

# RiverCity Motorway

Analyst Briefing  
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# RiverCity Motorway

- What is it all about?
- What is the key to successful delivery?
- What are the risks?
- How do we manage risk?
- How do we measure success?

# What is RCM all about?

- Twin tunnels under Brisbane River on CBD fringe;
- Connects SE Freeway at Woollongabba to the Inner City Bypass at Bowen Hills plus a middle connection to the eastern suburbs;
- 6km dual carriageway with two lanes in each direction in separate tunnel tubes.

# The Contract

- Contract awarded August 2006;
- Contract period, 50 months to October 2010;
- Contract price \$2 billion;
- Turnover during 07/08/09 will average \$600 to \$700 million annually.

# Major Features

- 10km tunnel excavated by 2 no. TBMs;
- 1km tunnel excavated by 6 no. roadheaders;
- 3.5 million tonnes excavation;
- 35,000 segments each weighing 9 tonne;
- Electronic toll system, no cash;
- State of the art tunnel services: fire, electricity etc;
- State of the art electronic traffic management system.

# Where are we now (after less than 3 months)

- All major tunnel plant ordered and due for progressive delivery through 2007;
- 200 staff in place and balance of tunnel team to get in 2007;
- Design team fully resourced and operational at 200 No.;
- Site workforce at 100 building up to planned 1200 peak early 2008;
- All work sites activated primary activities includes demolition and excavations to receive big tunnel excavation plant;
- Early approvals in place.





# Resources - Plant

- 2 no. 12m dia 4500kW tunnel boring machines made by Herrenknecht in Germany;
- 4 no. 330kW roadheaders made by Wirth in Germany;
- Segment precast production facility made by Euroform in Milan, Italy and Dresden, Germany;
- Automatic reinforcing steel fabrication plant for segment precast facility made by AWM in Italy;
- Surface works normal plant for heavy construction and readily available in local market.

# What is key to successful delivery?

Approach to ensure success can be summed up in one word ... ***Certainty***

Four key elements of ***Certainty*** identified by LBB JV to successfully deliver the NSBT:

- Resources;
- Fast construction;
- Financial Capital;
- Manage risk is self-evident – the real deal is to identify upfront big real risks and not jump at shadows.

# Resources – Key People

- Project Director – Tony Spink from Leighton, managed NSW mega infrastructure jobs over past 2 decades, including Darling Harbour, M5 Tollroad, Casino and Westlink M7.
- Construction Director (2IC) – Adam Hudson from Boulderstone Hornibrook; 35 years experience in heavy civil engineering lot underground including 9km tunnel Airport Link in Sydney.
- Tunnel Manager – Dieter Meyer from Bilfinger Berger, 25 years career tunnel manager responsible for driving more than 100 kilometres tunnel lot in hard rock including double shield.
- Dave May Tom – General Superintendent from Leighton has filled same role on NSW mega jobs over past 15 years including Eastern Distributor.

# Resources - Why take a JV partner?

- Covers risk;
- Sum of the parts greater than each alone;

## Why Boulderstone Bilfinger Berger?

- Tunnel expertise as good as it gets;
- Big job experience;
- Recent tunnel and road experience;
- Good marriage – enough internal competition to make ‘sharp’.

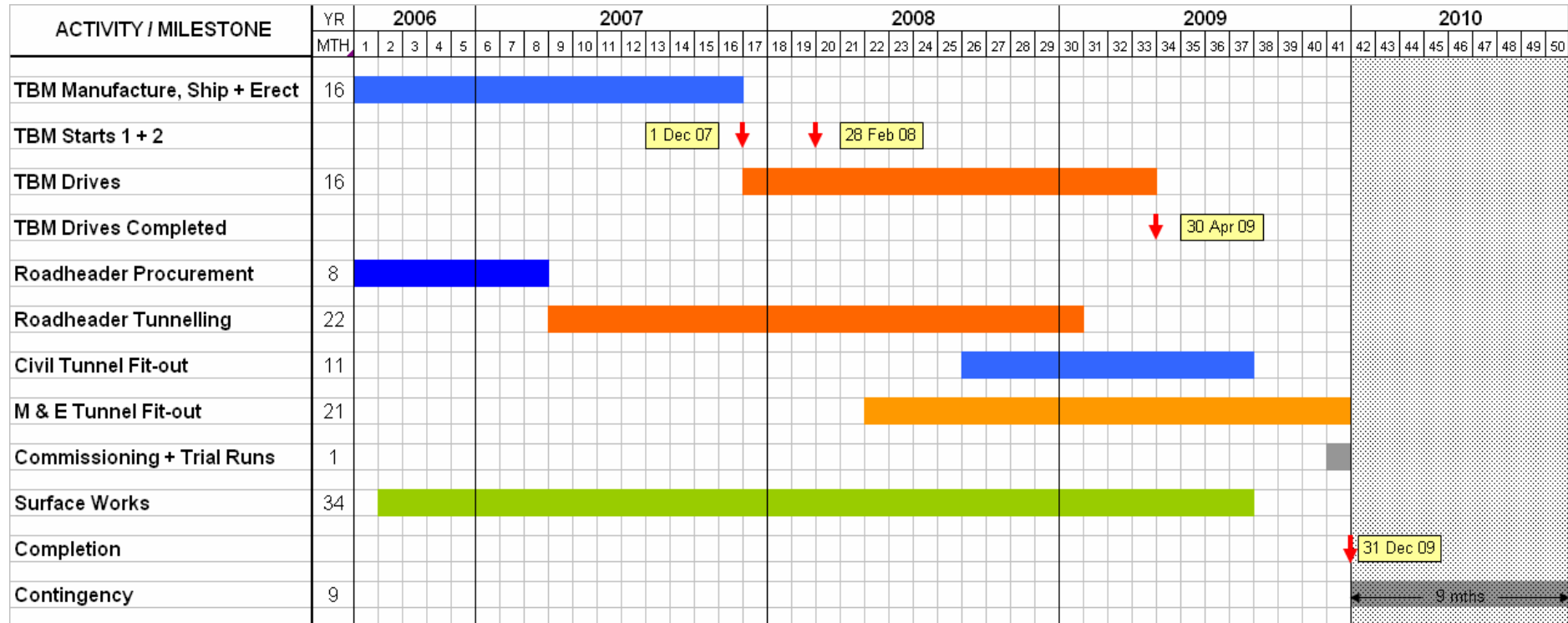
# How does the JV work?

- The Joint Venture develops it's own identity and culture;
- Appointments are on the basis of the best qualified for the job;
- The most effective resources from within three leading construction companies are applied;
- This is “The Project” for all three companies and gets the attention of senior management.

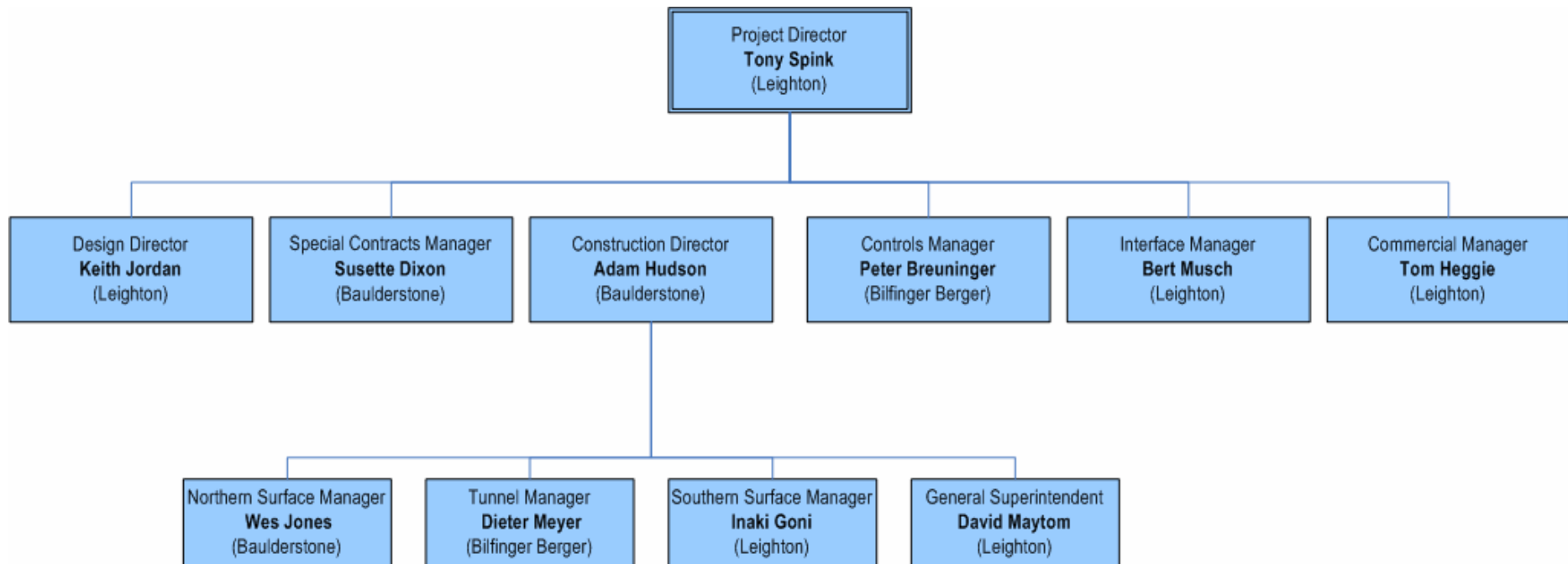
# Fast Construction

- Construction is all about safe, efficient & fast production;
- Set an aggressive target completion including allowances for ground conditions, weather etc;
- Target completion last quarter 2009;
- Resources sufficient to meet target;
- Cast procurement net wide enough to guarantee industry capability to deliver;
- Organisation structure facilitates construction team focus on safe fast build.

# D&C Programme



# Organisation



# Financial Capital

- Leighton Holdings financial position big selling point to government agencies to be able to provide guarantees plus financing for billion dollar plus projects;
- Bilfinger Berger financially strong;
- Both parents can sustain a “hit” to do whatever it takes.

# What are the big risks?

## How do we manage the risks?

- Completion;
- Safety;
- Industry capacity;
- Industrial Relations;
- Technical quality.

# Completion

- Big jobs must finish early – late completion only happens due to mismanagement, on time is not an option, it's too academic;
- Early is left standing as the only end game;
- The question is how early?
- Completion relies on fast construction and quality;
- Organisation is structured to allow construction units to focus on managing the construction risk and achieve earliest reasonable completion consistent with overarching safety policy.

# Safety – why is it important?

- Safe and harmonious workplace is our fundamental building block for certain successful delivery;
- LBB has a professional obligation to keep safe those people in its care;
- Safe working climate on site is conducive to fast efficient production when people know they are working in a safe environment.

# Safety – how do we do it?

First of all create the culture and make it happen;

***Safety first, second and third.***

Second ensure a technically correct approach is taken to implement safe work practices at the pointy end;

Last but not least, provide a management audit team working independently of construction.

# Industry Capacity

- We have locked up production capacity for the primary tunnel plant;
- NSBT is the showcase tunnel job in Australia in the foreseeable future;
- NSBT will attract by osmosis all the tunnellers needed to do the job. “If we build it, they will come”;
- We have locked up a contract with the United Group to do all of the M&E work;
- We have incentivised our designers to finish the design in 2007.

# Employee Relations (nee industrial relations)

- Human relations not such a high risk in current more regulated environment;
- LBB approach to create a harmonious workplace founded in good conditions and a safe work climate;
- Enterprise Bargaining Agreement ensures workplace harmony;
- Training to encourage improved performance and teamwork.

# Technical Quality

- JV between Maunsell & Parsons Brinckerhoff as principal designer ensures suitable design outcome;
- TBM tunnel design by Bilfinger specialist in-house resource;
- Experienced Leighton, Baulderstone and Bilfinger design management staff;
- Experienced quality management team;
- Conduct regular audits;
- Risk transfer to United for M&E work.

# How do we measure success?

LBB JV will measure success on the NSBT by achievement of these outcomes:

- No damage to our personnel or the public;
- Early completion to minimise risk and maximise revenue for RCM;
- Budget profit;
- Quality project for users;
- A satisfied local community left behind which feels it has been part of the Project.