

Price Quality Method

Enhancements

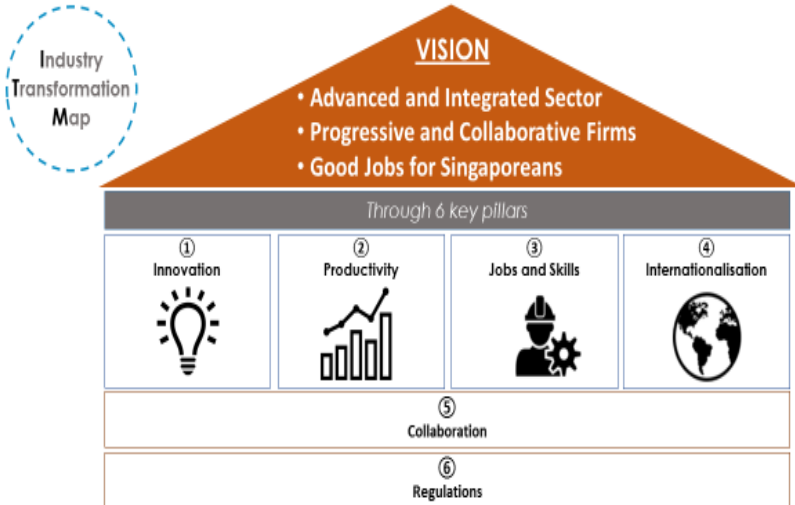
(Effective for tenders called on and after 31 Jan 2018)



Need for Review

Driving Transformation through the Construction ITM

ITM will chart the course ahead for growth and competitiveness



More emphasis and differentiation in Quality

To place **greater emphasis on quality** for construction tenders.

Enhance **long term sustainability** of contractors and curb excessive price competition.

Recognise firms providing **good performance**.



PQM

PRICE QUALITY METHOD Building and Construction Authority

Framework
Effective for tenders called on and after 31 Jan 2018

1.0 GENESIS OF PQM

1.1 The Price-Quality Method (PQM) framework applies to all public sector construction tenders under the BCA Construction Workheads (CW01 & CW02) with an Estimated Procurement Value (EPV) of \$3million and above.

1.2 The aim of PQM is to provide a structured framework for non-price criteria to be assessed alongside price. In effect, PQM translates the qualitative attributes into quantitative scores which, when combined with the Price scores, will enable the most suitable firm that provides the best offer to be selected for award.

2.0 KEY PRINCIPLES OF PQM


2.1 Value for Money. Both Price and non-price (i.e. Quality and Productivity) attributes will be given weightages and scored based on the guideline¹ provided. The bid with the highest combined Price-Quality-Productivity score (i.e. PQM score) shall be awarded the project.

2.2 Open and Transparent

a. The PQM procedures will be as open and transparent as possible. The weightages among Price, Quality and Productivity components, the Quality and Productivity attributes, the number of points assigned to each attribute and the method of scoring will be made known upfront in the tender.

b. Tenders using the framework should comply with the World Trade Organisation (WTO) regulations such as having non-discriminatory criteria.

c. All tenderers can request in writing to seek feedback from the respective agency on their individual tender performance after the tender award.



Tender evaluation framework for all public sector construction tenders under BCA construction workheads **CW01** & **CW02** with the estimated procurement value of **\$3M and above**.


*CW01 – General Building
CW02 – Civil Engineering*

Total PQM Score =
Price-Score + Productivity-Score
+ Quality-Score



Key Enhancements to PQM

1



↑ 10%
Q-weightage
(buildings)

2



**Mandatory Attribute
for Past
Performance**

*Effective for
tenders called
on and after*




3



**Flexibility in Setting
Productivity
Evaluation Criteria**

4



**Greater
Transparency on
Performance**




1) Greater emphasis on non-price components

To place greater emphasis on quality during tender evaluation

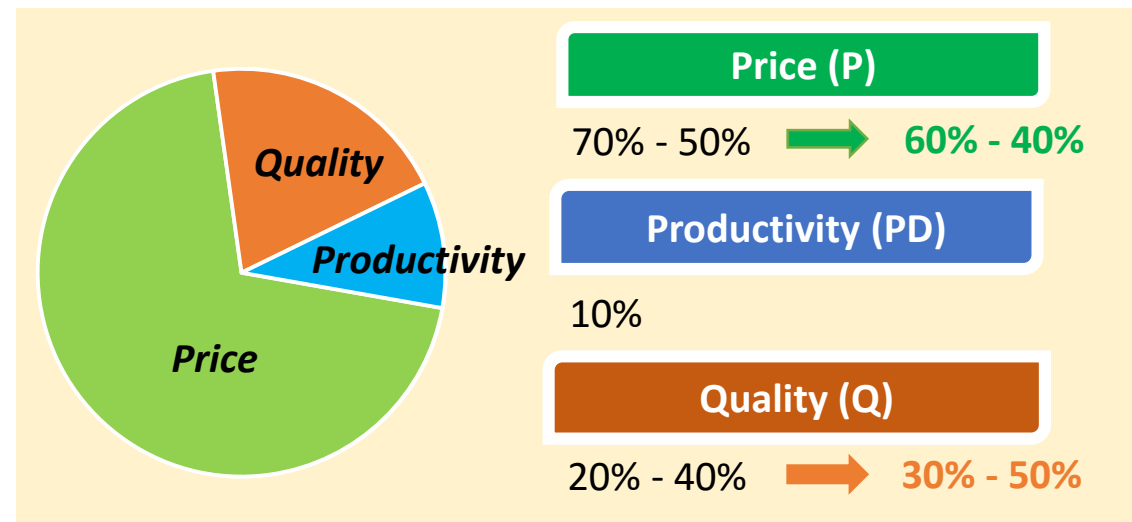
- **10% increase of weightage** in Quality components for **building** projects
- Agencies have the flexibility to choose from a range of **P:PD:Q weightage** for different procurement models i.e. Design Bid Build (DBB), Design & Build (D&B) and ECI models

1



↑ 10%
Q-weightage
(buildings)

Weightages for building projects (CW01)



2) Introduce past performance as a mandatory criterion

To recognise contractors with good performance for past projects

2



**Mandatory Attribute
for Past
Performance**

Mandatory minimum 15% of Quality weightage

- Performance in past projects **NEW**

Contractors are encouraged to have good performance for their projects.



2) Introduce past performance as a mandatory criterion

To recognise contractors with good performance for past projects

eBACS
Electronic Builders Licensing and Contractors Registration Systems

Singapore Government
Integrity · Service · Excellence

HOME MY APPLICATION **COMPANY INFORMATION** INBOX USER GUIDE E-APPOINTMENT LOGOUT

Welcome to
Electronic Builders Licensing and Contractors Registration Systems
(eBACS)
2012 United Nations Public Service Award Winner

To **update email address**, please click [here](#) . Please note that SingPass login is mandatory to update email address for audit purposes.

To view **CRS/BLS notification letters**, please click on "**Inbox**" from the top menu bar.

Note: For CRS application which involve **Builder License** as a pre-requisition requirement, you are required to apply for the necessary type of licence(s) **first** before making any CRS application.

UEN No.
Company Name

Contractor Registration System (CRS)
Cert Expiry Date:

- All CRS contractors are able to view their own past performance reports via eBACS with effect from Jun 2017

Steps to view performance track record

1. Log into eBACS account
2. Click on the company information
3. Click on the view company track record
4. Click on the project title
5. Track record performance for that project will be shown

2) Introduce past performance as a mandatory criterion

To recognise contractors with good performance for past projects

Actual Date of Completion	17 Aug 2013
Final Project Value (\$)	211800000.00
Reference from Agency / Developer / Client	<input checked="" type="checkbox"/> Award Letter / Invoice <input checked="" type="checkbox"/> Certificate of Completion

Track Record Performance

No.	Area of Evaluation (All workheads)	Grade
(a)	Quality Performance	Excellent
(b)	Site Planning & Control	Excellent
(c)	Progress of Works	Very Good
(d)	HouseKeeping	Very Good
(e)	Response to Instructions	Excellent
Overall Performance		Excellent

- All CRS contractors are able to view their own past performance reports via eBACS with effect from Jun 2017.

Note:

- Performance report is **submitted upon project completion** either by
 - public sector agency for public projects through Practical Report or
 - client or client's representative for private projects through Section D
- "No Performance" will be recorded if **performance report is not submitted** or if the **project is still ongoing**.
- Please **approach your respective public sector agency or client** if you wish to seek further clarification on your project performance or request for performance report to be submitted to BCA upon project completion.


Contractors are encouraged to focus on improving their project performance.



3) Flexibility to specify productivity criteria

To recognise firms' efforts in raising productivity

3



Flexibility in Setting Productivity Evaluation Criteria

* CS index applicable:

Constructability Score (CS) Index
8%

CS Index
~~(8%)~~ (min 4%)*

Other productivity attributes proposed by agency
(0% to 4%)*

** CS index not applicable:

Other productivity attributes proposed by agency
(0% to 8%)**


Agencies could specify for other productivity attributes under Productivity component. Tenderers are encouraged to come up with more productive proposal.



4) Greater Transparency in Tender Performance

To help firms to improve for future tenders

4



**Greater
Transparency on
Performance**



Request in writing to agencies to seek feedback on areas of improvement

Tenderers are encouraged to take feedback positively



Contact Us

For any clarification you may email to:

- PQM: bca_ppd@bca.gov.sg
- eBACS: bca_ebacs@bca.gov.sg

The revised PQM framework is available at <https://www.bca.gov.sg/PQM/pgm.html>



Thank You



Key Features & Benefits

Early Contractor Involvement



Outline of Presentation

- Early Contractor Involvement (ECI) – Why & What
- Key Features of ECI models identified by BCA
- Stakeholders' involvement in the ECI process



Construction ITM

Industry Transformation Map

VISION

- Advanced and Integrated Sector
- Progressive and Collaborative Firms
- Good Jobs for Singaporeans

Through 6 key pillars

① Innovation



② Productivity



③ Jobs and Skills



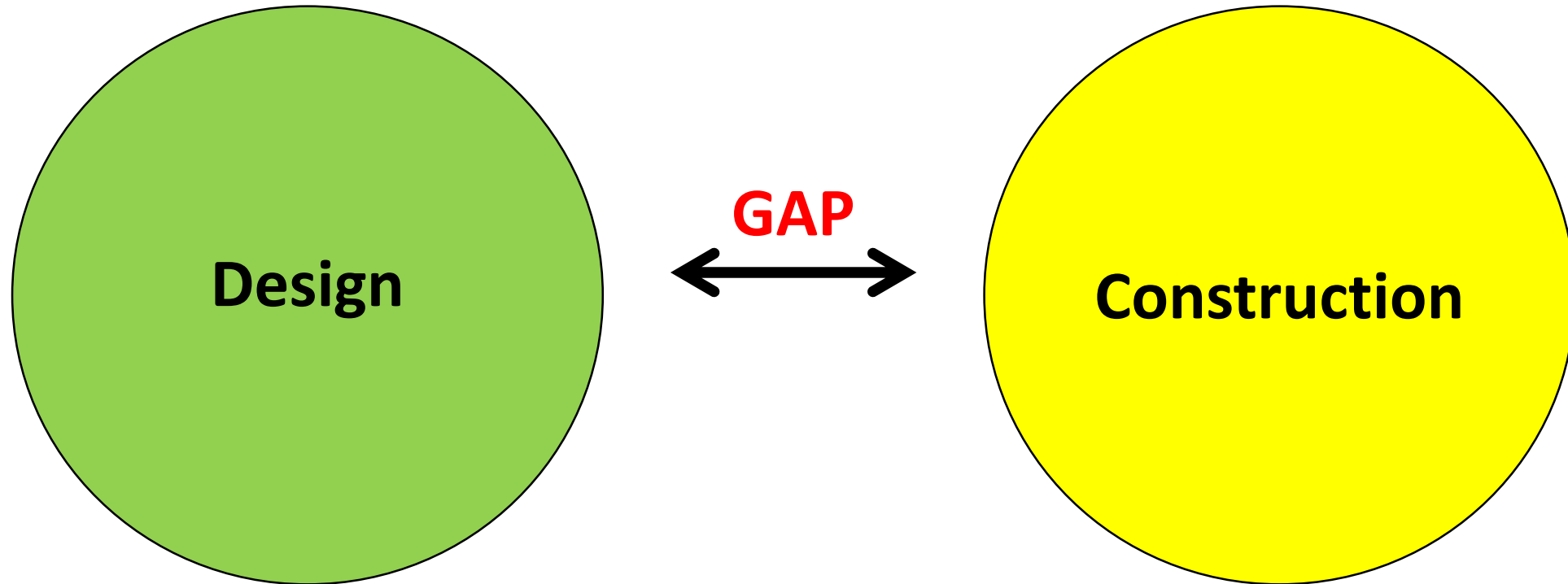
④ Internationalisation



⑤ Collaboration

⑥ Regulations

Gap between Design & Construction



What is Early Contractor Involvement (ECI)?

- A procurement approach whereby ***Contractors are engaged early during the design stage***, so that the knowledge of the Contractor is used to facilitate integration of design and construction process.



Benefits of ECI

- Allow Contractors' inputs into design to make good use of their ***knowledge, experience and creativity***
- Promote ***greater coordination*** between stakeholders
- ***Cost and/or time savings***



Adoption of ECI

- **All public agencies are required to consider ECI upfront if possible**
- **Public agencies that adopted ECI** in their projects include JTC, MOH, HDB, DSTA, LTA, MOE, NEA and PA
- **ECI models adopted** include Design & Build (D&B), Design Development & Build (DDB) and Design Bid Build with Early Contractor Involvement (DBB-ECI)
- More to come...



ECI Initiatives

Building Capabilities

- **ECI Guide**
 - Details of ECI models
 - ECI guide to be published

Outreach

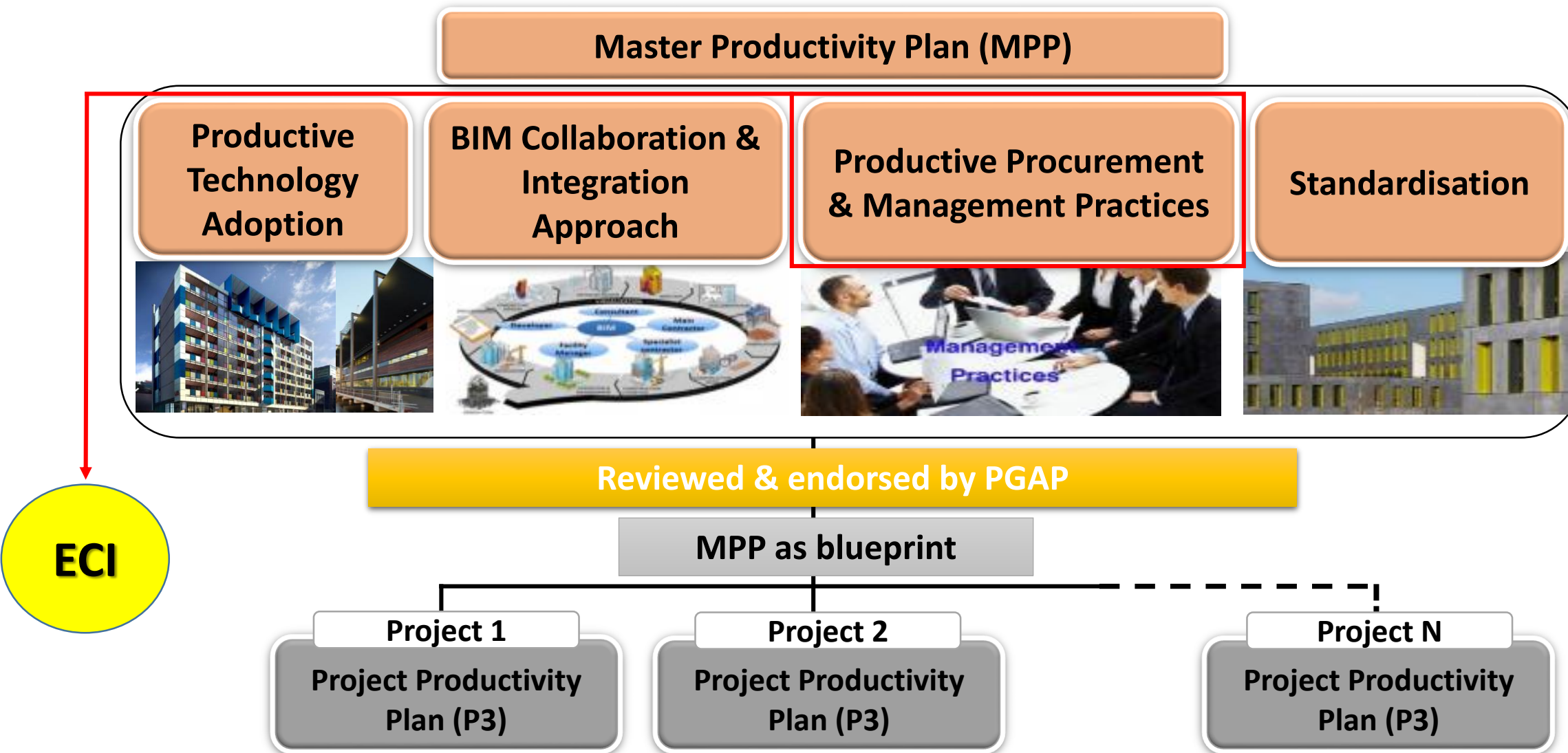
- **ECI Seminars**

Building Demand

- **Productivity Gateway Framework (PGF)**

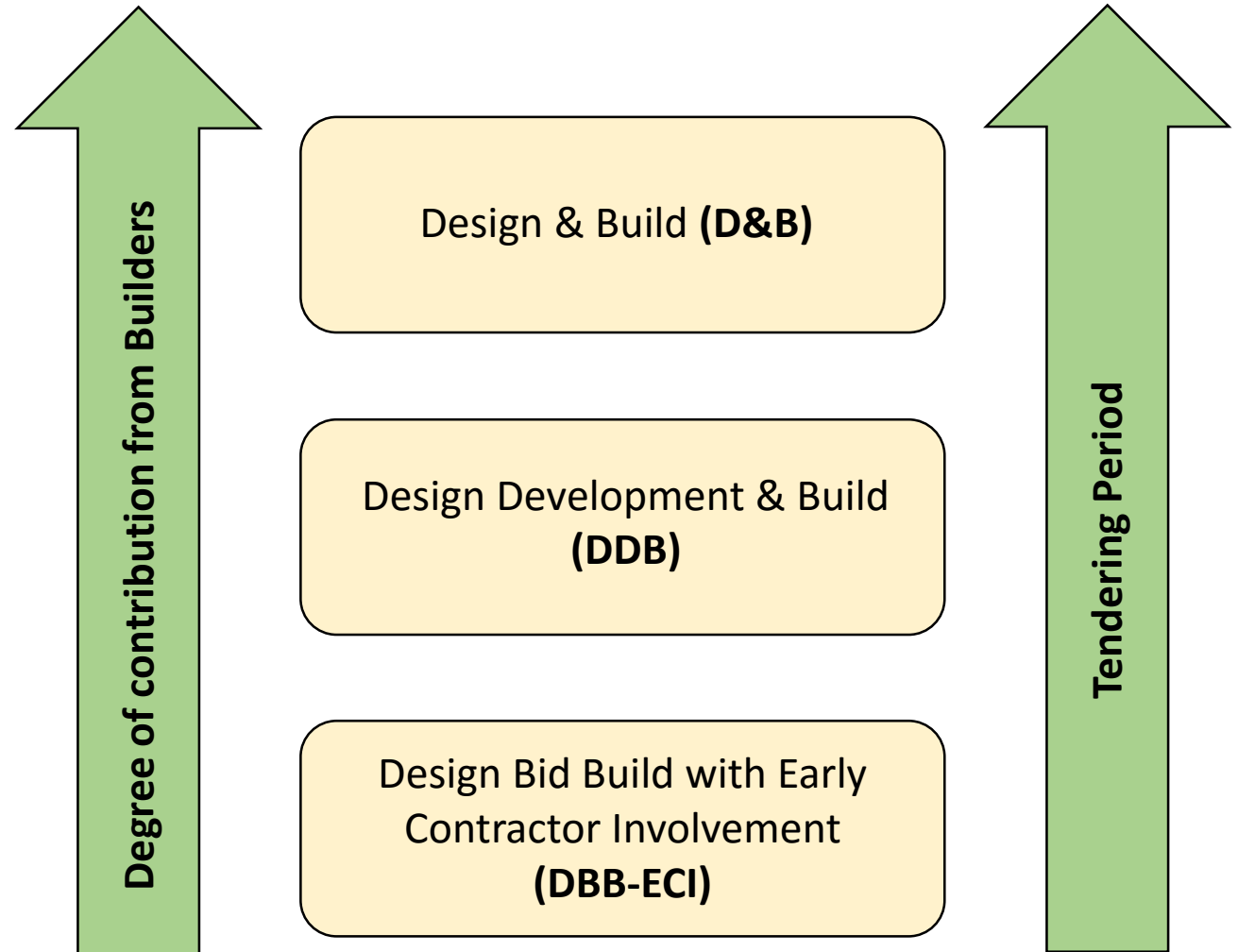


Productivity Gateway Framework (PGF)

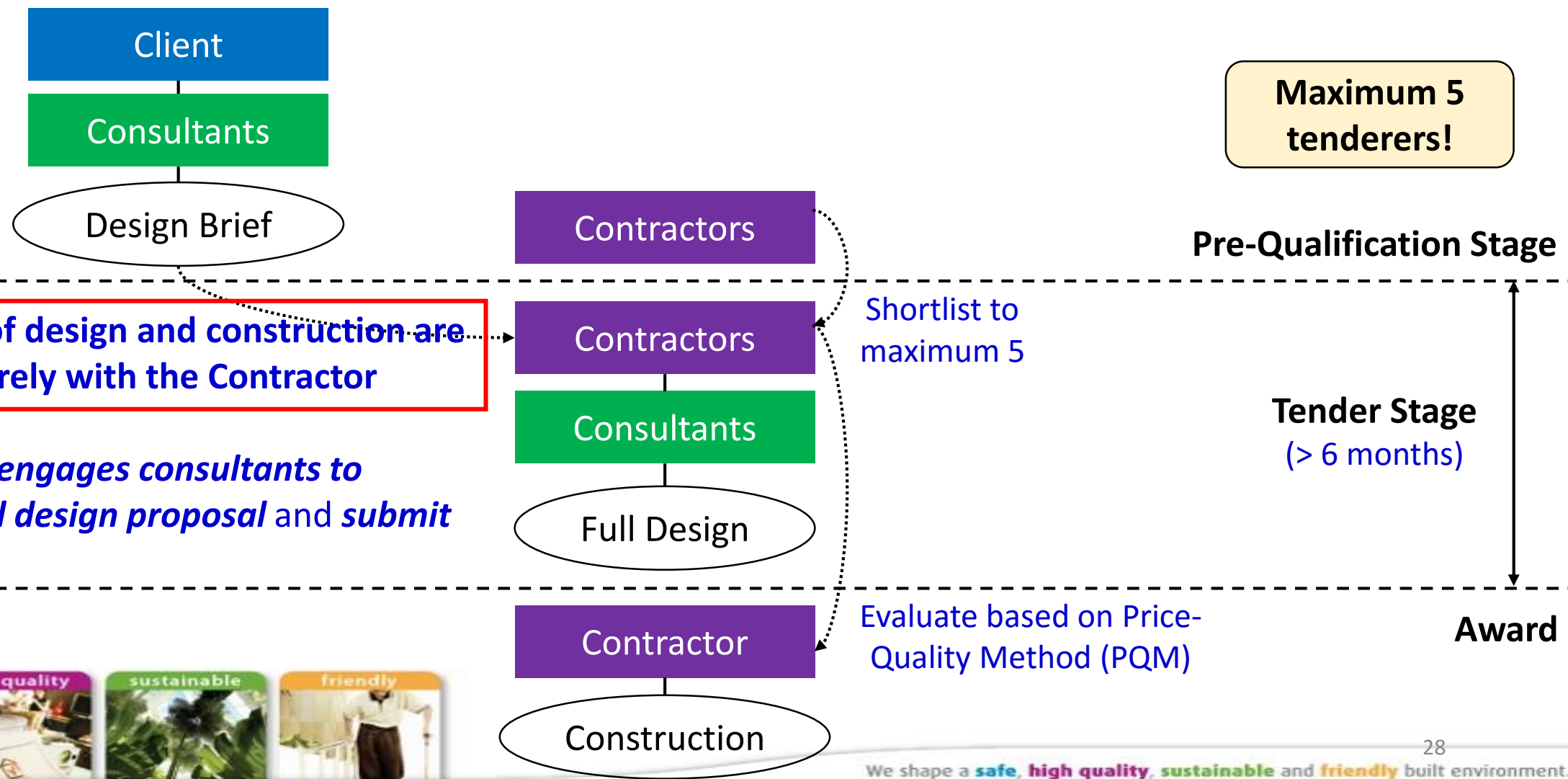


Key Features of ECI Models

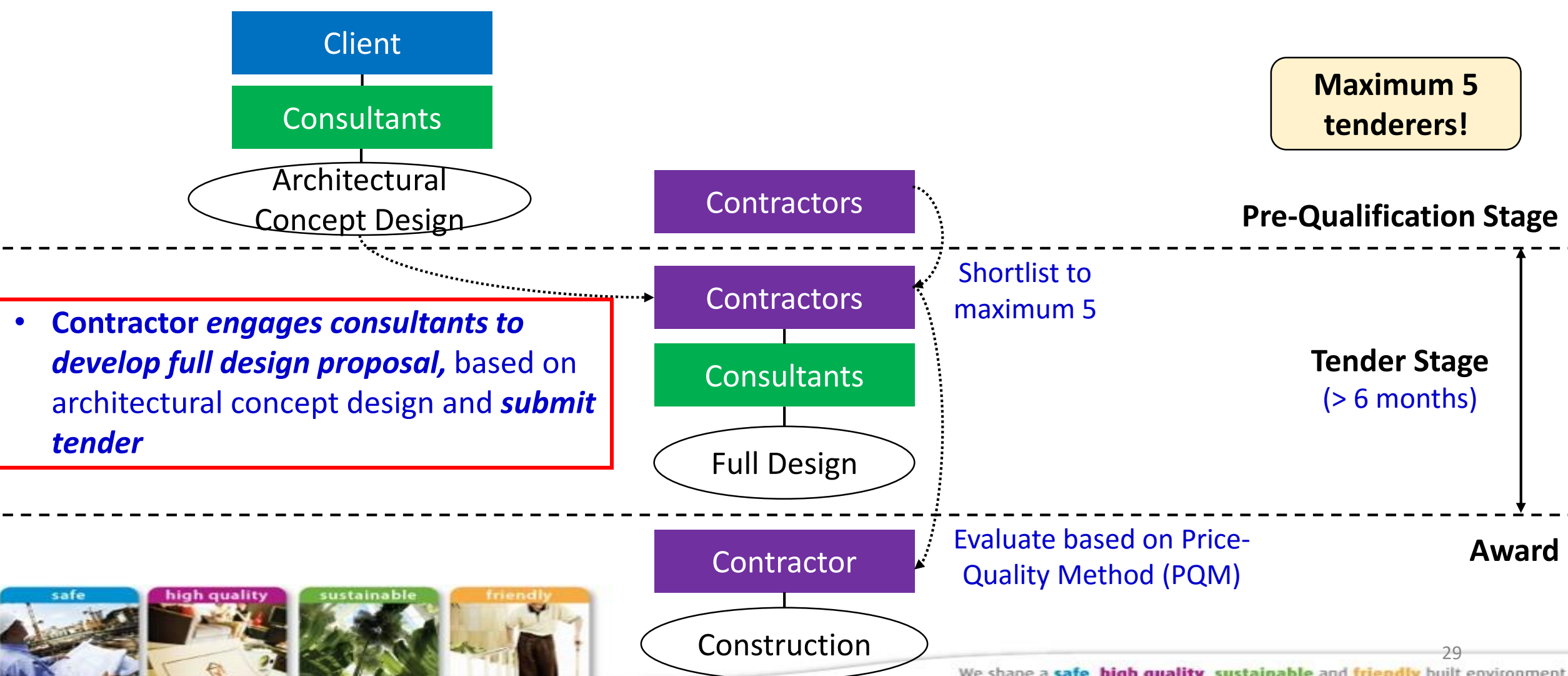
- 3 different models of ECI which varies according to:
 - Stage at which the Contractors start to get involved in project
 - Level of involvement in the design
- Depends on type of projects, client needs etc



1. Design and Build (D&B)



2. Design Development and Build (DDB)



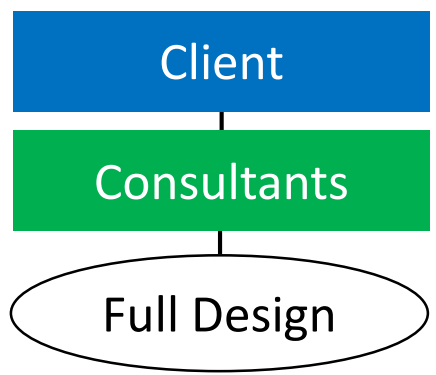
2. DDB – Case Study 1

ECI Experience of Public Agency A

- Concept design provided - Tap on Contractor's knowledge to explore more efficient and productive construction methodology
- Alternative proposals
 - Structural system – semi precast to full precast
 - Architectural layout – introduce external staircases reduce corridor
 - M&E provisions – lower equipment capacity same efficiency
- Savings: Time - 10% / Costs - 3%



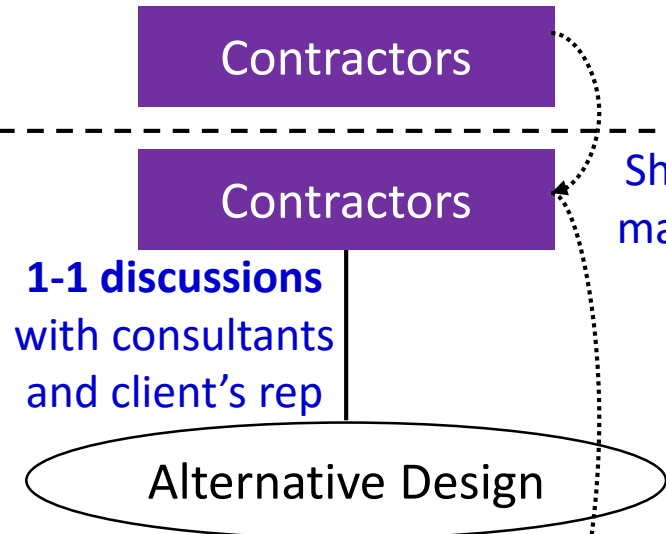
3. Design Bid Build – Early Contractor Involvement (DBB – ECI)



Maximum 5 tenderers!

Pre-Qualification Stage

- Contractor **develop alternative design solution(s)** that are time/cost savings and **submit base tender bid and alternative tender bid** for accepted solution(s)



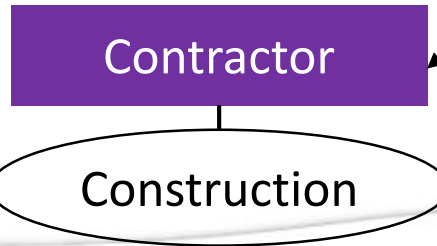
Shortlist to maximum 5

1-1 discussions with consultants and client's rep

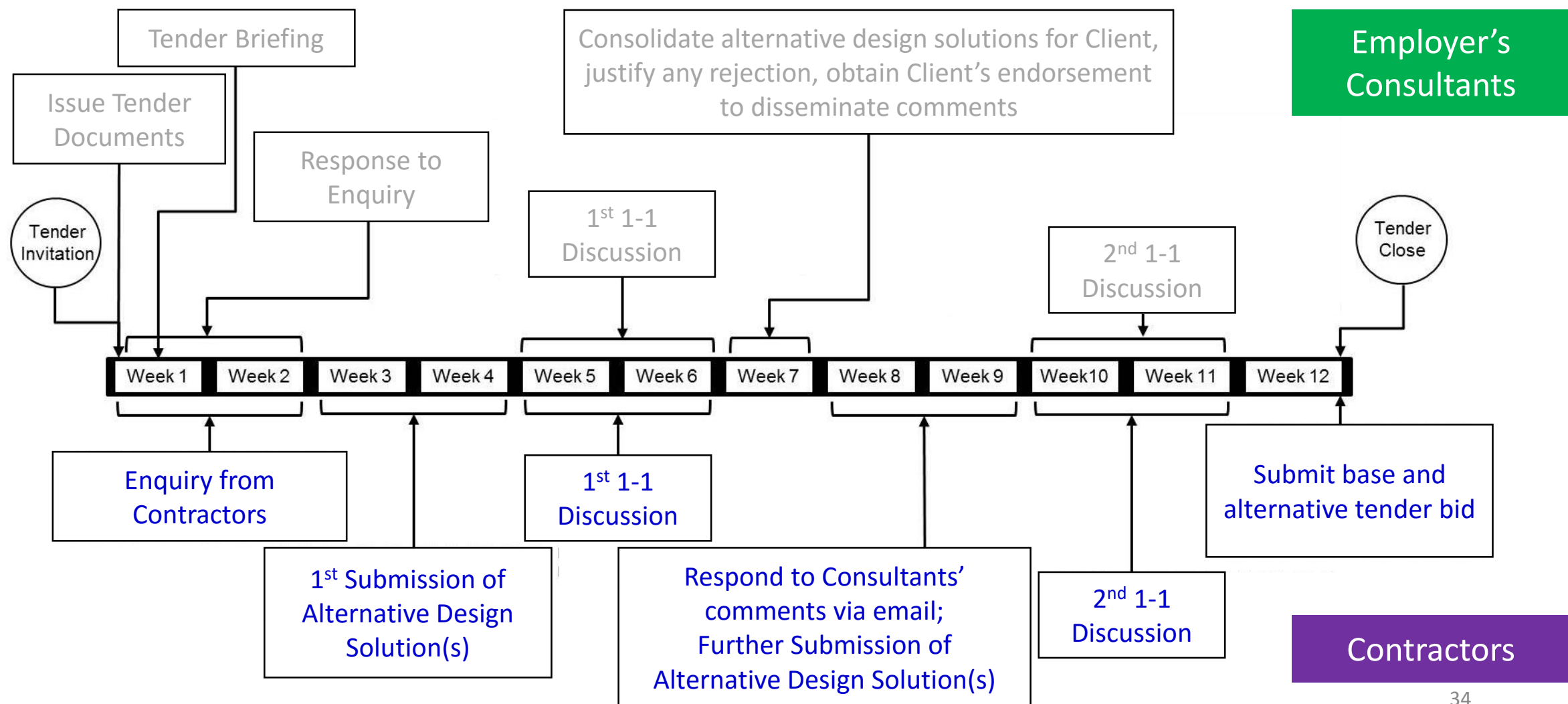
Tender Stage (> 3 months)

Evaluate based on Price-Quality Method (PQM)

Award



1-1 Discussions



1-1 Discussions

Contractor will be evaluated based on

- Level of participation in ECI exercise e.g. valued ideas, responsiveness and promptness for 1-1 discussions
- Innovativeness of alternative design solution(s) - impact on productivity, quality and safety e.g. new construction methods



1-1 Discussions

- Clarifications on Contractor's submitted alternative design solution
- Consultants highlight areas for Contractor's consideration
- Area of discussion is limited to design solution only. No costing to be discussed
- Requires signing of a **Confidentiality Agreement** between consultants and individual tenderers to ensure that sensitive information shared is kept confidential and not shared with other tenderers



3. DBB-ECI – Case Study 2

ECI Experience of BCAA Phase 1 Redevelopment Project

- Alternative design solutions by Contractors to structural system and M&E provisions
- Savings: Time – 4.5% / Costs – 2.7%



3. DBB-ECI – Case Study 2

Pre-cast staging beams and planks for Lecture Theatres

Benefits

Improving productivity by removing cast in situ concreting slabs

Reduce site-work and labour

ALTERNATIVE SOLUTIONS (arising from ECI)

High Strength concrete for columns

Benefits

Reduce reinforcement up to 25% at certain sections

Light weight ductwork
Provides excellent insulation, high rigidity, lightness, extremely easy to handle

Benefits

Installation is much faster than conventional system

Save labour cost and time



3. DBB-ECI – Case Study 3

ECI Experience of Public Agency B

- Alternative design solutions by Contractors to structural system, architectural layout and M&E provisions
- Savings: Time - 7% / Costs – 2.5%



3. DBB-ECI – Case Study 3

Change of full top down construction to semi top down construction

→ Reduce in plunge of columns

Change from bored pile foundation to raft foundation with tension piles

→ Reduce in costs

ALTERNATIVE SOLUTIONS (arising from ECI)

Raise ejector tank pumps and grease separator from below B3/B3 to B3 and B1

→ Avoid deep excavation

Replace 25-75mm screed with screed-less floor for some areas

→ Reduce in time and costs



Summary on Types of ECI

	Tender Stage Design Status	Contractors' Design Involvement
D&B	Design Brief	Full Design from Design Brief
DDB	Architectural Concept Design	Full Design from Concept Design
DBB-ECI	Full Design	Alternative Design from Full Design



Contributions by Contractors



Tap on contractor's expertise



Better / alternative design solutions for higher constructability / productivity



Better project control / productivity



Cost / Time savings



Areas under Review

- Compensation framework for unsuccessful tenderers
- Number of pre-qualified tenderers for ECI exercise



Moving Forward

Collaborative Contracting...



Collaborative Contracting

- ***Adopted overseas in various public and private sector projects***
 - New Engineering Contract (NEC) in the United Kingdom (UK), Hong Kong, New Zealand and South Africa
 - AIA Standard Document for Integrated Project Delivery (IPD) in the United States (US)
 - Alliance Contract in Australia
- ***Traditional form of contracts are more adversarial in nature***



NEC Adoption in Hong Kong

Benefits of Collaborative Contracting

- Project parties work together in spirit of mutual trust towards common goal
- Encourage better cost/risk management; disputes avoided/resolved early

Happy Valley Underground Storage Stormwater Scheme Project in HK

- **Cost savings of 5% (~S\$10mil) and time savings of 12 months**
- HK has been active in piloting and adopting NEC since 2009



Seminar/Workshop on Collaborative Contracting

- The ***Working Committee on Collaborative Contracting (WCCC)*** comprising government agencies and industry associations/practitioners was set up in Sep 2017 to study the collaborative contracting forms used overseas for adoption in Singapore
- ***Seminar/workshop*** to be organized to raise awareness on collaborative contracting
 - Coming soon ...



Thank You!

