Purpose and Application

This guideline contains information specifically written to assist cost consultants in preparing and reporting on project costs for Building Management and Works (BMW) managed non residential building projects. The cost plan proformas provide a consistent reporting format and shall be used when presenting cost plans and estimates for review, analysis, evaluation and key performance measurement.

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<th>June 2015</th>
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<tr>
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<td>Manager Asset Planning Branch</td>
</tr>
<tr>
<td>Version</td>
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</tr>
<tr>
<td>Next revision</td>
<td>2016</td>
</tr>
<tr>
<td>Enquiries</td>
<td>Consult with Content Owner or <a href="mailto:askpolicyandpractice@finance.wa.gov.au">askpolicyandpractice@finance.wa.gov.au</a></td>
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## Contents

1. **PROJECT COST PLANNING GUIDELINE FOR CONSULTANTS**
   - 1.1 Key Message ................................................................. 4
   - 1.2 Application ................................................................. 4
   - 1.3 Responsibilities .......................................................... 4

2. **INTRODUCTION**
   - 2.1 Proformas ................................................................. 4

3. **CAPITAL COST PLAN PROFORMA**
   - 3.1 The Project Cost Plan Proforma ................................. 9
   - 3.2 Business Case Capital Cost Plan (Buildings) ............. 9
   - 3.3 Definitions ................................................................. 9

4. **METHOD OF MEASUREMENT OF BUILDING AREAS**
   - 4.1 Gross Floor Area (G.F.A.) ............................................ 14
   - 4.2 Fully Enclosed Covered Area (F.E.C.A.) ....................... 14
   - 4.3 Unenclosed Covered Area (U.C.A.) ............................ 14
   - 4.4 Usable Floor Area (U.F.A) .......................................... 15
   - 4.5 Deductions ............................................................... 15

5. **DEFINITIONS OF ELEMENTS**
   - 5.1 Preliminaries ............................................................. 15
   - 5.2 Substructure ............................................................... 16
   - 5.3 Superstructure ........................................................... 16
   - 5.4 Finishes ..................................................................... 19
   - 5.5 Fittings ................................................................. 20
   - 5.6 Services ................................................................. 21
   - 5.7 Centralised Energy Systems ..................................... 25
   - 5.8 Alterations .............................................................. 25
   - 5.9 Site Works ............................................................... 26
   - 5.10 External Services .................................................... 27
   - 5.11 External Alterations ............................................... 29
   - 5.12 Special Provisions ................................................... 29

6. **ELEMENTAL UNITS OF MEASUREMENT** .......................... 30
1 PROJECT COST PLANNING GUIDELINE FOR CONSULTANTS

1.1 Key Message

In September 2014 Cabinet approved an improved version of the Government's Strategic Asset Management Framework (SAMF). The SAMF provides the policies and guidelines for successful asset investment planning and management for Government agencies in Western Australia. For the SAMF to be effective, when applied to Building Management and Works’ (BMW) non-residential building and infrastructure projects, it requires reliable cost planning and estimating during the project Evaluation, Definition and Delivery phases.

1.2 Application

This Project Cost Planning Guideline (the Guideline) is part of the BMW Cost Management Services 2011 Panel arrangement 210757/11. The Guideline contains information specifically written to assist cost consultants in preparing and reporting on project costs for BMW managed non residential building and infrastructure projects. The cost plan proformas provide a consistent reporting format and shall be used when presenting cost plans and estimates for review, analysis, evaluation and key performance measurement.

1.3 Responsibilities

In accord with the Cost Management Services Panel, a Cost Management consultant shall be engaged directly by a BMW project (or planning) manager should a Pre-Tender Estimate of costs or other estimates be required.

2 INTRODUCTION

The proforma cost plan formats, definitions of elements and elemental units of measurement are derived from the Australian Institute of Quantity Surveyors Cost Management Manual Volume 6 April 2008. In line with SAMF these cost plans are utilised by agencies as part of State Government funding applications and State Treasury budget processes. As a consequence, some terminology in the proformas has been varied from the AIQS templates to reflect State Treasury terminology. For example, the term Estimated Gross Project Commitment has been changed to Estimated Gross Project Total Cost.

2.1 Proformas

The proformas are aligned to BMW's Project Management Framework as outlined in Appendix A. BMW utilises the Project and Contract Management (PACMAN) software system to provide support for managing BMW and SP projects and their associated
contracts. A review has sought to ensure that any definitional anomalies between these Guidelines and PACMAN has been eliminated where possible or identified and clarified with explanations where appropriate to meet differing reporting requirements. For example, while PACMAN references just one contingency figure, the cost plan proformas identify planning contingencies (Evaluation Phase), design contingencies (Project Definition Phase) as well as construction contingencies. Another instance is that PACMAN identifies the term “original budget” which is a term defined as the total project budget at the point of original approval of that project as identified in State Budget papers. In the cost plan proformas this equivalent cost is identified as the Estimated Gross Project Total Cost for a project until it is approved by Government.

The elemental costs to be detailed in the proformas will need to continue to be reported as GST exclusive. A separate cell at the end of the Capital and Project Cost Plan Summary forms has been provided for the overall GST component.

A review of the cost plan is carried out at the end of the following phases:

- Evaluation Phase (Business Case)
- Project Definition Phase
- Schematic Design Phase
- Design Development Phase
- Contract documentation Phase (prior to tenders being called)

### 2.1.1 Business Case Capital Cost Plan (Buildings)

This is the first cost template in the cost estimation process (Evaluation phase). The cost plan templates are to be used in each of the Project Definition and Delivery phases, each characterised by the same framework with additional detail. The BMW cost plans proformas shall be used when providing cost information on building work and internal services elements at each stage of the project management process for non-residential buildings.

At the Evaluation phase (Business Case), depending on the scale of the proposal, prospective projects with more than one building or cost component can be accommodated on the cost plan subject to confirmation with the BMW Planning Manager. Generally, larger scale proposals should have separate cost plans for each building. By the Delivery phase, however, projects with more than one building must include separate cost plans for each building. In the Evaluation phase only, for proposed regional projects, it is acceptable for the locality loading to be a percentage or index calculation which is separately identified as per the pro forma.

### 2.1.2 Project Cost Plan Summary

Allows the external works and services costs, other project costs and a summary of the single building costs to be combined on one page. The Estimated Gross Project Total Cost box must total all costs related to the project.
## Business Case Capital Cost Plan (Buildings)

A. Fill in each of the boxes or write "n/a" if the element is not applicable  
B. Elemental Costs include relevant contingencies, locality costs, market conditions and escalation during construction  
C. All Elemental Costs are exclusive of GST

### Cost Plan Details
- **Cost Plan Date:**  
- **Building Cost Index:** 1.0

### Project Details
- **Location:**

### Building Details

<table>
<thead>
<tr>
<th>Gross Floor Areas</th>
<th>GFA Rate</th>
<th>Elemental Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

### External Works and Services Subtotal

- **Site Works:**
- **Site Services:**
- **Sub-Division Works and Services:**
- **Other Costs (Incl Preliminaries):**

### Total GFA and Building Cost
- **Total GFA and Building Cost:**

### Project Costs

- **Total Construction Cost - Perth Prices:**
- **Regional Loading %:**
- **Sub Total Net Project Cost:**

### Land Acquisition
- **Land Acquisition:**
- **Native Title Compensation (if required):**

### Contingencies
- **Client/Planning Contingency:**
- **Design Contingency:**
- **Construction Contingency:**
- **Headworks and Statutory Charges:**
- **Building Act Compliance:**
- **Percent for Art:**
- **Loose Furniture and Equipment:**
- **Other - Special Provisions:**
- **Agency Professional/Project management fees:**
- **Professional Fees:**
- **Apprentice Scheme:**

### Subtotal
- **Subtotal:**

### Total Net Project Cost
- **Total Net Project Cost (At Current Prices):**

### Escalation Allowance
- **Escalation Allowance:**
- **Expected Tender Date:**
- **Escalation Rate (% per annum):** #DIV/0! $ -
- **BMW Management Fee:** $ -

### Estimated Gross Project Total Cost
- **Estimated Gross Project Total Cost:**
- **Goods and Services Tax:**

### Total ETC Anticipated Cashflow (excl. GST)

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Carryover</th>
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<tbody>
<tr>
<td>2015/16</td>
<td>2016/17</td>
<td>2017/18</td>
<td>2018/19</td>
<td>20___/___</td>
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<tr>
<td>$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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</table>

### Total Cashflow Excluding BMW Management Fee (if applicable)

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015/16</td>
<td>2016/17</td>
<td>2017/18</td>
<td>2018/19</td>
<td>20___/___</td>
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<tr>
<td>$</td>
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<td></td>
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</table>

### BMW Management Fee Cashflow (if applicable)

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
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</thead>
<tbody>
<tr>
<td>2015/16</td>
<td>2016/17</td>
<td>2017/18</td>
<td>2018/19</td>
<td>20___/___</td>
</tr>
<tr>
<td>$</td>
<td></td>
<td></td>
<td></td>
<td>$</td>
</tr>
</tbody>
</table>

### Is there an asset disposal associated with this project?  
No [ ] Yes [ ]
# Project Cost Planning Guideline for Consultants

## Project Cost Plan Summary

### A. Fill in each of the boxes or write “nil” if the element is not applicable

- Evaluation Phase – Indicative Cost
- Project Definition/Brief Finalisation – Indicative Cost
- Schematic Design – Preliminary Estimate
- Design Development – Limit of Cost
- Contract Documentation – Tender Estimate

### B. Elemental Costs including relevant contingencies, locally costs, market conditions and escalation during construction

### C. All Elemental Costs are exclusive of GST

<table>
<thead>
<tr>
<th>Evaluation Phase</th>
<th>Cost Plan Date</th>
<th>Building Cost Index</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1.0</td>
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</table>

### Project Title

#### Location

#### Buildings

(From Single Building Cost Plans)

<table>
<thead>
<tr>
<th>GFA</th>
<th>GFA Rate</th>
<th>Elemental Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total GFA and Building Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>$2</td>
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</tbody>
</table>

#### Code

- AEO: Centralised Energy Systems
- ARI: Air conditioning and Heating Systems
- XRP: Site Preparation
- XRN: Roads, Footpaths and Paved Areas
- XRM: Boundary Walls, Fencing and Gates
- XSB: Outbuildings and Covered Ways – Carports
- XLL: Landscaping and Improvements

#### External Works Subtotal (CE to XL)

| XE: External Stormwater Drainage |
| XD: External Sewer Drainage     |
| XW: External Water Supply        |
| XG: External Gas                 |
| XF: External Fire Protection     |
| XE: External Electric Light and Power |
| XG: External Communications     |
| XG: External Special Services   |

#### External Services Subtotal (XX to XG)

| XR: Roads, Footpaths and Paved Areas |
| XW: External Stormwater Drainage    |
| XD: External Sewer Drainage        |
| XW: External Water Supply          |
| XG: External Gas                    |
| XE: External Electric Light and Power |
| XG: External Communications        |
| XG: External Special Services      |

#### Sub-Division Works and Services Subtotal (XX to XG)

| XX: External Alterations and Renovations |
| XR: Roads, Footpaths and Paved Areas    |

#### Total Construction Cost - Perth Prices Subtotal

<table>
<thead>
<tr>
<th>TR: Proportion of Pre-Construction Costs</th>
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<tbody>
<tr>
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</tbody>
</table>

### Regional Loading (% figure acceptable Evaluation Phase only)

<table>
<thead>
<tr>
<th>TOTAL CONSTRUCTION COST - REGIONAL LOADING</th>
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</thead>
<tbody>
<tr>
<td>Insert N/A</td>
</tr>
</tbody>
</table>

### Sub Total Net Project Cost

| YY: Client Planning Contingency |
| YL: Design Contingency           |
| YY: Construction Contingency     |
| YL: Headworks and Statutory Charges |
| YY: Building Act Compliance      |
| YY: Percent for Public Art       |
| YL: Land Costs (if applicable)   |
| FE: Loose Furniture and Equipment |
| YYSP: Other Costs – Special Provisions |
| YYSP: Relocation Costs and Disbursements |
| YYSP: Computing Equipment and Services |
| PF: Professional Fees            |
| BW: Apprentice Scheme            |

### Total Net Project Cost (At Current Prices)

<table>
<thead>
<tr>
<th>ET: Escalation to Tender</th>
</tr>
</thead>
<tbody>
<tr>
<td>BC: Tender Date</td>
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</table>

### Escalated Net Project Cost

<table>
<thead>
<tr>
<th>BMW: BMW Management Fees</th>
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</table>

### BMW Estimated Total Cost

<table>
<thead>
<tr>
<th>YYSP: Special Client Provisions (NOT managed by BMW)</th>
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### Estimated Gross Total Cost

<table>
<thead>
<tr>
<th>GOODS and SERVICES TAX</th>
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</table>

---

Version 1.3 7 1 June 2015
# Single Building Cost Plan

A. Fill in each of the boxed or rows with 'N/A' if the element is not applicable

B. Elemental Costs including relevant contingencies, locality costs*, market conditions and escalation during construction

C. All Elemental Costs are exclusive of GST

## Evaluation Phase (Business Case)
- Project Definition/Brief Final - Indicative Cost
- Schematic Design - Prelim Estimate
- Design Development / Limit of Cost Estimate
- Contract Document / Tender Estimate

<table>
<thead>
<tr>
<th>Building</th>
<th>Cost Plan Date</th>
<th>Building Cost Index</th>
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<tr>
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<tr>
<td>Location</td>
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<tr>
<td>Functional Unit</td>
<td>Gross Floor Area (GFA)</td>
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<tr>
<td>Function Quantity</td>
<td>Usable Floor Area</td>
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<table>
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<th>Elemental Quantity</th>
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<th>GFA Rate</th>
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<tr>
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<tr>
<td>NS</td>
<td>Internal Screens and Borrowed Lights</td>
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<td>Insert N/A</td>
<td>Insert N/A</td>
<td></td>
</tr>
<tr>
<td>ND</td>
<td>Internal Doors</td>
<td>Insert N/A</td>
<td>Insert N/A</td>
<td>Insert N/A</td>
<td></td>
</tr>
</tbody>
</table>

**Superstructure Subtotal (CL to ND)** | Insert N/A

| WF   | Wall Finishes | Insert N/A         | Insert N/A     | Insert N/A |                |
| FF   | Floor Finishes | Insert N/A        | Insert N/A     | Insert N/A |                |
| CF   | Ceiling Finishes | Insert N/A      | Insert N/A     | Insert N/A |                |

**Finishes Subtotal (WF to CF)** | Insert N/A

| FT   | Fitments      | Insert N/A         | Insert N/A     | Insert N/A |                |
| SE   | Special Equipment - White Goods | Insert N/A | Insert N/A | Insert N/A |                |

**Fittings Subtotal (FT & SE)** | Insert N/A

| SF   | Sanitary Fixtures | Insert N/A         | Insert N/A     | Insert N/A |                |
| PD   | Sanitary Plumbing | Insert N/A         | Insert N/A     | Insert N/A |                |
| WS   | Water Supply     | Insert N/A         | Insert N/A     | Insert N/A |                |
| GS   | Gas Service      | Insert N/A         | Insert N/A     | Insert N/A |                |
| SH   | Space Heating    | Insert N/A         | Insert N/A     | Insert N/A |                |
| VE   | Ventilation      | Insert N/A         | Insert N/A     | Insert N/A |                |
| EC   | Evaporative Cooling | Insert N/A  | Insert N/A     | Insert N/A |                |
| AC   | Air Conditioning | Insert N/A         | Insert N/A     | Insert N/A |                |
| FP   | Fire Protection  | Insert N/A         | Insert N/A     | Insert N/A |                |
| LP   | Light and Power  | Insert N/A         | Insert N/A     | Insert N/A |                |
| CM   | Communications   | Insert N/A         | Insert N/A     | Insert N/A |                |
| CM   | Transportation Systems | Insert N/A | Insert N/A | Insert N/A |                |
| TS   | Special Services | Insert N/A         | Insert N/A     | Insert N/A |                |
| SS   | Special Services (Security System) | Insert N/A | Insert N/A | Insert N/A |                |

**Services Subtotal (SF to SS)** | Insert N/A

| PR   | Proportion of Preliminares - Included in Rates | Insert N/A |

**BUILDING COST TOTAL** | Insert N/A

---

*Locality costs* refer to the geographical and market-related factors that can significantly impact the cost of construction.
3.1 The Project Cost Plan Proforma

The Business Case Capital Cost Plan reads totals from the Project Cost Plan Summary, which in turn draws totals from the Single Building Cost Plan if required.

At Project Definition/Brief Finalisation stage, only the Project Definition Cost Plan Summary is required, with the majority of items entered on the Project Cost Plan Summary.

Thereafter, for subsequent stages of the project’s development, the Project Cost Plan Summary, and a Single Building Cost Plan for each building in the project are used, with the majority of items being entered on each Single Building Cost Plan.

3.2 Business Case Capital Cost Plan (Buildings)

Most of the data on this sheet is entered on the Project Cost Plan Summary and read through to this sheet, with the exception of the cash-flow, which is calculated. An examination of the formulae in these cash-flow cells will demonstrate the distribution. Years/formulae can be manipulated to a different distribution, but this should be discussed with the Planning Manager before any action is taken.

3.3 Definitions

The following definitions relating to the various cost plan proformas are defined in the same order as they appear on the proformas. A BMW review has sought to ensure that any definitional anomalies between these Guidelines and PACMAN has been eliminated where possible or identified and clarified with explanations where appropriate to meet differing reporting requirements.

Buildings

Gross Floor Area (GFA):

- Definition: See Method of Measurement of Building Areas.
- At Evaluation (Business Case) and PDP phases: Primary source is client accommodation schedule with the cost consultant allowing for a ‘grossing’ factor (circulation space/lobbies etc) estimated in collaboration with the architect. Number is entered here.
- At Delivery: Entered on each Single Building Cost Plan.

GFA Rate:

- At Evaluation (Business Case) and PDP phases: Entered at this point as the multiplier to convert area to cost.
- At Delivery: Calculation derived from Building Cost Total (Single Building Cost Plan) divided by GFA for each building.
- Rate inclusions: Either individual element rates from the Single Building Cost Plan or a single cost/m² for the whole building. Elemental and whole building rates must
include regional factors to allow for differing construction costs in different regions of the state, as well as a percentage for sustainability initiatives.

- For regional projects, the Project Cost Plan Summary should include a table summarising the total GFA and any regional indices applied. At Business case stage a regional index may be applied to the cost plan. When a project moves into documentation and for the PTE, BMW will expect the QS to do market assessment and to price the items according to the actual regional conditions/costs and not just applying a percentage across the overall cost. Some trades depending on supply, demand, accessibility, support services, etc could be loading on higher percentage than other trades.

**External Site Works and Services**

These costs are not direct building costs, but are legitimate construction costs that are part of the project. This is the only place in the Cost Plan Template that these estimations can be recorded.

**Total Construction Cost (Subtotal)**

An automatic calculation that totals building, external works and services, and site works and services.

**Contingency**

It should be noted that PACMAN has one contingency figure identified in a project’s budget. However, it is important to recognise that in the project cost proformas, specific contingencies are identified at key points in the project’s development as follows:

**Client/Planning Contingency**

Allow up to 10\% of Total Construction Cost, depending on uncertainty (ie, the level of definition of client requirements). For example, the Department of Education has well documented scope requirements including defined functional area briefs for its new primary school and high school developments. In discussion with the Department of Education, the contingency provisions should be reduced for such projects. This is particularly relevant with new primary schools (and additions) due to the detailed specifications available to consultants through the Primary School Brief.

This contingency is:

- applied until certainty of accommodation schedule is achieved, which depends on when final users are included in the decision-making process (may be as late as Schematic Design). It is not for scope changes.

- for additional floor area over and above the business case/PDP accommodation schedule, and is not to be used for any other purpose unless there is a floor area component.

By completion of the Project Definition Plan (or Schematic Design if final user input is delayed to that point), the planning contingency must be reduced to $0 (applied in full or part).
The Client/Planning contingency does not appear in the PDP Cost Plan, with any carry over amounts for Schematic Design added to the Design Contingency.

**Design Contingency**

Allow up to 20% of Total Construction Cost, to reflect the preliminary nature of scope and design definition at this phase.

This contingency is:

- Progressively reduced until construction documentation is completed and all “unknowns” have been discovered.
- for design issues that were unforeseen during the planning process. Uncertainty is greater in refurbishments than in new builds.

By tender, the design contingency must be reduced to $0 (applied in full or part).

**Construction Contingency**

Allow 3% to 10% of Total Construction Cost for managing construction uncertainty. This is not an errors and omissions contingency. Construction uncertainty will be higher in older building refurbishments, additions or new buildings in existing facilities which may necessitate the upgrading of some aspects of the existing infrastructure and contingency may need to be increased to reflect this.

**Headworks, Statutory Charges and Site Connection costs**

Cost Planner to advise Project Manager. Cost planner is also to provide a Provisional Sum in the Pre Tender Estimate Cost Plan and in the Bill of Quantities (where applicable) for each utility connection charge.

**Note:**

All calculations to follow marked with an asterisk (*) rely on a percentage of the Total Construction Cost. Before this percentage is calculated, the Planning, Design and Construction Contingencies must be added to the Total Construction Cost before calculating the percentage.

**Building Act Compliance**

Generally: BCA 0.5% to 0.7%

Specifically:

- Building Levy: 0.09%.
- Building Permit fee: 0.09% (minimum $90).
- Occupancy Permit fee: $90.
- Demolition fee: $100/storey (if applicable).

**Percent for Public Art**

Applies to new construction works projects valued at over $2,000,000.

Up to 1%. Actual amount is to be negotiated with the agency contact and BMW Project Manager.
Agency Contact
The name of the primary contact person from the client agency responsible for the project.

Land Costs (if applicable)
The land acquisition cost is to be obtained from the agency contact through the BMW project manager. The dollar figure should include all related fees as well as the land purchase price.

Loose Furniture & Equipment
Dollar figure is to be obtained from the agency contact through the BMW project manager. This figure can vary between 2.5% and 15%.

Other Costs
Special provisions that are part of the project cost, are managed by BMW, but are agency specific, such as:

- Police: Equipment such as firearm unloading devices or personal stationary lockers; dollar figure to be obtained from agency through BMW.
- *Health: Special built in medical equipment; The proposed (or actual if known) dollar figure is to be obtained from agency representatives through BMW. May vary considerably from project to project
- Other agency specific equipment/costs (e.g. The Zoo, Education, Training, Sport & Recreation, etc.). As with other agency costs the dollar figure is to be obtained from agency representatives through BMW.
- Standard provisions that are common to most projects:
- Relocation costs and disbursements. The costs of physically moving, includes removalist costs. The agency may have historical data to inform an allowance.
- *Computing equipment and services. The dollar figure is to be obtained from agency representatives through BMW. May vary considerably from project to project

Project Management Fees - Agency
At planning stage agencies may separately identify costs (percentage) to be incurred by their staff to manage planning and delivery aspects of a proposed capital project.

Professional Fees
This fee must include Building Surveyor (BCA Compliance Consultant) fees.

Priority Start Apprenticeship Scheme
≈ 0.14%, but needs to be calculated for all projects by the BMW Project Manager. Based on the current DTWD policy, the levy is exacted on projects with labour components between $300,000 and $6,000,000 (construction costs between $909,090.90 and $18,181,818.18 based on a 33% labour content). The value depends
on the length of the construction period and the number of apprentices required, which is dependent on the construction cost.

**Escalation to Tender**

Tender date in business case cost plan should make allowance for unexpected delays which should have been reflected in the project risk management analyses. This should include an escalation contingency period, at the direction of the BMW Planning Manager.

**Tender Date**

Date that a project is estimated to be released for public tender on Tender WA. Date to be advised by BMW Project Manager in consultation with agency representatives. The estimated tender date is confirmed during the PDP process.

**BMW Management Fee**

The BMW Management fee covers the costs of managing the project to its completion. This fee is based on a sliding scale and spread over three project classifications: simple, standard and complex.

The BMW project manager will advise the external cost consultant of the recommended management fee for each project. The BMW calculator is a spreadsheet for project valued from $100,000 to $50,000,000. BMW project managers are able to access the BMW calculator as document 148 on IFind system. For projects:

- Valued greater than $50,000,000
- With alternative procurement methods, or
- Capital funded maintenance programs.

The complexity and value of the Management fee must be referred to the appropriate Infrastructure Delivery Director by the BMW project manager.

The value on which the BMW Management fee is calculated is the Escalated Net Project Cost minus any of the figures between Total Construction Cost and Net Project Cost (At Current Prices) that are not managed or administered by the BMW Project Manager. These non-BMW managed costs should be included in Special Client Provisions (not managed by BMW).

**BMW Estimated Total Cost**

This is a term utilised in PACMAN and is a figure which comprises the project costs for which BMW is responsible. In the cost proformas it is the Escalated Total Net Project Cost plus BMW Management Fee. It excludes Special Client Provisions.

**Special Client Provisions - Agency Costs (NOT managed by BMW or cost recouped from agency)**

For items bought by the agency and delivered/installed for the project even after practical completion, the cost of which is still a legitimate project cost. This could include equipment or agency project direction fees (agency’s own or agency appointed)
and project planning and acquisition costs (agency appointed consultants such as Legal and Environmental), Land costs (where there is no BMW involvement) and PDP preparation costs or other (recouped from agency). The dollar figure is obtained from agency representative through the BMW project manager.

**Estimated Gross Project Budget Total Cost**

This figure comprises the total of BMW Estimated Total Cost plus the Special Client Provisions. When a project receives approval for funding by Government this term is equivalent to the PACMAN term, Original Budget.

**Anticipated Total Cost**

This figure comprises the estimated total cost of the project budget for which BMW is responsible throughout the life of the project and reflects actual contingency expenditure and approved variations. It also includes agency costs as forecast by the agency representative to the BMW Project Manager.

## 4 METHOD OF MEASUREMENT OF BUILDING AREAS

For the areas below the Unit of Measurement: Square Metre (m²)

### 4.1 Gross Floor Area (G.F.A.)

The sum of the 'Fully Enclosed Covered Area' and 'Unenclosed Covered Area' as defined.

### 4.2 Fully Enclosed Covered Area (F.E.C.A.)

The sum of all such areas at all building floor levels, including basements (except unexcavated portions), floored roof spaces and attics, garages, penthouses, enclosed porches and attached enclosed covered ways alongside buildings, equipment rooms, lift shafts, vertical ducts, staircases and any other fully enclosed spaces and usable areas of the building, computed by measuring from the normal inside face of exterior walls but ignoring any projections such as plinths, columns, piers and the like which project from the normal inside face of exterior walls.

F.E.C.A. shall not include open courts, light wells, connecting or isolated covered ways and net open areas of upper portions of rooms, lobbies, halls, interstitial spaces and the like which extend through the storey being computed.

### 4.3 Unenclosed Covered Area (U.C.A.)

The sum of all such areas at all building floor levels, including roofed balconies, open verandas, porches and porticos, attached open covered ways alongside buildings, under crofts and usable space under buildings, unenclosed access galleries (including ground floor) and any other trafficable covered areas of the building which are not totally enclosed by full height walls, computed by measuring the areas between the
enclosing walls or balustrade (i.e. from the inside face of the U.C.A. excluding the wall or balustrade thickness). When the covering element (i.e. roof or upper floor) is supported by columns, is cantilevered or is suspended, or any combination of these, the measurements shall be taken to the edge of the paving or to the edge of the cover, whichever is the lesser.

U.C.A. shall not include eaves overhangs, sun shading, awnings and the like where these do not relate to clearly defined trafficable covered areas, nor shall it include connecting or isolated covered ways (element XB).

4.4 Usable Floor Area (U.F.A)

The sum of the floor areas measured at floor level from the general inside face of walls of all interior spaces related to the primary function of the building. This will normally be computed by calculating the 'Fully Enclosed Covered Area' (F.E.C.A) and deducting all of the following areas supplementary to the primary function of the building:

4.5 Deductions

4.5.1 Common Use Areas

All floored areas in the building for circulation and standard facilities provided for the common use of occupants, tenants and/or the public such as lobbies and foyers to entrances, stairways and lifts, stairways, landings and fire escapes, verandahs and balconies, corridors and passages, toilet and rest room areas, cloak and locker areas, cleaner’s rooms including stores and cupboards, tea making and similar amenities areas.

4.5.2 Service Areas

All areas set aside for building plant supplying services and facilities common to the building for the use of occupants, tenants and/or public, such as mechanical plant and equipment rooms, electrical equipment and switchrooms, tank rooms, lift motor rooms, meter cupboards, telecommunication switchrooms, refuse collection areas, loading bays and all car parks including access ways thereto.

4.5.3 Non-habitable Areas

All non-habitable building space such as that occupied by internal columns and other structural supports, internal walls and permanent partitions, lift shafts, service ducts and the like.

5 DEFINITIONS OF ELEMENTS

5.1 Preliminaries

PR PRELIMINARIES
It INCLUDES preliminary items as defined in Section 2 of the Australian Standard Method of Measurement of Building Works (5th Edition), where ascertainable.

5.2 Substructure

SB SUBSTRUCTURE - The structurally sound and watertight base upon which to build.

It INCLUDES basement and foundation excavations; piers, piles, pedestals, beams and strip footings; foundation walls; drop aprons; hardcore filling; work slabs and damp-proofing or other membranes; floor structures; subsoil drainage; ducts, pits, bases and service tunnels; entrance steps, ramps and their finishes; steps and ramps in the one floor level; structural screeds and toppings; covered swimming pools; all other work up to but excluding the lowest floor finish.

It EXCLUDES 'Site Preparation' (XP); basement walls (EW); columns above tops of bases (CL, EW, NW); 'Floor Finishes (FF); all non-structural work associated with the internal services.

5.3 Superstructure

CL COLUMNS (FRAMED BUILDINGS) - The upright supports to upper floors and roof forming part of a framed structure.

It INCLUDES internal and external columns from tops of columns to bases; column casings; all protective non-decorative coatings.

It EXCLUDES portal frames (RF); columns to non-framed (load bearing) structures (EW, NW); columns supporting awnings and attached covered ways (RF); columns supporting exposed attached external stairs (SC); all finishes (EW, WF).

Note: Columns below lowest floor finish (e.g. in filled areas) are included in this element because of the impracticability of splitting a column into two elements.

UF UPPER FLOORS - Floor structures above that at the lowest level.

It includes all beams; concrete, precast and in-situ floors; waffle slab and filler block floors; metal floors; computer floors; timber framed floors; structural screeds and toppings; concealed insulation; balconies; overhangs and sunhoods integral with floors; steps and ramps in the one floor level; all protective non-decorative coatings.

It EXCLUDES landings and ramps between floor levels (SC); balcony balustrades (EW); internal and external finishes (SC, EW, FF, CF).
SC  **STAIRCASE** - The structural connections between two or more nominal floor levels or to roof, plant rooms and motor rooms together with associated finishes.

It **INCLUDES** landings; ramps between floor levels; fire escapes; supporting framework; access ladders; spiral staircases; tread, riser, string and soffit finishes; balustrades and handrails.

It **EXCLUDES** steps and ramps at changes in the one floor level (SB, UF); ground level entrance steps (SB); lifts and escalators (TS).

RF  **ROOF** - To provide a structurally sound and watertight covering over the building.

It **INCLUDES** portal frames; roof construction; gable and other walls in roof spaces; parapet walls and roof balustrades; thermal insulation roof lights and dormers with their sun screenings; eaves, verges and fascias; rainwater goods; internal storm water drainage runs; awnings and open lean-to roofs; all protective non-decorative coatings.

It **EXCLUDES** rainwater goods to balconies and other unenclosed floor areas (UF); all non-structural work associated with the internal services; independent roofs to exposed attached external stairs (SC).

EW  **EXTERNAL WALLS** - The vertical enclosure around the building other than 'Windows' and 'External Doors' from 'Substructure' to 'Roof'.

It **INCLUDES** structural walls; basement walls and tanking above lowest floor finish; spandrel, curtain and window walls; external shop fronts; glazed screen walls; columns and isolated piers to non-framed (load bearing) structures; gallery and balcony walls and balustrades; solar screen walls; plant room air flow screens; all insulation to external walls; all external finishes to all columns, slab edges, beams, projecting overhangs and walls; lintels and flashings at openings; ring beams and stiffening beams not integral with floor, ceiling or roof slabs.

It **EXCLUDES** all internal finishes to external walls (except screens and the like) and columns (WF); sills, thresholds and linings (WW, ED); walls in 'Roof' (RF) and 'Substructure' (SB) and all doors (ED); sun protection to windows (WW) and sun hoods integral with floors (UF); fire places, hearts, flues and stacks (SH, SS); beams integral with slabs (UF, RF).

WW  **WINDOWS** - Opening in 'External Walls' to provide light and ventilation.

It **INCLUDES** flyscreens; louvres, guard grilles; remote control gear; sun protection to windows; curtains, blinds, track and pelmets, window sills and linings; hardware; decoration.

It **EXCLUDES** lintels and flashings (EW); special blackout facilities (SE); roof lights and dormers (RF); window walls and glazed screens (EW); sun
hoods integral with floors (UF); solar screen walls (EW); window cleaning equipment (SE).

*Note:* Includes hardware and decorations, glazing and infill panels within window frames.

*Clerestory windows occurring in external walls to clerestorys are included in this element.*

**ED EXTERNAL DOORS** - The access ways into the building both for pedestrians and vehicles.

It INCLUDES frames; linings; glazing; architraves; hardware; panels and highlights over; fly doors; roller shutters; garage doors; fire doors; grille and chain wire doors; gates; service cupboard doors and thresholds; decoration.

It EXCLUDES frames forming an integral part of the wire mesh or glazed screen walls (EW); lintels and flashings (EW); under floor access doors (SB); framing and glazing to sidelights to doors with or without highlights (EW).

**NW INTERNAL WALLS** - Permanent division of internal spaces into separate rooms or to enclose duct and other non-usable areas.

It INCLUDES walls; internal columns and isolated piers to non-framed (load bearing) structures; lintels, damp courses and bearing strips; stiffening beams not integral with floor, ceiling or roof slabs; part height solid walls glazed over to ceiling; unducted air-flow grilles; fire walls and smoke screens.

It EXCLUDES 'Internal Screens and Borrowed Light' (NS); wall finishes (WF); works in 'Roof' (RF) and 'Substructure' (SB); part height solid walls (NS); fireplaces, hearths, flues and stacks (SH, SS); beams integral with slabs (UF, RF).

*Note:* Part height solid walls are screens (by definition) and included in element NS.

**NS INTERNAL SCREENS AND BORROWED LIGHTS** - To screen off or temporarily divide internal spaces into separate compartments and to allow the transfer of light through 'Internal Walls'.

It INCLUDES proprietary type office partitioning; glazed screens; internal shop fronts; fold away and operable walls; overhead frameworks and supporting beams; chain wire and grille screens; toilet partitions and screen walls; borrowed lights; balustrades and rails not associated with staircases; all finishes and decorations.

It EXCLUDES all doors (ND); counters and wall hatches (FT).
ND **INTERNAL DOORS** - Passage ways through 'Internal Walls' internal screens and partitions and to provide access to service cupboards and ducts.

It INCLUDES frames; linings; glazing; architraves; pelmets; hardware and door grilles; chain wire and grille doors; toilet doors; cell and strong room doors; fire doors; roller shutters; service cupboard doors; duct access panels; fanlights and panels over and linings to blank openings; decoration.

It EXCLUDES frames forming integral parts of demountable, wire mesh or glazed screens, etc. (NS); lintels (NW); framing and glazing to sidelights to doors (NS).

5.4 Finishes

<table>
<thead>
<tr>
<th>Note regarding finishes generally:</th>
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<tbody>
<tr>
<td>Where a finish incorporates a special type of formwork, only that cost which is extra over the cost of rough formwork is to be included in the finish. The rough formwork cost is part of the structure.</td>
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</table>

WF **WALL FINISHES** - To finish and decorate all interior faces of 'Columns', 'External Walls' and 'Internal Walls'.

It INCLUDES finishes to internal faces of external walls and columns; acoustic wall linings; extra costs involved for face bricks, face and coloured blocks and off form concrete; splashbacks, dados and regulation wall vents.

It EXCLUDES finishes to 'Internal Screens and Borrowed Lights' (NS); skirtings (FF) and cornices (CF); all external finishes to external walls and columns (EW); finishes to both sides of external screens (EW); all protective non-decorative coatings.

*Note:* Finishes to 'Internal Screens and Borrowed Lights' (NS) are included in that element.

Finishes to internal faces of external screens, etc. are included with the relevant sub-elements in 'External Walls' (EW).

FF **FLOOR FINISHES** - To provide a satisfactory finish to 'Upper Floors' and 'Substructure' for walking on.

It INCLUDES all preparatory work and finishing; balcony floor finishes; skirtings; screeds; timber floor finishes; dividing strips; mats and matwells; duct and pit cover; carpeting used as a permanent floor finish; timber and other finishes to concrete floors; finishes to steps in the one floor level.
It EXCLUDES structural screeds and toppings (SB, UF); landing and stair finishes (SC); trafficable roof covering (RF); timber framed floors (UF, SB); finishes to external thresholds (ED); door sills (ED, ND).

*Note: Element includes all floor finishes to areas measured in the ‘Gross Floor Area’ (G.F.A.).*

**CF CEILING FINISHES** - To finish and decorate all internal soffits of 'Upper Floors' and 'Roof' over rooms and external soffits over unenclosed covered areas.

It INCLUDES preparatory work; suspended false ceilings; proprietary suspended ceiling systems; acoustic ceiling linings; extra costs involved for off form concrete; linings to roof lights; ceiling manholes; framing to bulkheads and cornices.

It EXCLUDES eaves soffits (RF); stair and landing soffits (SC); ceiling joists where not suspended (UF, RF); soffits of projecting overhangs (EW); all protective non-decorative coatings (UF, SC, RF); air conditioning grilles (AC).

### 5.5 Fittings

**FT FITMENTS** - To fit out the building with built-up fitments and fixed items included in the main contract.

It INCLUDES benches; cupboards; shelving; racks; seats; counters; chalkboards; notice boards, signs and name plates; coat rails and hooks; mirrors; wall hatches; daises and stages.

It EXCLUDES loose furniture and furnishings (YY); curtains and blinds (WW); 'Special Equipment' (SE); 'Internal Screens and Borrowed Lights' (NS).

**SE SPECIAL EQUIPMENT** - To provide items of equipment of unitary, commercially available type and/or of a type not covered by other elements.

It INCLUDES window cleaning, gymnasium, mortuary and photographic equipment; audio-visual aids; laboratory, laundry, kitchen and central sterile services department (C.S.S.D) type equipment; dental and workshop equipment; boiling water units; sink heaters; laboratory stills; special blackout facilities; bed pan washers; linen and refuse disposal equipment; refrigerators and refrigerated drinking water coolers; incinerators; sanitary macerators; circulating fans; all cold, hot, gas and other valves and cocks, controls, electric wiring and piping integral with this equipment; specified Builders work in connection with this equipment.

It EXCLUDES cool rooms and process cooling, incineration plant of custom design of built-up type, and other 'Special Services' (SS) or
'External Special Services' (XS); loose equipment not covered in the main contract (YY); fire fighting equipment (FP); 'Sanitary Fixtures' (SF); refrigeration plant associated with air conditioning (AC).

5.6 Services

**SF SANITARY FIXTURES** - To fit out the building with normal fixtures connected to the soil and waste plumbing systems and all associated ancillaries.

It INCLUDES W.C. suites; urinals; basins; sinks and tubs; troughs and runnels; drinking fountains; slop hoppers; showers; hobs; shower curtains and trays; terminals outlets integral with fixtures; flusherette valves; soap and toilet paper holders; towel rails and hand dryers.

It EXCLUDES sanitary macerators, bed pan washers, kitchen, laundry and sterilising equipment and refrigerated drinking water coolers (SE); sanitary incinerators (SS); floor wastes and all loose traps (PD); terminal outlets not integral with fixtures (WS).

**PD SANITARY PLUMBING** - The disposal of all waste and soiled water from fixtures and equipment out to the external face of external walls.

It INCLUDES stacks and vents; all loose traps; floor wastes; internal sewer drainage runs, pumps and ejectors; acid resisting pipes and drains; box ducting and paintwork.

It EXCLUDES rainwater disposal systems (RF); incinerator flues (SE, SS, XS); duct access panels (ND).

**WS WATER SUPPLY** - Systems to supply water from point of building entry to the points of consumption. The water may be at ambient temperature, heated or cooled and may be treated by clarification, filtration, softening, de-mineralisation, distillation, desalination or other means. The water may be supplied from town mains, bores, rivers, lakes, rainwater tanks, centralised energy systems or other sources.

It INCLUDES storage tanks; pumps; water treatment plants; water heaters and coolers; reticulation pipework including pipeline components; terminal outlets not integral with fixtures and/or equipment; controls other than those associated with water consuming items of equipment; box ducting; insulation; sheathing; painting and identification; building and electrical work forming part of the Contract for water supply.

It EXCLUDES meters, extensions and connections to town mains or other sources (XW); self-contained unitary equipment such as boiling water units, sink heaters and laboratory stills (SE).

**GS GAS SERVICES** - To supply town, natural, simulated natural and liquified petroleum gas from point of building entry to points of consumption. The
gas may be supplied from town mains, storage cylinders, bulk storage tanks or other sources.

It INCLUDES portable gas cylinders; booster compressors; manifolds and regulators; box ducting, painting and identification; building and electrical work forming part of the gas services element; reticulation pipework and pipeline components; terminal outlets not integral with fixtures and/or equipment; gas detection systems.

It EXCLUDES outlet cocks integral with appliances (SE); hot water heaters (SE, WS); space heaters (SH) and other like equipment; meters and extensions and connections to town mains or other sources (XG).

**Note:** Gas appliances forming part of an air conditioning, space heating water supply system or other system should be included under the appropriate element.

Gas controls, valves, regulators and other pipelines components directly associated with gas fired equipment should be included under the element appropriate to the gas fired equipment.

**SH SPACE HEATING** - To heat the interior of buildings by means of convection, radiation or any other form of heating.

It INCLUDES unitary heaters; reticulated steam, hot water or hot oil systems; warm air systems; electric floor or ceiling heating systems; fireplaces, hearths and associated work in chimney stacks; boiler plant installed within the heated building and servicing only element (SH) in that building; insulation and painting; controls and associated electrical work.

It EXCLUDES any system which also provides air cooling (‘Air Conditioning’ (AC) or ‘Evaporative Cooling’ (EC).

**Note:** Boiler plant and pipe reticulation located outside the building served and serving multiple buildings, or serving other elements such as AC or WS to be included under ‘Centralised Energy Systems’ (CE).

Gas storage and reticulation systems to be included under ‘External Gas’ (XG) if located outside the building served or if serving other elements, or ‘Gas Service’ (GS) if located within the building served, otherwise to be included in SH.

*Electric cabling terminates at junction with ‘Electric Light and Power’ (LP).*

Controls and electric wiring integral with equipment items to be included with those items.

**VE VENTILATION** - To ventilate buildings by means of supply and/or exhaust systems.
It INCLUDES mechanical ventilators; non-mechanical roof ventilators; supply and/or exhaust fans; ducted systems; exhaust hoods; ducting, plant, controls and associated electrical work.

It EXCLUDES any system which also involves heating (SH); 'Air-conditioning' (AC); 'Evaporative Cooling' (EC); regulation wall vents (WF); door grilles (ND); plant room air flow screens (EW); louvered windows (WW).

Note: Dust extraction to be included under 'Special Services' (SS).

Electric cabling terminates at junction with 'Electric Light and Power' (LP).

**EC EVAPORATIVE COOLING** - To cool air within a building by evaporative processes; the system can include ancillary heating.

It INCLUDES evaporative coolers, rock bed regenerative systems and ancillary heating devices; ducting, insulation, painting and associated electrical work.

It EXCLUDES door grilles (ND); 'Air Conditioning' (AC); systems which heat (SH) and/or ventilate (VE) only.

Note: Air relief grilles in doors and walls to be included under respective building element.

Electric cabling terminates at junction with 'Electric Light and Power' (LP).

**AC AIR-CONDITIONING** - To maintain and control temperature, humidity and quality of air within predetermined limits within buildings.

It INCLUDES package air conditioners; systems for cooling only; ductwork, plant, controls and associated electrical work; air conditioning grilles.

It EXCLUDES door grilles (ND) and systems which heat (SH) and/or ventilate (VE) only; special cool rooms (SS); special hot rooms (SS); 'Evaporative Cooling' (EC).

**FP FIRE PROTECTION** - To detect and/or extinguish fires.

It INCLUDES sprinklers and other automatic extinguishing systems; fire indicator board; manual and automatic fire alarm installations; fire fighting equipment; hydrant installations and hose reels and cupboards; hand appliances.

It EXCLUDES fire doors (ED, ND); fireproofing (CL, UF, RF, WF, CF, etc).

**LP ELECTRIC LIGHT AND POWER** - To provide all light and power and emergency light and power from and including main distribution board to and including power outlets and light fittings.
It INCLUDES main distribution board; sub-mains and distribution boards; emergency lighting systems; power sub-mains to mechanical equipment and sub-mains and/or sub-circuits to other equipment and/or final sub-circuits.

It EXCLUDES other electrical installations listed under other elements such as 'Special Services' (SS); 'Communications' (CM) and 'Centralised Energy Systems' (CE).

*Where the main switchboard supplies only building, it shall be considered as a main distribution board.

**CM COMMUNICATIONS** - To provide audio and video communication within a building.

It INCLUDES the following systems - Telecom telephone, internal telephone, public address, call, emergency warning and intercommunication, personal paging, clock and/or bell, TV antenna and closed circuit TV.

It EXCLUDES document hoists and conveyor system (TS); cables between buildings (XC).

*Note: Document hoists and conveyor system to be included in TS. cables between buildings to be included in XC.

PABX telephone systems installed and funded separately from the building contract should be included under YY 'Other Items'.

**TS TRANSPORTATION SYSTEMS** - To transport personnel and/or goods from floor to floor or area to area.

It INCLUDES all lifts, hoists and conveyor systems; escalators; all associated equipment and work other than structural building work.

It EXCLUDES such items as walls to shafts and lift wells and machine rooms (EW, WW).

**SS SPECIAL SERVICES** - To provide services or installations not covered by other elements.

It INCLUDES monitoring systems; cool rooms and process cooling; special conditioned rooms; staircase pressurisation systems; compressed air; medical and industrial gas systems; dust extraction systems; security systems; lightning protection; stage lighting and theatre equipment; reticulated soap dispenser systems; laundry, heat and water reclaim systems and the like.

It EXCLUDES equipment items (SE); communication services (CM).
5.7 Centralised Energy Systems

**CE CENTRALISED ENERGY SYSTEMS** - To produce and supply steam, heating, hot water, chilled water and/or other cooling or heating media and/or site generated electrical energy to a number of buildings and/or to multiple energy consuming elements.

It INCLUDES the piping reticulation within central plant room or plant house and up to branch off-takes to energy consuming functional elements; sections of the main piping reticulation running to, within or through buildings served; cabling within the central plant room or house and all work which forms part of the energy system element; buildings to house such plant, service tunnels, ducts and/or conduits.

It EXCLUDES emergency generating plant and cabling from central switchboard to other buildings (XE).

**Note:** Interfaces between element CE and other elements are those points where branches serve single elemental systems or where branches leave common mains within buildings to serve single elemental systems.

Centralised Energy Systems may range from very large boiler and/or chiller and/or electrical generating plants serving large and complex sites such as airports, major hospitals, universities or colleges to small boiler installations supplying energy to say space heating and domestic hot water systems in relatively small single buildings such as school classroom blocks, pavilion type hospital wards and so on.

Where energy generators supply the whole of their production to one functional system only and are contained within the alignment of the building served they are to be considered as part of that functional system.

Engineering systems serving the central plant room or plant house are to be included under appropriate elements for the building housing the centralised energy plant.

5.8 Alterations

**AR ALTERATIONS AND RENOVATIONS** - To alter or renovate any existing building including works to the substructure, finishes, fittings and internal services.

It INCLUDES work in connecting a new building to an existing; redecorations; refitting out and all mechanical and electrical services in connection therewith; underpinning to existing buildings for alteration works.
It EXCLUDES complete demolitions of existing buildings, site clearance and removal of any paving, fences and outbuildings (XP); alterations and renovations to external services and site works (XX); any work involved in connecting new services to old in existing buildings (XW, XG, XE, etc.)

5.9 Site Works

**XP SITE PREPARATION** - All basic work necessary prior to proceeding with buildings and external works.

It INCLUDES demolitions; site clearance; general levelling and filling; hoardings; retaining walls; removal of any paving, fences, trees and services; temporary diversions of services; underpinning to adjacent buildings.

It EXCLUDES alterations and permanent diversion of services (XX); alterations to buildings (AR) and existing site works (XX); any work involved in permanent connections of new services to existing (XW, XG, XE, etc.)

**XR ROADS FOOTPATHS AND PAVED AREAS** - Trafficable areas between and around buildings (outside 'Fully Enclosed Covered Areas' and 'Unenclosed Covered Areas' as defined, outbuildings, etc.) for vehicles and pedestrians.

It INCLUDES car parks; playgrounds; kerbs; crossovers; bollards; steps and associated balustrades; weed poisoning.

It EXCLUDES uncovered bridge links (XB); sports pitches, lawns, site landscaping and improvements (XL); cut and fill (XP).

**XN BOUNDARY WALLS, FENCING AND GATES** - To enclose or define the extent of the site.

It INCLUDES all walls, fences and gates at the site boundary.

It EXCLUDES all walls, fences and gates that subdivide the site (XL); all retaining walls (XP).

**XB OUTBUILDING AND COVERED WAYS** - To provide small buildings supplementary to the main buildings(s) and covered areas or bridge links for pedestrian or vehicular site circulation.

It INCLUDES detached covered ways not alongside buildings; garages; bicycle sheds; incinerator buildings; residential and gatekeepers cottages; garbage shelters; workshops; chapels; stores; sheds; stair blocks; all electrical, mechanical and other services in connection therewith.

It EXCLUDES attached covered ways alongside buildings; boiler and plant houses (CE); water towers (XW); gas meter (XG) and water meter (XW) shelters; pump houses (XW), substations (XE) and similar engineering services buildings.
XL LANDSCAPING AND IMPROVEMENTS - To improve the appearance of the site and provide incidental site facilities for the use of the occupants.

It INCLUDES grassing and turfing; garden plots and planting; trees, screen, dwarf, play and entrance walls; seats; fountains; petrol bowser (pumps) and tanks; sculptures; flagpoles; signs and notices; cricket nets and basketball posts; sports pitches and goal posts; open air swimming pools.

It EXCLUDES paving (XR); site clearance (XP); 'Boundary Walls, Fencing and Gates' (XN); walls required to retain the site (XP)

5.10 External Services

XK EXTERNAL STORMWATER DRAINAGE - To dispose of rain and surface water from the site.

It INCLUDES pipe runs from the external face of buildings; inspection pits; sumps; road gullies; culverts; box drains; grated trenches; runs from pools and fountains; outfalls and head walls; agricultural and sub-soil drains; connections to existing runs and pits.

It EXCLUDES pipe runs, pits, etc. under buildings from internal downpipes (RF); road gutters (XR); temporary drainage as site preparation (XP); diversions to existing runs (XX).

XD EXTERNAL SEWER DRAINAGE - To dispose of soil and waste water from the site.

It INCLUDES pipe runs from the external face of buildings; grease gullies; inspection pits and manholes; acid resisting and special drains; dilution pits; petrol and plaster arrestors; septic tanks; collection and holding wells; absorption trenches; transpiration areas; pumps and ejectors; connections to existing runs, pits and mains.

It EXCLUDES pipe runs, pits, etc. beneath buildings (PD); diversions to existing runs (XX).

XW EXTERNAL WATER SUPPLY - Systems to supply water up to the external faces of new buildings and up to other major consuming points such as swimming pools, fountains, artificial ponds, irrigation and ground watering outlets. The water may be at ambient temperature, heated or cooled and may be treated by clarification, filtration, softening, demineralisation, distillation, desalination or other means. The water may be supplied from town mains, bores, rivers, lakes, rainwater tanks, centralised energy systems or other sources.

It INCLUDES storage tanks; water towers; pumps; water treatment plants; water heaters and coolers; reticulation pipework including pipeline components; terminal outlets not integral with fixtures and/or equipment;
insulation; sheathing; painting and identification; meters and meter enclosures included under the contract; water bores; irrigation and ground watering systems; building and electrical work forming part of this element.

It EXCLUDES diversion to existing runs (XX).

**XG EXTERNAL GAS** - To supply town, natural, simulated natural and liquified petroleum gas up the external faces of new buildings and other consuming points. The gas may be supplied from town mains, storage cylinders, bulk storage tanks or other sources.

It INCLUDES storage cylinders and tanks, meters and regulators forming part of the contract; meter enclosures; reticulation pipework and pipeline components; building and electrical work forming part of the external gas supply Contract.

It EXCLUDES diversions to existing runs (XX).

**XF EXTERNAL FIRE PROTECTION** - To supply fire hydrant and gas or vapourising agent runs up to external faces of new buildings, external sprinkler systems, and for site connections and connection of fire detection systems between buildings. Also to detect and/or extinguish fires in fixed plant or equipment located in the open air.

It INCLUDES standby and booster pumps; pipe runs; storage and reticulation of gas and vaporising agents; hydrant points; overhead and underground cables and fire detection systems.

It EXCLUDES trenches for cabling (XE).

**XE EXTERNAL ELECTRIC LIGHT AND POWER** - To supply electric power to main distribution boards of buildings and to provide lighting and power to external site areas.

It INCLUDES connections to source of power supply; consumers mains; substation equipment; emergency generating plant; main switchboard, under-ground and overhead cables; pylons and all trenches for cabling; street and area lighting; illuminated signs and building flood lighting.

It EXCLUDES communications cables (XC); work to existing electrical work (XX).

*Note*: Communications cables to be included in XC.

*Fire Alarm cables to be included in XF.*

*Where the main switchboard supplies only one building, it shall be considered as a main distribution board and included in LP.*

**XC EXTERNAL COMMUNICATIONS** - To provide external communication cables to terminating frames of buildings and to provide communication systems between buildings and to external site areas.
It INCLUDES Telecom Australia work; underground and overhead cables; pylons; connections to existing cables; external speakers; hooters; clocks; bells; closed circuit T.V.; community antenna systems.

It EXCLUDES trenches for cabling (XE).

**XS  EXTERNAL SPECIAL SERVICES** - To provide external service or installations not included in other elements.

It INCLUDES external connections to items included in 'Special Services' (SS); service tunnels, ducts and conduits in connection with external reticulation of Services elements; dust extraction plant; incineration plant; bulk storage for medical and industrial gases.

5.11 External Alterations

**XX  EXTERNAL ALTERATIONS AND RENOVATIONS** - To alter or renovate any existing site works and external services.

It INCLUDES resurfacing paved and grassed areas; renovating outbuildings; renewing fencing and gates; permanent diversion of drainage, cold water and other external service runs.

It EXCLUDES renovating existing buildings (AR).

5.12 Special Provisions

**YY – PF  SPECIAL PROVISIONS** - Items not included in the Net Project Cost but which need to be included to make up the Gross Project Cost.

*Note: These items must be estimated by the project Cost Planner in consultation with the Client agency and the Project Manager.*

**ET  ESCALATION TO TENDER** – An appropriate allowance for future cost increases from the date of estimate to the anticipated tender date.
6 ELEMENTAL UNITS OF MEASUREMENT

The Unit Rate for an element is derived by dividing the quantity of the element into the total cost of the element.

The standard list of elemental units of measurement is as follows:

<table>
<thead>
<tr>
<th>Code</th>
<th>Element</th>
<th>Unit</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>SB</td>
<td>Substructure</td>
<td>m²</td>
<td>Area of building at lowest floor level measured over external walls and including full measurement of Unenclosed Covered Area.</td>
</tr>
<tr>
<td>CL</td>
<td>Columns (Framed Buildings)</td>
<td>m²</td>
<td>Total supported area, i.e. elemental measurements UF + SC + RF.</td>
</tr>
<tr>
<td>UF</td>
<td>Upper Floors</td>
<td>m²</td>
<td>Total area of upper floors measured to extremities of slab areas including balconies and incorporated sunhoods with deduction for staircases (but not for steps in the one floor level).</td>
</tr>
<tr>
<td>SC</td>
<td>Staircases</td>
<td>m²</td>
<td>Measurement on plan (landings and flights) measured once at each upper floor level served.</td>
</tr>
<tr>
<td>RF</td>
<td>Roof</td>
<td>m²</td>
<td>Plane of soffit (i.e. plan of ceiling) measured to the extremities of overhangs over fascias, parapets, etc.</td>
</tr>
<tr>
<td>EW</td>
<td>External Walls</td>
<td>m²</td>
<td>Area of external walls of the building measured on the general inside face of the wall from the lowest floor finish to the highest ceiling level with deductions for WW and ED element quantities.</td>
</tr>
<tr>
<td>WW</td>
<td>Windows</td>
<td>m²</td>
<td>Areas to be calculated from window sizes.</td>
</tr>
<tr>
<td>ED</td>
<td>External Doors</td>
<td>m²</td>
<td>Areas to be calculated from door sizes. Area of door plus area of panels and highlights over. Where sidelights occur the whole except only doors is measured and treated as glazed screens in EW.</td>
</tr>
<tr>
<td>NW</td>
<td>Internal Walls</td>
<td>m²</td>
<td>Areas are exclusive of doors etc.</td>
</tr>
<tr>
<td>NS</td>
<td>Internal Screens</td>
<td>m²</td>
<td>Areas are exclusive of doors</td>
</tr>
<tr>
<td>ND</td>
<td>Internal Doors</td>
<td>m²</td>
<td>Area of doors.</td>
</tr>
<tr>
<td>WF</td>
<td>Wall Finishes</td>
<td>m²</td>
<td>WF = 2/NW + EW (less the measurement of any glazed or self-finished areas occurring in curtain or screen wall sub-elements).</td>
</tr>
<tr>
<td>FF</td>
<td>Floor Finishes</td>
<td>m²</td>
<td></td>
</tr>
</tbody>
</table>
### Code | Element | Unit | Measurement
--- | --- | --- | ---
CF | Ceiling Finishes | m² | CF = net area of ceilings to all floor areas of the building measured in the plane of the ceiling (excluding returns to sides beams etc.).
FT | Fitments | n/a |
SE | Special Equipment | n/a |
SF | Sanitary Fixtures | no. | Number of sanitary fixtures.
PD | Sanitary Plumbing | n/a |
WS | Water Supply | n/a |
GS | Gas Service | n/a |
SH | Space Heating | m² | Treated Area
VE | Ventilation | m² | Treated Area
EC | Evaporative Cooling | m² | Treated Area
AC | Air Conditioning | m² | Treated Area
FP | Fire Protection | n/a |
LP | Electric Light and Power | n/a |
CM | Communications | n/a |
TS | Transportation Systems | n/a |
SS | Special Services | n/a |
CE | Centralised Energy System | n/a |
AR | Alterations and Renovations | n/a |
XP | Site Preparation | n/a |
XR | Roads, Footpaths and Paved Areas | n/a |
XN | Boundary Walls, Fencing and Gates | n/a |
XB | Outbuildings and Covered Ways | n/a |
XL | Landscape and Improvements | n/a |

n/a = not applicable. An appropriate quantity may be given for these elements if deemed necessary.
7 Relevant Legislation, Policy and References

The proforma cost plan formats, definitions of elements and elemental units of measurement are derived from the Australian Institute of Quantity Surveyors Cost Management Manual Volume 6 April 2008.

The Guideline supports the policies and guidelines of the Cabinet approved Government's Strategic Asset Management Framework (SAMF) which ensure successful asset investment planning and management for Government agencies in Western Australia.

7.1 Related Documents

This Project Cost Planning Guideline (the Guideline) is part of the Cost Management Services 2011 Panel arrangement 210757/11.
8 DOCUMENT CONTROL

TRIM Reference: 01134582
Document Number: 641

8.1 Build Status:

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Author</th>
<th>Reason</th>
<th>Sections</th>
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<tbody>
<tr>
<td>V1.3</td>
<td>May 2015</td>
<td>C Porter</td>
<td>Updated to reflect AIQS comments.</td>
<td>All</td>
</tr>
<tr>
<td>V1.2</td>
<td>March 2015</td>
<td>C Porter</td>
<td>Approval by PIRG</td>
<td>All</td>
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<tr>
<td>V1.1</td>
<td>September 2011</td>
<td>P Whelan</td>
<td>Release to reflect updated BMW terminologies</td>
<td>All</td>
</tr>
<tr>
<td>V1.0</td>
<td>July 2004</td>
<td>S Luce</td>
<td>Original release date</td>
<td>All</td>
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</tbody>
</table>

8.2 Amendments in this Release:

<table>
<thead>
<tr>
<th>Section Title</th>
<th>Section Number</th>
<th>Amendment Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td></td>
<td>Major Review and update – see below</td>
</tr>
</tbody>
</table>

Key Changes

<table>
<thead>
<tr>
<th>Key Changes</th>
<th>Amendment Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional Projects Locality Index</td>
<td>Appointment of architects:</td>
</tr>
<tr>
<td></td>
<td>• The Cost Plan templates now have additional fields which allow for ease of identification of Perth based prices and regional index/costs.</td>
</tr>
<tr>
<td>Due Diligence</td>
<td>• The Cost Guideline now make clear that for all cost planning after business case/PDP, cost managers are required to perform appropriate due diligence of local market conditions in assessing region specific cost factors for regional projects.</td>
</tr>
<tr>
<td>Terminology, policy changes, template format updates</td>
<td>Terminology</td>
</tr>
<tr>
<td></td>
<td>• It is now clearly stated that, with State Treasury being a key reviewer of a project’s cost plans (particularly the Business Case and PDP Cost Plans), the language must necessarily reflect their terminology.</td>
</tr>
<tr>
<td>Other Changes</td>
<td>Further examples of changes include;</td>
</tr>
<tr>
<td></td>
<td>• The replacement of the BMW Appropriation Charge which is now termed BMW Management Fee. Please note that Contract administration professional fees are now to be</td>
</tr>
</tbody>
</table>
part of the lead consultant fees.
- Public Art - correct title Percent for Public Art Scheme.
- Details of the operation of the Priority Start Apprentice Scheme and the role of the BMW project manager.
- References to the BCITF levy in the cost planning templates are removed as this is a cost incurred by builders.
- References to BMW Buy Local and indigenous policies are removed as this part of tender assessment processes and not direct project costs.
- Clarification provided to the various contingency provisions.
- Land acquisition costs are to be obtained from agency representatives through BMW project/planning managers.
- Various other minor format and language corrections.

<table>
<thead>
<tr>
<th>Utility Connection Charges</th>
<th>After consultations with MBA, BMW has agreed to provide for project utility connection charges to be included as provisional sums in PTE BOQs. This has now been added to the Project Cost Planning Guidelines.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adequate Time for Price Estimates</td>
<td>To ensure appropriate rigour is able to be applied to the preparation of project pre tender estimates (PTE) lead consultants are now to be required to ensure cost consultants are provided a four week time period for the PTE generation.</td>
</tr>
<tr>
<td>Consistency of Terminology with PACMAN</td>
<td>BMW's PACMAN system was introduced after the previous September 2011 update to the Guidelines. The current guideline now references the role of PACMAN in BMW's project management process, with additional fields included in the cost planning templates as well as the inclusion of additional definitions to ensure improved clarity.</td>
</tr>
</tbody>
</table>

### 9 DOCUMENT APPROVAL

This was endorsed and approved for use on 24 March 2015, by the Process Improvement Reference Group.