WHY ENGINEERS NEED TRAINING IN HERITAGE

HERITAGE ENGINEERING TRAINING COURSE

9 November 2017

PRESENTATION TO WASHHC CONFERENCE

12 May 2017

Presented by
IAN MAITLAND OAM

Representing
ENGINEERING HERITAGE WESTERN AUSTRALIA
DETAILS OF THE COURSE

• A ONE DAY TRAINING COURSE ON 9 NOVEMBER 2017
  – Comprehensive notes, presentations by experienced heritage engineers and other professionals, useful references

• FOR STRUCTURAL ENGINEERS & OTHER PROFESSIONALS IN WESTERN AUSTRALIA

• PREPARED BY MEMBERS OF ENGINEERING HERITAGE WESTERN AUSTRALIA (EHWA)
  – Forms part of Engineering Heritage Australia’s (EHA) Training Program
WHY THE COURSE IS HAPPENING

• CURRENTLY NO FORMAL TRAINING COURSES
  – In heritage engineering in the country
  – This will be the first
WHY THE COURSE IS HAPPENING

- CURRENTLY NO FORMAL TRAINING COURSES

- REDUCE INAPPROPRIATE CONSERVATION
  - That has been occurring
  - Due to the ignorance of some engineers
WHY THE COURSE IS HAPPENING

• CURRENTLY NO FORMAL TRAINING COURSES

• REDUCE INAPPROPRIATE CONSERVATION

• ENGINEERS HAVE MUCH TO CONTRIBUTE
  – To the heritage community
  – And conservation in particular
  – Due to their specialist skills
WHY THE COURSE IS HAPPENING

- CURRENTLY NO FORMAL TRAINING COURSES
- REDUCE INAPPROPRIATE CONSERVATION
- ENGINEERS HAVE MUCH TO CONTRIBUTE
- **GOOD ENGINEERS ARE IN DEMAND**
  - Particularly structural engineers
  - Only about 30 in the country whose principal activity is heritage related
WHY THE COURSE IS HAPPENING

• CURRENTLY NO FORMAL TRAINING COURSES

• REDUCE INAPPROPRIATE CONSERVATION

• ENGINEERS HAVE MUCH TO CONTRIBUTE

• GOOD ENGINEERS ARE IN DEMAND

• PROVIDE ENGINEERS WITH ANOTHER CAREER PATH
  – Or additional skills
  – Or just another interest
  – Being a heritage engineer is very enjoyable and fulfilling
VARIATION – TYPE, SIZE, LOCATION

- Historic Cranes – Fremantle Harbour
- Pump Station Mundaring
- St George’s Cathedral Perth
- Brickworks Machinery
- St Mary’s Church
- Timber Bridges
VARIATION – TYPE, SIZE, LOCATION

Lynton Heritage Ruins
Rose Hill Cottage WA
Quaranup Water Tanks - Albany
Patroni’s Guesthouse, Gwalia WA
Treasury Building Perth
Fence Toodyay WA

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AND VERY CHALLENGING

Church Beagle Bay

Old Mill - Greenough

Church Beagle Bay

Pt Cloats Lighthouse

Earthquake - Boulder

Farmhouse near Toodjay

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INTRODUCTION TO THE WORLD OF HERITAGE

- What is heritage and why it is important
- Roles of heritage organisations
THE COURSE CONTENT

8 Modules

1. INTRODUCTION TO THE WORLD OF HERITAGE

2. BUILDING WESTERN AUSTRALIA
   - From settlement until now
   - Buildings
   - Civil engineering infrastructure
THE COURSE CONTENT

8 Modules

1. INTRODUCTION TO THE WORLD OF HERITAGE

2. BUILDING WESTERN AUSTRALIA

3. CONSERVATION PRINCIPLES - THE BURRA CHARTER
   - The Burra Charter – background, aims, content
   - Conservation Principles
   - Conservation Management Plans, Heritage Impact Statements
1. INTRODUCTION TO THE WORLD OF HERITAGE

2. BUILDING WESTERN AUSTRALIA

3. CONSERVATION PRINCIPLES - THE BURRA CHARTER

4. HERITAGE ENGINEERING IN PRACTICE
   - Opportunities for heritage engineers
   - Engineering of heritage places
   - Useful tips on running a heritage engineering practice
THE COURSE CONTENT

8 Modules

1. INTRODUCTION TO THE WORLD OF HERITAGE

2. BUILDING WESTERN AUSTRALIA

3. CONSERVATION PRINCIPLES - THE BURRA CHARTER

4. HERITAGE ENGINEERING IN PRACTICE

5. PHYSICAL ACTIONS
   - Effects of actions and how to mitigate them
   - Wind, earthquake, climate variation, foundation movement
   - And many more
THE COURSE CONTENT

8 Modules

1. INTRODUCTION TO THE WORLD OF HERITAGE

2. BUILDING WESTERN AUSTRALIA

3. CONSERVATION PRINCIPLES - THE BURRA CHARTER

4. HERITAGE ENGINEERING IN PRACTICE

5. PHYSICAL ACTIONS

6. STRUCTURAL DESIGN THROUGH THE AGES
   - From c 5000 BC to 1960
   - How concepts, processes and design methods of structural engineering evolved in stages
THE COURSE CONTENT

8 Modules

1. INTRODUCTION TO THE WORLD OF HERITAGE

2. BUILDING WESTERN AUSTRALIA

3. CONSERVATION PRINCIPLES - THE BURRA CHARTER

4. HERITAGE ENGINEERING IN PRACTICE

5. PHYSICAL ACTIONS

6. STRUCTURAL DESIGN THROUGH THE AGES

7. CONSTRUCTION MATERIALS & THEIR USE IN CONSTRUCTION
   - Steel, concrete, brickwork, timber
   - Cast iron, pug, limestone, wattle & daub and many more
THE COURSE CONTENT

8 Modules

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5. PHYSICAL ACTIONS
6. STRUCTURAL DESIGN THROUGH THE AGES
7. CONSTRUCTION MATERIALS & THEIR USE IN CONSTRUCTION
8. ADDITIONAL USEFUL REFERENCES
AND FINALLY

• Visit our trade desk – flyer
• Flyer on the conference website
• More information – send email to EHWA at engineeringheritagewa@gmail.com

THANKYOU

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