

2nd ASIAN FORUM ON:

Regional-specific issues related to built environments and housing in Asia - Singapore

**Singapore Construction Information Standardisation
Initiatives:
Classification of Cost & Resources**

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Outline of Seminar

PART 2:

- **SS CP80:1999 (Classification of Cost Information)**
 - Purpose
 - Contents
 - Application
- **CRCS / SS CP93:2002 (Classification of Resources Information)**
 - Purpose
 - Contents
 - Application



SS CP 80 : 1999

Classification of CONSTRUCTION COST INFORMATION



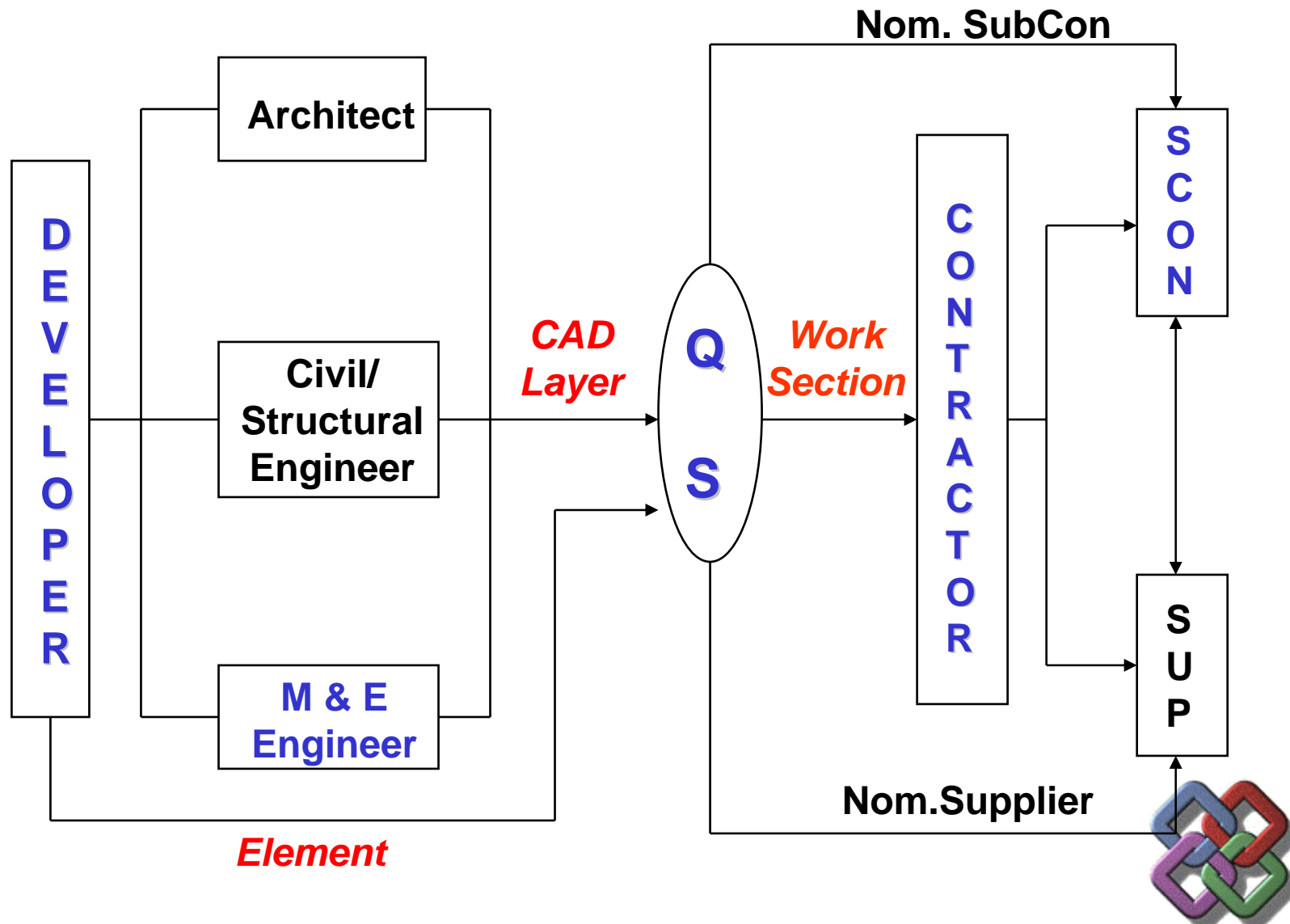
Contents of CP 80: 1999

THE STANDARD COMPRISES:

- **An Elemental Classification**
- **A Work Sections Classification**
- **A Mapping Dictionary for CAD layers and elements – *CP83 (Part 1)***
- **A Mapping Dictionary for elements and work sections**
- **Guidance notes**



Cost Information Framework for the Construction Industry



Review of International Standards

- **BCIS Standard List of Elements for Cost Analysis (UK)**
- **CI/SfB Construction Indexing (UK)**
- **Uniclass (UK)**
- **Mastercost Construction Element Categories (US)**
- **National Public Works Conference (NPWC) List of Elements (Australia)**
- **SMM7 (UK)**



Elemental Classification

BCIS-BASED METHOD

- **Most widely accepted (by local QS)**
- **Defines 'element' by function**
- **Modifications to include**
 - **other standards**
 - **local conventions**



Approach for Alignment with Industry Practice

- **BCA Awards for Construction Excellence**
- **High-rise development with basement**
- **High M&E content**



Model Projects

Winners of BCA Award or Certificate of Merit for Construction Excellence:

- **Suntec City Package 4**
- **Central Green Condominium**
- **Hillview Heights Condominium**
- **The Bayshore**
- **The Exchange**
- **Trader Hotel at Yangon**



Structure of Elemental Classification

3 MAIN DIVISIONS:

- **Group elements**
- **Elements**
- **Sub elements**



Elemental Classification

- Example -

Group Element : SUPERSTRUCTURE

Elements :

- Columns & Walls
- Upper Floors
- Roof
- Staircases
- External Walls & Cladding
- Internal Walls & Partitions
- Doors & Ironmongery

Sub Elements :

- Columns; Walls
- Slabs; Beams
- etc.



Work Sections Classification

SMM-BASED METHOD

- **Most widely accepted by industry**
- **SMM7 (UK) for structure**
- **SMM2 (S'pore) & Uniclass for contents**



Structure of Work Sections Classification

4 MAIN DIVISIONS:

- **Work sections**
- **Type of work**
- **Sub division 1**
- **Sub division 2**



Work Sections Classification

- Example -

Work Section : **WALL & CEILING FINISHES**

Type of Work : **Internal in-situ finishes**
External in-situ finishes

Sub Division 1: **Rendering; Plastering; etc.**

Sub Division 2: **Ceilings; Sides & soffits of beams; Sloping soffits of stairs**



Some Uses

- **Cost appraisals**
- **Cost plans**
- **BQ preparation**
- **Data storage & retrieval**



CRCS or
SS CP 93 : 2002
Classification of
Construction Resources
Information



Construction Resources would include ...

construction products and activities describing the physical aspects of construction ... more specifically,

- **Products**
- **Materials**
- **Machinery**
- **Services**



Review of Established Standards

- **Uniclass**
- **CI/SfB (or SS376:1995)**
- **UN/Central Product Classification**
- **UN/SPSC**
- **CSI/CSC MasterFormat (1995 ed.)**



CRCS is in 2 Parts

1. **National Endorsement
of CSI *MasterFormat*
(1995 ed.)**
2. **National Amendment**
 - **To highlight deviations
to suit local use**



National Endorsement

CSI *MasterFormat* (1995 ed.)

- **Structure**
 - 16 divisions; 4 levels
- **Content**
 - Construction specific
- **Generic Terminology**
- **Easy mapping onto CP 80 (work sections)**



CSI *MasterFormat* Level One (Division) Titles

- **General Requirements**
- **Site Construction**
- **Concrete**
- **Masonry**
- **Metals**
- **Wood and Plastics**
- **Thermal and Moisture Protection**
- **Doors and Windows**
- **Finishes**
- **Specialties**
- **Equipment**
- **Furnishings**
- **Special Construction**
- **Conveying Systems**
- **Mechanical**
- **Electrical**



Scope of National Amendment

- **6-digit numbering (instead of 5-digit)**
 - **New titles***
 - **Re-named titles***
 - **Equivalent local terminology**
- (* in-line with BCCA's operational version of the *MasterFormat*.)



Typical Arrangement of Divisions & Levels

DIVISION 1	010000	GENERAL REQUIREMENTS
Level 2	015000	Temporary Facilities and Controls
Level 3	015100	Temporary Utilities
Level 4	015101	Temporary Electricity
DIVISION 2	020000	SITE CONSTRUCTION
Level 2	022000	Site Preparation
Level 3	022100	Subsurface Investigation
Level 4	022101	Boring and Exploratory Drilling



Primary Use

A standardised way of information classification for construction products, materials, services and machinery to facilitate resource selection, specification, pricing, procurement ...



Primary Benefit

In the context of e-procurement, uniformity permits INTEROPERABILITY among trading firms, both on the local and global platforms ...

... leading to increased productivity and cost savings for firms and the industry as a whole.



END OF SEMINAR

Thank You

