Strategic procurement in capital expenditure –
*the use of program management & delivery*

Water businesses operate in a challenging environment and strive to meet changing regulatory requirements, asset management needs and growth demands.

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Capital Plan drivers

- Issues, problems, risks, opportunities and new ideas from any of the following areas:
  - Asset management
  - Product quality
  - Operations and maintenance
  - Growth through development
  - Customer service
  - New directions

Some Current Issues

**Client**
- Non completion of annual works program is now unacceptable
- Difficult to find skilled resources
- ‘Work in progress’ for some Regulatory environments
- Delayed start to the delivery phase
- Project budget over-runs
- Uncertainty about future funding requirements
- Product / facility quality issues
- See the ‘adversarial approach’ as wasting scarce resources

**Contractor**
- Some markets, contractors are short of work
- Some skilled labour & sub-contractor shortages
- Intense competition for skilled technical resources
- Cost of bidding must be contained within budgets
- Competing on a level playing field
- Traditional low level of staff skills development
Strategic procurement
A definition

- The Chartered Institute of Purchasing and Supply defines a strategic procurement review as:

  "a pro-active and planned analysis of supply markets and selection of suppliers with the objective of delivering solutions to meet predetermined and agreed business needs".

Strategic procurement approach
Capital Works Program context

- recognises the size of the portfolio,
- current and future constraints,
- looks at the sourcing options that give the water business the best chance of prudently and efficiently achieving its corporate strategies and objectives,
- reviewing all the resources that may be suitable and available for this strategic procurement.
Portfolio Management

- The business takes a strategic & balanced approach to the projects to be undertaken.
- The balance may be between having:
  - Projects that are Strategic - Tactical – Operational
  - Risk spread from High - Medium – Low
  - Flexibility with sizes from Large – Medium - Small

Program Management
Program Management

A program is:
- A group of projects
- Managed together
- For added benefit

Program management is the management of a coherent group of projects to deliver additional benefit. The additional benefit can result from:
- Elimination of risk arising from the interfaces between the projects.
- The successful completion of individual projects through coherent prioritisation of resources
- A reduction in management effort
- Minimise overall project costs

Program Management factors

- Time frame/s
  The Capital Works Program period need to be of value to the water business.
- Nature and quantity of projects
  The projects in the Capital Works Program may assembled into programs and sub-programs based on dominant synergies.
- The Value Chain
  Look at all the projects over the infrastructure value chain to see how they can be treated to optimise the delivery of the Capital Works Program.
Capital Works Program period

- Consider
  - Program outcomes often take more than a year to measure.
  - Many water projects take more than a year from planning to commissioning.
  - Number of projects are usually combined to deliver a program outcome. E.g. overflow reductions in an area.
  - Short periods make it easy to put off jobs without dealing with the consequences.
  - Regulatory periods are around 4-5 years.

Capital Works Program
4-5 year fixed

- The Water Business Capital Investment Plan
- Visibility of all parts of the Capital Works Program
- Allows similar projects being packaged,
- Provides opportunity for the transfer of knowledge
- Allows reduction of numbers of individual contracts
- Reduces the interfaces to be managed
- Allows entering into period contracts
- Gives certainty to providers and water business on work required to be delivered over the period allowing them to:
  - Acquire, train and hold quality technical staff
  - Purchase at better rates
  - Acquire, build and maintain key management capability
  - Invest in equipment and management systems to support the program
Packaging into Programs

Possible synergies

- **Asset type**
  - Pipes, pumps, tanks etc

- **Skills required**
  - Design, program management, pipeline construction, equipment installation, safeguarding public utilities, cut-ins and cut-overs, community engagement, etc.

- **Facility**
  - Pumping stations, treatment plants

- **Geography**
  - Catchment, pressure zone, Local Government area

- **Priority or timing**
  - Public commitments, legislated deadlines, developer needs, funding approvals, regulatory approvals, etc.

- **Risk profile**
  - Cost, service standards, licence compliance, community acceptance, etc

- **Location**
  - ‘Brownfield’ treatment plant sites, heavily urban streetscape, new developments, etc

- **Customer Impacts**
  - Standards of service, response times, service cost / price, etc

Synergies for Packaging into Programs

<table>
<thead>
<tr>
<th>Proposed Programs</th>
<th>Specific Synergies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pipe, Tanks and Pumps Growth Program</td>
<td>Safeguarding public utilities, heavily urban streetscape, new developments, timing developer needs, funding approvals, regulatory approvals</td>
</tr>
<tr>
<td>Peninsula Sewerage</td>
<td>Technology, safeguarding public utilities, urban streetscape, community outcomes</td>
</tr>
<tr>
<td>Pipes and Pumps Renewals Program</td>
<td>Safeguarding public utilities, cut-ins and cut-overs, heavily urban streetscape</td>
</tr>
<tr>
<td>Treatment Program Major Projects</td>
<td>Process design, water retaining structures &amp; pipeline construction, equipment installation, cut-ins and cut-overs, ‘brownfield’ treatment plant sites</td>
</tr>
<tr>
<td>Treatment Program Renewals and Minor Works</td>
<td>Process design, many small jobs, water retaining structures &amp; pipeline construction, equipment installation, cut-ins and cut-overs, ‘brownfield’ treatment plant sites</td>
</tr>
</tbody>
</table>

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Proposed Programs

<table>
<thead>
<tr>
<th>Programs</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pipe, Tanks and Pumps Growth Program</td>
<td>$5.15</td>
<td>$4.67</td>
<td>$3.55</td>
<td>$9.33</td>
<td>$22.70</td>
</tr>
<tr>
<td>Peninsula Sewerage Program</td>
<td>$1.66</td>
<td>$1.53</td>
<td>$1.79</td>
<td>$3.24</td>
<td>$8.22</td>
</tr>
<tr>
<td>Pipes and Pumps Renewals Program</td>
<td>$2.48</td>
<td>$2.78</td>
<td>$2.68</td>
<td>$2.63</td>
<td>$10.57</td>
</tr>
<tr>
<td>Treatment Program Major Projects</td>
<td>$9.60</td>
<td>$8.05</td>
<td>$9.07</td>
<td>$11.90</td>
<td>$38.62</td>
</tr>
<tr>
<td>Treatment Program Renewals and Minor Works</td>
<td>$3.18</td>
<td>$3.87</td>
<td>$2.16</td>
<td>$2.28</td>
<td>$11.49</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$22.07</strong></td>
<td><strong>$20.90</strong></td>
<td><strong>$19.25</strong></td>
<td><strong>$29.38</strong></td>
<td><strong>$91.60</strong></td>
</tr>
</tbody>
</table>

The Infrastructure Supply / Value Chain

The project package or program may comprise one or many of these elements
The Infrastructure Creation Lifecycle -

*Capex Provider Interface*

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Program Delivery

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Infrastructure Projects
Project Delivery Model

Infrastructure Planning Service to client

Annual Works Program Decision

Infrastructure Delivery Service to client

PROBLEM > ANALYSIS > FEASIBILITY

Phase 1
Feasibility / Project Initiation / Development

Gate 1
Go/Fund
Cancel/Shelve

Business Planning

Gate 2
Go/Fund
Cancel/Shelve

Facility Planning

Gate 3
Go/Fund
Cancel/Shelve

Project Planning

Phase 2
Project Planning & Design

Gate 1
Go/Fund
Cancel/Shelve

Gate 2
Go/Fund
Cancel/Shelve

Gate 3
Go/Fund
Cancel/Shelve

Phase 3
Project Procurement & Construction

Gate 1
Go/Fund
Cancel/Shelve

Gate 2
Go/Fund
Cancel/Shelve

Gate 3
Go/Fund
Cancel/Shelve

Phase 4
Project Completion & Handover (incl. Defects period)

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Project Bundling

- At each step in the program delivery there are opportunities for bundling for efficiency and effectiveness.

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A word on prudence and efficiency

- What is the value equation proposition for each program / sub-program and projects?
- Value for each type of project will be different e.g.
  - Growth
  - Renewal
  - Compliance
  - Improvement
- Options analysis – Project Justification Criteria

Project Justification Criteria

<table>
<thead>
<tr>
<th>Driver</th>
<th>Definition</th>
<th>Project Justifications</th>
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<tbody>
<tr>
<td>Growth</td>
<td>Capital expenditure associated with increasing the capacity of assets or construction of new assets, to meet growth in demand, or to provide additional security of supply should be included in growth</td>
<td>Best whole of life cost solution. Delivered just in time (JIT). i.e. Staging that best matches increasing revenue to increasing cost</td>
</tr>
<tr>
<td>Renewal</td>
<td>Capital expenditure associated with replacing assets and generally maintaining service levels should be included in renewal of existing infrastructure</td>
<td>Best whole of life cost solution, that maintains capability</td>
</tr>
<tr>
<td>Compliance</td>
<td>Capital expenditure associated with meeting price monitoring or legislative obligations should be included in compliance</td>
<td>Best whole of life cost solution that meets the documented requirements for Regulator.</td>
</tr>
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<tr>
<td>Improvement</td>
<td>Capital expenditure associated with improving service levels and reliability to meet customer preferences should be included in improvements</td>
<td>Best whole of life cost solution that meets the documented improved service standards from Council, regulator or Council.</td>
</tr>
<tr>
<td>Tools of Trade</td>
<td>Capital expenditure to purchase office equipment and equipment necessary for staff in undertaking their duties.</td>
<td></td>
</tr>
</tbody>
</table>

Develop Packaging options

- Risk management / minimization
- Optimisation of key in-house or market resources
- Minimisation of management effort
- Minimise infrastructure delivery costs
Commercial analysis of the preferred packages and delivery options
Factors that will effect the Delivery Strategy Choice

1. Risk Attitude of the Agency or Organisation
e.g. very risk adverse
2. Corporate Procurement Process and Policies
e.g. Strategic Procurement Initiatives
3. Complexity of the project
e.g. Is there a history of projects of this complexity?
4. Project Budget and estimate
e.g. How accurate is the estimate and is the organisation Variation adverse?
5. Scope clarity
e.g. Is the scope well defined or will it develop throughout the life of the project?

Factors that will effect the Delivery Strategy Choice

6. Commercial considerations
e.g. Does the client want the asset on their books?
7. Market Capability
e.g. Is the market hot, how many potential Tenderers are there?
8. Timing
e.g. How quickly does the client need the project delivered?
9. Project Management Capability/capacity
e.g. 1 contract or many?
   (how many can we manage with current resources?)
Delivery Model/Strategies

- Situations require a wide range of delivery methods
- Best answer is a matching of project circumstances with methods
- A spectrum of possibilities

Core theory

Fundamentals:
- Most efficient risk allocation = most efficient pricing
- Contract models are different risk allocations

To obtain 'value for money':
1. Define values & prioritise (corporate driven / lead)
2. Establish which procurement model most efficiently targets achievement of those values
3. It follows that that model will generate the best pricing for those values
Preferred outcomes from delivery model selection

1. The ‘right’ question is put to the market – the solution that the agency knows it is prepared to pay for
2. The ‘solution model’ (type of contract) incorporates risk allocations that incentivise tenderers (& the contractor) to price and deliver the service in a way that maximises chances of targeted outcomes
3. The management systems applied in the contract are similarly aligned to maximise the probability of achieving the targeted outcomes

Summary
Program Management & Delivery approach

1. Identify Program Objectives
2. Review the Program Value Chain
3. Research Details of Projects / Program
4. Seek synergies
5. Develop packaging options
6. Test packaging options and delivery models with client team & market
7. Commercial analysis of the preferred packages and delivery options
8. Optimise the solution against the objectives with client team
References

- Guide to Infrastructure Delivery Options & Decision-Making Processes
  - Queensland Department of Local Government & Planning,
- Which Project Delivery Strategy Is For You?
  - International Project Management Association, Delhi
  - Cowan, B. & Lawrence, B., 2005
- National Public Private Partnership Guidelines Volume 1: Procurement Options Analysis
  - Australian Government – Infrastructure Australia
  - December, 2008

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