PROPOSAL FOR A NEW CIB WORKING COMMISSION

CONSTRUCTION MATERIALS STEWARDSHIP

Background
This proposal is intended to build on and extend, the work carried out in CIB Task Group TG39 "Deconstruction"

This Task Group was formed in 1999 in Gainesville, Florida (University of Florida). The first meeting of the group was held in 2000 in Watford, England (BRE) and resulted in CIB Publication 252, "An Overview of Deconstruction in Selected Countries" that addressed the subject of deconstruction from the perspective of the eight countries represented.

The second publication produced by the group, CIB Publication 266 "Deconstruction and Materials Reuse: Technology, Economic and Policy" comprising 10 refereed papers from eight counties was published in 2001, when the task group meeting was held in conjunction with the CIB World Congress in Wellington, New Zealand.

The third product of the group, CIB Publication 272 is the proceedings of conference held in association with the third annual meeting of TG39 that took place in Karlsruhe, Germany (DFIU - University of Karlsruhe) in 2002. This publication consisted of 18 fully refereed papers from 11 countries.

The final meeting of the Task Group took place in Gainesville in conjunction with the 11th Rinker International Conference "Deconstruction and Materials Reuse", Florida (UFL) in 2003. CIB Publication 287 contained the proceedings from this gathering and included 36 refereed papers from twelve countries.

The final product of TG39, CIB Publication 300, was a state-of-the art report on deconstruction and materials reuse in Australia, Germany, Israel, Japan, The Netherlands, New Zealand, Norway, Sweden, Turkey, the United Kingdom, and the United States of America. Each country report contained 9 chapters:

1. Introduction
2. Demolition and Deconstruction Techniques, Machinery and Tools
3. Whole Building and Components Reuse
4. Enhancing Materials Recyclability
5. Environmental Health and Safety
6. Economics of Deconstruction and Marketing of Used Materials
7. Design of Buildings and Components for Deconstruction
8. Policy, Regulations, Standards, Liability
9. Barriers

Upgrade to Working Commission
During the currency of TG39, the world has undergone significant change in its attitudes to planetary resources. Books such as "Natural Capitalism" and "Cradle to Cradle" cyclic and closed loop thinking, ideas relating to international, intergenerational and interspecies equity, the shift from 'green' to triple bottom line 'sustainability' imperatives, have all played their part in this shift. There has been growing acceptance that the planet's material resources are limited. It is clear that there is a need to carefully husband resources and use them in responsible ways that fulfil the stated intentions of sustainable development.

In seeking to establish a new working commission the intention is to continue and extend the work and achievements of TG39. The research to be undertaken by this working commission will be more extensive in nature, scope, depth and coverage than the work undertaken covered by TG39. The status of a working commission would acknowledge that research into construction materials stewardship is important in making a substantive contribution to progressing CIB's stated aims to promote sustainable construction and development.

It is intended to establish a series of specialist task groups that will carry out a coherent programme of research which will fit into an overall programme matrix (roadmap). Each of these specialist groups will be supported by, report to and obtain feedback from the group as a whole. Every opportunity will be taken to establish and develop synergies with other existing CIB Working Commissions and Task Groups.

Mission Statement
To drastically reduce the deployment and consumption of new non-renewable construction materials, to replace non-renewable materials with renewable materials wherever possible, achieve equilibrium in the demand and production of renewable materials and ultimately to restore the renewable material resource base. To carry out these tasks in ways to maximise positive financial, social and environmental and ecological sustainability effects, impacts and outcomes.

Objectives

1. Determine ways to utilise new and existing construction materials in the most effective and ecologically, environmentally, socially and financially responsible manner possible
2. Develop life cycle costing and management mechanisms for materials
3. Develop systems to mitigate and ultimately avoid construction material waste
4. Develop ways of using material wastes as raw materials for making construction materials
5. Develop methodologies for designing for closed loop materials use and for the effective recovery of materials and components from existing buildings
6. Develop design and construction methodologies for transformable and adaptable buildings and spaces to extend service life and so reduce overall construction material resource use
7. Establish strategies to promote whole building, component and materials reuse
8. Establish ways to regenerate the renewable materials resource base and improve the performance, availability and use of renewable construction materials
9. Establish methods and strategies to enhance utilisation of used construction materials
10. Establish what the barriers are to the sustainable use of building materials and devise methodologies to overcome these barriers.
11. Develop information and research outcomes that will contribute to and facilitate the establishment of policy and regulatory standards, initiatives and options aimed at reducing new materials deployment and consumption
12. Develop the necessary techniques and tools to support the foregoing objectives

Other Task groups and Working Commissions
It is intended to work consultatively and cooperatively with existing CIB Task Groups and Working Commissions wherever possible so as to add value to the work of both groups and avoid duplication. To this end the following Task Groups and Working Commissions have so far been identified for consultation:

TG38 Urban Sustainability
TG43 Megacities
TG45 Performance Indicators for Urban Development
TG55 Smart and Sustainable Built Environments
TG48 Social and Economic Aspects of Sustainable Construction
TG66 Energy and the Built Environment
W080Prediction of Service Life of Building Materials and Components
W082 Future Studies in Construction
W100 Environmental Assessment of Buildings
W104 Open Building Implementation
W108 Climate Change and the Built Environment

Membership
Representatives of seven countries (Brazil, Canada, Germany, New Zealand, Norway, Portugal and USA) were present at the initial meeting of the group held at Sarasota, Florida in September 2006.

This group expressed a unanimous desire to create a working commission to further and extend the work of TG39. Expressions of interest in the establishment of a Working Commission have been received from eight further countries, Australia, Israel, Japan, Sweden, The Netherlands, Turkey, UK and Venezuela.

Work Programme
The immediate tasks are seen as:

1. Expanding the membership base, both within member's own countries and in other countries.
2. Contacting the co-ordinators existing task groups and working commissions listed above and develop co-operative, synergistic, working arrangements.
3. Developing and agreeing a set of detailed objectives and establishing a prioritised roadmap for achieving these targets, taking into account work already covered by existing task groups and working commissions.
4. Developing a group database containing:
    - All accessible literature with accompanying literature reviews on the subjects under study
    - Information on relevant initiatives, interventions and programmes in each member country

First Meeting of the Working Commission
Should the CIB Programme Committee agree to the establishment of this working commission its first meeting will be in September 2007 in Lisbon, Portugal where it will be held in conjunction with the CIB Regional Sustainable Construction Conference "Sustainable Construction, Materials and Practice".

The second meeting of the working commission will be held in Melbourne, Australia in 2008, in conjunction with the SB08 World Sustainable Building Conference.

Thereafter it is proposed that further meetings will be held on an annual basis in conjunction with suitable conferences in the countries of different members.

Co-ordination
At the initial meeting of the working commission group in Sarasota, Abdol Chini Director and Professor, Rinker School of Building Construction, University of Florida, USA and John Storey, Reader in Sustainable Architecture at the School of Architecture, Victoria University of Wellington, New Zealand, were selected by the members as co-coordinators for the working commission.

However it was felt that this was a very complex subject with an ambitious set of objectives that would require a high level of coordination of the main and sub-groups, with a consequential high workload for the coordinators. Rather than removing vital elements from the scope of the Working Commission, the group therefore felt that it would be highly desirable to appoint a third coordinator to ensure that the highest level of success was achieved across all the subject areas. Frank Schultmann, Professor Doctor and Chair of Business Administration, Construction Management and Economics at the University of Siegen, Germany agreed to fulfil this role.

The three coordinators know each other well and worked well together in TG39. They come from different but complimentary building disciplines, (engineering/construction, design/construction, management/economics), come from different geographic locations on the planet (The Americas, Asia/Pacific, Europe) and will be able to offer different professional and regional perspectives and expertise. The coordinators consider that they will be able to share the workload and the work together in a very synergistic way to the benefit of all the members of the working commission and to the better achievement of the working commission's mission statement and objectives.

Working Commission Coordinators - Short Bios

Dr. Abdol R. Chini

Abdol Chini is currently a professor of Building Construction and Director of M.E. Rinker, Sr. School of Building Construction at the University of Florida. He received his Ph.D. in Structural Engineering in 1986 from the University of Maryland at College Park. Abdol has performed extensive research on the reuse and recycling of construction materials including recycled concrete aggregates, wastewater

generated at concrete plants, and salvaged lumber from deconstructed buildings to minimize environmental impacts. He is a registered professional engineer and his work experience includes quality control manager and project manager for several construction projects in Washington DC metropolitan area. Abdol was the Coordinator of Task Group 39 (Deconstruction) of the International Council for Research and Innovation in Building Construction (CIB). He has edited three books and published more than 80 papers. He was listed in *Who's Who in Science and Engineering* in 2000/2001 and was the recipient of the 2003 UF Research Foundation Professorship.

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John B. Storey

John Storey is Associate Professor and Reader in Sustainable Architecture at Victoria University of Wellington School of architecture in New Zealand. John was the New Zealand national coordinator for Task Group 39 (Deconstruction). He continues to work to promote the adoption of resource effectiveness, resource recovery and deconstruction principles, both nationally and internationally, through advice to government agencies and industry and through research and practice. He is an architect, has practiced in the UK, Finland, Hong Kong and New Zealand, and has gained a number of national and international design awards and is the principal of an architectural practice that specialises in designing and advising on sustainable architecture and environmental design and construction. He was Deputy Dean of VUW's Faculty of Architecture and Design 2002-2005 and Acting Dean in 2003.

A/Prof. Storey was Technical Advisor to The NZ Parliamentary Select Committee on *Weathertightness in Buildings,* which precipitated major revisions to the New Zealand Building Code. He was also a member of the New Zealand Building Reference Group which advised the New Zealand Government on the introduction of sustainable development into the NZ Building Act (2004) and is currently a member of the NZ Department of Building and Housing Working Group developing performance standards and criteria for the resource conservation and efficiency sections of the new NZ Building Code. He is a member of the NZ Green Building Council Technical Committee, the Victoria University of Wellington Environment Committee, the VUW ESD Team and the VUW Campus Planning Group. He is consulted by a wide variety of central and local government and industry organisations on sustainability related design and construction matters. A/Professor Storey is the author of more than 70 reports, articles and conference publications as well as numerous invited presentations and lectures on aspects of sustainability. His extensive contract and personal research is entirely focused on sustainable design and construction.

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Dr. Frank Schultmann

Frank Schultmann is a full professor and holds the Chair of Business Administration, Construction Management and Economcis, Faculty of Civil Engineering, at the University of Siegen. He studied Business Engineering at the University of Karlsruhe and was research assistant and head of two research groups at Institute for Industrial Production and the French-German Institute for Environmental Research at the University of Karlsruhe. He completed his doctoral thesis (1998) at the Faculty of Economics and Business Engineering and his habilitation (2003) receiving the venia legendi (teaching authority) in Management Science. In 2003, he was appointed to the position of an associate professor at the University of Karlsruhe. In 2003, he was offered a professorship of Business Administration at the University of Bremen. In 2004 he was appointed to the professorship of Industrial Management at the University of Koblenz-Landau, where he was head of the Department "Industry, Production and Logistics". In 2004 he was appointed to his present position.

He has been awarded several scientific awards and a large number of research grants. He has conducted more than 40 research projects. He is a member of several scientific organisations, member of the editorial boards and several scientific commissions. His list of publications includes 6 monographs, 4 editorships and more than 130 scientific articles.

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