EARLY CONTRACTOR INVOLVEMENT
CAVERSHAM HIGHWAY
IMPROVEMENTS

THE HOW AND WHY?

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ECI: CAVERSHAM HIGHWAY IMPROVEMENTS

- 26,000 vpd
- Southern arterial route connecting central city to Fairfield and further on to Mosgiel
Stage 1: Caversham four laning

- Duplication of the 1.5kms of two lane carriageway
- New 66m long highway bridge, over live South Rd
- 3 substantial MSE walls (4m to 7m high – 500m in length)
- Refurbished, raised and extended pedestrian bridge
Stage 2: Caversham Valley Safety Improvements

- Carriageway widening / new carriageway
- New road bridge over the highway, at Lookout Point
- Ecological sensitivity areas: Peripatus (velvet worm)
Meet our velvet worm!
ECI is a Collaborative contract with 3 discrete components:

• **SP 1 – Investigation**
  - Project scoping
  - (LS) price for SP 2

• **SP 2 – Specimen Design**
  - Outline Drawings & Principals Requirements Specifications
  - statutory consents
  - (LS) price for SP 3

• **SP 3 – Detailed Design and Construction**
  - Implementation
and descriptively?

• **SP 1 (investigation)**
  – Standard Consultant Role in I&R

• **SP 2 (specimen design)**
  – Design output to Specimen Design and Principals Requirements
  – Assumes construction closely matches specimen design
  – Interactive Client/Consultant/Contractor process

• **SP 3 (implementation):**
  – Similar to a ‘Design and Build’ contract
  – Requires a Principals Advisor and/or in-house Engineer to Contract
NZS 3910 as the base Conditions of Contract

- Close fit for SP 3 (implementation)
- Requires adaption for SPs 1 and 2
  - Intellectual property
  - Liability, risk and insurance needs
- Challenge of collaboration
Why ECI for Caversham?

1. Lump Sum, with price schedule
2. Contractor manages time and cost of design risk
3. Design for construction
4. Provides flexibility in development and with ‘negotiables’
5. Time focus
6. Creates an engaging and collaborative environment
7. Reduced tender cost
Procurement Model Relativity
How ECI was applied on Caversham

- ECI post project-investigation stage
- The investigation consultant nominated to contractor
- ECI tender was non-price attribute based
- Post evaluation - preferred Tenderer identified – December 2009
- Price negotiation for SP 2 (Specimen Design) – ‘open book’ task, time, and people build up to a Lump Sum schedule
- Award – March 2010
ECI in practice on Caversham

Flexibility

1. Split project into separate stages
2. Unconfirmed scope in stage 2
3. Overlapping design / consenting and construction
4. Whole of life costing
5. Consultation input
Programme Flexibility
Effective collaboration

• Consultation and statutory process more robust

• All parties willing to challenge

• Each directly appreciate the needs of the other

• Enabled the adoption of a single project wide documentation system

• Team-up to resolve problems and project risks
ECI in practice on Caversham (continued)

Design Innovation

- Value and Risk workshops
- MSE wall design solutions
- Design for reduced wall need
- Re-use of Goodall St footbridge
- Recycled fill materials
- Urban design options
- ability to test constructability
ECI in practice on Caversham (continued)
Success Factors

1. we work as a team, and work to **build and maintain trust**

2. a strong desire to make both the project and contract success an achievement

3. The price is built up in a structured and open manner,

4. Agreed risk assignment

5. We commenced with SP 2 – with a high expectation of building something contiguous to the design process.
Risks and Pitfalls Factors

- protracted development phases or commitment to construction
- If the parties fail to gel as an ‘open’ and collaborative team;
- It takes commitment, can’t be hands off.
- Attributes tender evaluation can be testing.
- Radical change from traditional business practice, including culture and teamwork
So where are we at now?

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Summary Advantages

For the Principal:
• build a cost efficient design
• design related time and cost risks are with the contractor
• the price is agreed at time of funding commitment
• Value engineering and constructability issues resolved early
• Design expectations locked in during Specimen Design

For the Contractor (and designer)
• Innovation and constructability allowed to flourish
• Construction programme taken into account during all phases
• Reduced tender costs
• ‘Single’ design development
• Improved ownership of project