

CIDB GUIDELINES ON CONSTRUCTION WASTE MANAGEMENT



TABLE OF CONTENTS

	Page
Preface	iv
Acknowledgements	v
1. Introduction	1
1.1 What is construction waste?	1
1.2 Why Manage Construction Waste?	2
1.3 Malaysian Perspective	3
1.4 Objectives of this Guideline	3
2. Roles and Responsibilities of Construction Industry Players	4
2.1 Client	4
2.2 Consultants	5
2.3 Contractors/Sub-Contractors	7
2.4 Concluding Remarks	9
3. The Waste Management Plan	10
3.1 Concept & Strategy	10
3.2 Objectives	10
3.3 Waste Management Hierarchy	11
3.4 Waste Minimization Plan	18
3.5 Overall Implementation	19
3.6 Onsite Monitoring	20
3.7 Transportation & Disposal System	21
4. Legislative Requirements	22
4.1 Introduction	22
4.2 Legal Requirements by related agencies	22

5. Good Management Practices	28
5.1 Waste Management System in Putrajaya	28
5.2 Concrete Waste Management in Putrajaya	31
5.3 Wood Waste Management in Putrajaya	42
5.4 Metal/Scrap Management in Putrajaya	47
5.5 Waste Oil / Used Diesel Management in Putrajaya	49
Bibliography	51
Appendices	52

PREFACE

As we move toward becoming an industrialized nation, Malaysians are beginning to realize that environment and development are the opposite sides of the same coin. Renewable resources are fast becoming depleted or rendered economically useless due to the unsustainable manner in which they have been exploited. The construction industry is one of the major sectors that has and will keep on playing a very important role in driving Malaysia towards the achievement of Vision 2020. However, environmental degradation that resulted from construction activities has been widely reported by the media. There is no denying that in general practices in the construction industry accord very little attention to principles of sustainable development. To avoid irreversible damage to the environment, the Malaysian Construction Industry Development Board emphasizes this issue in the Malaysian Construction Industry Master Plan 2005-2015. The Plan identified six Strategic Thrusts to be implanted in the 15-year Master Plan duration. Strategic Thrust No. 3 – Strive for environment-friendly and sustainable construction processes and resource management.

One of the major concerns of environmental degradation that results from construction activities is the production of construction and demolition (C&D) wastes. Though there is no reliable record on the actual amount of C&D wastes generated and disposed of in Malaysia, estimates from researchers, practitioners, and regulators have led us to believe that the C&D wastes constitute more than 30% of the total wastes generated in the country. This large amount of C&D waste generated clearly points out that the construction industry is not efficient and does not utilize resources in a sustainable manner. There is a need to review the current practices in the construction industry in order to improve the processes so that a better and more efficient ways of design, construction, operation and maintenance can be put forward that will result in less wastes. This guideline is prepared to assist stakeholders in the construction industry to understand the concepts of integrated waste management and waste minimization; to assist stakeholders in identifying measures that can be adopted in their projects toward minimizing C&D wastes and moving towards sustainable construction practices. Roles of major players, namely, the Client, Consultants and Contractors in implementing waste minimization in construction projects are outlined and the importance of sharing a common view towards sustainability is highlighted. Various regulatory instruments related to the construction industry and waste disposal are also included and finally some descriptions of good practices found in Malaysia are documented in this guideline for references of the stakeholders.

I sincerely believe that this guideline will be of immense help to various stakeholders in the Malaysian construction industry towards a sustainable environment. I wish to extend my heartfelt gratitude to all members of the technical committee for their guidance and the working group (WG6) for their contributions.

Chief Executive
Construction Industry Development Board (CIDB)

ACKNOWLEDGEMENT

TECHNICAL COMMITTEE 9 (CIDB/SWO/TC9)

Prof. Madya Dr. Joy Jacqueline Pereira (Chairperson), Institut Alam Sekitar dan Pembangunan (LESTARI)

En. Patrick Tan Hock Chuan, Jabatan Alam Sekitar (JAS)

Ir. Ahmad Fuad Embi, Pn. Anita Ainon, Jabatan Pengairan dan Saliran (JPS)

Pn. Geetha P. Kumaran, Persatuan Pengurusan dan Penyelidikan Alam Sekitar Malaysia (ENSEARCH)

En. Abdul Aziz Long, SIRIM QAS International Sdn. Bhd. (SIRIM QAS)

En. Tan Choo Lan, Jabatan Kerajaan Tempatan (JKT)

En. Fauzi Mat, Jabatan Perumahan Negara (JPN)

Ir. Abu Harith Shamsuddin, Jabatan Kerja Raya (JKR)

Ir. Prof. Dr. Ruslan Hassan, Institusi Jentera Malaysia (IEM)

Dr. Saim Suratman, Jabatan Mineral dan Geosains Malaysia (JMGM)

Ir. Tan Gee Hoi, Lim Len Wei, Persatuan Pemborong Binaan Malaysia (MBAM)

En. Tiah Oon Ling, Persatuan Pemaju Hartanah dan Perumahan Malaysia (REHDA)

Datin B.S. McCoy, Persatuan Perlindungan Alam Sekitar Malaysia (EPSM)

Ar. Steven Thang Boon Ann, Persatuan Arkitek Malaysia (PAM)

Pn. Winnie Ng Guat Poh, Association of Consulting Engineers Malaysia (ACEM)

En. David Yap, Association of Environmental Consultants and Companies of Malaysia (AECCOM)

Pn. Norliza Hashim, Malaysian Institute of Planners (MIP)

Pn. Chui Yuet Yue, Putrajaya Holdings Sdn. Bhd. (PJH)

Ir. Dr. Zuhairi Abd. Hamid, Construction Research Institute of Malaysia (CREAM)

En. Ismail Mat Nor, Construction Industry Development Board (CIDB)

En. Mohd. Azhar Helmi Soo, Construction Industry Development Board (CIDB)

En. Mohd Saiful Rizal Yusoff, Construction Industry Development Board (CIDB)

En. Abul Aun Ahmad Fudzil (Secretary), Construction Industry Development Board (CIDB)

WORKING GROUP 6 (CIDB/SWO/TC9/WG6)

Pn. Chui Yuet Yue (Chairperson), Putrajaya Holdings Sdn. Bhd.

Ir. Prof. Dr. Suhaimi Abdul Talib, The Institution of Engineers Malaysia (IEM)

Ar. Voon Wan Lin, Pertubuhan Arkitek Malaysia (PAM)

Pn. Sharifah Yaacob, Alam Flora Sdn. Bhd. (AFSB)

Cik. Raihani Che Mamat, Jabatan Perumahan Tempatan, KPKT

Pn. Azrida Abdul Manab, Lembaga Urus Air Selangor (LUAS)

En. Patrick Tan Hock Chuan, Jabatan Alam Sekitar (JAS)

En. Alias Mohd Zain, Jabatan Perumahan Negara, KPKT

Tiah Oon Ling, Real Estate and Housing Developer's Association (REHDA)

Ir. Laxana Naidu/ Ir. Siva Kumar, Persatuan Pemborong Pembinaan Malaysia (MBAM)

Nor Hamiza Zahar, Construction Industry Development Board (CIDB)

Siti Khadijah Satari (Secretary), Institut Alam Sekitar dan Pembangunan (LESTARI), UKM

RESEARCH TEAM ON "WASTE MINIMISATION AND RECYCLING POTENTIAL OF CONSTRUCTION MATERIALS"

Assoc. Prof. Dr. Joy Jacqueline Pereira (Leader), Institut Alam Sekitar dan Pembangunan (LESTARI)

Pn. Zalina Ibrahim (Putrajaya Holdings Coordinator), Putrajaya Holdings Sdn. Bhd.

Pn. Chui Yuet Yue, Putrajaya Holdings Sdn Bhd

En. Suresh Kumar Lachimpadi, Putrajaya Holdings Sdn Bhd

En. Victor Wong Lee Wee, Institut Alam Sekitar dan Pembangunan (LESTARI), UKM

Siti Khadijah Satari, Institut Alam Sekitar dan Pembangunan (LESTARI), UKM