



INTRODUCTION TO CONSTRUCTION INDUSTRY + INTRODUCTION TO DRAWING

GROUP:

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ASSIGNMENT 1

Quantity Surveyor

Quantity Surveyor

What is Quantity Surveyor?

- * professional working within the construction industry concerned with construction costs and contracts.

Before Construction

- * feasibility studies of a project
- * roughly estimate what's involve in the project (MEASUREMENT OF SKETCHES)
- * studies architects' & engineers' plans
- * identify cost & overall budget (VALUED ENGINEERING)
- * final detailed estimate is prepared by QS & architect.

During Construction

- * provide flow of cash data.
- * Can access cost effects when change of project occur.

HISTORY OF QS

- * Dates back to the 17th century
 - ↳ During restoration of London after the Great fire 1666.
- * Found in the Bible in the Book of Luke 14:28
- * Paid by the day (wage)

SERVICES OF QS

- * Financial advisor
 - prepare budgets for building projects.
 - advices on effects of quality to the budget.
- * Construction Advisor
 - advise on cost for - alternative material
 - construction method
 - preparation of tender documents.
- * Contract Administrator
 - advise on matters between client & consultant.
 - advise on matters between client & contractor.
 - advise on contract interpretation, payments, final accounts etc.

After Construction

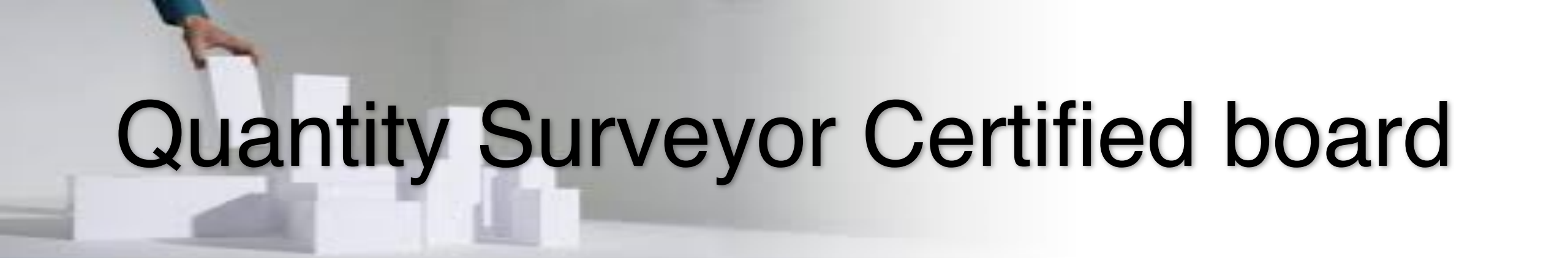
- * QS prepare statement of final account (RECORDS ACTUAL COST FOR ALL SECTIONS OF JOB)

CONCLUSION

- * QS is expected to:
 - give advice
 - achieve value for money
 - manage budget & control cost
 - achieve quality product.
 - satisfy the client.

Definition of Quantity Surveyor

- **Providing advices on procurement, contracts and project cost management.**
- **Work as consultants or be employed by a contractor or sub-contractor.**

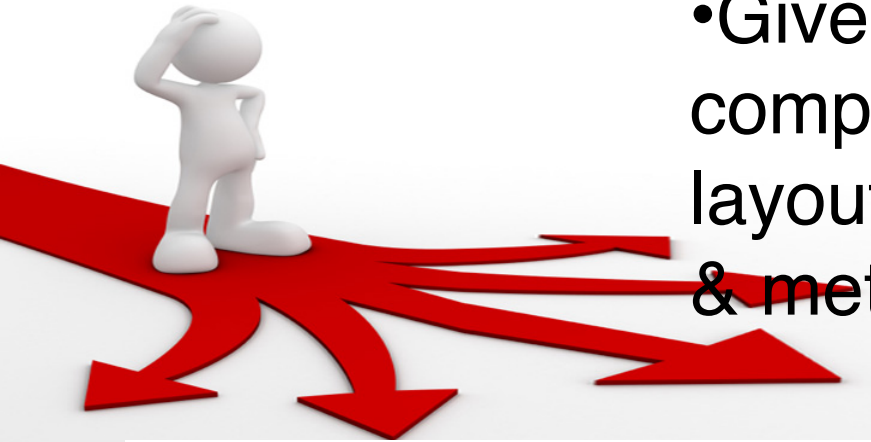


Quantity Surveyor Certified board

- The Board of Quantity Surveyors Malaysia was set up by an Act of Parliament, i.e. Quantity Surveyors Act 1967 (revised 2002). The Board consists of a President, a Registrar and sixteen (16) members appointed by the Minister of Works, Malaysia.
- to approve or reject applications for registration or approval to practise under this Act or to approve any such application subject to such conditions or restrictions as it may deem fit to impose
- to order the issuance of a written warning or reprimand, the imposition of a fine, suspension, cancellation, removal or reinstatement in accordance with Part III and IV Quantity Surveyors Act

Scope of Work Handled by Quantity Surveyors

- Preliminary Cost Advice
 - Give practical advice on comparative costs of alternative layouts, materials, components & methods of construction.



- Cost Planning
 - To help the design team to keep within the budget from start to the end of the project



- Contractual Methods
 - Advise on the best form of contract for a specific project.



- Tendering
 - Calculating the cost and risk to tender for the project.

- Choice of Contractor
 - Quantity surveyor makes recommendation of contractors base on past performances to the employers.



- Valuation of Construction Work
 - Quantity surveyor evaluates work carried out before making certified payment.

• Increase Efficiency

- Making sure that fairness exists between employer and contractors to make work smoother and easier.



Responsibilities & Tasks at Different Stages of Construction

- Monitor cost at different stages of project.
- Certify payment and invoices.
- Negotiating disputes.
- Advising on budgets and costs.
- Giving advice for disputes on contracts.

Before Daily Activities Construction starts...

- Feasibility studies of a project
- Roughly estimate what's involve in the project
(Measurement of Sketches)
- Study architects' and engineers' plans
- Identify cost and overall budget
(Value Engineering)
- Final detailed estimate is prepared by Quantity Surveyor and Architect



- During Construction...
 - Provide flow of cash data
 - Can access cost effects when change of project occur

- After Construction...
 - Quantity Surveyor prepare statement of final account
(Records actual cost for all sections of job)

Stages that involve in cost planning during design and construction

Preliminary Estimate

Using research market price to estimate



Cost Plan

Calculating project cost according to elemental analysis



Cost Check

Evaluating the work done according to cost



Tender

Reconciliation
Comparing tender price with final cost



Post-Contract Cost Control

Controlling cost at different stages of construction

TYPE OF DRAWING

Preliminary Drawing



Tender Drawing

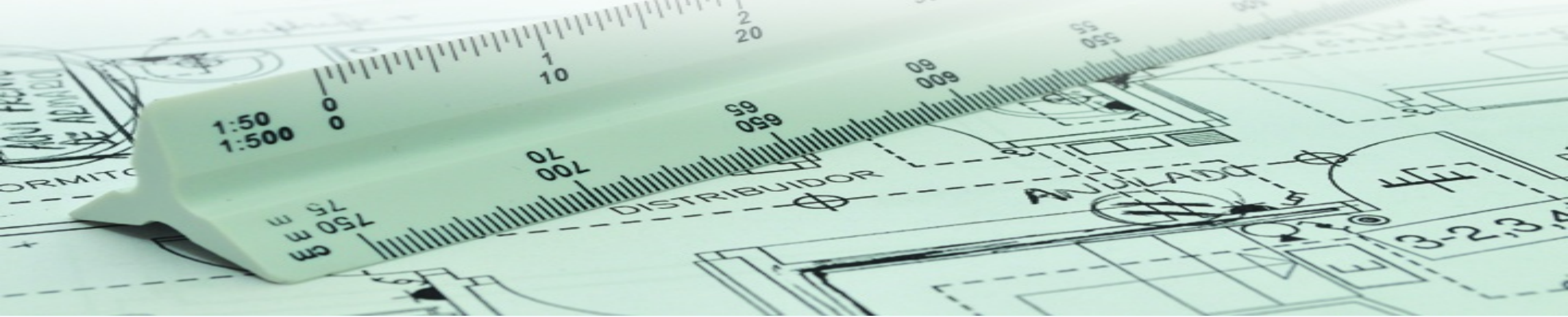


AS-Built
Drawing



Contract
Drawing





Preliminary Drawing

- A rough design with less detail
- Estimate the budget of a project
- Can be used to prepared cost plan



Tender Drawing

- A complete design with full details by Architects and Structural engineer
- Comprise of architectural and structural drawings
- Can be used to prepare Bills of Quantities



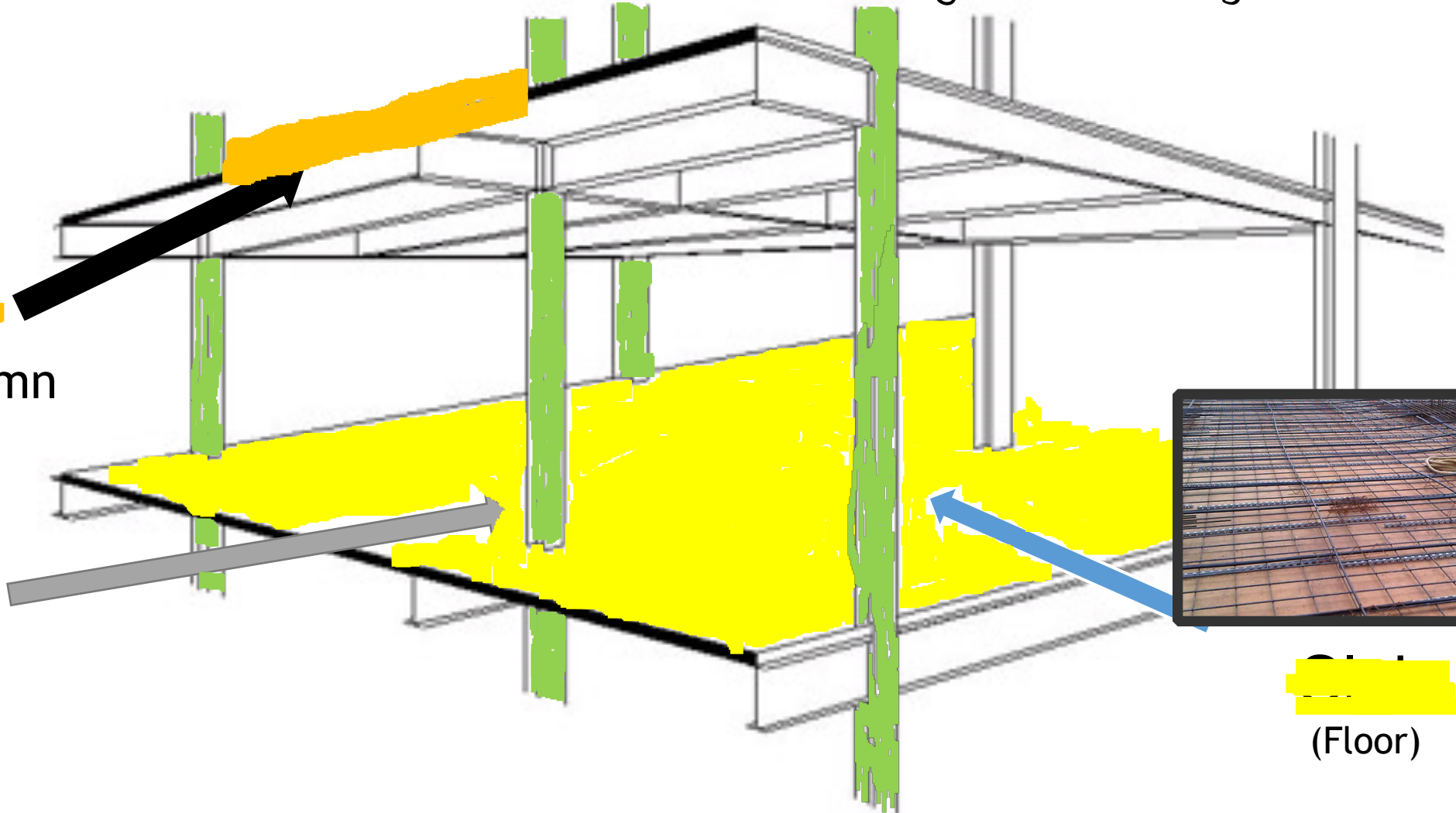
STRUCTURAL DRAWING

By Structural Engineer



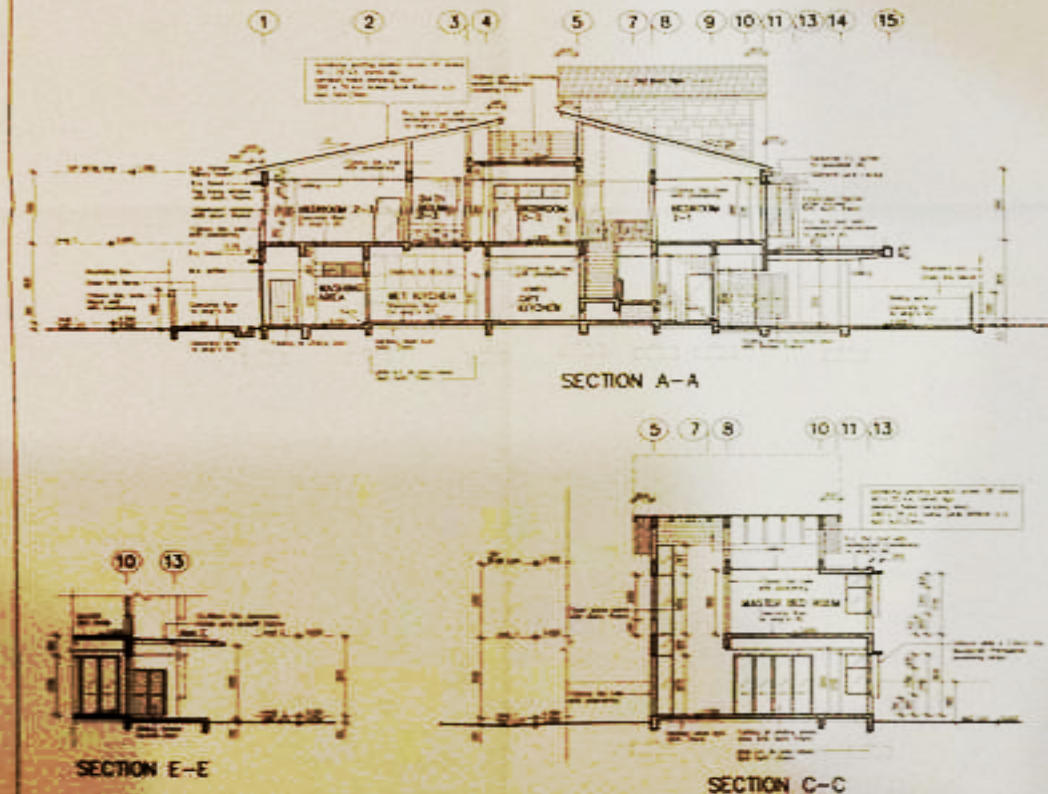
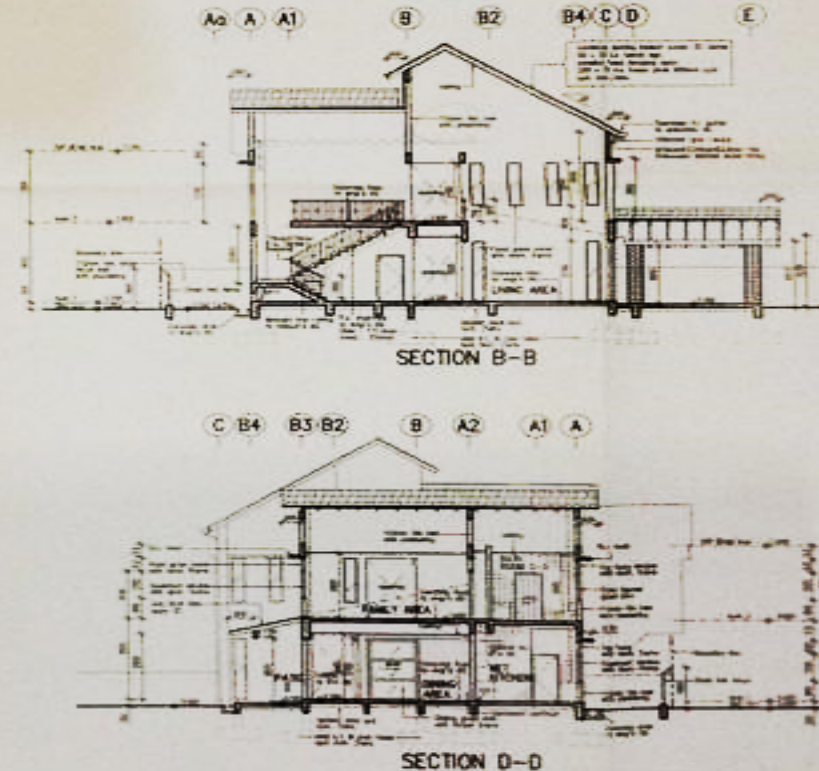
- Between 2 column

Column



Slab
(Floor)

Architectural Drawing by Architect



TENDER DRAWING
DATE OF ISSUE: _____
REVISION: _____

CADANGAN MEMBINA SATU RUMAH
SESEBUAH 2 TINGKAT DI ATAS PELAT A
(BERKANTUNAN PT2499 & PT2500 NO
BANGUNAN PRT/A/18-2-12). SEKSYEN 43,
BANDAR KULUM, DAERAH KULUM,
KEDAH DARUL AMAN

UNTUK
AHMAD GHORIS BIN TALJUDIN &
FAUZIYAH BINTI AHMAD

SECTIONS

NO. DRAWING	1	NO. RUMAH	DS
NO. RUMAH	1	NO. RUMAH	A4/4
NO. RUMAH	1	NO. RUMAH	
NO. RUMAH	1	NO. RUMAH	
NO. RUMAH	1	NO. RUMAH	

St Albans Primary - Phase 2

Masterbill

GROUNDWORK			
<u>D20: EXCAVATING AND FILLING</u>			
<u>Site preparation</u>			
Removing trees; filling voids left by removal of roots with selected material arising from excavation			
A	girth 0.60 - 1.50m	8 nr	150.00
Clearing site vegetation; filling voids left by removal of roots with selected material arising from excavation			
B	bushes, scrub, undergrowth, hedges, trees and tree stumps not exceeding 800 girth; PROVISIONAL	555 m2	0.50
<u>Excavating</u>			
Top soil for preservation			
C	average 150 deep	720 m2	0.30
Trenches width not exceeding 0.30m			
D	maximum depth not exceeding 1.00m	13 m3	11.00
Earthwork support			
E	maximum depth not exceeding 1.00m; distance between opposing faces not exceeding 2.00m	88 m2	2.70
Compacting			
F	bottoms of excavations	18 m2	-
G	ground	221 m2	-
Disposal of excavated material			
H	off site	19 m3	-
<u>Excavating; by hand</u>			
To reduce levels			
J	maximum depth not exceeding 1.00m	6 m3	28.00
0209		To Collection	2,662.11

Description & material

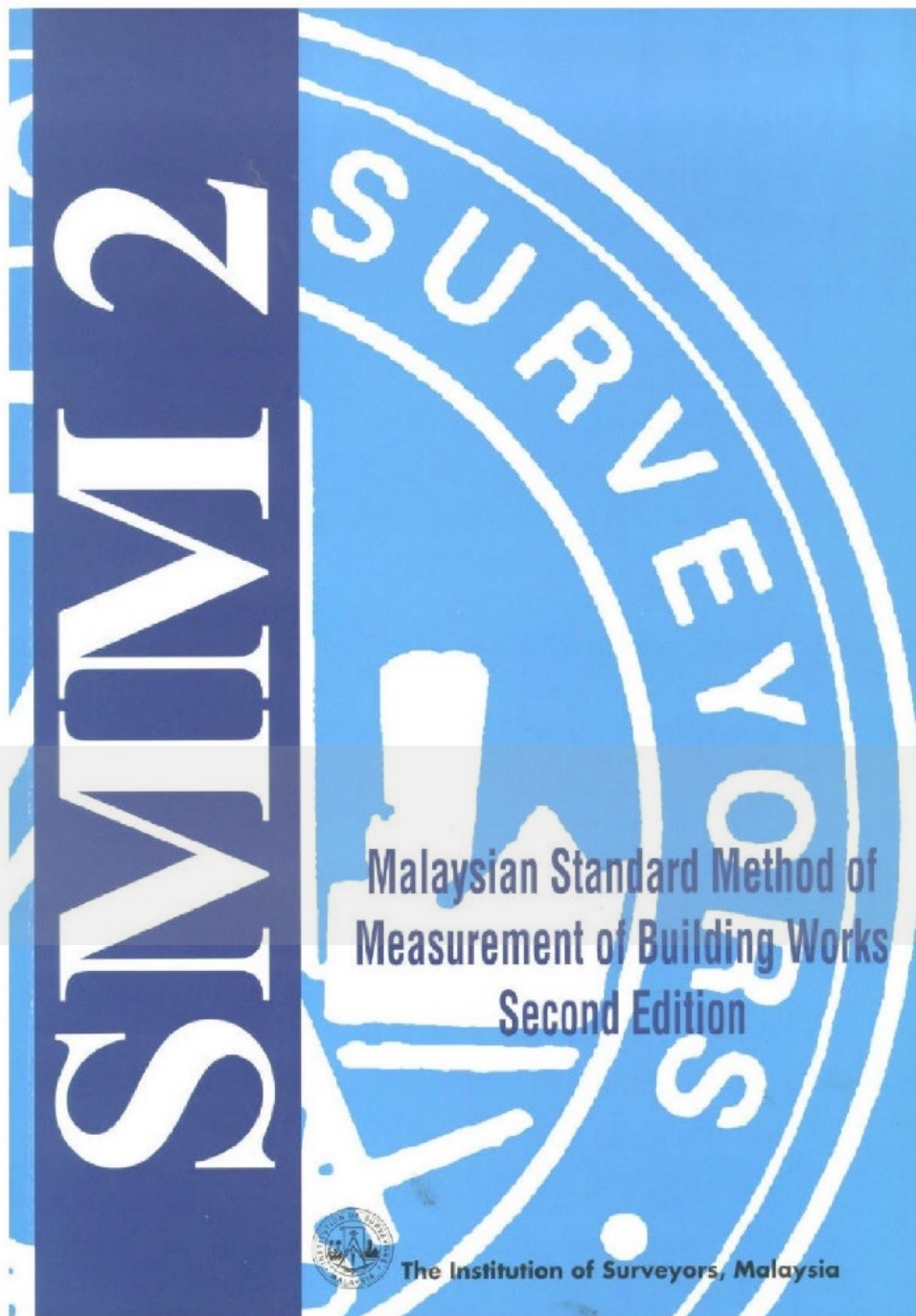
Measurement

rate

EXAMPLE OF BILLS OF QUANTITIES

Quantity

Total Cost



- Latest edition : SMM2
- SMM 1 Slightly different from SMM2
- This book is guide for calculation and format of BILLS OF QUANTITIES

Quantity Surveyors 'Bible book'
SMM2

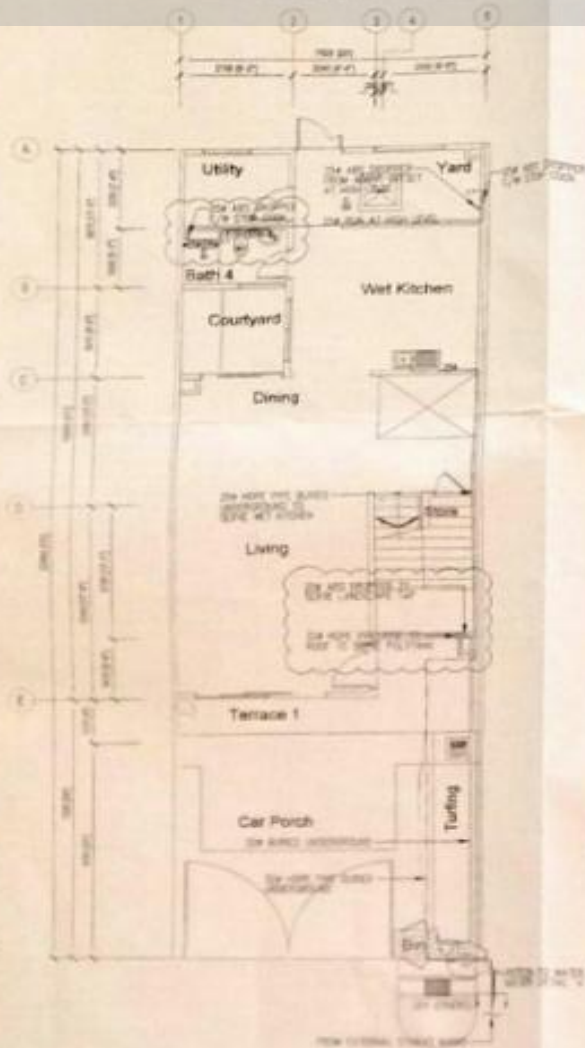
Contract Drawing

- Same drawing as tender drawings

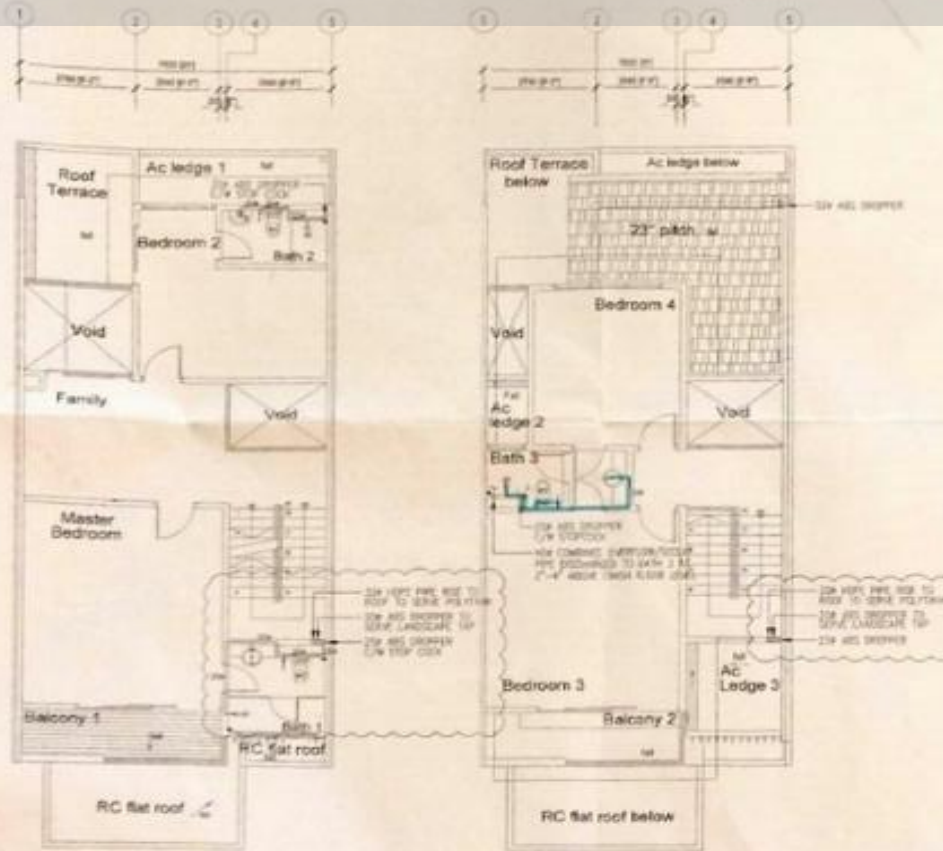
Contract Drawing = Construction Drawing

Used to prepare contract document

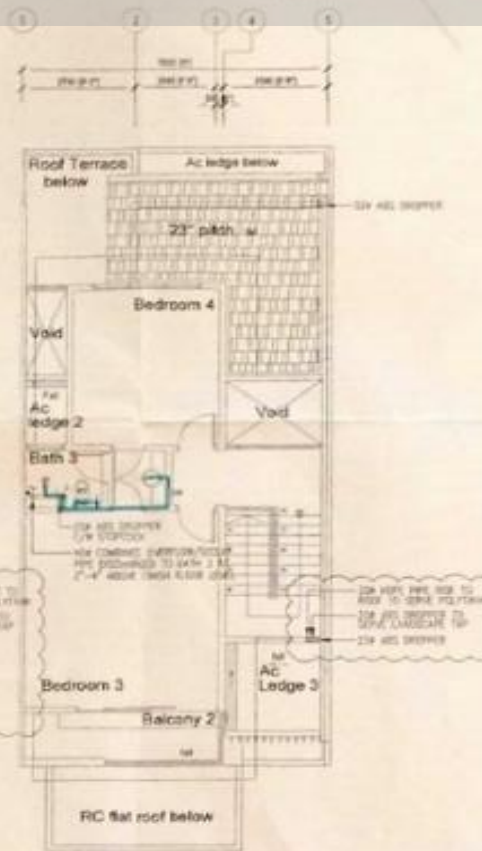
Construction Draw



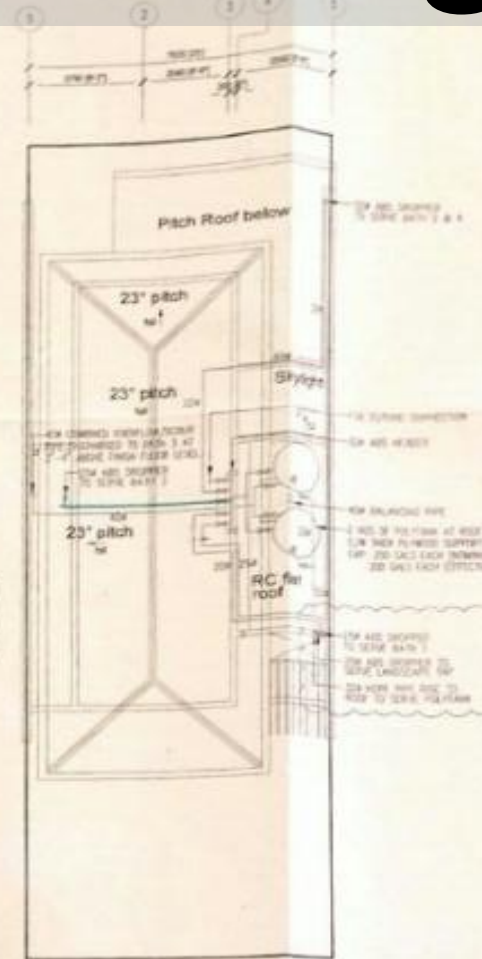
GROUND-FLOOR PLAN
SCALE 1 : 75



FIRST FLOOR PLAN
SCALE 1 : 75



SECOND FLOOR PLAN
SCALE 1 : 75



ROOF PLAN
SCALE 1 : 75

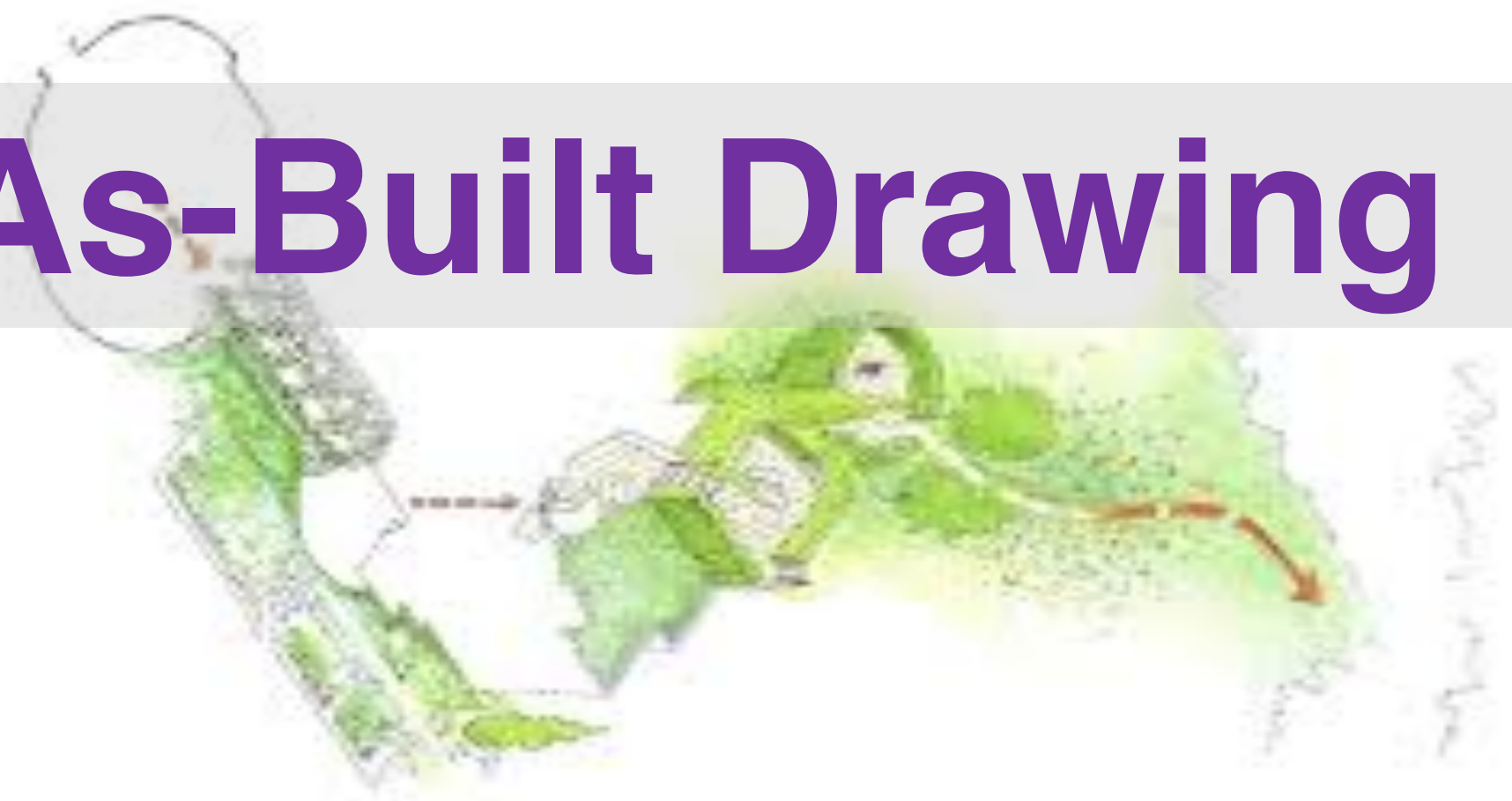
CONSTRUCTION
DRAWING

TYPE E1

ADDENDUM A

[illegible]

As-Built Drawing



- A finalise drawing
Any changes in example Type of tile ,paint
Commonly by Clients or Architects