types. There are 8 houses locked type and 5 individual houses. Each house has its own site. The area is designed in such a way that entrances are integrated into distinct groups, which suggest a lack of cross-passages.



Composition S in cm

1,5	Parquet floating layer
3,8	Chipboard (V100) layer (2x19 mm), glued and screwed
0,02	Vapour barrier
6,0	ISOVER impact sound insulation board 60
16,0	Reinforced concrete slap
12,0	ISOVER cellar ceiling insulation board

Composition S in cm

12,0	Cellar ceiling insulation board (min. 50cm) as thermal bridge insulation
30,0	Reinforced concrete wall
0,1	Bitumen priming coat
0,5	Seperating layer (water barrier)
12,0	XPS-Extruded Polystyrene glued and pluged
0,2	Leveling layer
0,3	Textil reinforced compound layer with undercoat
0,4	Thin layer of exterior rendering

Composition S in cm

1,2	Tiles
	Tiles cement
12,0	Concrete member
40,0	ISOVER facade insulation board (λ = 0,034)
10,0	Concrete member

Composition S in cm

	Tin roof covering
	Layer roof skin (e.g.polymer bitumen roll roofing)
2,4	Under roof - rough formwork
8,0	Counter battens min. 8/8
	Layer of vapour diffusion-permeable spunbondedweb
1,5	OSB chipboard panel
48,0	ISOVER lightweight glass wool between TJI roof framing (2-layered)
1,5	OSB chipboard panel
	Water vapour barrier - Climatic membrane, ISOVER VARIO KM Duplex
10,0	ISOVER lightweight glass wool between counter battens 5/5
1,5	Plaster board - fire protection board

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SUSTAINABLE COMMUNITY WITHIN THE REGENERATION PROGRAM OF THE TRENT BASIN AREA

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Tomsk State University of Architecture and Building

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EKATERINA MAYOROVA

ELENA YAROSLAVTSEVA

TATIANA VYAZOVA

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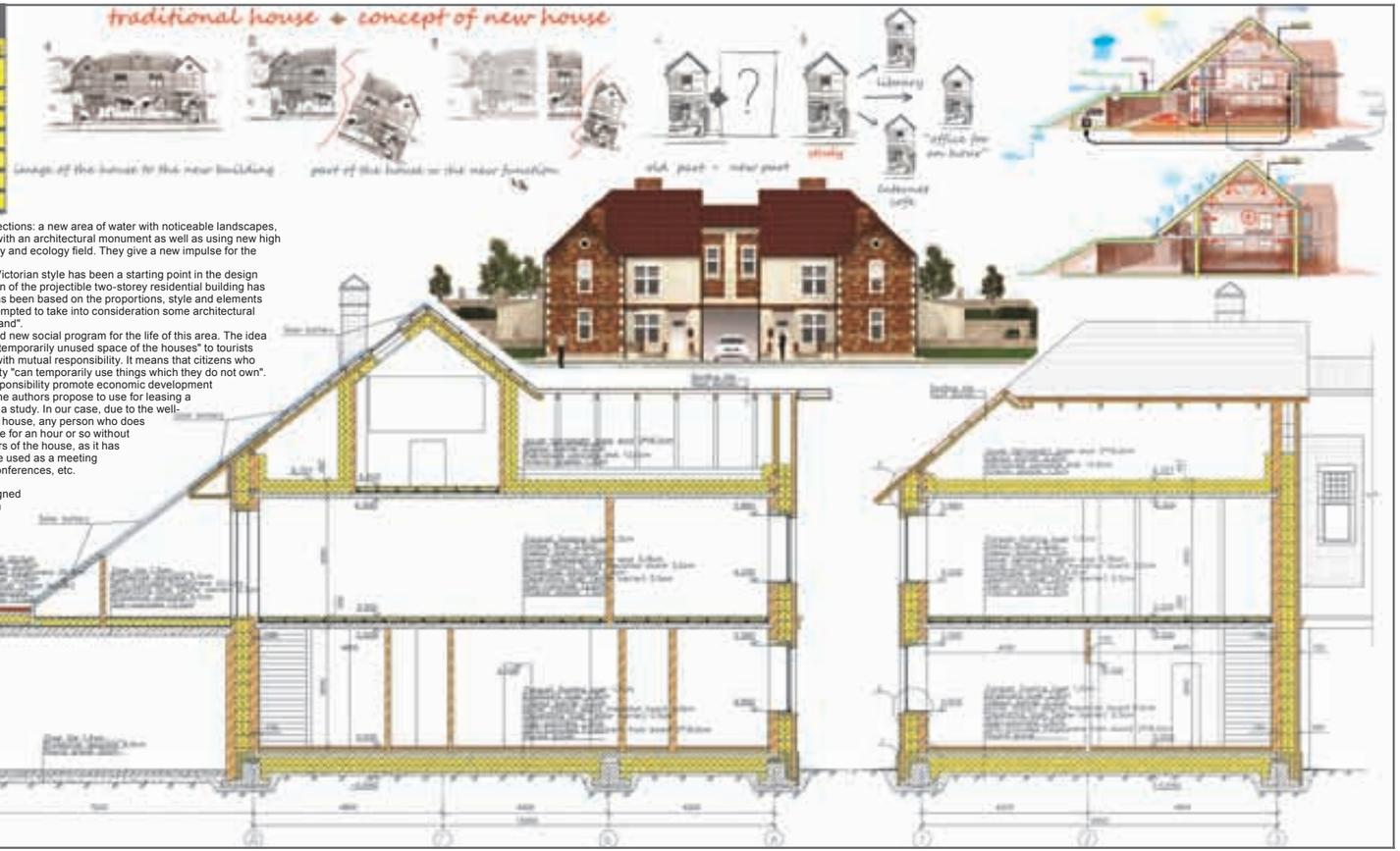

This concept includes three key directions: a new area of water with noticeable landscapes, contemporary area of reclamation with an architectural monument as well as using new high technologies in the energy efficiency and ecology field. They give a new impulse for the existing urban area.
An existing dwelling house built in Victorian style has been a starting point in the design process. Three-dimensional solution of the projectible two-storey residential building has been its prototype, and namely it has been based on the proportions, style and elements of the house. Thus, the authors attempted to take into consideration some architectural traditions of the "good and old England".
The authors have suggested a brand new social program for the life of this area. The idea is people who live here may lease "temporarily unused space of the houses" to tourists or residents of the neighbourhood with mutual responsibility. It means that citizens who intend to rest in this district of the city "can temporarily use things which they do not own". Joint using of space and mutual responsibility promote economic development of this area. Considering this idea the authors propose to use for leasing a temporarily unoccupied space, e.g. a study. In our case, due to the well-engineered planning concept of the house, any person who does not live in this area can rent an office for an hour or so without causing inconvenience to the owners of the house, as it has an extra entrance. The office can be used as a meeting room, a library, a place for online conferences, etc.

Thus, the key principles of the designed new house are as follows: transition from monofunctionality to multifunctional'rty, from the traditional function to an unexpected one, from the temporary unreasonable occupied space to a permanent reasonable occupied one.

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JOVANA STOJKOVIĆ

SANJA LAZIN

MILICA MITROVIĆ

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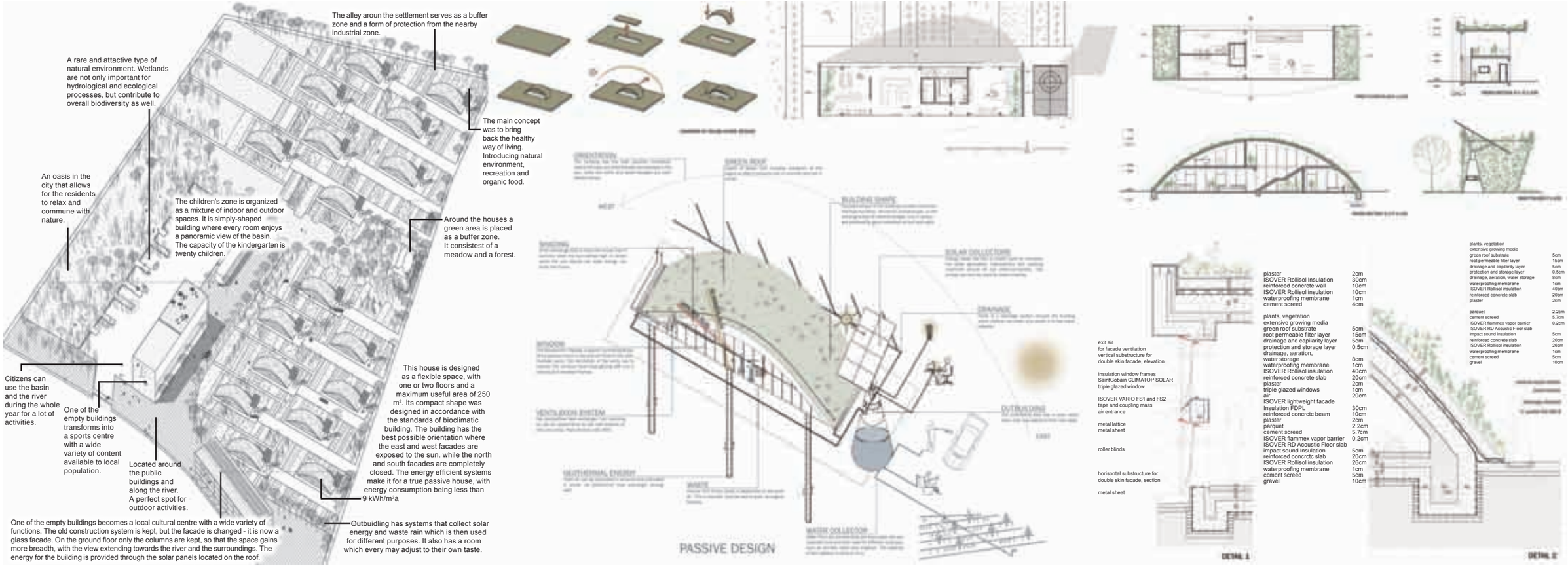

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TAMARA KULJANIN

NEMANJA KOCIĆ

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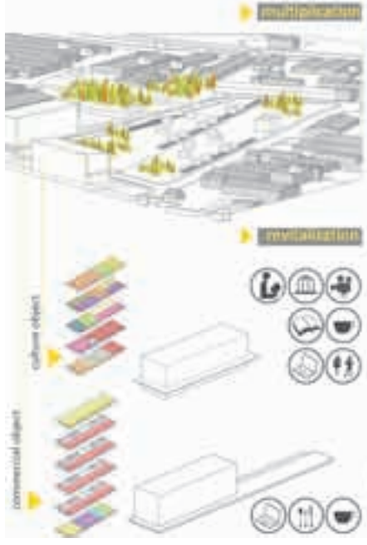
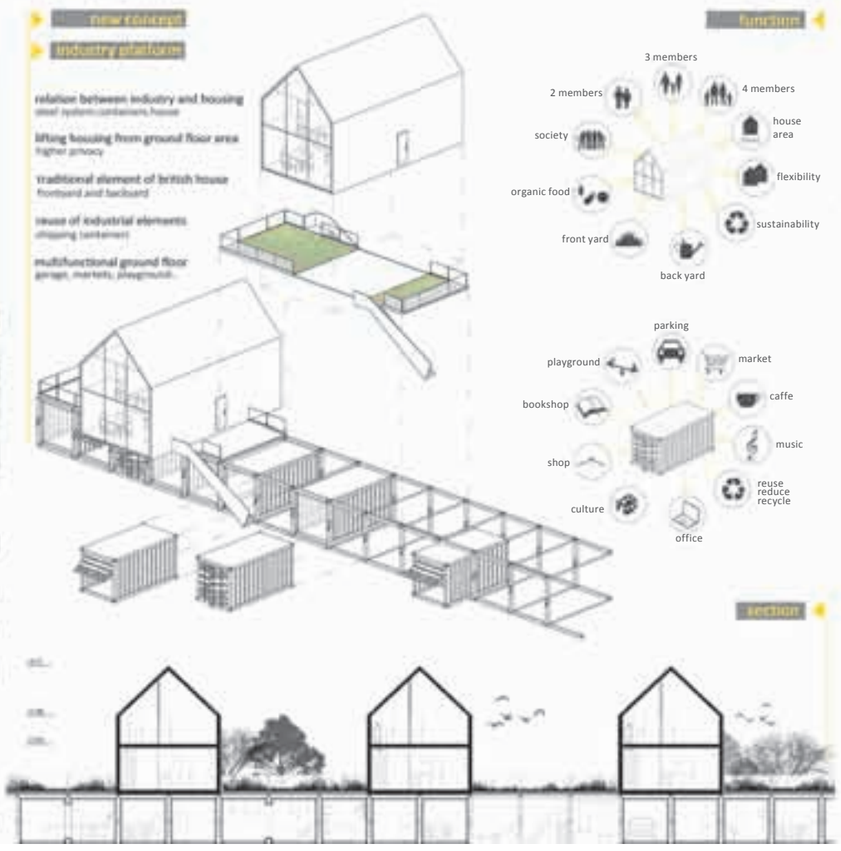
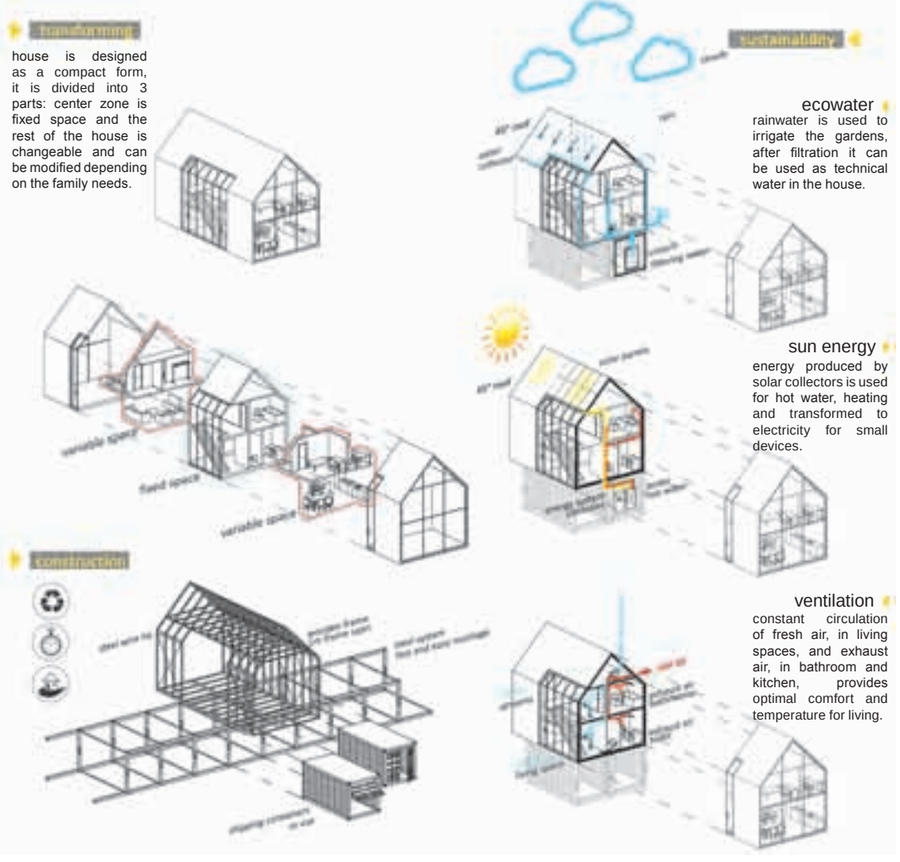
INDUSTRIAL PLATFORM FOR HOUSING

The main idea for the project was to incorporate industry and housing. Revitalization of existing buildings leeds to complete changing of industrial spirit of that area. We decided to keep the industry, and to make it usable as platform for housing.
Industry represents platform for future housing in area. It is made of shipping containers which can be used in different ways providing better quality of life and active ground floor. Housing is now lifted to the upper floor, with more privacy but still with some traditional elements of british house - frontyard and backyard.







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LAZAR BELIĆ

DANILO BERONJA

ALEKSANDAR RISTIĆ

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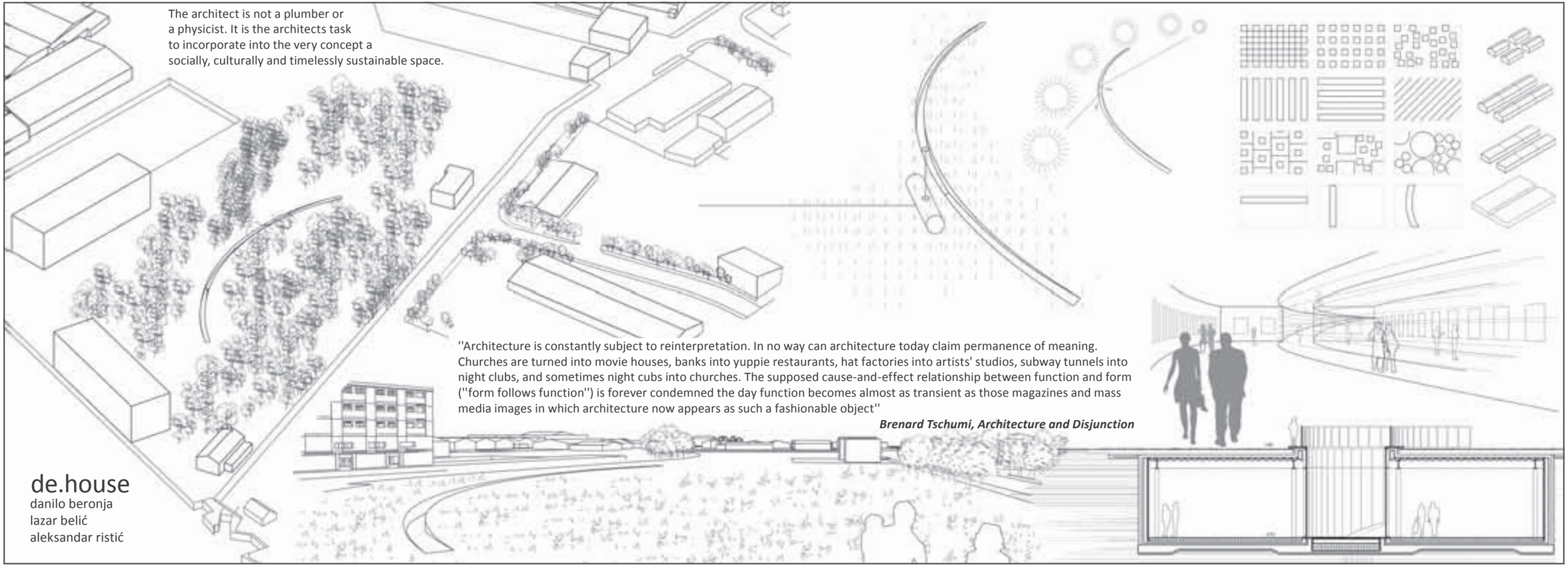
The architect is not a plumber or
a physicist. It is the architects task
to incorporate into the very concept a
socially, culturally and timelessly sustainable space.



''Architecture is constantly subject to reinterpretation. In no way can architecture today claim permanence of meaning. Churches are turned into movie houses, banks into yuppie restaurants, hat factories into artists' studios, subway tunnels into night clubs, and sometimes night cubs into churches. The supposed cause-and-effect relationship between function and form (''form follows function'') is forever condemned the day function becomes almost as transient as those magazines and mass media images in which architecture now appears as such a fashionable object''

Brenard Tschumi, Architecture and Disjunction

de.house

danilo beronja
lazar belić
aleksandar ristić

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ONDREJ KÖVÉR

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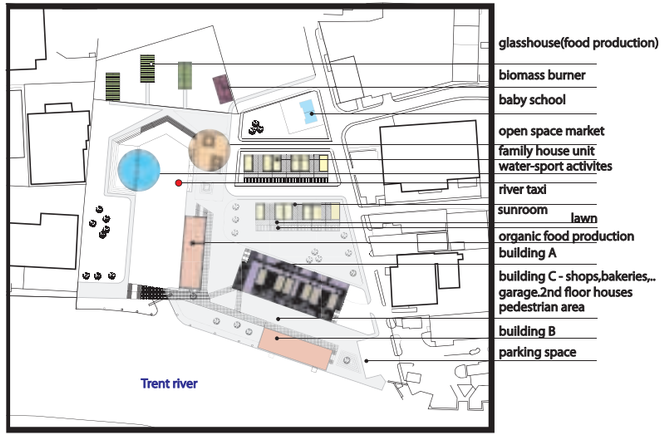
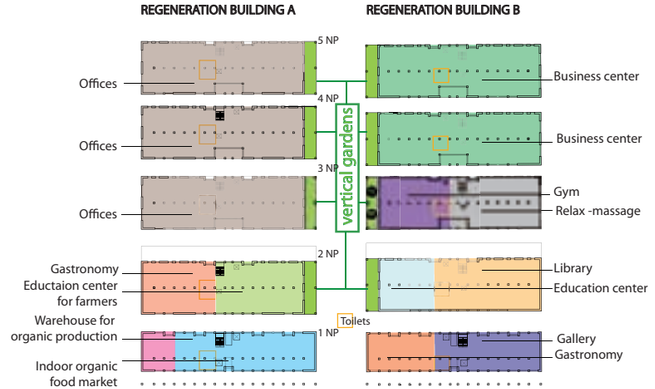
TRENT BASIN MASTER PLAN



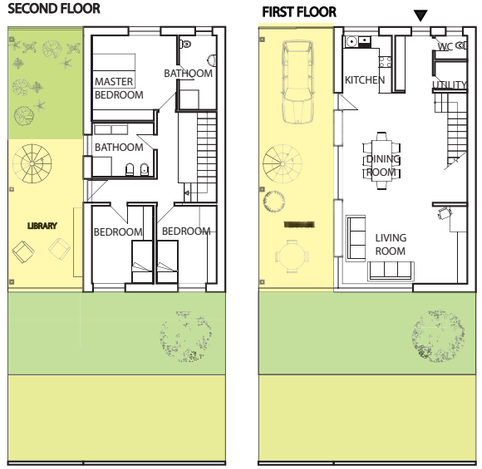
glasshouse(food production)
biomass burner
baby school
open space market
family house unit
water-sport activites
river taxi
sunroom
lawn
organic food production
building A
building C - shops,bakeries,..
garage.2nd floor houses
pedestrian area
building B
parking space

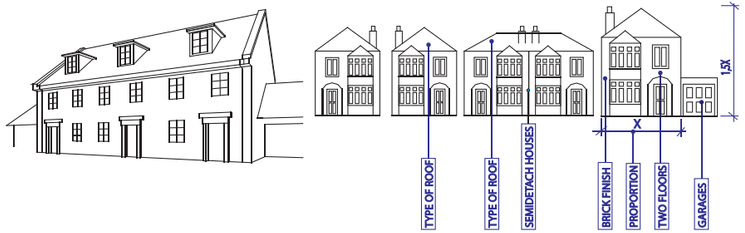


HOUSE FLOOR PLANS

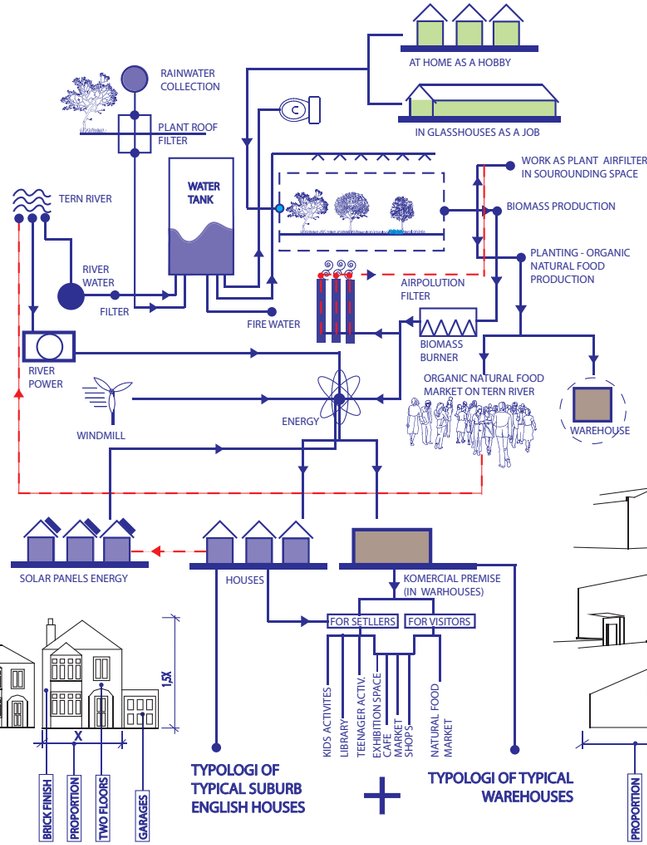
LEGEND

INTERIOR PLANTING
LAWN
ORGANIC FOOD PRODUCTION
SUNROOM





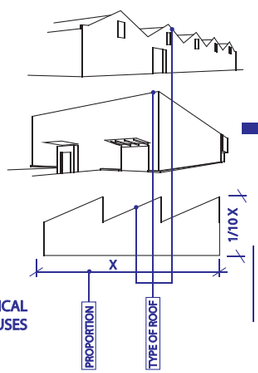
HOW WILL MY TRENT FACTORY WORK????



TYPOLOGI OF TYPICAL SUBURB ENGLISH HOUSES

+

TYPOLOGI OF TYPICAL WAREHOUSES



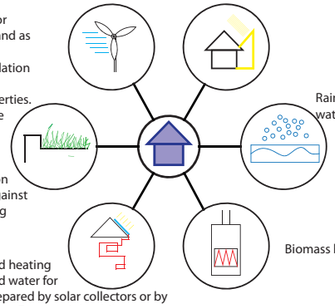
Windmill

The windmill is able to produce according to specifications per year from 1500 to 1800 kWh of electricity.Due to the advanced design is the windmll able to start in 0,2 m/s wind speed .

Sunroom system

The WarmWall house bases its energy efficiency in a system of mass walls in the center, inclined to collect solar thermal energy (this is the passive renewable energy system) and a system of equipped walls at the edges, which bear all mechanical and electrical installation (this is the energetic system).

Green roof for biodiversity and as a insolation
Thermal insulation and thermal storage properties.
Water storage properties
Acoustic protection
Fire protection
Protection against waterproofing damage

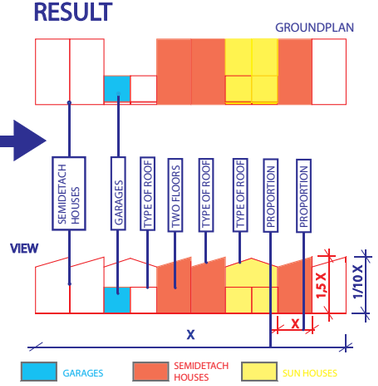


Rainwater and grey water collection

Biomass boiler

Hot water and heating
Hot water and water for heating is prepared by solar collectors or by biomass burner. Ever y unit has biler as an alternative source of hot water.

RESULT



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PETRONELA PAGAČOVÁ

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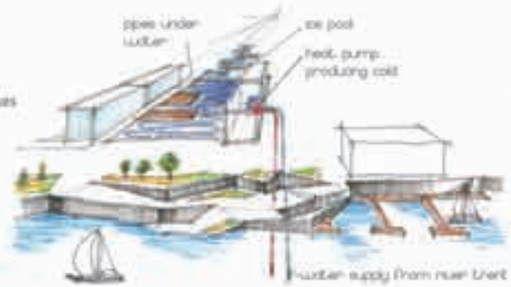


energy concept winter

winter garden serues as heat magaeine with preheated air for uentilation

solar panels warm water for house

distribution of fresh warm air throughout the house

I pipes for fresh air in lower ceiling in corridor

warm supply from com-munity center

energy concept summer

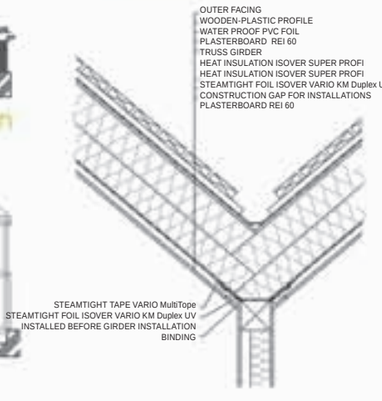
sliding shield element preuents from ouer-heatng of exposed winter garden

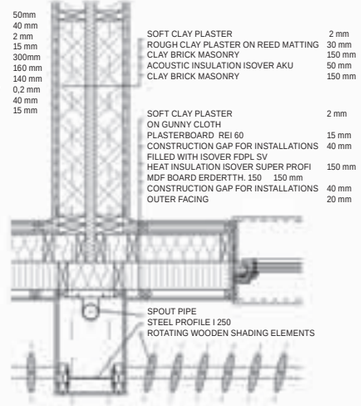
distribution of fresh cold air throughout the house I pipes for fresh air in lower ceiling in corridor

warm and cold watersupply from community center I

underground pipeline

solar panels warm water for basin and for the house





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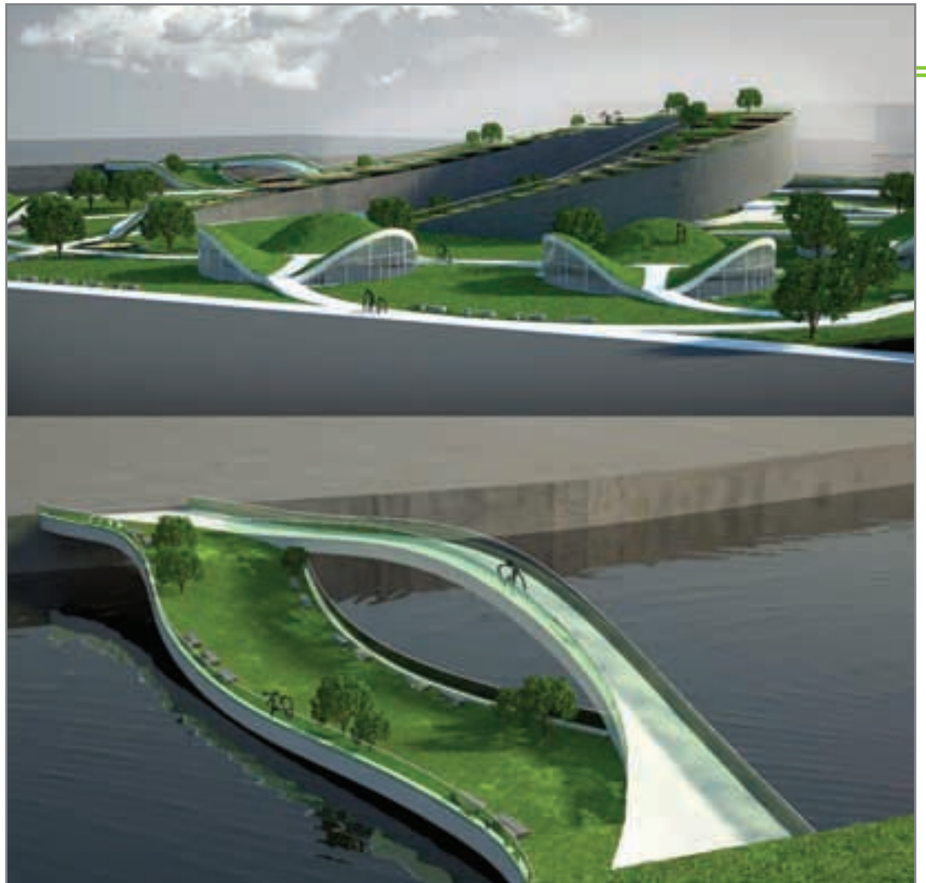

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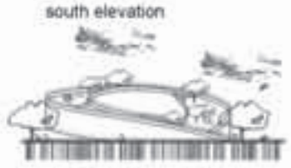
situation

north elevation

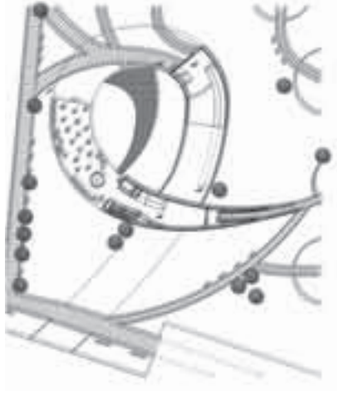
south elevation



east elevation

west elevation

ground floor



ground floor

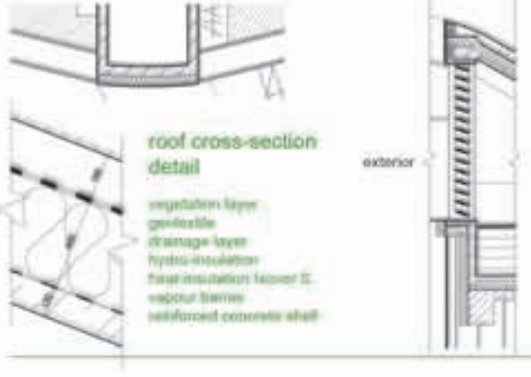
2nd floor

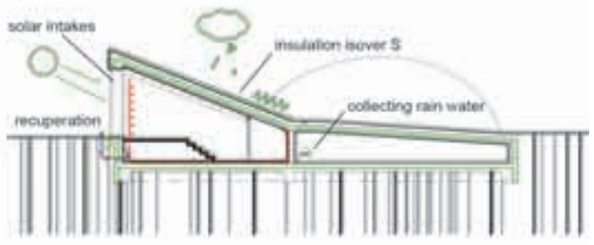
1st underground floor

cross-section

elevation

cross-section2

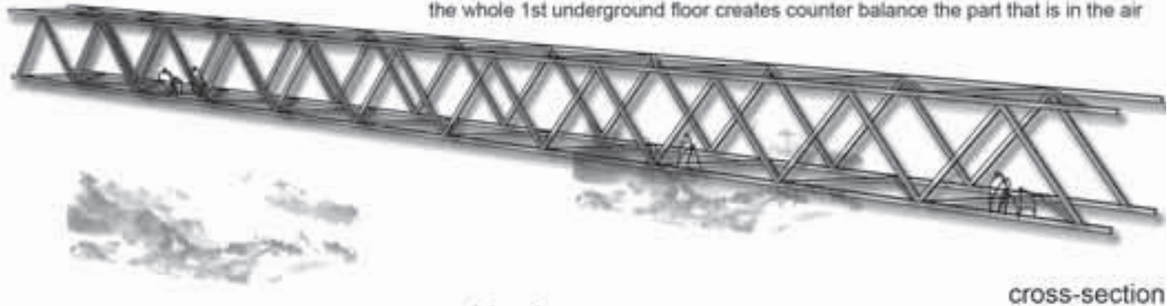




habitation

shopping mall

the whole construction of shopping centre is made of this truss girder to be lighter
and then ist just a coating
the whole 1st underground floor creates counter balance the part that is in the air



cross-section

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KARIN VESELIČ

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DORIS GOLOB

ROBERT KARDINAR

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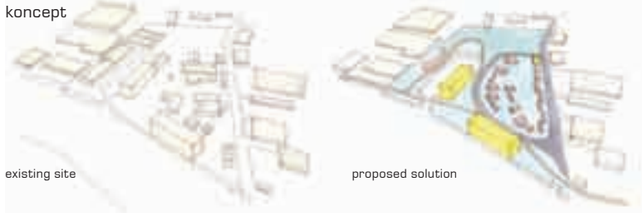
site plan

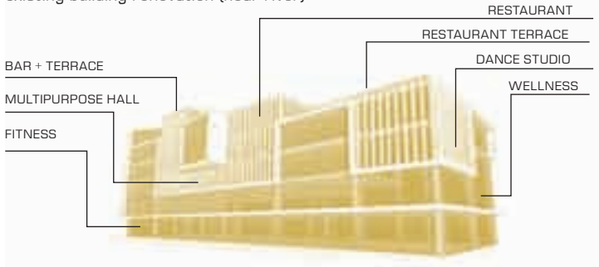
koncept

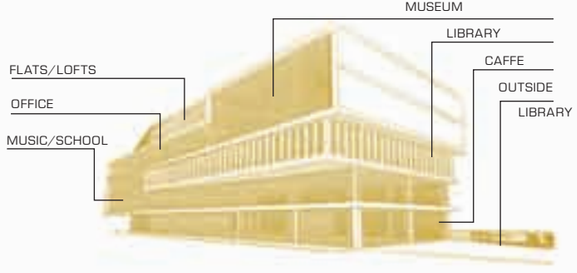


existing site

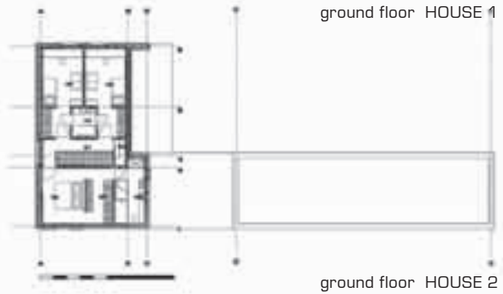
proposed solution

existing building renovation (near river)

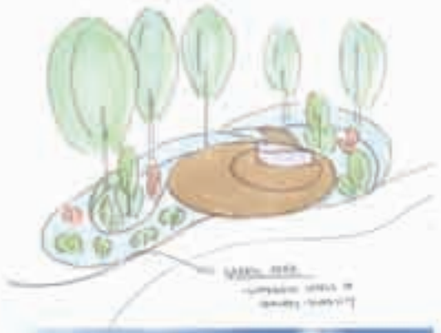




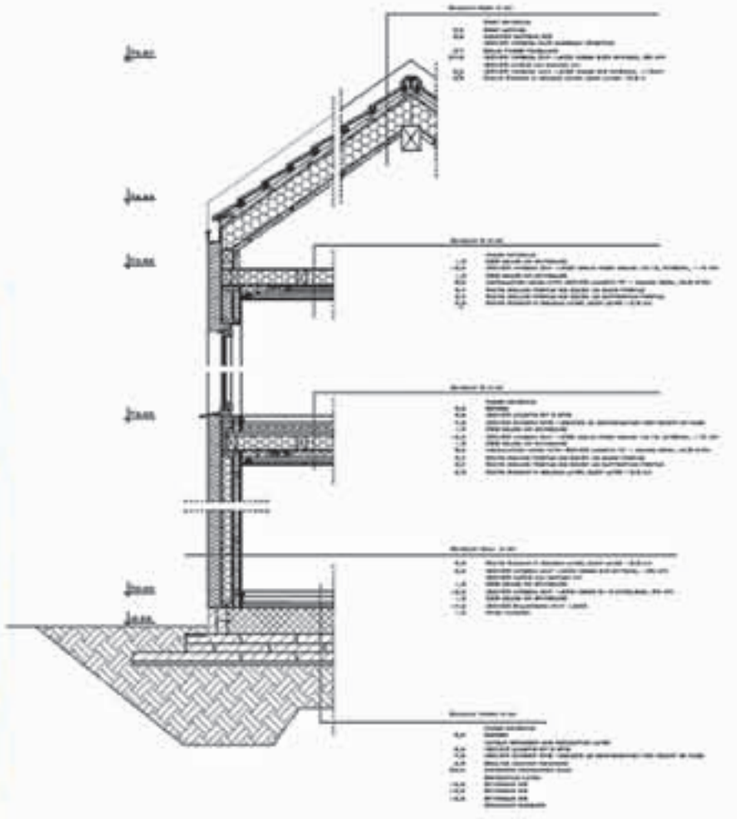
ground floor HOUSE 1



ground floor HOUSE 2



section



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JELENA MARKULIN

NIKOLA MITIĆ

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Universidade da Coruña, Coruña

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ADRIÁN GONZÁLEZ DEL CAMPO

ANTONIO GIRÁLDEZ LÓPEZ

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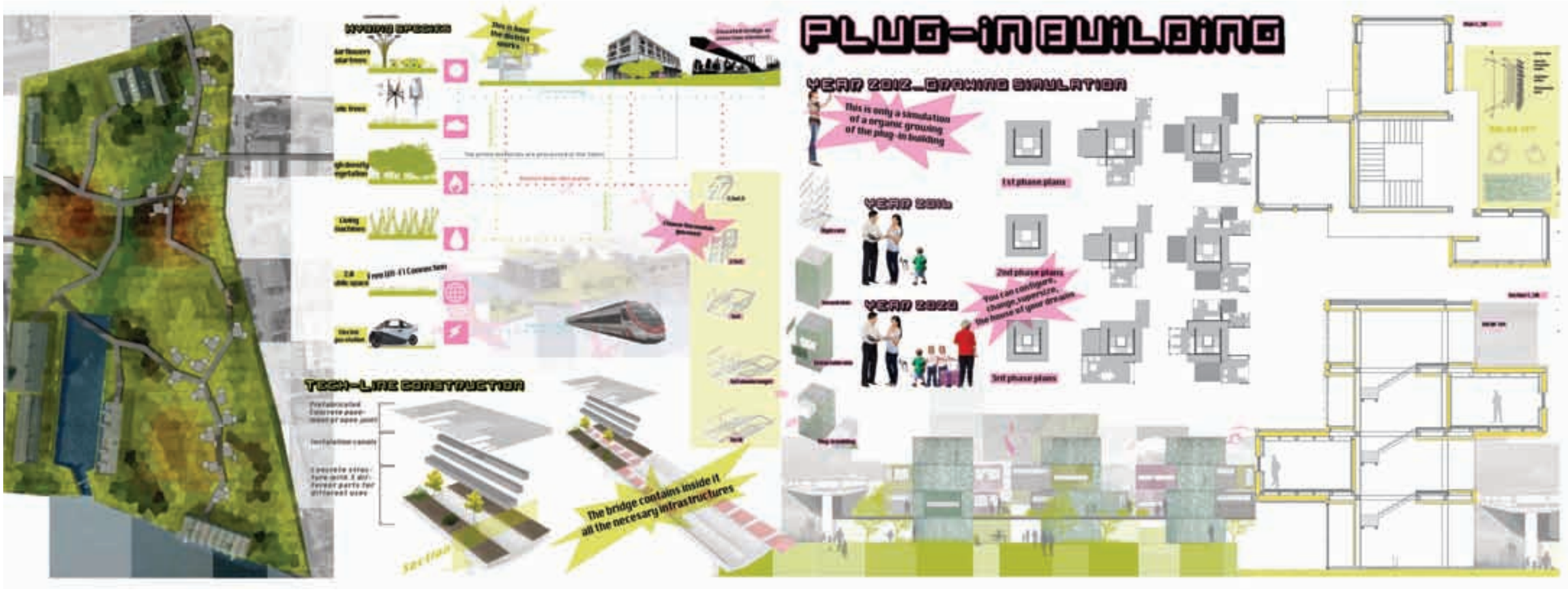

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SPAIN

Universidad de Las Palmas de Gran Canaria, Las Palmas de Gran Canaria

II PRIZE Spain National Stage 2012

MARIA TERESA RENGIFO GÓMEZ

AINHOA SOLA OLASAGASTE

GABRIELA CARLA VARGAS ALFARO

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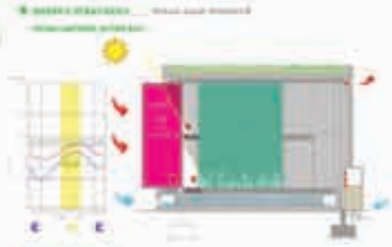
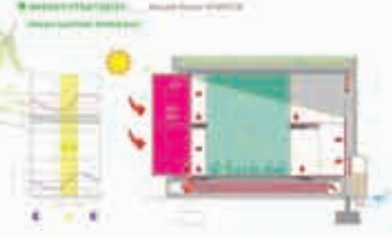
PERMACULTURE

- Inside the local landscape we emphasize singular elements for his natural value who interact with the river along his tour or stand out for his position in the territory. Exist the interest to integrate them in the continuity of river to generate an urban public walk. The river as center of sports activities, of leisure, social for the transient. It is a question that interacts with the project across an active and equipped walk, a walk of urban pedestrian edge and octable overturned to the landscape of the river and his environment.

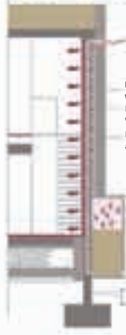
- Concept

Flexible and adaptable issue that starts from a definite pattern or module and generates a system of infinite growth.





- Heating by Composting System



Extraction of hot air to not warm the wall in case of hot day.

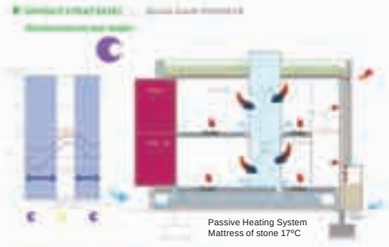
Heat is reached in the north wall, there is no heat loss. Pipes stuffed into the wall warm it.

Humid and warm air rises

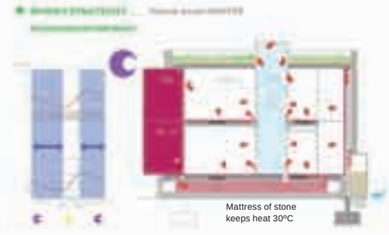
Composting System Generate heat 40º-70º

Humid air becomes condensed and re-use water for the compost.

Expulsion of water to chest

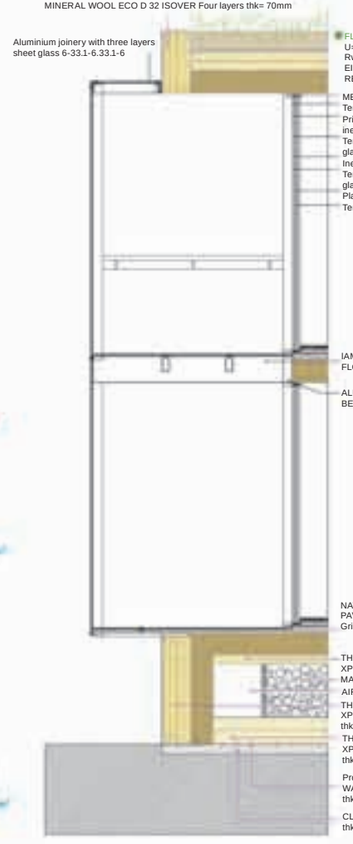


Passive Heating System
Mattress of stone 17ºC

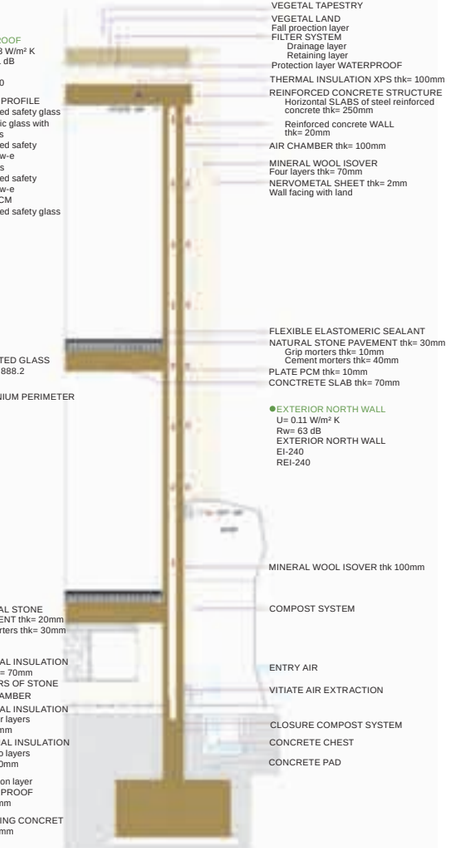


Mattress of stone keeps heat 30ºC

- Construction Detail ___ Exterior multi-family roofs



- Construction Detail ___ Exterior multi-family roofs



ISOVER SAINT-GOBAIN

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SUSTAINABLE COMMUNITY WITHIN THE REGENERATION PROGRAM OF THE TRENT BASIN AREA

SPAIN

Universidad Politécnica de Cataluña, Barcelona

III PRIZE Spain National Stage 2012

YAARI
VITTI

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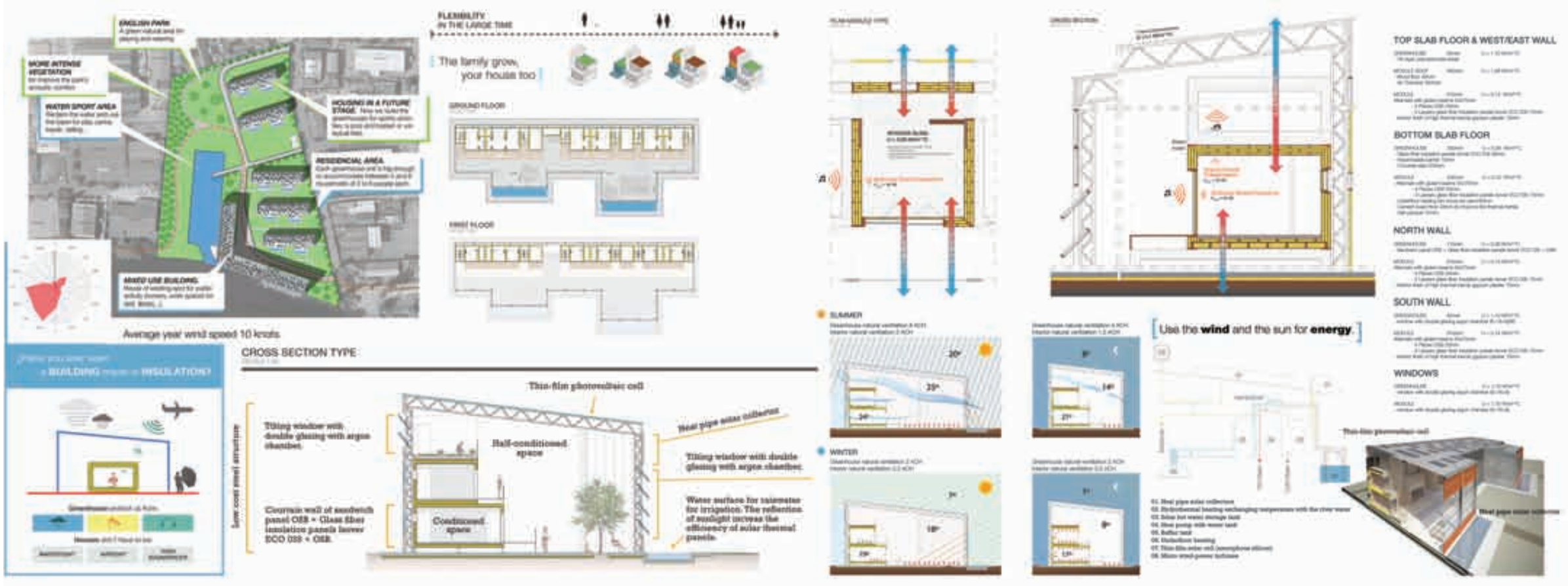

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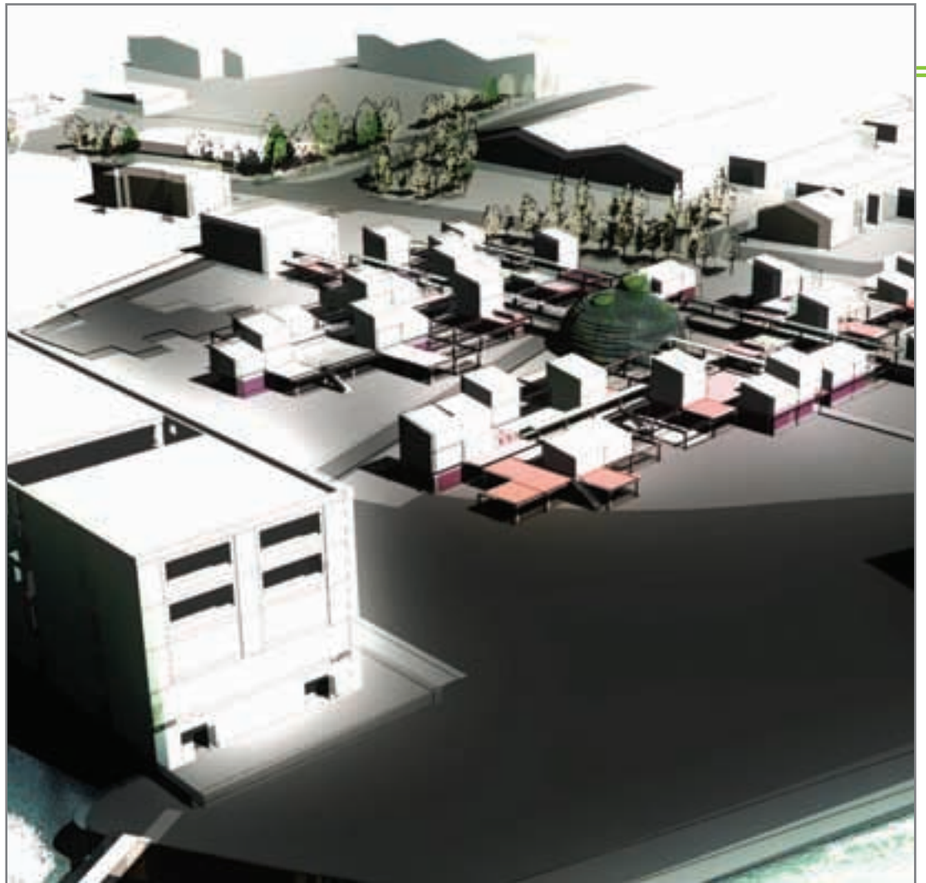
SUSTAINABLE COMMUNITY WITHIN THE REGENERATION PROGRAM OF THE TRENT BASIN AREA



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TURKEY

Istanbul Technical University, Istanbul

PRIZE Turkey National Stage 2012

ERHAN SEVINÇ

CAVIDAN BAYRAKTAR

ECE ILGIN AVCI

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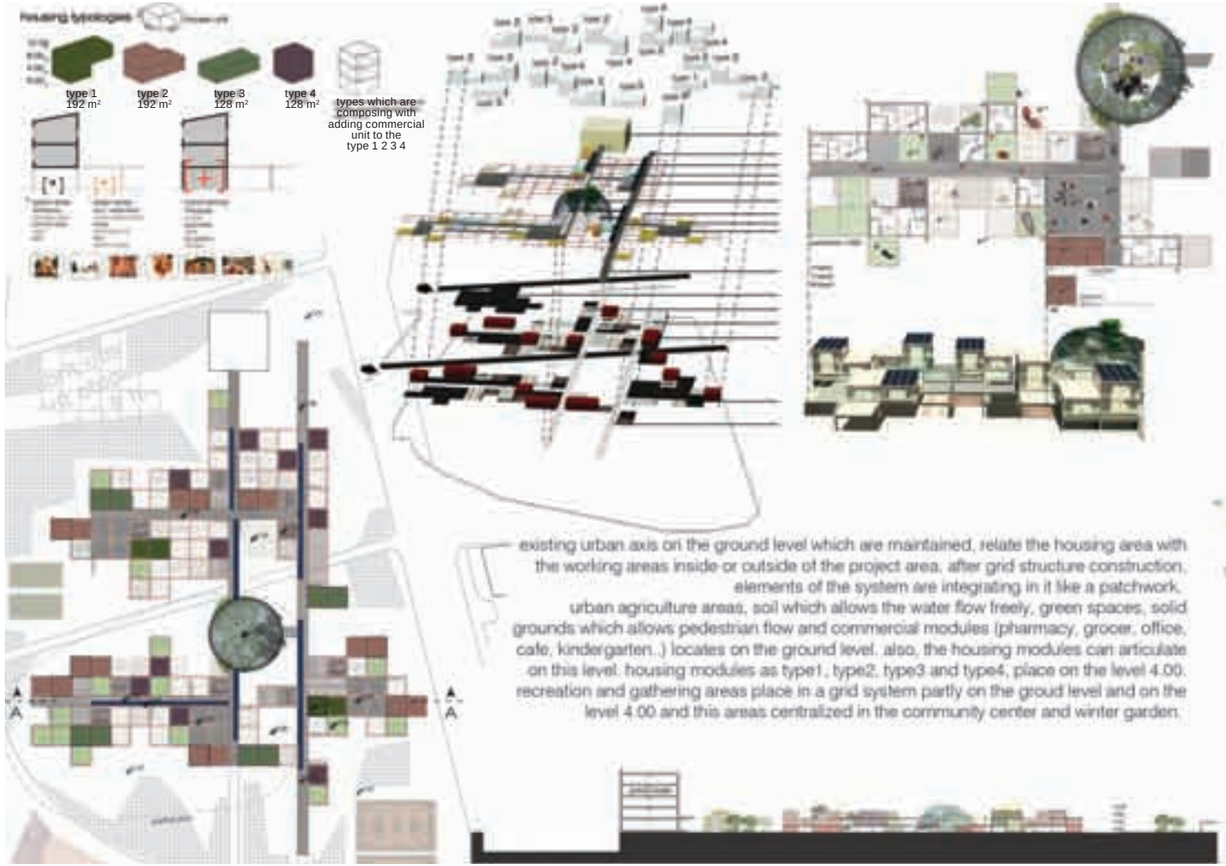
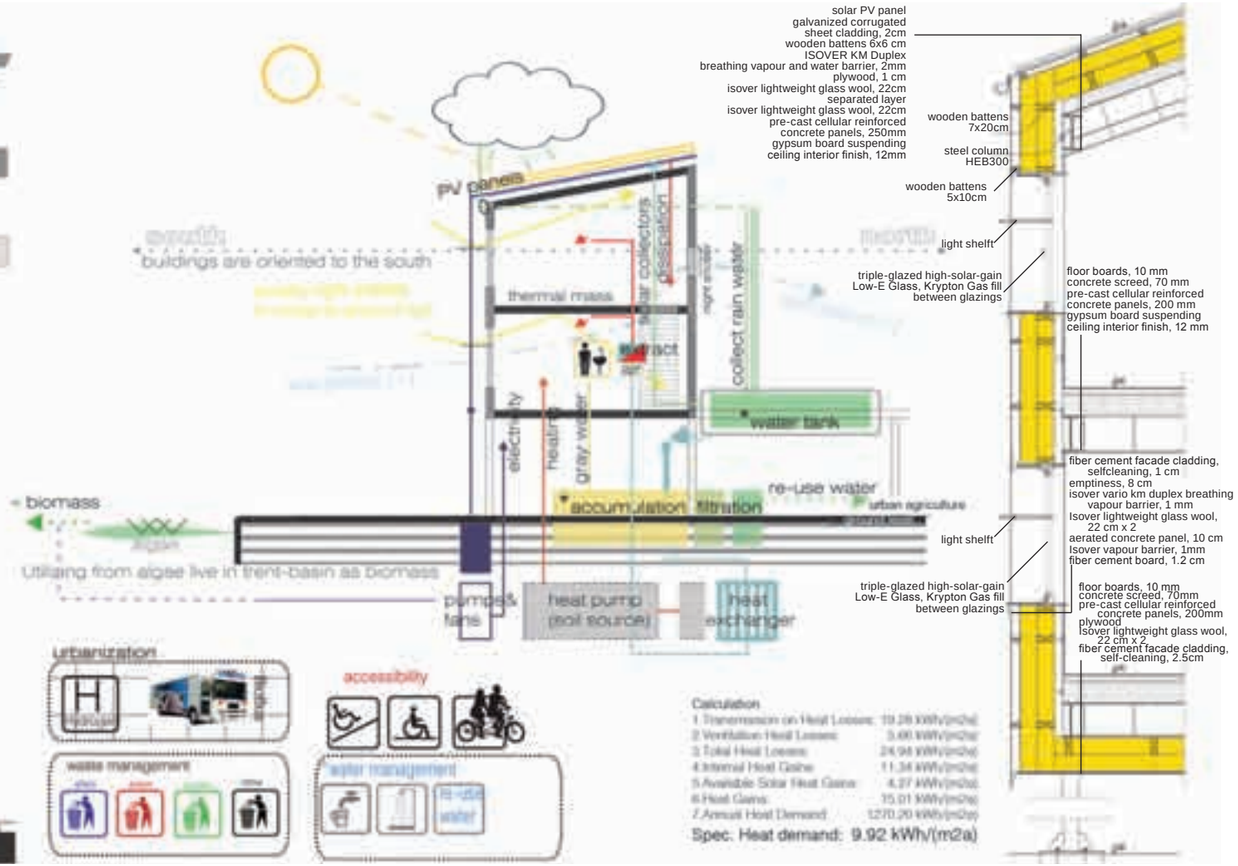

housing typologies
type 1
192 m²
type 2
192 m²
type 3
128 m²
type 4
128 m²
types which are composing with adding commercial unit to the type 1 2 3 4
existing urban axis on the ground level which are maintained, relate the housing area with the working areas inside or outside of the project area. after grid structure construction, elements of the system are integrating in it like a patchwork.
urban agriculture areas, soil which allows the water flow freely, green spaces, solid grounds which allows pedestrian flow and commercial modules (pharmacy, grocer, office, cafe, kindergarten..) locates on the ground level. also, the housing modules can articulate on this level. housing modules as type1, type2, type3 and type4, place on the level 4.00. recreation and gathering areas place in a grid system partly on the groud level and on the level 4.00 and this areas centralized in the community center and winter garden.
A
A


PV panels
south
buildings are oriented to the south
north
thermal mass
solar collectors
dissipation
night shutter
collect rain water
water tank
electricity
heating
gray water
re-use water
accumulation filtration
urban agriculture
biomass
algae
Utilizing from algae live in trent-basin as biomass
pumps fans
heat pump (soil source)
heat exchanger
urbanization
accessibility
waste management
water management
re-use water
solar PV panel
galvanized corrugated sheet cladding, 2cm
wooden battens 6x6 cm
ISOVER KM Duplex breathing vapour and water barrier, 2mm
plywood, 1 cm
isover lightweight glass wool, 22cm
separated layer
isover lightweight glass wool, 22cm
pre-cast cellular reinforced concrete panels, 250mm
gypsum board suspending ceiling interior finish, 12mm
wooden battens 7x20cm
steel column HEB300
wooden battens 5x10cm
light shelft
triple-glazed high-solar-gain Low-E Glass, Krypton Gas fill between glazings
floor boards, 10 mm
concrete screed, 70 mm
pre-cast cellular reinforced concrete panels, 200 mm
gypsum board suspending ceiling interior finish, 12 mm
fiber cement facade cladding, selfcleaning, 1 cm
emptiness, 8 cm
isover vario km duplex breathing vapour barrier, 1 mm
Isover lightweight glass wool, 22 cm x 2
aerated concrete panel, 10 cm
Isover vapour barrier, 1mm
fiber cement board, 1.2 cm
light shelft
triple-glazed high-solar-gain Low-E Glass, Krypton Gas fill between glazings
floor boards, 10 mm
concrete screed, 70mm
pre-cast cellular reinforced concrete panels, 200mm
plywood
Isover lightweight glass wool, 22 cm x 2
fiber cement facade cladding, self-cleaning, 2.5cm
Calculation
1.Transmission on Heat Losses: 19.28 kWh/(m2a)
2.Ventilation Heat Losses: 5.66 kWh/(m2a)
3.Total Heat Losses: 24.94 kWh/(m2a)
4.Internal Heat Gains: 11.34 kWh/(m2a)
5.Available Solar Heat Gains: 4.27 kWh/(m2a)
6.Heat Gains: 15.61 kWh/(m2a)
7.Annual Heat Demand: 1270.20 kWh/(m2a)
Spec. Heat demand: 9.92 kWh/(m2a)

IZOCAM

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SUSTAINABLE COMMUNITY WITHIN THE REGENERATION PROGRAM OF THE TRENT BASIN AREA

TURKEY
Istanbul Technical University, Istanbul

II PRIZE Turkey National Stage 2012

VOLKAN DALAGAN

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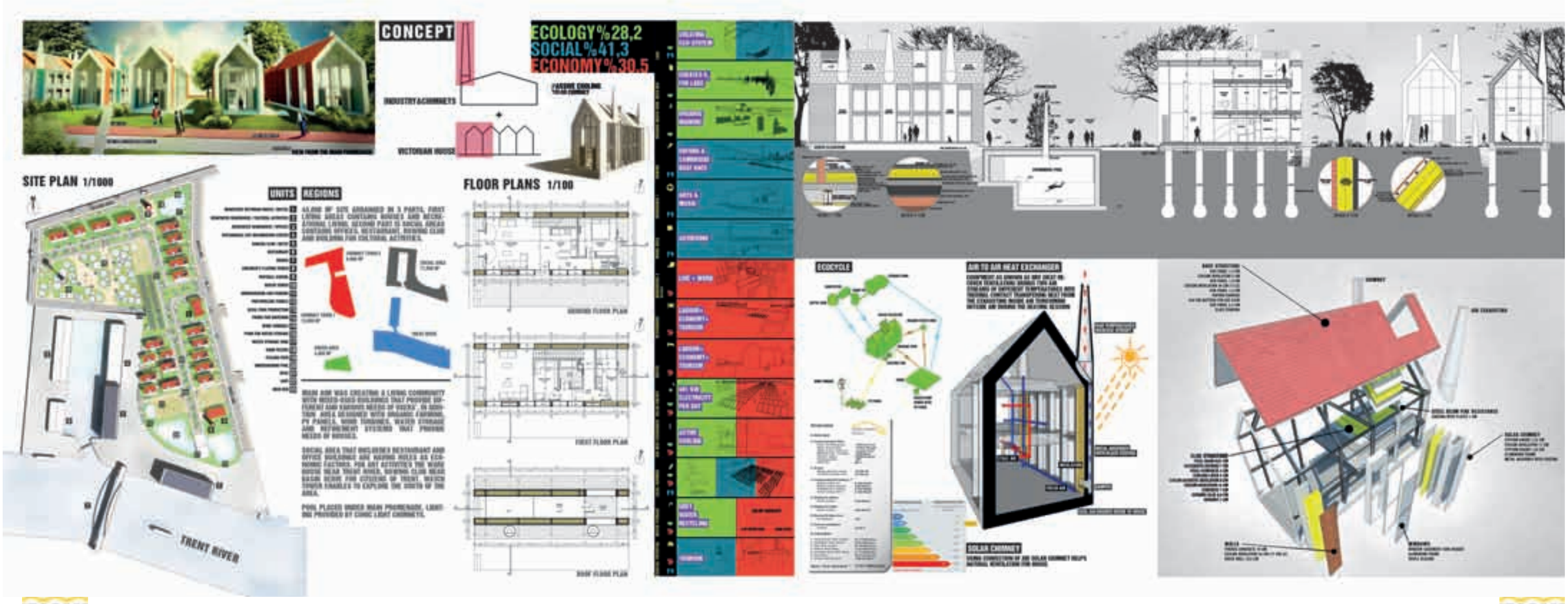
CONCEPT
INDUSTRY ACHIMEETS
VICTORIAN HOUSE
ECOLOGY%28,2
SOCIAL%41,3
ECONOMY%30,5
SITE PLAN 1/1000
TRENT RIVER
UNITS
REGIONS
FLOOR PLANS 1/100
ECOCYCLE
AIR TO AIR HEAT EXCHANGER
SOLAR CHIMNEY

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TURKEY

Istanbul Technical University, Yildiz Technical University, Istanbul

III **PRIZE** Turkey National Stage 2012

AYCA YAZICI

FERHAT BULDUK

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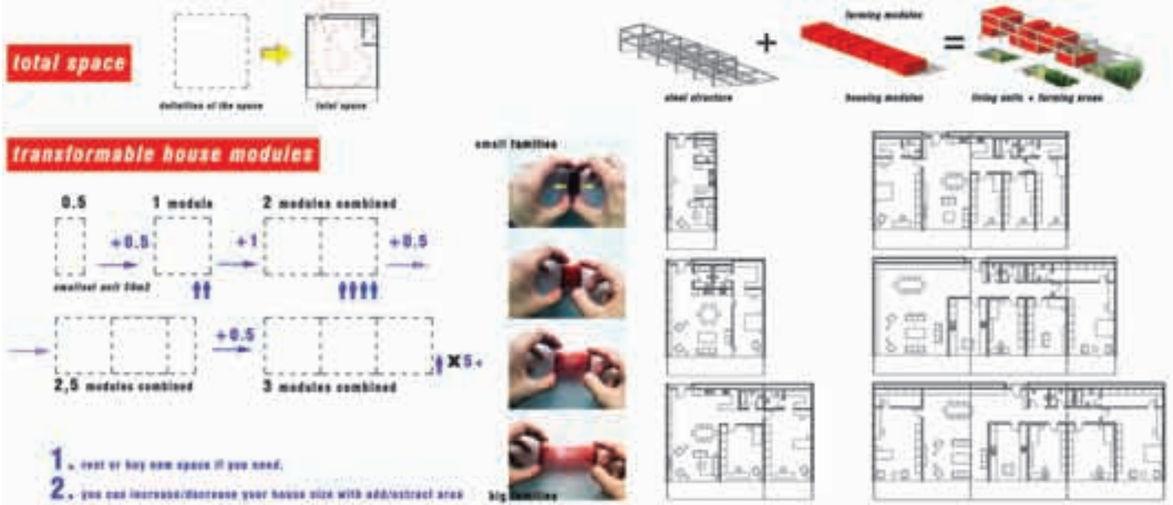
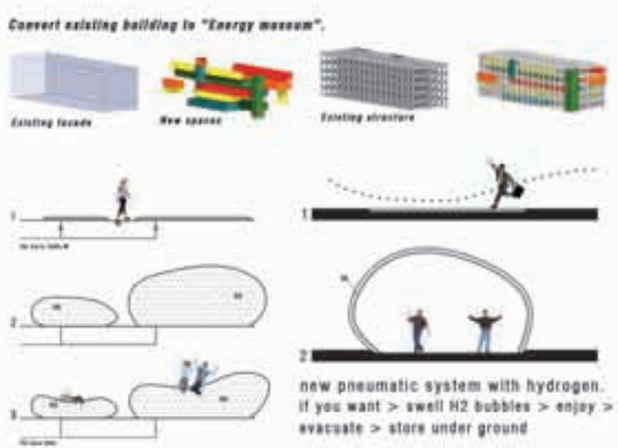
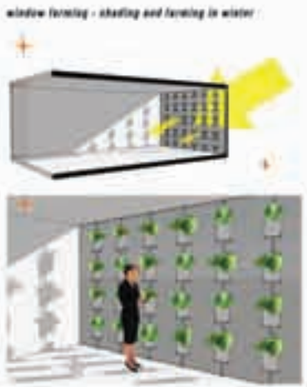
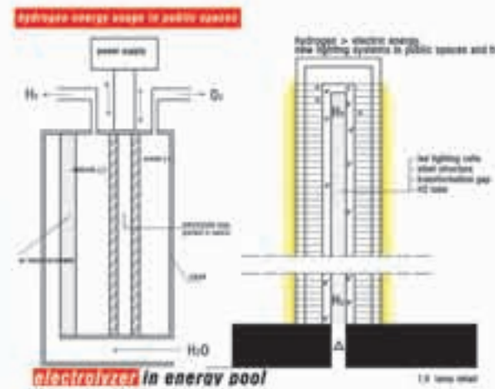
HOUSING

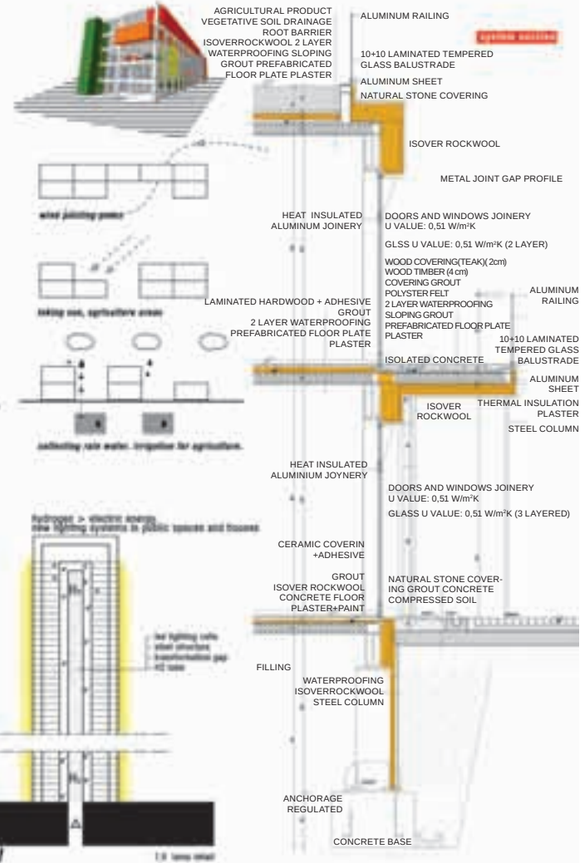
preserve existing buildings
give new functions according to design
*hydrogen storage
*energy pool
*cultural buildings
*agriculture evolved
*energy evolution
*new pedestrian road
*school


total space
subtraction of the space
total space
forming modules
steel structure
housing modules
living units + forming areas
transformable house modules
0.5
1 module
2 modules combined
+0.5
+1
+0.5
smallest unit 50m2
+0.5
2,5 modules combined
3 modules combined
x5+
small families
big families
1. rent or buy new space if you need.
2. you can increase/decrease your house size with add/extract area


Convert existing building to "Energy museum".
Existing facade
New spaces
Existing structure
new pneumatic system with hydrogen.
if you want > swell H2 bubbles > enjoy >
evacuate > store under ground


window forming - shading and forming in winter


hydrogen energy usage in public spaces
power supply
H2
O2
H2O
electrolyzer in energy pool
Hydrogen > electric energy
new lighting systems in public spaces and houses
led lighting cells
steel structure
transformations gap
H2 tube


AGRICULTURAL PRODUCT
VEGETATIVE SOIL DRAINAGE
ROOT BARRIER
ISOVERROCKWOOL 2 LAYER
WATERPROOFING SLOPING
GROUT PREFABRICATED
FLOOR PLATE PLASTER
ALUMINUM RAILING
10+10 LAMINATED TEMPERED
GLASS BALUSTRADE
ALUMINUM SHEET
NATURAL STONE COVERING
ISOVER ROCKWOOL
METAL JOINT GAP PROFILE
HEAT INSULATED
ALUMINUM JOINERY
DOORS AND WINDOWS JOINERY
U VALUE: 0,51 W/m²K
GLSS U VALUE: 0,51 W/m²K (2 LAYER)
WOOD COVERING(TEAK)(2cm)
WOOD TIMBER (4 cm)
COVERING GROUT
POLYSTER FELT
2 LAYER WATERPROOFING
SLOPING GROUT
PREFABRICATED FLOOR PLATE
PLASTER
LAMINATED HARDWOOD + ADHESIVE
GROUT
2 LAYER WATERPROOFING
PREFABRICATED FLOOR PLATE
PLASTER
ALUMINUM
RAILING
10+10 LAMINATED
TEMPERED GLASS
BALUSTRADE
ISOLATED CONCRETE
ALUMINUM
SHEET
ISOVER
ROCKWOOL
THERMAL INSULATION
PLASTER
STEEL COLUMN
HEAT INSULATED
ALUMINIUM JOYNERY
DOORS AND WINDOWS JOINERY
U VALUE: 0,51 W/m²K
GLASS U VALUE: 0,51 W/m²K (3 LAYERED)
CERAMIC COVERIN
+ADHESIVE
GROUT
ISOVER ROCKWOOL
CONCRETE FLOOR
PLASTER+PAINT
NATURAL STONE COVER-
ING GROUT CONCRETE
COMPRESSED SOIL
FILLING
WATERPROOFING
ISOVERROCKWOOL
STEEL COLUMN
ANCHORAGE
REGULATED
CONCRETE BASE

IZOCAM

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SUSTAINABLE COMMUNITY WITHIN THE REGENERATION PROGRAM OF THE TRENT BASIN AREA

UKRAINE

Donbas National Academy of Civil Engineering and Architecture, Makeyevka

PRIZE Ukraine National Stage 2012

KATERYNA
KRYVENKO

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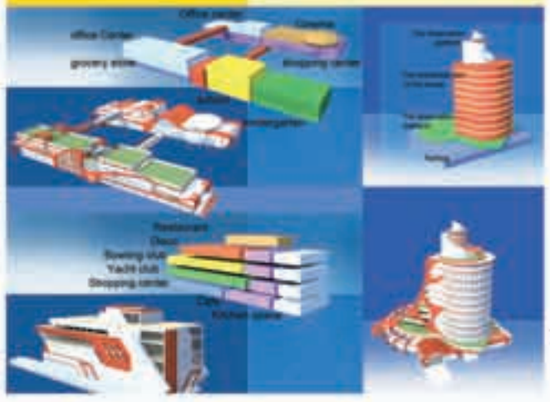
General plan

1. Townhouses
2. Cottages

Dwelling houses of the first stage of construction are located around the perimeter of the area

3. Entertainment and shopping centres
4. Business Center
5. Education Center
6. High-store apartment complex
7. Green park
8. Underground parking
9. Playground
10. Sport ground
11. Embankment
12. Pedestrian boulevard

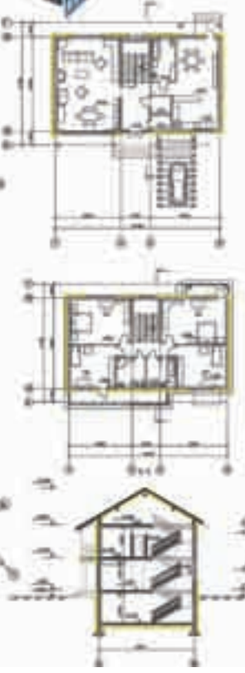


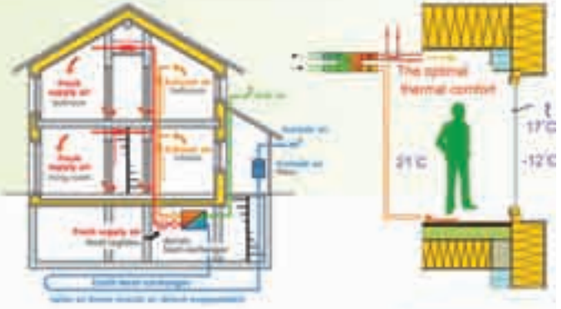
Cottage in the English style №1

Cottage in the English style №2

Section of Townhouse №1

Section of Townhouse №2





Composition S in cm

Roof cove ring
3.0 Roof lathing 3/5
5,0 Counter battens min. 5/5 - ventilation area
Layer ofvapour diffusion-permeable spun bonded web
2.4 Under roof-rough formwork
24.0 ISOVER lightweight glass wool between rafters
10.0 ISOVER lightweight glass wool between counter battens 5/10
Water vapour barrier-Climatic membrane, ISOVER VARIO KM Duplex
3,0 Mounting lathing 3/5
1,5 Plaster board - fire protection board

Composition S in cm

1,2 Ceramic tiles
Tiles cement
2,0 Lime cement rendering
25,0 Perforated brick
0,5 Glue layer
36.0 EPS foam insulation
0,2 Leveling layer
0,3 Textil reinforced compound layer with undercoat
0,4 Thin layer of exterior rendering

Composition S in cm

1,0 Tiles
0,3 Tiles cement
7,0 Cement screed with heating elements
0,02 Vapour barrier
14.0 EPS-W 20 (expanded polystyrene)
6.0 ISOVER impact sound insulation board 60
4,0 Protective concrete Seperating layer
0,05 Separating layer (water barrier)
12,0 Sub-concrete Separating layer
18.0 XPS-Extruded Polystyrene foam board
Protective concrete
Round gravel

Composition S in cm

15,0 Plant substration for intensive greening (on margin, round gravel 16/32)
Filter layer (geotextil fibrous web, non-decaying)
5,0 Drinage layer, expanded concrete aggregate 8/16
18.0 XPS-Extruded Polystyrene foam board
0,6 Roof confinement layer
0,8 Double-layer roof skin (e.g. polymer bitumen roll roofing, glued)
Equalizing layer, perforated glass fibre roofing
Priming coat
Sloping concrete, 2° gradient
20,0 Reinforced concrete slap with XPS-Extruded Polystyrene as thermal bridge insulation
1,5 Interior plaster

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SUSTAINABLE COMMUNITY WITHIN THE REGENERATION PROGRAM OF THE TRENT BASIN AREA

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ANASTASIIA MIRONOVA

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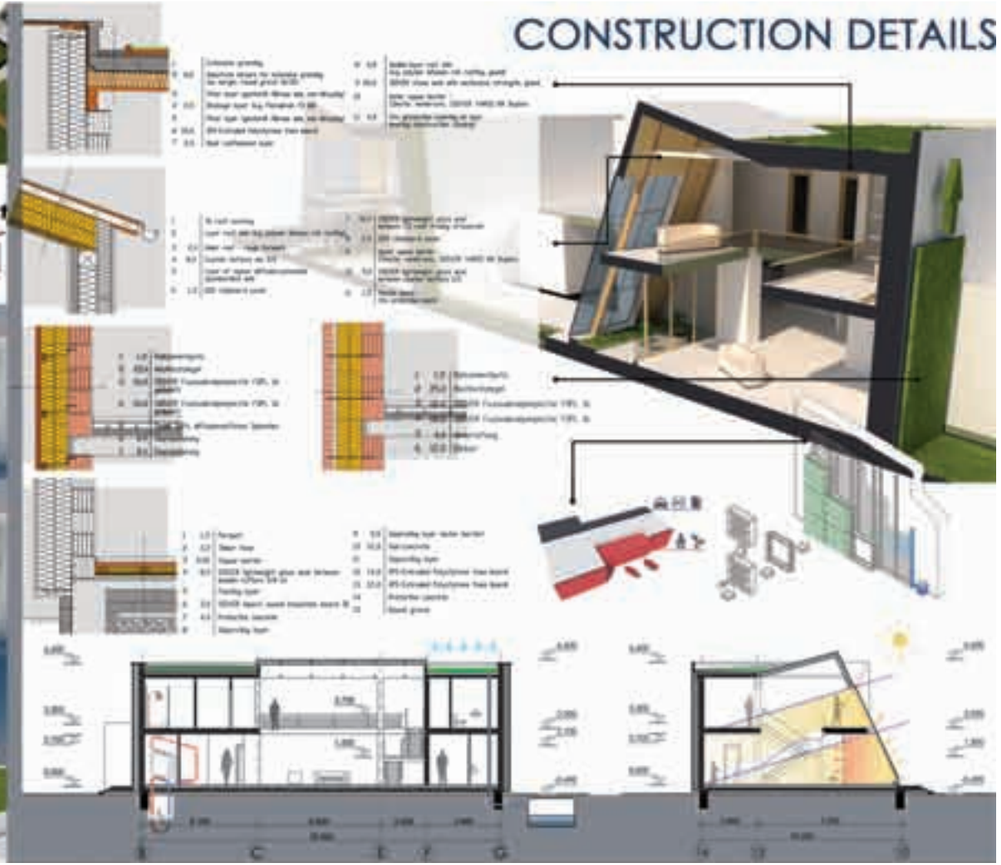

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UKRAINE

Poltava National Technical University, Poltava

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MAX ISCHENKO

ARTEM GUSEV

DMYTRO KOZYRENKO

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SUSTAINABLE COMMUNITY WITHIN THE REGENERATION PROGRAM OF THE TRENT BASIN AREA

UNITED KINGDOM

University of Edinburgh, Edinburgh

PRIZE United Kingdom National Stage 2012

DANIEL SHANAHAN

EMMETT MCNAMARA

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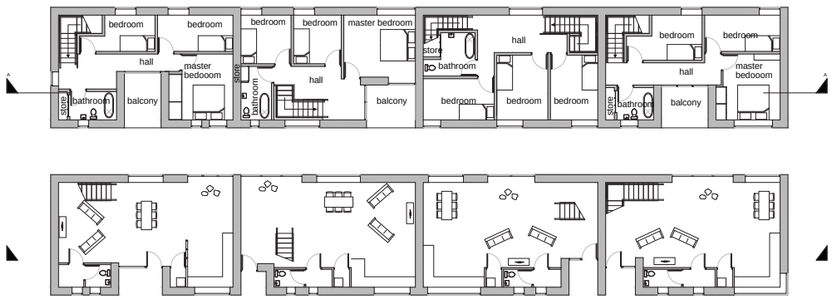
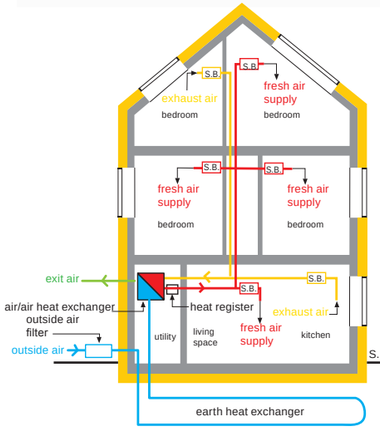
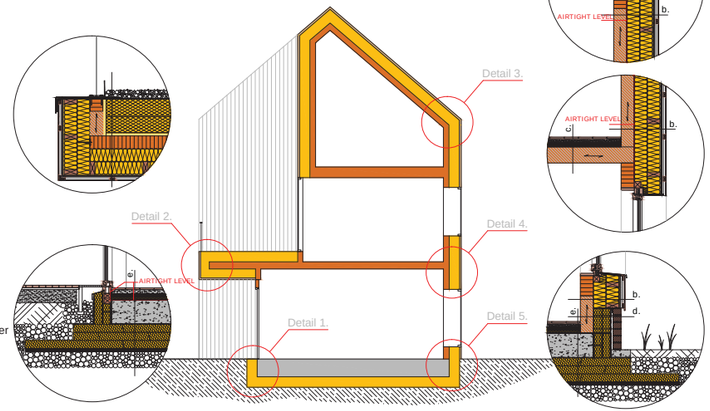
TRENT QUAY

Trent Quay is a low-tech, eco-minimalist approach to mixed use, urban living. It avoids bolt-on weather-dependent eco-bling, relying on renewable energy sources, passivhaus/multi-comfort design principles and Brettstapel construction methods. A holistic approach to site planning, employing urban farming, creates a rich tapestry of journey paths ensuring endless opportunities for social interaction. Our distinct interpretation of mixed-use development utilises small scale manufacturing to create jobs, energy and a strong community identity, thus ensuring Trent Quay's social sustainability. The riverside bar and eatery attracts outside investment and passing trade for Trent Quay's retail and markets, creating a buoyant and lively village atmosphere, in a postindustrial urban setting. Public access to the Trent Basin is maintained through a community owned fish-farm, providing a complimentary food source for the community, avoiding the temptation to force a Mediterranean-style marina aesthetic on Nottingham's temperate climate.
Energy is derived from bio-mass; using the brewery's spent grain as a primary fuel source. Hydro-turbines, currently being introduced to Trent River by Nottingham Council, provide electricity for family dwellings ensuring low-cost living for a new, green generation.







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SUSTAINABLE COMMUNITY WITHIN THE REGENERATION PROGRAM OF THE TRENT BASIN AREA

UNITED KINGDOM

University of Nottingham, Nottingham

II PRIZE United Kingdom National Stage 2012

THOMAS BENNETT

DENNY CHAN

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MASTER PLAN & SITE STRATEGY

South Elevation Scale 1:200

North Elevation Scale 1:200

About the Project

This project envisions a phased regeneration of Trent Basin - a derelict post-industrial site next to the River Trent in Nottingham. The proposal is a mixed-use live/work scheme combining family housing with office space and community facilities.

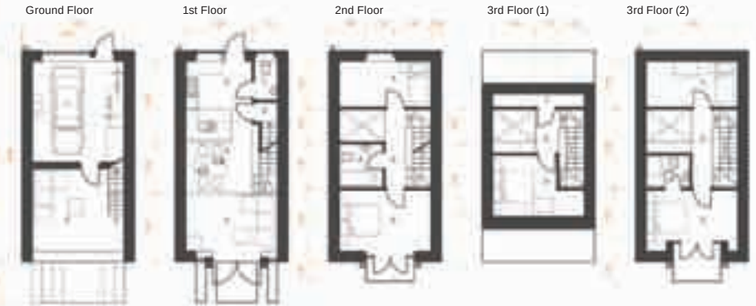
Creating a 'Destination'

We proposed to convert the existing warehouses into usable workshop and gallery spaces. This will act as a catalyst for more comprehensive regeneration of the site.

Reconnecting the Site

We propose a 'green corridor', which connects the site to the transport routes to the North, providing a 'long vista' for passers-by.

Ground Floor | 1st Floor | 2nd Floor | 3rd Floor (1) | 3rd Floor (2)



3rd Floor (1)

1. Storage (3 m²)
2. Landing (2.65 m²)
3. South bedroom (11 m²)

TFA = 16.5

3rd Floor (2)

1. North bedroom (10.1 m²)
2. Landing (4 m2)
3. South bedroom (12 m²)
4. En-suite (3.3 m²)

TFA = 29.4

Ground Floor

1. Integral garage and storage (22.3 m²)
2. 'Multifunctional family room'(16.2 m²)
3. Stairs (3.4 m²)

TFA* = 41.9 m²
*Treated floor area

1st Floor

1.W.C.(2.2 m²)
2. Ground floor stair landing (1.1 m²)
3. Kitchen (11.6 m²)
4. Dining area (10.1 m²)
5. Living area (13.6 m²)
6. Stairs (4.1 m²)

TFA = 42.8

2nd Floor

1. North bedroom (10.1 m²)
2. Landing (4 m²)
3. Bathroom (4.5 m²)
4. South bedroom (13.5 m²)
5. Stairs (3.9 m²)*
* 4 storey house type only

TFA = 36.0

Site Section AA' Scale

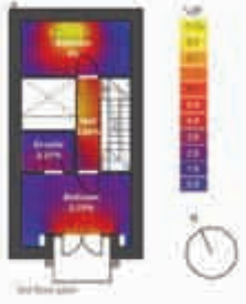
01 Green Corridor
Opens the site, reconnecting to the city.
02 Green Park
Line of trees helps to shelter car parking area.
03 Trent Lane Basin
New mooring to revitalise the water activities.
04 Waterside Living Units
Series of units adjacent to the basin.
05 Ferry Route & Boat Access
Proposed Ferry Route which will connect to new tram station up-river.
06 Garden Terrace
High density housing development with elevated gardens and community facilities.
07 Long Park
Strip of parkland provides buffer to road.
08 Existing Warehouse
Adaptive re-use of warehouse building for arts uses.
09 Flexible Seating
Movable furniture along the existing tram line allows public to customise the public space.

ENVIRONMENTAL STRATEGIES

The analysis software 'Radiance' and 'Ecotect was used in order to assess the illuminance levels and dalight factors in some key spaces within the house. These studies were conducted under over-cast sky conditions for winter solstice in order to assess the 'worst case scenario'. The results suggest that the spaces which were tested meet or exceed the minimum recommendations given by UK Chartered Institution of Building Services Engineers (CIBSE). The isolux contour images on this page are all based on a scale of 0-500 lux.

Daylight Performance Prediction

Plans Showing Predicted Average Daylight Factor (%)



North Facing Bedroom
Desktop illuminance = 130-170 lux,
100- 400 lux on walls

South Facing Bedroom
Desktop illuminance = approx. 120 lux,
150 - 200 lux on walls

Thermal Zoning Strategies

Table to show requirements for different zones (CIBSE)

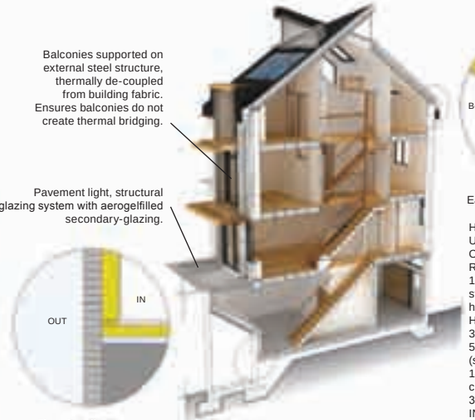
Room	Winter			Summer		
	Activity level /met	Clothing /clo	Recommended temperature range	Activity level /met	Clothing /clo	Recommended temperature range
Garage /storage			n/a			n/a
Family room/ workshop	1.1	1	22-23	1.1	0.65	23-25
WC	1.4	1	19-21	1.4	0.65	21-23
Kitchen	1.6	1	17-19	1.6	0.65	21-23
Dining	1.1	1	21-23	1.1	0.65	24-25
Living	1.1	1	22-23	1.1	0.65	23-25
Landing	1.8	0.75	19-24	1.8	0.65	21-25
Bathroom	1.2	0.25	20-22	1.2	0.25	23-25
Bedroom	0.9	2.5	17-19	0.9	1.2	23-25

Thermal Envelope

CONSTRUCTION DETAILING

Balconies supported on external steel structure, thermally de-coupled from building fabric. Ensures balconies do not create thermal bridging.

Pavement light, structural glazing system with aerogelfilled secondary-glazing.



Floor Detail

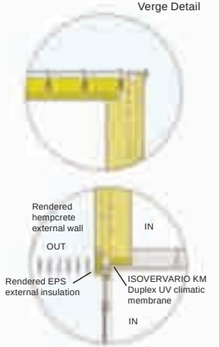
Eaves Detail

HEMPCRETE WALL
U-Value =0.14 W/m².K
OUTSIDE
Rendered mesh
100mm timber frame structure encased in hempcrete
Horizontal timber batons 38x19mm
500mm hempcrete (sprayed or tamped)
15mm vapour-permeable carrier board
3mm lime plaster skim finish
INSIDE

FLOOR TO GROUND
U-Value = 0.15 W/m².K
INSIDE
20mm floor finish
65mm screed
Vapour retarder and separating layer
ISOVER Akustic EP 3 040
150mm ISOVER Exporit EPS floor insulation
Sealing against moisture
100mm concrete floor
DPM
300mm blinded hardcore
GROUND

EXTERNAL WALL
U-Value = 0.1 W/m²K
OUTSIDE
250mm aerated concrete block
ISOVER VARIO KM Duplex UV climatic membrane
240mm ISOVER Integra UKF insulation
15mm OSB board
3mm plaster skim finish
INSIDE

Verge Detail



Lintel Detail

ROOF
U-Value = 0.1 W/m².K
OUTSIDE
Zinc roof cladding
28mm carrier plyboard
40mm breather gap with counter-lathing
ISOVER Integra ZUB underlay sheeting
20mm plyboard
200mm ISOVER wool infill insulation between I-Beam rafters
ISOVER VARIO KM Duplex UV climatic membrane
100mm ISOVER Integra UKF insulation
15mm gypsum plasterboard
3mm lime plaster skim finish
INSIDE

WINDOWS
U-Value = 0.65 W/m².k
Triple glazing, argon-filled with LowE coating.
Insulated frames.

8th ISOVER MULTI-COMFORT HOUSE STUDENTS CONTEST 2012

SUSTAINABLE COMMUNITY WITHIN THE REGENERATION PROGRAM OF THE TRENT BASIN AREA

UNITED KINGDOM

University of Nottingham, Nottingham

III PRIZE United Kingdom National Stage 2012

SIÂN LOUISE HODGSON

FUNSHO PARROTT

more information on
www.isover-students.com

HOLOSTIC CONCEPT : A CONTEMPORARY VILLAGE IN THE CITY

DESIGN MOOD BOARD

"I want to turn the clock back to when people lived in small villages and took care of each other"
Pete Seeger, Musician, 1957

THE CITY ARCHETYPE
-COLD
-IMPERSONAL
-CRAMPED
-LACK OF GREEN SPACE

+

THE VILLAGE ARCHETYPE
-GREEN
-STRONG COMMUNITIES
-SPACIOUS
-UNIQUE &
ECCENTRICITIES
-ROMANTIC

=

A VILLAGE IN THE CITY
-GREEN
-STRONG COMMUNITIES
-WELL CONNECTED
-SPACIOUS
-UNIQUE CHARACTER
-CULTURALLY DIVERSE
-MIXED USE

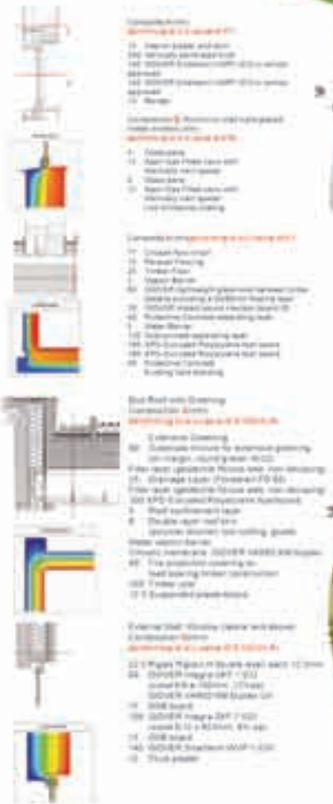
MASTERPLAN DEVELOPMENT

Planning Rationale
In our approach to defining the site we wanted a method of planning which mirrored the chaotic and unique distribution of forms and spaces within villages, so we used paint explorations as a starting point and added rational elements later.

N

Sustainable Masterplan Features
- Anaerobic digestion coupled with district CHP.
- SUDS design utilising Bio swales and retention basins.
- Communal public spaces and park lands
- Pedestrian First site design.
- Provision of a communal car club.
- Bicycle lanes.
- Rainwater Harvesting.
- Integrated Biodiversity
- South orientated dwellings.

2 HOUSING TYPOLOGIES: THE WATERSIDE ROW HOUSE & INVERTED TERRACE FAMILY HOUSE



Daylight Testing (Lux Levels) & Section

How House: Energy Demand

Family House: Energy Demand

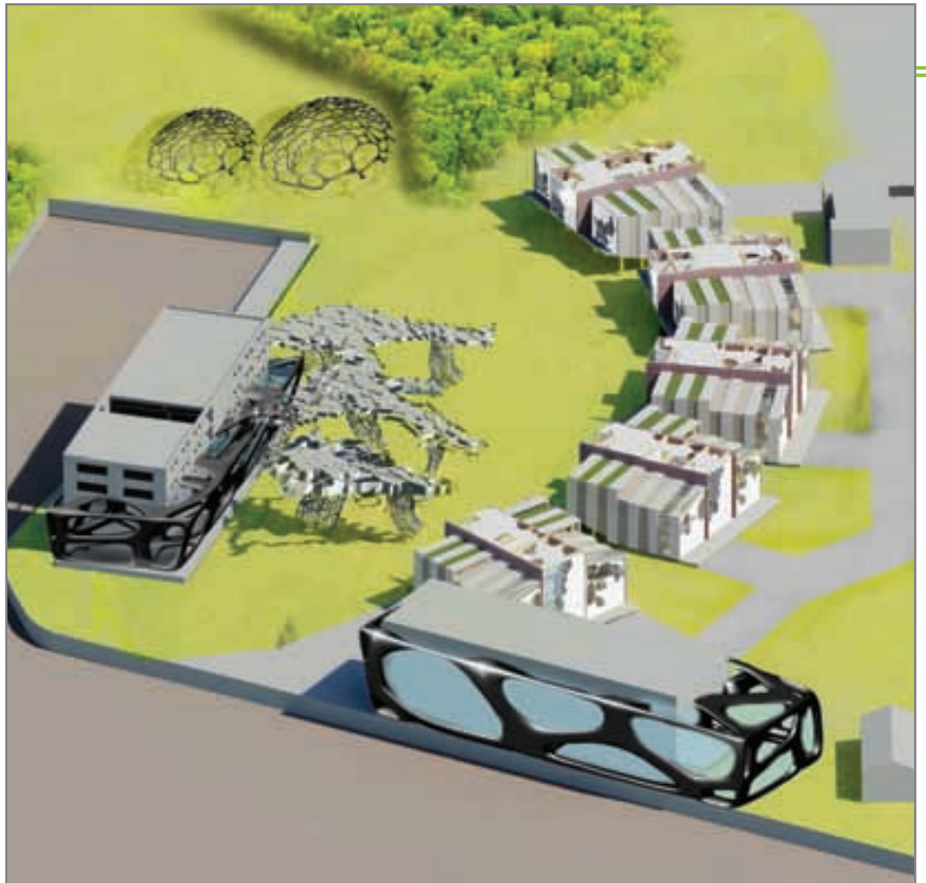
Environmental Design
Throughout the design process of the units extensive testing and analysis was undergone using a combination 'Ecotect' (Environmental Design Software) and 'Radiance' (Daylight Analysis Software). Our goals was to ensure that both units conformed to the comfort levels outlined by the UK Chartered Institute of Building Service Engineers(CIBSE).

Daylight Testing (Day Light Factor) & Section

ISOVER SAINT-GOBAIN

8th ISOVER MULTI-COMFORT HOUSE STUDENTS CONTEST 2012

SUSTAINABLE COMMUNITY WITHIN THE REGENERATION PROGRAM OF THE TRENT BASIN AREA



CertainTeed SAINT-GOBAIN

USA

Philadelphia University, Pennsylvania

PRIZE USA National Stage 2012

RICHARD PENA

MICHAEL HEDRICK

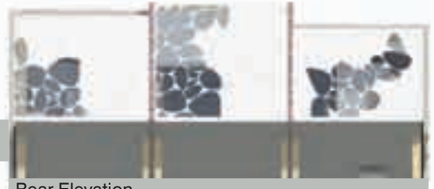
EDWIN HAUN

more information on
www.isover-students.com

‘Harmoni’

Master Plan

Front Elevation



Rear Elevation

First Floor

Second Floor

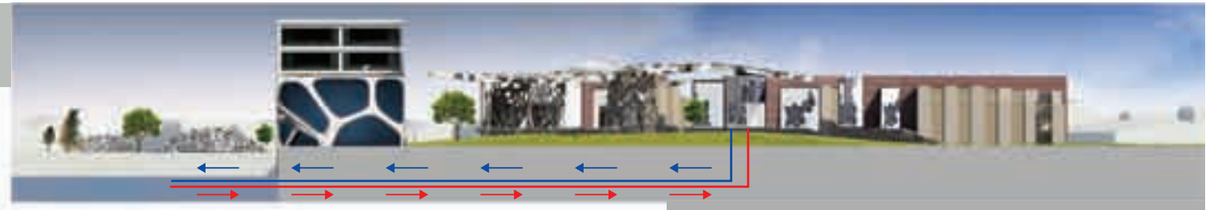
Third Floor

Plan

1. Garage
2. Kitchen
3. Living Room
4. Den
5. Bathroom
6. Bathroom
7. Bedroom
8. Bedroom

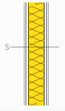
1. Garage
2. Stairwell
3.Kitchen/Dining
4. Pantry
5. Bathroom
6. Closet
7. Study
8. Bedroom
9. Bathroom

1. Foyer
2. Living Room
3. Kitchen
4. Pantry
5. Bathroom
6. Closet
7.Garage
8. Study
9. Bathroom
10. Bedroom
11. Bedroom
12. Master Study
13. Master Bedroom
14. Master Bathroom



Trent river ranges from 11-21°C.
Water from the basin pumped in at a max. of 34Lpm.
Used water will be pumped downstream into the river.
Each housing unit has a heat demand of 3.11 kWh/m2 year or 870.7 btu/h.
Floors can be heated up to 54°C.
Covers 100% of heat demand.

INTERIOR WALL

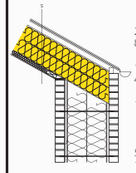


	Composition S in cm
1.25	Plasterboard
1.25	Plasterboard
10.0	ISOVER glass wool
1.25	Plasterboard
1.25	Plasterboard
	Rw = 55dB

FLOOR AND CEILING

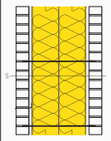
	Compos tion S in cm
1.91	Hardwood flooring
1.50	Chipboard panel
55.0	ISOVER glass wool impact sound insulation board
1.50	Chipboard panel
20.0	ISOVER glass wool
4.00	Lathwork on spring hangers
1.50	Plasterboard
	Rw = 50dB

SLOPING ROOF



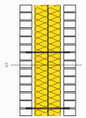
	Composition S in cm
	Tin roof covering
	Layer roof skin
2.4	Under roof - rough formwork
8.0	Counter battens
	Water vapour barrier
1.5	Chipboard panel
40.0	ISOVER lightweight glass wool (2-layered)
1.5	Chipboard panel
	Water vapour barrier- Climatic membrane, ISOVER VARIO KM Duplex
5.0	ISOVER lightweight glass wool
1.5	Plaster board - fire protection board
	U-value: 0.10 Wm^2/k

EXTERIOR WALL IN CONTACT WITH AIR



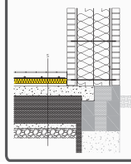
	Composition S in cm
10.0	Outer brick wall
	Water vapour barrier
2.54	Air barrier
1.27	Sheathing
19.0	ISOVER facade insulation board
19.0	ISOVER facade insulation board
1.27	Sheathing
2.54	Air barrier
10.0	Interior brick wall
	U-value: 0.09 Wm^2/k

INTERIOR WALL SEPARATING UNITS

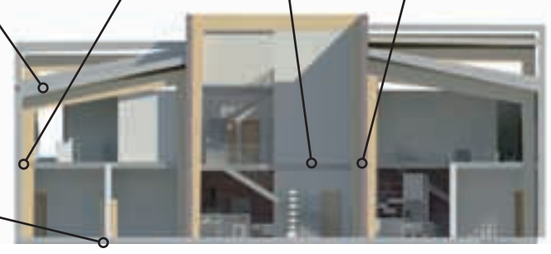


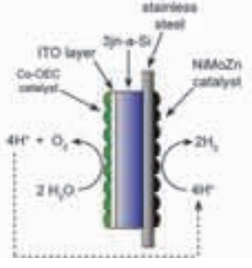
	Composition S in cm
10.0	Interior brick wall
2.54	Air barrier
10.0	ISOVER glass wool
10.0	ISOVER glass wool
2.54	Air barrier
10.0	Interior brick wall
	Rw = 70dB

FLOOR SLAB



	Composition S in cm
1.5	Tiles
	Tiles cement
7.0	Cement with radiant floor heating
0.02	Vapour barrier
6.0	ISOVER impact sound insulation board 60
	Seperating layer
3.0	Concrete infill
12.0	Sub-concrete
	Seperating layer
18.0	XPS Extruded Polystyrene foam board
18.0	XPS Extruded Polystyrene foam board
	Protective concrete
	Round gravel
	U-value: 0.10 Wm2k





CertainTeed

CertainTeed

The multiple dimensions of comfort

COMFORT COMES FIRST!

Although the ISOVER Multi-Comfort House concept stands for energy savings and environmental protection, we have not forgotten the most important issue: the well-being of the inhabitants!

NEITHER COLD FEET NOR SWEATY HANDS - THERMAL COMFORT

In the ISOVER Multi-Comfort House.

Invigorating coolness in summer and comfortable warmth in winter. No problem for an ISOVER Multi-Comfort House. You will enjoy agreeable room temperatures between 20 and 23 °C - all year round.

Cooling in summer. Jointless insulation without thermal bridges, airtight constructions and windows with outside shading are indispensable to keep the summer heat outside. Cooling can be achieved by consciously using natural ventilation during night. A small adjustable cooling device ensures optimum temperatures.

Heating in winter. On cold days, the built-in ventilation system ensures that the used outgoing air warms up the fresh incoming air. Jointless insulation without thermal bridges and excellent windows with insulated frames help keep the warmth inside. Even a small candle or an inhabitant can be an efficient heat source then.

A FIRE-SAFE HOME.

Always on the safe side: preventive fire protection with non-combustible mineral wool insulation made by ISOVER. Optimum protection of roof, walls and floors.

Enjoy the peace and quiet of your home - with acoustic comfort by ISOVER.

Noise from the outside and noise from the inside. Every sound can be annoying if you're not in the right mood or need to sleep. For this reason, the ISOVER Multi-Comfort House concept offers acoustic insulation that allows house owners and tenants to enjoy the peace and quiet of their homes. Whether you want to rest or do concentrated work - your noisy neighbour will not disturb you. This works, of course, both ways.

BUILD WITH ALL COMFORT. AND GAIN ENERGY AT THE SAME TIME.

The most inexpensive energy is the one that is not consumed in the first place. It does not need to be generated, imported or paid for. Naturally, this also doesn't have any harmful effects, neither on human beings nor the environment. This is the basic concept of the passive house. Since a sufficient amount of warmth remains in the house, any active heat supplied by traditional space heating is usually superfluous. This saves energy and costs. The more so in view of further increasing world market prices for limited resources such as oil and gas. Thanks to its uncomplicated technical equipment, the ISOVER Multi-Comfort House requires very little maintenance.

THE PASSIVE HOUSE STANDARD GIVES YOU ALL THE FREEDOM YOU WANT.

A passive house does not define itself by outer appearance but by its inner values. Therefore any type and size of building can be realized. Every year, a growing number of examples testify to that. Whether one-family house or industrial estate. Whether school or church or mountain shelter. And it is no longer only the new buildings which comply with this future-oriented building standard. There is an increasing number of existing, old and even historical buildings where the refurbishment is based on passive house principles. By using well-selected passive house components it is possible to achieve ecologically and economically sensible results.

Snugly warm with 10 tea lights

COUNT ON ENERGY SAVINGS OF UP TO 75 %.

Compared to conventionally built new houses, the space heating requirement of a passive house is lower by about 75 %. And in contrast to old buildings, savings amount to as much as 90 %. In cold winters, a room of 20 m^2 can be heated with just 10 tea lights or two bulbs of 100 watts each to keep it snugly warm. In terms of fuel consumption, a passive house needs less than 1.5 l heating oil or 1.5 m^3 natural gas per square meter and year.

1. College of Physical Education Albstadt, Architect Prof. Schempp, Teubingen, Germany; 2. Office and residential building in Mosnang. Insulated with Flora natural hemp by ISOVER. Architect: Monika Mutti-Schaltegger; 3. WeberHaus, Reinau-Linx

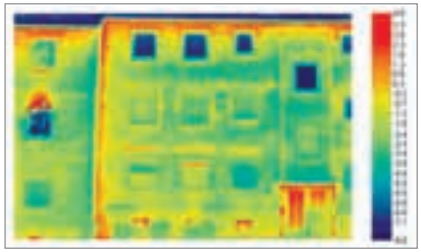
THE MOTTO FOR ALL ROOMS: KEEP THE WARMTH INSIDE!

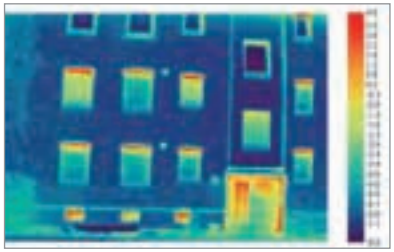
The thermal requirements for the ISOVER Multi-Comfort House are based on the passive house design principles. These include excellent thermal insulation of the building envelope including windows and doors, airtight constructions, ventilation system with heat recovery for permanent supply of fresh air and if needed small additional heating or cooling system – depending on the climate zone.

ISOVER SAINT-GOBAIN

EVERY OCCUPANT IS A HEAT SOURCE.

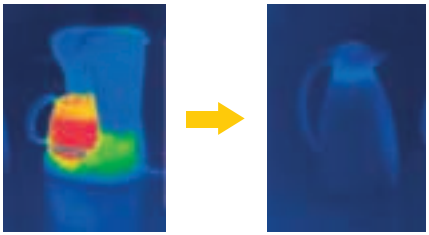
Unlike conventional buildings that suffer high losses of heat to the outside, the thermal discharge of humans, animals and household appliances is quite important for covering the required amount of heating energy. Every person contributes by a calorific value of approx. 80 watts to heating up the interior. Considerable heat gains are realized through the windows which in winter allow higher amounts of sun energy to enter the house than those lost to the outside. Add to this the heating energy recovered from the exit air and you can normally save yourself the expense incurred by a conventional heating system.





1. Multi-family house after energetic refurbishment
2. Thermographic pictures:
2.1 before refurbishment: The entire house is a thermal bridge.
2.2 after refurbishment: The external wall is thermally insulated, but heat still leaks through windows and doors.

FROM ACTIVE TO PASSIVE!



Modern comfort: keeping warm without consuming energy.

EVERYTHING WELL-INSULATED AND AIRTIGHT.

From the roof down to the foundation slab: a jointlessly sealed and airtight building envelope ensures thermal and acoustic insulation. And the ventilation system - complete with heat recovery - takes care of fresh air supply and heat distribution.

Multi-Comfort House

Live comfortably and make high savings

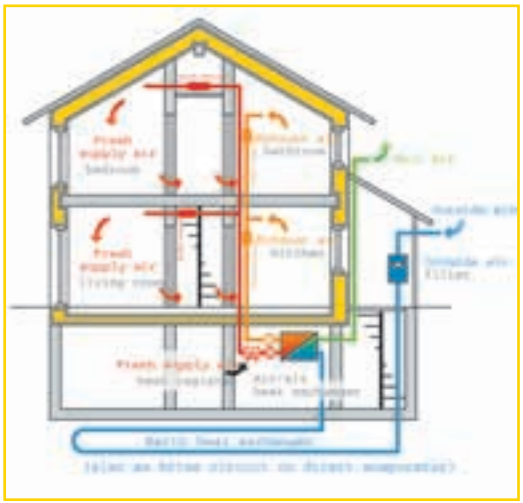
THE CONCEPT

POINT BY POINT A PROFITABLE SYSTEM.

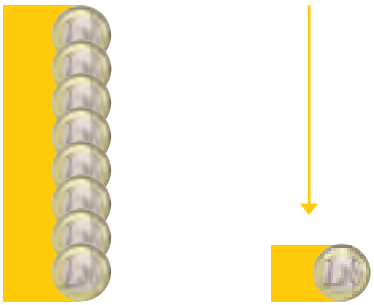
- Thermally insulated roof constructions
- Thermally insulated wall constructions
- Thermally insulated floor constructions
- Airtight building envelope
- Triple-glazed windows (for cold and moderate climate)
- Double-glazed windows (for warm climate)
- Insulated window frames
- Comfort ventilation System with heat recovery
- Optimum installation

AIR TEMPERATURE 20-23°C, RELATIVE AIR HUMIDITY 30-50 %.

In order to enjoy such agreeable living conditions, you have to dig deep into your pockets with conventionally built houses. Not with the ISOVER Multi-Comfort House where highest living comfort in all rooms helps you save a lot of cash. Even if the construction of such a house may incur extra cost, the total financial burden will be significantly lower compared to a conventionally built new house - thanks to extremely low energy costs over its useful life.



COSTS OF ENERGY CONSUMPTION



Standard house acc. to building regulations
8 Euro/m² per year

Multi-Comfort House
1 Euro/m² per year

IMPROVEMENT BY 8:1 COMPARED TO BUILDING REGULATIONS. THAT'S LIFE IN AN ISOVER MULTI-COMFORT HOUSE.

Compared to the passive house standard, not only conventionally built new houses but even more progressive types such as the low-energy house are comparatively expensive. Whenever possible, choose the passive house standard right from the start. After all, how often do you build a house? Just once in a lifetime.

ISOVER SAINT-GOBAIN

PLANNING AND INSTALLATION WITH MAXIMUM PRECISION AND RESPONSIBILITY.

Optimum house location, correct positioning of windows and doors, proper dimensioning of the ventilation system, very high insulation standard, tight building envelope - all these factors are considered before building an ISOVER Multi-Comfort House. Special attention must be paid to avoiding thermal bridges. Thermal bridges and leaks have serious consequences for every type of building. Technically as well as energetically.

Airtightness

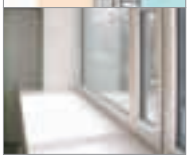
Largely reduced thermal bridges

HEATING ENERGY DEMAND:
< 15 kWh/m²a

Max. 10	W/m²	Heating load calculated according to the Passive House Planning Package
Max. 15	kWh/(m²a)	Specific heating energy demand
40-60	kWh/(m²a)	Specific total[1] final energy demand
100-120	kWh/(m²a)	Specific total[1] primary energy demand
Reference area (m²) is the heated useful living space.		

[1] total = including all of the household's energy consumers (heating, hot water, ventilation, pumps, lighting, cooking and household appliances)

U-value 0.1 W/m²K



U-value 0.7 W/m²K

COSINESS.

When living in a passive house, the enclosing areas such as walls, floors and windows have very pleasant inner surface temperatures, even at very low outdoor temperatures. External walls as well as floors above the cellar are only by 0.5 to 1 degree cooler than the room air temperature. Passive house windows are by 2 to 3 degrees cooler than the room air temperature. In houses that do not comply with the energy standard of a passive house, such a high degree of cosiness can only be reached with considerably higher heating costs.

Designing sustainable buildings

BUILDINGS: TACKLING THE CHALLENGES OF THE 21ST CENTURY

The world is changing at a faster rate than ever before. Whilst advances in science and technology have improved our quality of life, they have also highlighted how balanced is our environment. Global warming is no longer a remote concept, but a real threat to the future of mankind.

The building sector must recognise its impacts on global warming and preservation of our valuable and finite energy resources.

To address these issues we must change the way we design new buildings and renovate existing buildings so that we reduce their negative impacts on the environment. Through its support to sustainable construction, ISOVER wants to take up the challenge.

The construction process must preserve unique ecosystems, biodiversity and local landscapes, whilst ensuring a better quality of life and guaranteeing the health and safety of building occupants and users. Sustainable construction provides solutions that balance these sometimes contradictory issues and objectives. Working together with all of the partners in the building chain, ISOVER intends to be at the very front of this challenging new venture.

Benoit Carpentier
CEO
Saint-Gobain Insulation

The building sector potential

THE BUILDING SECTOR HAS A ROLE TO PLAY

Heating and air conditioning are the major causes of greenhouse gas emissions from buildings. In Europe, buildings alone are responsible for 30% of all emissions, equating to some 842 million tonnes of CO_2 each year – almost twice the Kyoto target.

But the building sector has a substantial potential. According to EURIMA (European Mineral Wool Manufacturers Association), by using advanced techniques and insulation systems to renovate or build better buildings, Europe could decrease its greenhouse gas emissions by 460 million tonnes – more than the total decrease commitment agreed in Kyoto!

To achieve this same level of saving by other means we would have to, for instance:

- Stop the 6 million cars currently running in London for 15 years, or
- Plant forests on a territory three times as large as France.

Climate with ISOVER glass wool

Thermal comfort: enhancing the performance of our insulation solutions

Thermal comfortis mainly associated with the maintenance and even distribution of interior room temperature and air quality.

It can be achieved by applying very high resistance thermal insulation to all room surfaces (including windows), combined with ventilation adapted to the season, doors and shutters, perfect air tightness to avoid unwanted air input and the building's good thermal inertia.

ISOVER's range of high performance insulation solutions is constantly being developed with new and innovative products and systems which take the science of insulation to a new level.

ISOVER's glass wool is the most efficient on the market with lambda 30 performance, and our global range of products includes lambda 32 products for glass wool and lambda 30 for polystyrene.

Acoustic comfort: enjoy the "comfort" class

Based on extensive studies of the very diverse types of noise, ISOVER has set a new insulation benchmark.

The new "ISOVER Acoustic Comfort Classes" define reliable acoustic comfort, going beyond the requirements set by the current European standards.

ISOVER Acoustic Comfort Classes help in selecting the most appropriate airborne and impact sound insulation, which is becoming increasingly important, especially in multi-occupancy buildings. ISOVER also offers various solutions for achieving these classes.

TECHNOSTAR is a complete commercial partition wall system for extended height applications requiring high levels of sound insulation performance as well as fire, thermal and structural performance. It is commonly used in cinemas to provide sound insulation between adjacent auditoria.

ISOVER SAINT-GOBAIN

Exceptional energy savings

the ISOVER range of products and systems allows very high levels of energy efficiency to be achieved in buildings. Energy savings of up to 90% can be achieved over an equivalent uninsulated house.

In 2006, the renovation of this german building improved the thermal comfort for all residents of the building and enabled a 90% drop in the consumption of primary energy. The building's thermal envelope was significantly upgraded and the new total energy consumption of the building is now 14 kWh/m^2/year.

ISOVER, a fire security specialist

Insulation plays a dual role in terms of fire protection through:

- its own inherentfire safety properties,
- its effecton the fire performance and stability of the structure in the case of fire.

Mineral wool insulation will not support combustion and has the highest possible Euro class A classification (A1 & A2 s1d0); neither will it produce toxic fumes in a fire situation.

The exceptional insulating properties of mineral wool means that it contributes to the fire resistance of walls and thus the overall stability of buildings, helping to provide valuable extra time for evacuation.

EPS also meets fire safety requirements. In almost all building applications, however, EPS is used in combination with another material, such as plasterboard or concrete, which provides additional protection. In specific applications where the EPS is exposed, fireproofed EPS is often recommended.

ULTIMATE has been specifically designed for improved safety. It is resistant to high temperatures (up to 650°C) and can serve as a fireproof barrier. It can also be used to make ducts airtight and watertight in airconditioning systems and industrial or domestic hot water piping systems.

Climate With ISOVER Glass Wool

Insulation solutions for an improved indoor environment

We want to help reduce the sources of pollution by selling solutions that comply with allexisting requirements for indoor air quality. Our insulation solutions do not contribute to indoor air pollution, and are safe to handle and install in the home or office.

Mineral wool is generally installed in such away that no release of dust and fibres occurs after application, and tests to determine possible exposure of building occupants have shown no significant generation of airborne mineral wool fibres.

ISOVER mineral wool and polystyrene products do not provide a medium for the growth of micro organisms. They do not rot, decay or sustain mould. ISOVER hemp wool products are treated with biocides and fungicides to prevent development of micro organisms.

Since moisture promotes mould growth, controlling the level of moisture is one of the best and easiest ways to improve indoor air and protect your health: that is why we have developed the ISOVER VARIO membrane.

Indoor air quality is closely related to ventilation. Fresh outdoor air replaces indoor air through ventilation, thus removing and diluting contaminants generated indoors. ISOVER encourages the development of high performance controlled ventilation to maintain adequate air quality while reducing energy consumption.

The VARIO system allows timber roof and wall structures to breathe and dry naturally.

In winter, when the inside air is warmer than the outside, water vapour is pushed into the structure where it remains with potentially long term damaging affects on timber.

The VARIO system impedes the ingress of this water vapour by automatically reacting to the climatic conditions and closing its pores.

In summer however, when the ambient temperature is increa-sed, the VARIO system has the reverse effect by opening its pores to allow trapped water vapour to escape inwards, thus ensuring that the structure can dry naturally.

www.isover-students.com

All the relevant information since 2005: all participants and their projects, video recordings of the presentations and contest tasks, documentation, literature, photo gallery