Australian Government

Nation Building ECONOMIC STIMULUS PLAN

Nation Building – Economic Stimulus Plan

Queensland Procurement Plan

Prepared by the Programme Management Office

for the

State Coordinator
Department of Public Works

Queensland Government

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Role	Name	Signature	Date
Director, Programme Management Office	Paul Krautz		
Deputy Director-General Works and Chair, Contracts Committee	Max Smith		

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Preamble

On 3 February 2009, the Prime Minister announced the $42 billion Nation Building – Economic Stimulus Plan (Nation Building). Nation Building is to support jobs and invest in future long term economic growth through the provision of much needed infrastructure.

When announcing the Nation Building plan, Prime Minister Kevin Rudd made it clear that for Nation Building to work it must "translate into real projects on the ground and translate on to the ground quickly." This direction was reiterated by Premier Anna Bligh MP in her Ministerial Statement to the Queensland Parliament on 11 February 2009.

Of the $42 billion, $21.5 billion has been allocated to the States for education, social housing and roads and safety and $6.5 billion for energy savings initiatives. In Queensland, on current advice from the Commonwealth Government and Queensland Treasury, approximately $2.76 billion has been allocated for the Building the Education Revolution **(BER)**; $1.28 billion for the Social Housing Initiative **(SHI)**; and $126 million for Road Safety programmes, totalling just over $4 billion.

The Commonwealth has appointed a Coordinator-General to manage Nation Building and each State is required to appoint a State Coordinator who will have a direct reporting relationship to the Commonwealth Coordinator-General.

Queensland's State Coordinator is Mr Mal Grierson, Director-General, Department of Public Works. The Commonwealth Coordinator-General and State Coordinators hold a fortnightly teleconference to discuss progress and coordination issues.

Queensland is well placed to deliver the Nation Building programmes of work through its established programme and procurement management processes within the Department of Public Works **(DPW)**. The State Coordinator has set up the Programme Management Office **(PMO)** within DPW to manage and coordinate the delivery of the programme across the Department of Education and Training **(DET)**, the Department of Communities **(DOC)** and the Department of Transport and Main Roads **(DTMR)**.

The State Coordinator now has in place a high level governance reporting structure. Reporting to the State Coordinator will be a Deputy State Coordinator, Programme Office Directors and in the responsible line agencies, Deputy Directors-General who will be responsible for overseeing the individual agency programmes.

Under Nation Building, DPW has a broad range of responsibilities however the most important procurement related ones are as follows:

- to facilitate the rapid rollout of Nation Building across all government Departments through procurement strategies;
- to ensure that the allocation of work to the construction industry occurs in a coordinated fashion across the State to make the best use of local resources;
- to ensure the allocation of work aligns with those areas of Queensland experiencing higher levels of unemployment as a result of the global economic crisis;
- to ensure that each Department delivers its programme of work in accordance with the programme expenditure targets agreed between the Commonwealth and the State;

- to coordinate Nation Building with existing Departmental capital works programmes to minimise overlap and maximise value for money outcomes;

- to liaise with the Local Government Association and the Block Grants Authority to assist these organisations in the delivery of their components of the Nation Building programme;

- coordinate and produce consolidated programme reporting as required by the State and Commonwealth Governments; and

- to be the liaison point for external stakeholders such as the Master Builders Association, Housing Industry Association, Property Council of Australia, Australian Institute of Architects and Engineers Australia together with statutory bodies such as the Building Services Authority and Construction Skills Queensland.

All amounts quoted are exclusive of GST.

1 The procurement objectives

The primary procurement objective of Nation Building is the support of jobs and training through rapid stimulation of local economies. This will be achieved by:

- enabling teaching and learning through the construction and/or refurbishment of school infrastructure;

- constructing new social housing and/or repairing and maintaining existing social housing;

- improving road safety through road maintenance and the installation of boom gates at high risk open level crossings; and

- funding the purchase and installation by home owners of residential energy saving products and systems.

DPW, through the PMO, is responsible for procurement management and/or coordination of both the education and housing programmes. The education program will be delivered by DET while the housing program will be delivered by DPW.

The road safety programme will be procured in its entirety by DTMR through its existing established lists of pre-qualified consultants and contractors.

Procurement of the energy saving initiatives will be brokered by DPW however all transactions will be directly between the home owner and the supplier. As such the energy saving component is outside the scope of this plan.

For Queensland, the Nation Building programme presents an opportunity to support contractors and their established supply chains and, through strategic procurement, increase the industry's viability into the future.

All procurement methodologies will support training and up-skilling of construction based apprentices and workers. Construction projects will be required to comply with the State Government's policy that 10% of the total on-site workforce consists of apprentices in training. In designated Indigenous communities, 20% of the total on-site workforce must consist of Indigenous workers.

All projects will also be required to report on the average number of people employed and trained for the duration of each project.

2 The procurement scope

Queensland's share of the $21.5 billion for education, housing and road safety is approximately $4 billion. The State is responsible for delivering approximately $3.2 billion of this amount with approximately $800 million to be delivered by the non-state school sector.

As the prime objective of the Nation Building programme is to stimulate local economies to support employment, one of the Commonwealth's conditions on funding is that the money be fully expended by 30 June 2011. However, approximately 90% of the funding must be expended by 31 December 2010. <u>Failure to achieve this may result in funding penalties for Queensland.</u>

Figure 1 shows the master milestone programme. Individual programme scopes are outlined below.

2.1 BER

The Nation Building programme includes both state and non-state schools. The scope of this procurement plan is limited to the state school sector however, it is important to note that the State has offered procurement assistance to the non-State schools.

The BER programme will be based on DET standard design templates where possible to streamline project scoping and assist to meet tight timelines. Projects will be bundled wherever possible to ensure efficient and improved value-for-money procurement. Project funding will be managed by DET.

There are three elements of the BER programme:

- ***Primary Schools of the 21st Century (P21)*** - $2.3 billion ($1.7 billion to all state schools) to build or refurbish large scale infrastructure in primary schools, P-12s and special schools, and Schools of Distance Education. The scope is limited to libraries, multipurpose halls, classrooms or refurbishments, in this order of priority. Projects typically range in size from $250,000 to $3 million.

- ***Science and Language Centres for 21st Century Secondary Schools*** - $1 billion in total for Australia in a bid based process to build science laboratories or language learning centres in secondary schools. Queensland's share of this funding is expected to be in the order of $140 million and projects are expected to range in size from $500,000 to $2 million.

- ***National Schools Pride (NSP)*** - $238 million ($165.8 million to state schools) to refurbish and renew existing infrastructure and build minor infrastructure in all schools. Projects typically range in size from $50,000 to $200,000.

The Commonwealth Government has set dates for the delivery of key milestones within each programme. These dates have been agreed to by all States at the February meeting of the Council of Australian Governments. These milestones are summarised as follows:

P21

- o Round 1 (20% of eligible school projects) to be approved by the Commonwealth Government in April 2009 for commencement in May/June 2009 and completion by 20 December 2010;

- o Round 2 (40% of eligible school projects) to be approved by the Commonwealth Government in June 2009 for commencement in July 2009 and completion by 31 January 2011; and

- o Round 3 (40% of eligible school projects) to be approved by the Commonwealth Government in July 2009 for commencement in August/September 2009 and completion by 31 March 2011.

Science and Language Centres

A nationally competitive process to develop a short list of schools to be approved by the Commonwealth Government in June 2009 for completion by 30 June 2010.

NSP

- o Round 1 (60% of school projects) to be approved by the Commonwealth Government in March 2009 for commencement in April/May 2009 with a completion date of 20 December 2009; and

- o Round 2 (40% of school projects) to be approved by the Commonwealth Government in May 2009 for commencement in July 2009 with a completion date of 1 February 2010.

2.2 SHI

New construction

The SHI has aggressive expenditure targets built into it which Queensland has agreed to meet.

Stage 1 projects are to commence in 2009 and be completed before June 2010. This includes projects for both public and community sectors. Stage 2 requires a significant number of proposals to commence in 2009 and 75% of the dwellings to be completed by December 2010.

Stage 1 funding of $138 million is being used to deliver approximately 400 dwellings for Queensland. Stage 2 funding of $1.06 billion is targeted to deliver approximately 3600 dwellings in Queensland over the next 2 years.

The SHI is also seeking to improve the capacity of the Community Housing sector. Queensland is committed to working with community housing providers to improve capacity and increase ownership in the sector.

The Queensland Government's aim is to ensure the lives of its tenants are improved by access to safe, secure and appropriate accommodation. This aim is reflected in the DOC objectives, which are to ensure social housing accommodation is:

- o conveniently located to provide occupants with easy access to public transport and community infrastructure;

- widely dispersed through residential areas, exhibiting design diversity, but compatible with local housing appearance;

- predominantly 1 and 2 bedroom apartments/duplexes or 4 and 5 bedroom detached houses;

- well designed internally and externally to suit the needs of the occupants, incorporating universal design features where appropriate;

- value for money in terms of construction, future maintenance and operational costs; and

- environmentally sustainable.

The Queensland SHI new construction programme will include state owned and managed properties, state owned and privately managed properties and privately owned and managed properties. The latter will be grant funded.

Projects are expected to range in value from $300,000 to $40 million.

Repairs and Maintenance

The Queensland repairs and maintenance funding is $80 million; $40 million to be committed in the 2008/09 year with the full $80 million to be expended by the end of the 2009/10 financial year. This programme is being facilitated by QBuild to be delivered by private sector contractors. QBuild's systems comply with the State Procurement Policy.

2.3 Road Safety

The road safety programme will target the civil construction industry, providing employment opportunities for civil and electrical contractors in regional areas. The programme will do this through the roll out of three sub-programmes:

- the supply and installation of new boom gates and signals to 66 high risk regional open level crossings;

- the upgrade of black spots across the national, state and local road network; and

- the delivery of ongoing routine network maintenance.

Project funding will be managed by DTMR.

OLC Boom Gates Programme

- QR has identified 66 high risk open level crossings and has allocated them to the two Alliances, Synergy and Aspect 3. Preliminary evaluations indicate that the majority of procurement will be sourced within Queensland and Australia.

Black Spot Programme

- The Black Spot programme includes 141 separate projects across the national, state and local road network.

Maintenance Programme

- The maintenance programme draws on an ongoing maintenance, preservation and operation programme. It will deliver ongoing routine maintenance, programme maintenance, rehabilitation and traffic operations works based upon existing arrangements to the national network.

3 The procurement risks

3.1 The Nation Building programme

The Nation Building programme comes to the State with heavy expectations around a number of key non-negotiable outcomes. These outcomes can be easily translated into key procurement risks that, to a large degree are linked. Put simply, these risks are:

- failure to achieve the objectives of the economic stimulus;
- failure to deliver value for money;
- failure to achieve expenditure and cash flow requirements;
- failure to complete within programme timetable requirements;
- failure to ensure Workplace Health and Safety; and
- failure to ensure probity and accountability.

As a risk, the issue of broad industry capacity to cope with such a large programme of works in such a short timeframe was considered and discounted for the following reasons.

Based on the Commonwealth's approval profile a number of cumulative accrued expenditure analyses have been performed, assuming that the State has approximately 585 days from 31 May 2009 to spend its allocation of $3.2 billion.

The analyses have assumed a linear expenditure profile and the typical 'S' curve profile commonly used in the construction industry. The 'S' curve profile has been further subdivided into a standard curve and what is known as a delayed profile. The latter allows for a slower than expected expenditure rate in the early stages of the programme to cater for delays in approvals.

The approximate daily expenditure rates (five-day working week) are shown below.

Cumulative Expenditure Profile	Minimum Expenditure per Day	Date It Occurs	Maximum Expenditure per Day	Date It Occurs
Linear	**$5.4m**	constant	**$5.4m**	constant
'S' curve (standard)	**$3.7m**	May 09 - Oct 09	**$12.3m**	Jan 10 – May 10
'S' curve (delayed)	**$1.8m**	May 09 - Oct 09	**$15.8m**	Mar 10 – Jun 10

The current estimated annual turnover in the construction industry is around $30 to $40 billion[1]. While research shows that expenditure rates of this magnitude are unprecedented in Queensland on a single State-wide capital works programme, it would appear that the industry would not be overwhelmed by an increase in annual turnover of approximately 5%.

[1] Queensland and Queensland region construction activity: Quarterly projection update – March quarter 2009

In 2009-10, total Queensland construction activity is projected to fall by 10%. Over the 2010 and 2011 fiscal years, Queensland employment is projected to decline by 3%. Given the population growth rate, this means that the unemployment rate within the construction sector will be approaching 10%[2].

Between the December quarter 2008 and the March quarter 2009 it is estimated that the Queensland construction industry moved from a situation of labour shortage to one of labour surplus. The weakening Queensland construction sector will result in an increase in surplus labour over the next 18 months. By the end of 2009 it is estimated that the surplus labour will increase to 45,000[3].

However, the construction industry is not homogenous; there exists significant variability in skill level and financial capacity. Care will need to be taken to ensure a programme as large and time constrained as Nation Building does not have too narrow a procurement focus. Failure to spread the delivery risk could result in capacity constraints or even market saturation, particularly given the limited number of prequalified contractors. This issue is examined in more detail later in the plan.

Providing care is taken not to limit the supply chain by adopting too narrow a procurement approach, the threat of an overheated market can be discounted. A qualitative risk assessment has been performed on the remaining risks as follows.

Failure to achieve the objectives of the economic stimulus

The most important objective of Nation Building is economic stimulation and this will be measured by employment. Money will be spent regardless of the procurement approach however the effectiveness of the spend will impact on the employment outcome. Failure to see a slowing or improvement in employment levels across the State will result in significant political fallout.

- o likelihood – medium
- o consequence - high

Failure to deliver value for money

In the drive to meet the tight timeframes for delivery and expenditure there is a heightened risk that the State may pay too much for what are relatively simple buildings. In particular, there is a concern that excessive fees and charges will significantly reduce the amount of building delivered for the fixed budget.

- o likelihood – high
- o consequence – medium

Failure to achieve expenditure and cash flow requirements

The ability to spend is closely linked to the employment outcome however it also comes with penalties. A State may have funding reallocated to another State if it fails to achieve the agreed expenditure profiles set be the Commonwealth. While the profiles are challenging they are not unachievable.

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[2] A Queensland and Queensland region construction activity:
Quarterly projection update – March quarter 2009

[3] As above

- likelihood – medium
- consequence – high

Failure to complete within programme timetable requirements

As with the expenditure profiles the Commonwealth has set non-negotiable completion dates for tranches of the programme. However, while the agreement with the Commonwealth stipulates that a State may lose its funding to another State if it fails to deliver in the timeframe, it would be difficult to see the Commonwealth withdrawing funding when it has already been committed via a contractual agreement.

Whilst commencement dates may be delayed because of the volume of projects requiring Commonwealth Government approval, with the right procurement approach the completion dates are achievable.

- likelihood – medium
- consequence - medium

Linked to all of these risks is the procurement strategy. If it is not widely understood, is too narrow, too cumbersome or too complex then it risks alienating or excluding large components of the supply chain. Without a fully engaged and committed supply chain at all levels of the industry a programme of this size cannot be delivered in the time available.

In addition to the overarching Nation Building risks, there are sub-programme risks and constraints that need to be identified and addressed by the procurement system. These are as follows.

Failure to ensure Workplace Health and Safety

Considering the compressed timeframes and the wide range of personnel involved in the programme there is a need for a rigorous safety regime to be enforced. The scope of work in general is relatively low risk; the volume and timeframe add to this risk. There is an additional risk to public safety, particularly school communities where there is live work performed during school hours.

- likelihood – medium
- consequence – high

In consideration of any procurement strategy the supply chain must be underpinned by a well managed integrated safety system.

Failure to ensure probity and accountability

In addition to value for money considerations the Government expects all of the procurement and delivery of the programme to be conducted with the highest standards of probity and accountability. This must be achieved in the context of compressed timeframes and pressure from a number of sources to cut perceived red tape.

- likelihood – low
- consequence – medium

The procurement strategy must comply with the statutory requirements such as the *Financial Administration and Audit Act 1977*, the State Procurement Policy and the Capital Works Management Framework. The use of prequalified contractors and consultants (PQC) and the QBuild registered suppliers, coupled with the aforementioned policies, provides the base to manage this risk.

3.2 The BER programme

A risk analysis by DPW and DET has identified BER-specific procurement risks and constraints, which are additional to the overall programme risks. These are:

Risks

- quality and fitness for purpose of the works ; and
- failure to meet the expectations of stakeholders.

Constraints

- the ability of the market to cope with the volume of work;
- multiple sites over large geographically diverse areas;
- numbers of pre-qualified contractors;
- contractors fixed cost programme with contingency managed at the project level; and
- non-negotiable completion dates.

When combined with the overall programme risks above, the BER risk profile is as follows:

Risks

- failure to achieve the objectives of the economic stimulus;
- failure to deliver value for money;
- failure to achieve expenditure and cash flow requirements;
- failure to complete within programme timetable requirements;
- failure to ensure Workplace Health and Safety;
- failure to ensure probity and accountability;
- quality and fitness for purpose of the works; and
- failure to meet the expectations of stakeholders.

Constraints

- the ability of the market to cope with the volume of work;
- multiple sites over large geographically diverse areas;
- numbers of pre-qualified contractors;
- contractors fixed cost programme with contingency managed at the project level; and
- non-negotiable completion dates.

The ability of the market to cope with the volume of work has been addressed above and will therefore not be considered further.

Risks, constraints and procurement responses

For the purposes of this analysis, the structured risks previously mentioned have been consolidated under the following key areas.

As discussed earlier, the volume of projects will mean that, for practical reasons, work will need to be packaged up and delivered geographically. In accordance with the Capital Works Management Framework (CWMF) bundling of projects attracts a PQC risk rating for contractors of 3 and 4, which means that the BER programme is considered to be a High Risk Significant (HRS) project. Under the provisions of the CWMF the Department of Public Works has responsibility for developing (in consultation with the client agencies) the procurement strategies for high risk and significant projects.

The number of individual projects is likely to run into the thousands and the vast majority will need to run concurrently if all are to finish by the dates set by the Commonwealth. These will need to be managed over vast areas or regions.

When the Commonwealth's timeframes for delivery are overlain, it is clear that an in series or traditional delivery system alone would struggle to cope. Clearly a non-traditional procurement approach in some form will be required, however a variety of delivery methods may need to be considered to maintain a degree of price and supply flexibility as a certain type of delivery system can exclude a significant number of otherwise capable consultants and contractors.

Time, cost and quality

Given that each individual school project is relatively small and non-complex, time and cost are arguably the major constraints. With so many projects running concurrently, a review of the CWMF indicates that a design and construct, managing contractor or construction management procurement system would be the most appropriate.

The design and construct form has a moderate to high level of time efficiency with a moderate cost efficiency. The managing contractor (design and construction management) form has been employed successfully on virtually all major building projects in recent times. It is however specifically designed for major individual projects rather than a programme of work. The risk transfers to the Managing Contractor together with the control of all of the consultants, subcontractors and suppliers. This provides little control for the Principal to distribute the work and the risk transfer inherently places a premium on the associated Managing Contractor fees.

The Construction Management form of contract is more suited to a programme of work and allows the Principal to direct the Construction Manager to employ a multiplicity of consultants and contractors to suit the economic objectives, particularly as it relates to the lower tier consultants and contractors with a particular focus on regional participation. The form of contract places very little risk on the Construction Manager, but does however transfer the Principal's risk on construction time, cost and quality to the trade contractors. The Principal relies on the Construction Manager to assist the trade contractors in managing this risk and most importantly taking the Principal Contractor's role under the Workplace Health and Safety provisions as well as an important coordination role at the school site level. This is particularly important as the majority of the work will be carried out during school hours.

Attached is a table outlining the principle advantages of the Construction Management form which has been endorsed by the Queensland Master Builders Association.

With all primary schools receiving funding for buildings based on standard design templates, there will be a need for a high degree of quality control and consistency as schools will compare their final product to other schools, some just a street or suburb away. According to the CWMF, design and construct provides the lowest level of quality control and construction management the highest however the repetitive nature of the DET standards over a long period of time has meant that many contractors have become familiar with the product, reducing construction errors.

Safety and accountability

The decision to only use prequalified contractors with documented health and safety systems provides the most robust approach to safety on such a wide construction front. DPW contracts also require independent safety audits be performed by external providers for all projects over 13 weeks duration.

Furthermore, any non-traditional delivery system will require PQC level 3 and 4 contractors who traditionally have more mature health and safety systems.

As discussed above, the procurement strategy must comply with the statutory requirements such as the *Financial Administration and Audit Act 1977*, the State Procurement Policy and the Capital Works Management Framework. The use of prequalified contractors and consultants and QBuild registered suppliers, coupled with the aforementioned policies, provides the base to manage this risk.

To deliver the $2 billion BER program on time it will be important to ensure that as many prequalified contractors are engaged as possible. This will mean tailoring procurement systems to suit the normal business processes of all tiers of the construction industry. One of the inherent risks that the PQC system is designed to reduce is potential financial failure of contractors. Constant surveillance of the financial capacity of the PQC registered contractors engaged under the programme will be subject to constant scrutiny by the Department of Public Works and the QBSA.

Fees, value for money and competitive tension

In using a number of different methods of procurement, one of the significant concerns of stakeholders will be the comparison of value for money (fees) as it pertains to the individual school projects. The performance based approach provides for the best value for money outcome at the out-turn level cost of the project. As an example, the costs of individual projects received from competitive lump sum tendering and competitive lump sum subcontract tendered by the Construction Manager will be used to benchmark and drive down the costs of the D&C contractors. The better performing contractors will be given incentives of more work regardless of the procurement methodology level they are engaged in. This provides a healthy competitive tension for delivery of the programme, ultimately driving better value for money.

Notwithstanding a better out-turn cost outcome, school communities may still focus on fee percentages and the like. Clear explanation of total project cost will need to be provided to the schools to demonstrate that it is difficult to just compare fee percentages without explanation of the scope of work entailed in the project. As an example, a Construction Management fee of 6% includes management of the entire process from design through to construction, whereas the 2.5% fee in the D&C process only entails the design component. In comparison with the Construction Manager who has responsibility for all site related risk, importantly including the role as the Principal Contractor under the WH&S Act, project managers have no liability in any phase of the project. A number of these aspects need to be clearly explained to the school communities.

Residual risk

While the adoption of one or more non-traditional delivery systems will reduce the risk of supply constraint and unsatisfactory time, cost, quality outcomes, there remain residual risks.

Employment

To address potential unemployment ‘hotspots’ and local contractor issues, it would be beneficial if the State had some control over the supply chain down to the subcontract level. While this may not be possible in all cases it would need to be a key component of the contract system adopted for a large proportion of the BER programme. Of the delivery systems proposed all systems, particularly that of construction management, can accommodate this requirement.

Expenditure, stakeholders and value for money

These three risks are linked to a large extent. The procurement system must be capable of channelling funds to both the consultants and the contractors as quickly as possible with little or no lag between the two. Any delivery system that allows design and construction to significantly overlap will achieve this.

The key to Nation Building will be to ensure the spending delivers a value for money product. From a stakeholder (school’s) point of view this will almost certainly be measured against:

- how much of the allocated budget goes in fees and charges to support the delivery system; and
- the overall cost of construction.

Therefore, value for money needs to be addressed on two levels:

- ensuring the procurement system allows for the involvement of as many contractors and consultants as possible to maximise competition by avoiding capacity constraints; and
- ensuring the procurement system keeps fees and charges to a minimum.

Adopting a wide ranging procurement strategy that suits all levels of the industry will attract interest from all quarters, significantly reduce capacity constraint and, through competition, keep fees to a defendable level.

However, the fee charged by a contractor or consultant is directly linked to the risk it has to absorb. Therefore, to keep fees to an acceptable level across the whole BER programme it will be important to adopt a delivery system for a good proportion of the programme that limits the risk to a contractor or supplier to a level that they are able to comfortably manage without attracting a premium in price to the Principal.

As well as time and cost risk, one of the most significant ‘risks’ for the larger contractors, particularly the publicly listed companies is the cashflow they need to maintain before progress payments are made. This cashflow increases their turnover, which is used to calculate profit margins, dividends and tax liabilities. Reallocating this risk can result in substantially reduced fees, which in turn will deliver more building for the money.

In addition to this, the design and construct and managing contractor forms require a project manager and a quantity surveyor between the Principal and the contractor as the contract forms are reasonably complex and adversarial. These fees are in addition to any fees (profit and overhead) charged by the contractor to manage the design and construction risk.

In contrast to this, the construction management form results in significantly reduced fees and charges as it rolls up the project management, design management, cost management and construction management into the one contract and the one contract fee. This fee is typically less than a design and construct or managing contractor fee because the principal pays the contractors and consultants direct, keeping the cashflow out of the contractors books. The Construction Management form of contract will require a Principal's Representative to manage the contract.

3.3 The SHI programme

While all of the primary risks identified for the BER programme also apply to the same extent to the SHI programme there is an additional constraint:

- the State does not own the required vacant land to deliver the required 4,000 units of accommodation.

When combined with the fact that approximately $800 million dollars (3,000 units) must be spent by December 2010 a traditional procurement process becomes unviable.

The short-term outlook for residential building is one of decline. In 2008-09 residential building is projected to fall by 3% followed by an 8% fall in 2009-10[4]. If this trend continues it would imply a dire outlook for Queensland construction over the next 12 to 18 months.

For this reason the residential construction industry will see the SHI as a lifeline to the thousands of people employed in this sector.

From an employment perspective it is also important to recognise that the vast number of competent consultants and contractors who work in the residential construction sector choose not to pre-qualify or register for government work or will not be able to meet the additional turnover restrictions the PQC system imposes.

This significantly amplifies the potential for supply constraint. The delivery system must address this if the target of 4,000 units of accommodation is to be delivered in the two year timeframe.

All of these risks and constraints have been weighed up to arrive at the proposed procurement approaches for the BER and the SHI.

[4] A Queensland and Queensland region construction activity: Quarterly projection update – March quarter 2009

4 The procurement approach

To avoid capacity restraints, spread the risk for time and cost across the programme but also keep fees charges to a minimum, DPW has concluded that the only viable approach is to engage the private sector consultant and contractor supply chain **<u>at all levels and in all regions of Queensland</u>.** This will require adopting a number of procurement systems tailored to suit the various skills and financial capacities of all levels of prequalification.

This will serve a dual purpose. If tailored correctly it will see funds flow to all levels of the construction workforce as quickly as possible and it will provide Queensland with a procurement model large and distributed enough to deliver on its expenditure obligations.

To harness all levels of the regional consultant and contractor supply chain in the timeframes outlined above, the procurement model needs to be as flexible as possible and tailored to suit the expectations and business processes of all service providers. It also needs to be capable of facilitating a rapid roll out of work but still deliver value for money by ensuring competition and a low fee environment.

The selection of the procurement methodology has been undertaken in consultation with a range of consultants and the Australian Institute of Architects. The general philosophy of ensuring all levels of the industry, together with a geographical dispersion, has been embedded in the procurement methodology. Project managers will be used to manage the smaller scale works. Architects are to be involved in all levels including the smaller lump sum contracting processes, working with the builder under the design and construction contracts. The level 3 and 4 consultancy firms will be encouraged to employ and mentor the smaller design practices in the construction management delivery method. It is expected that the use of these professions will inject innovative solutions where scope permits, with particular emphasis on ecologically sustainable development outcomes.

These are the key drivers for the Queensland procurement strategy. How these drivers have been interpreted with respect to the educational, housing and road safety outcomes agencies are seeking is discussed below.

4.1 A performance based approach for BER

The timeframes and administration required to deliver a programme as large and diverse as Nation Building presents challenges. However, value for money remains one of the most important outcomes to be delivered.

Following extensive discussions with DET it has been agreed that the standard nature of the projects, the tight timeframes and the sheer volume of work justifies a performance based procurement model.

In broad terms this type of model links the quantum of work a consultant or contractor is awarded to their performance.

The key components of performance include the three pillars; time, cost and quality however, due to the standard nature of the projects, cost is benchmarked and then standardised as much as possible to ensure performance is more closely aligned to time and quality.

The timeframes will not accommodate an expression of interest process on such a wide and varied front. For this reason DPW has decided to limit the roll out of contracts and commissions to those consultants and contractors who are pre-qualified with DPW. This will see service providers from PQC Level 1 (small businesses) up to PQC Level 4 (large private and public companies) given an opportunity to secure BER work.

The majority of the BER programme will be rolled out during school time and will coincide with DET's mainstream capital and maintenance programmes. To minimise the disruption to primary schools DPW and DET have agreed, where possible, to allocate school projects to contractors on a 'franchise' basis i.e. one contractor/one school for all work across all programmes.

The proposed approach for each BER sub-programme is as follows.

4.1.1 P21

The Nation Building programme was announced by the Prime Minister on 3 February 2009 with the expectation that work would commence immediately The first package of projects commenced within the BER programme of works was the P21 Round 1 projects however, Round 1 were not scheduled to be submitted to the Commonwealth until 10 April 2009 and approved by the Commonwealth until 5 May 2009.

Round 1 represents 20% of the total P21 programme and includes over 200 schools at an estimated value at $490 million.

As discussions with the Commonwealth unfolded over the months of February and March it has become clear to most States that the Commonwealth's expectation is that construction will start within weeks of the Round 1 approval date to ensure States can meet the ambitious expenditure targets.

Round 1 faced the following challenges:

- projects submitted for approval on 10 April had to have sufficient design completed to allow an accurate project cost to be included. This required scoping and design on hundreds of individual projects without the funding to support it; and

- the State needed to be in a position to appoint a builder within days of the Commonwealth approval date, with sufficient design completed to allow construction to commence.

DET elected to address the funding issue by electing to underwrite the design costs required to scope and document enough of each project to enable full costing and submission to the Commonwealth for approval by 10 April.

With regard to the second issue, a review of the standard suite of contracts has revealed no contract that can cater for the two distinct phases of a Round 1 P21 project i.e. completion of the preliminary design and costing and then a hold point while we wait for the Commonwealth's approval and/or an agreement to be reached on the construction cost. If either cannot be achieved then the contract must be able to be terminated.

Further, the standard nature of the buildings means there is a high probability that certain types of offsite works could be started earlier than other works to speed the construction process up. To take advantage of this the design and documentation will need to be managed by the contractor.

Overriding all of these issues is the need to select a procurement model that will allow work to be distributed to both consultants and subcontractors quickly and simultaneously and this requirement dictates a non-traditional approach where design and construction significantly overlap. As the work on each site is of a relatively low value and of a fairly standard nature, design and construction risk was considered lower than for a more complex project.

Looking ahead, Rounds 2 & 3 represent 80% of the programme. As discussed previously the skill levels and financial capacity of the construction industry is not homogenous and the number of pre-qualified contractors is not unlimited. For example, while there are a significant number of PQC Level 1 and 2 contractors their financial capacity is restricted and they tend only to be familiar with a traditional delivery process. However, fully documenting and then tendering over 1,000 individual projects within the timeframes set by the Commonwealth and resourcing limitations of the industry is not practical.

In contrast, PQC 3 and 4 level contractors have greater financial capacity and are familiar with both traditional and non-traditional delivery systems but there are fewer of them. Whilst the level 3 contractors are structured for traditional and design and construct (lump sum) contracts, the level 4 contractors prefer to operate as construction managers or managing contractors.

However, it would be prudent to procure a proportion of the programme by traditional contract for two reasons. Firstly, due to the simple nature of the design and construction, PQC Level 1 & 2 consultants and contractors offer another viable procurement option and secondly, tendering the construction of a proportion of the programme will validate benchmark costs.

Therefore, the procurement systems considered suitable for the delivery of the BER programme are:

- Traditional Lump Sum;
- 2 Stage Design and Construct Lump Sum;
- Construction Management;
- Managing Contractor.

A further comparison of the managing contractor form shows that it is a form specifically developed for large one-off projects. For this reason it is considered less advantageous than the design and construct lump sum due to the tight timeframes and relatively low value of work per site. These factors do not easily lend themselves to a major contract with a guaranteed construction sum.

A managing contractor form of contract was considered for parts of the BER project, but an amended form of construction management contract was considered more appropriate as lower management fees and profit percentages could be negotiated and it allows the principal to control the subcontract supply chain. This will be crucial in addressing local contractor demands and unemployment hotspots.

With reference to the risk and constraints discussed earlier and for the above reasons the $1.7 billion P21 programme will be bundled and delivered three ways; two stage design and construct, construction management and traditional contract. Each of these delivery models are well understood by those sections of the industry the Government is seeking to target and have the most to offer when it comes to getting work out to consultants and contractors as quickly as possible.

Two Stage design and construct

In consultation with DPW Contracts, it has been agreed that the appropriate contract for Round 1 and then portions of Rounds 2 and 3 is a non-standard two stage design and construct contract (2D&C)

A 2 stage D&C contract has been drafted specifically for the project whereby Stage 1 requires the contractor to complete schematic design and compile a lump sum offer to document and construct. If the offer is accepted then this forms Stage 2 of the contract.

Project management companies will be allocated packages of bundled projects to a value commensurate with their capacity. Tenders will be called from all licensed PQC Level 3 and above companies for a service that includes project management, quantity surveying and contract superintendency.

Based on non-price and price criteria a panel of project managers will be formed. It is anticipated that there will need to be at least 20 successful companies from a total pool of around 44 registered companies to cope with the volume of projects expected.

For Round 1, fees will be chargeable at the tendered percentages. A flat percentage fee will be determined for Rounds 2 and 3, based on an analysis of the scope of work as it unfolds and the spread of the fees tendered for Round 1.

This fee will be calculated by discounting those Round 1 fees that are more than 30% above or below the median fee and then averaging the remaining fees. All companies on the panel will be requested to confirm their acceptance of the flat fee to remain eligible for Round 2 and 3 projects. Projects for Round 2 and 3 will then be allocated based on a company's capacity and performance.

Due to the non-traditional contract and the requirement to manage multiple projects across multiple sites, a PQC Level 3 contractor or above is appropriate. However, as individual contract packages are to be kept under $5 million in value, tenders will be called from PQC Level 3 contractors only.

Due to the urgent nature of the programme, tenders will be called for Stage 1 only of Round 1, based on a flat 2.5% design and design management fee. The 2.5% reflects the typical percentage fee paid for the schematic design under a traditional delivery system. Non-price criteria around experience and capacity will be used to formulate a panel of contractors. A panel of at least 30 contractors from a possible 46 will be required to cover the volume and geographical spread of projects.

A contractor will be required to meet benchmark construction costs and performance levels to be awarded Stage 1 or 2 contracts for Round 2.

At this stage it is envisaged that up to $700 million will be procured using this procurement methodology. Depending on capacity, location and performance, some design and construction managers could be awarded contracts totalling up to $50 million.

For Round 3, as there is more time to complete this round, there is an opportunity to introduce a greater level of competitiveness.
The proposed approach will still meet the Commonwealth Government's 31 March 2011 completion date.

It is proposed to undertake P21 Round 3 using 2 procurement strategies.

1. Design and Construct
2. Construction Management

Design and Construct

To enable competitive tendering for the P21 projects in round 3 it is proposed to engage Project Managers (currently on the BER panel of Projects Manager), at a fixed fee, who would engage consultants to complete the Project Definition Plan (PDP) - Schematic design/estimate. The current terms of reference for the Project Managers would need to be amended to include for the management of the consultant and tender requirements for the consultant and contractor. The Project Managers would be required to obtain 3 prices from PQC 3 & 4 Consultants (from DPW PQC list) to complete the PDP.

Upon completion of the PDP the Project Manager would obtain 3 prices from nominated PQC 3 D&C Contractors (currently on the panel of contractors for BER) to complete the design and construction. The contract would be a standard AS 4300 (not 2 stage D&C used in round 1 & 2).

Construction management

This procurement option has been selected for part of rounds 2 and 3 of the P21 programme and for part of the science and language centres programme, but was not suitable for round 1 of P21 due to the tight timeframes involved. It is intended that approximately $800M of work will be delivered via this procurement method, with each contract having a value of approximately $100M.

As discussed earlier the BER programme is of such a large volume, it cannot be delivered in its entirety by any one level of contractor, and therefore there is a need to distribute the work amongst other levels of industry. Due to the size, time constraints and geographical distribution of schools in Queensland there will be a need to package up larger components of the programme to be managed on a regional basis.

As it is intended that these packages will be much larger and therefore more complex than the smaller design and construct packages, it is intended to engage the PQC Level 4 contractors as construction managers. These companies have significantly more financial capacity than any of the PQC 3 contractors.

An amended form of construction management contract was prepared specifically for the project, based on AS4916-2002, with the following features:

- the construction manager will be required to deliver the package of work using local prequalified or QBuild registered contractors / trade contractors / consultants. Trade contractors (as subcontractors) and consultants will be competitively tendered. This will introduce a level of competition not available under the two stage design and construct process that will reduce construction costs;.

- the construction manager will obtain a design, cost estimate and programme for each component of work and seek the Principal's approval to proceed;

- the construction manager has an overall obligation to meet the programme budget and each component budget. If cost overruns are foreseen, the Construction Manager must seek the Principal's approval to proceed;

- there will be an obligation to complete the overall package of work within the agreed and accepted construction manager's programme, however liquidated damages will not be applied;
- to keep management fees as low as possible, the construction manager's design risk will be limited to the amount recoverable for the relevant design consultant, and trade contractor payments will be by the Principal direct to the trade contractor;
- retentions will be held in relation to trade contract costs and a portion of the construction manager's management fee will be withheld until final completion of the project.

To simplify the tender and project allocation process, Queensland has been divided into three zones; Southern, Central & Northern. Each zone incorporates the following DET regions:

Zone	DET Region									
	Darling Downs	Fitzroy-Central West	Far North Qld	Greater Brisbane	Moreton	Mackay-Whitsunday	North Qld	South Coast	Sunshine Coast	Wide Bay-Burnett
Southern	■			■	■			■		
Central		■							■	■
Northern			■			■	■			

Based on this distribution, a standard flat fee for design and construction management, offsite overhead and profit has been negotiated at 6%.

Onsite overheads will be priced and agreed on a site by site basis. Consultancy commissions will be competitively tendered and passed on as actual costs.

Traditional contract

Works will be packaged up, designed and tendered on a lump sum basis using PQC 1 and 2 consultants and contractors. The value of work allocated for this procurement method is $100 million. It is envisaged that projects will be bundled up to a contract value of around $3 million.

4.1.2 NSP

School projects on the NSP programme will be a mix of minor works and furniture purchases. Minor works will be bundled and procured using a traditional contract. A panel of PQC Level 1 and 2 architects will be formed in the same way the panel of P21 project managers was formed. They will act as project manager, principal consultant and cost planner for a standard flat fee of 10.5% using the same methodology used for the P21 project managers.

The 10.5% fee was arrived at by calling tenders for a percentage fee from architects for the provision of a combined Project Manager, Principal Consultant and Quantity Surveyor role. Approximately 40 submissions were considered for a range of project sizes.

An analysis was then undertaken of the combined fees received in the $0 to $500,000 project range by excluding those that were more than 30% above or below the median fee and averaging the remaining fees. This led to the 10.5% fee for Project Manager, Principal Consultant and Quantity Surveyor.

Typically, Project Manager fees usually range from 2–5%, Principal Consultant fees from 4-8% and Quantity Surveyor fees from 0.5–2%.

Work will be tendered to PQC 1 and 2 or registered contractors except where there is an existing contractor on site from either a Nation Building or other DET programme. In this case, the 'franchise' approach will see the NSP project being added to this contractor's scope of work.

Furniture purchases will be facilitated by the DET Project Coordinator in conjunction with the school.

The value of the NSP programme is $165 million. Contract values will be up to $1 million.

4.1.3 Science and language centres

Governed by the 'franchise' model, the science and language centres will be procured using one or all of the above approaches. These projects are anticipated to be $2m refurbishments or new projects.

94 Queensland schools were successful with their application for the BER Science and Language Centre element of the BER program.

The preferred procurement strategy contemplated a combination of fully documenting and tendering and the use of the Construction Management process.

In view of strict time frames for completion (30 June 2010), the option of fully documenting and tendering would not achieve this requirement. In order to maintain a competitive process a modified system of procurement similar to Round 1 of the P21 BER program will be utilised.

This system entails the engagement of a Project Manager/Principal Consultants to complete the PDP (schematic design/estimate) for each project. The Project Manager/Principal consultants have tendered a fee for BER works which will be used in this instance.

Upon completion of the PDP, 3 prices would be obtained for each project using either Construction Management or D&C procurement strategy. The nomination of Contractors is undertaken in consultation with DET based on capacity, performance and location.

The Project Manager would be required to be engaged to complete the documentation and construction of the project.

4.2 A development approach for SHI

As the Commonwealth SHI guidelines preclude the purchase of existing dwellings, the State is left with two options: engage with the property development industry as a financier of residential developments or become a land developer in its own right. Due to the number of units to be delivered it has been decided to do both.

State as ‘financier’

As a financier, the State will call for offers from property developers for turnkey or house/land projects that meet, or have the capacity to meet through re-design, the Commonwealth’s SHI Guidelines. To do this the State will be required to enter into turnkey or house/land agreements with development organisations.

By entering into development agreements as opposed to building contracts, the requirement of the Capital Works Management Framework that contractors and consultants be pre-qualified is negated. This means that the myriad small building designers and cottage builders who are not pre-qualified have the opportunity to participate in Nation Building. They will, however, be required to comply with the 10% Training Policy.

Figure 2 shows the stages in a typical development project.

State as ‘developer’

As a developer, the State will seek land from vendors and then enter into design and construct contracts with a builder. Offers for land will be conditional upon Commonwealth approval.

Two contracts will be used: the 2 Stage D&C contract (fixed stage 1 fee) developed for the BER P21 programme will be modified and used for multi unit developments while a standard Building Services Authority (BSA) contract will be used for houses and duplexes.

For the 2 Stage D&C contract, a project brief will be developed and tenders will be called from design and construct contractors to take the project through to completion. The stage 2 document and construct component will not be awarded until the land has settled. As these will be building contracts, all tenderers will need to be pre-qualified under PQC and comply with the 10% Training Policy.

Following extensive discussions with residential construction industry peak bodies (HIA, BSA and UDIA), an area of concern has arisen around the State’s approach to contracting for detached houses and duplexes. Currently to deliver what are the simplest form of residential construction builders are required to enter into an AS2124, AS4305 or a relatively complicated house/land or turnkey contract. None of these contracts are recognised in the detached housing market.

The most commonly used contracts in this sector are industry standard contracts such as the HIA, QMBA and BSA contracts. Any member of the public having a house constructed will enter into one of these contracts in conjunction with a standard REIQ land contract.

Being mindful of the Prime Minister’s decree when announcing Nation Building in February 2009; “if it’s good enough for Mums and Dads then it’s good enough for Nation Building”, it has been agreed with DOC that an industry standard contract will be used for detached houses and duplexes constructed under Nation Building.

On advice from DPW Contracts, the HIA and QMBA contracts are too heavily weighted in favour of the builder. For this reason it has been agreed with DOC and the industry that the BSA contract (with special conditions) and a standard REIQ land contract (modified to address the no settlement-no building contract issue) will be used for procuring detached houses and duplexes. They will, however, be required to comply with the 10% Training Policy.

Prospective builders will also be required to be prequalified under PQC.

4.3 Business as usual for road safety

As indicated above, the road safety programme will be delivered by DTMR using existing, well established procurement methods.

Black Spot Programme

- procurement will follow an existing process established throughout the Black Spot programme since 2002; and
- the delivery authority will vary for each project between Main Roads and local government.

The budget for the Black Spot programme is $31 million.

Maintenance Programme

- the delivery authority will vary for each project between Main Roads and local government.

The budget for the Maintenance programme is $52.9 million.

OLC Boom Gates Programme

- QR has allocated the 66 identified level crossings to the two Alliances; Synergy and Aspect 3. The basis for the allocation centred on existing Alliance presence in geographical areas;
- Synergy has 32 upgrades allocated geographically situated in South East Queensland and the Mackay/Townsville area. Aspect 3 has been allocated upgrades in Rockhampton, Gladstone, and Cairns south to Tully;
- detailed Alliance delivery proposals are currently being evaluated by QR. Preliminary evaluations indicate that the majority of procurement will be sourced within Queensland and Australia.

The budget for the OLC programme is $43 million.

5 Have the risks been addressed?

5.1 From a Nation Building perspective

The six main procurement risks to the Nation Building programme are:

- failure to achieve the objectives of the economic stimulus;
- failure to deliver value for money;
- failure to achieve expenditure and cashflow requirements;
- failure to complete within programme timetable requirements;
- failure to ensure workplace health and safety; and
- failure to ensure probity and accountability.

Failure to achieve the objectives of the economic stimulus

Adopting a wide ranging procurement strategy that suits all levels of the industry will attract interest from all quarters, significantly reduce capacity constraint and, through competition, keep fees to a defendable level.

The adoption of a wide ranging procurement model that is attractive to all levels of the construction industry will ensure that as many prequalified contractors and consultants get the opportunity to benefit from Nation Building.

The predominantly non-traditional delivery systems allow for the early engagement of both consultants and contractors, which will see work on site commence as quickly as possible with the flow on effects to suppliers and subcontractors that brings.

By adopting a development approach, industry standard contracts and removing the need for contractors to have a PQC level, the SHI procurement model will inherently reduce the timeframes for delivery of projects and enliven a much broader housing supply chain, meaning more work to more people sooner.

Failure to deliver value for money

The use of fixed percentage fees, benchmarking of costs and independent quantity surveyor advice will be required to assist in establishing value for money in this procurement environment.

Through the use of benchmarking, a contract model that has a fixed cost outcome with a sensible allocation of risk and a market feedback loop via open tendering, the BER procurement model includes sufficient mechanisms to deliver value-for-money.

The focus on the three pillars, time, cost and quality, as the basis of a performance based procurement approach gives DET a robust level of control over the financial and functional outcome.

The fee charged by a contractor or consultant is directly linked to the risk they have to absorb. As well as time and cost risk, one of their most significant risks is always the cashflow they need to maintain before progress payments are made. Sharing this risk has resulted in substantially reduced fees, which in turn will deliver more building for the money.

To a large extent, the measure for value-for-money for the SHI has been mandated by the Commonwealth at an average cost of $300,000 per unit of accommodation, inclusive of the land cost.

Assuming that this benchmark is achievable, and there is still some debate around this, a development model which requires a development agreement to be negotiated around this outcome provides an acceptable measure of certainty.

Failure to achieve expenditure and cash flow requirements

Through bundling, minimising tendering, rewarding performance and using both traditional and non-traditional delivery models, both the BER and SHI procurement models will release work to as many consultants and contractors in the shortest time possible.

A wide ranging procurement approach will also reduce capacity constraint, one of the main risks to spending money effectively.

Failure to complete within programme timetable requirements

The procurement model for the designated programmes under Nation Building has been developed with the intent of creating a model whereby industry can be engaged as quickly as possible in order to deliver such a large volume of work within such a short timeframe. This has been achieved by tailoring different delivery systems to specific tiers of the construction industry.

The procurement model for Nation Building as a whole has been developed with the intent of creating the largest, most flexible model possible. This has been achieved by tailoring different procurement methods to specific tiers of the construction industry.

By engaging as wide a supply chain as possible across each of the three main sub-programmes the Nation Building model provides the best possible chance of meeting the timeframes for completion set by the Commonwealth.

At any stage throughout the life of the programme, work can be reallocated for a known cost from underperforming to high performing consultants and/or contractors. This is possible across schools or across regions.

Failure to ensure workplace health and safety

By using standard form contracts, prequalified contractors and consultants and ensuring compliance with the Capital Works Management Framework, enhanced workplace health and safety provisions together with site specific Workplace Health and Safety plans, the risk of a health and safety incident has been minimised.

The Capital Works Management Framework safety provisions go further than the statutory requirements and are tailored to a continuous improvement process and performance of contractors is monitored and documented for use in awarding future contracts.

Failure to ensure probity and accountability

The use of standard forms of contract, normal departmental tendering procedures consistent with the Capital Works Management Framework and the SPP have proven to be highly effective over a number of years and will continue to be used in this programme.

5.2 From a BER perspective

By adopting a range of delivery systems, some with greater cost efficiency, some with better quality control and some with better time efficiency, the procurement model for BER addresses all risks. The performance based system gives DET significant control over time, cost and quality outcomes.

5.3 From a SHI perspective

A range of delivery options will ensure that the residential supply chain is fully engaged and the development offer process gives DOC significant control over the number, location and type of accommodation constructed.

6 Summing up

To sum up, Figures 3 and 4 present, in a tabular form, the various programmes, sub-programmes, procurement approaches and funding allocations being adopted by Nation Building.