

# Fulton Awards 2025 from the Judges View

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# The Judges

- Bryan Perrie – Bryan Perrie Consulting – Concrete and Construction
  - Stephen Humphries – Struttura Consulting – Structural Design and Construction
  - Daniel van der Merwe – Leaf Architects – Aesthetics and Environment
- Bryan Perrie  
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# The Judging

- An absolute honour and privilege to judge the awards over the last 10 years
- Seeing fantastic projects and meeting fantastic people
- Travelling around Southern Africa

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# The Judging

- All the projects entered were fantastic, sometimes in very different ways
- There were no bad projects
- It all depends what other projects are entered in your category in your year

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# The Projects

- Student Accommodation - Stellenbosch
- Precast Grandstand - Limpopo
- Precast Reservoirs - Limpopo
- The Rock – House - Gauteng
- Three Bridges – Durban
- Data Centre – Gauteng
- Waste Water Works - Gauteng

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# The Projects

- Precast Water Tower – Gauteng
- Kariba Dam Rehab – Zambia
- Student Accommodation - Gauteng
- Low-Income Accommodation – Cape Town
- Solar Plant – Northern Cape
- Zinc Mine – Northern Cape
- Bridge - Limpopo

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# Categories

- Buildings < R50 million
- Buildings > R50 million
- Infrastructure < R100 million
- Infrastructure > R100 million
- Innovation and Invention

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# Buildings < R50 Million

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# The Rock (Winner)

- Originally from 1974, upgraded to eliminate bulky elements
- Big spans, thin lines, 360° views
- Combined in-situ, precast, polished, exposed aggregate finishes
- Various mixes, admixtures and pigments
- Living roofs and eco-pools – green solution

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Buildings > R50 Million

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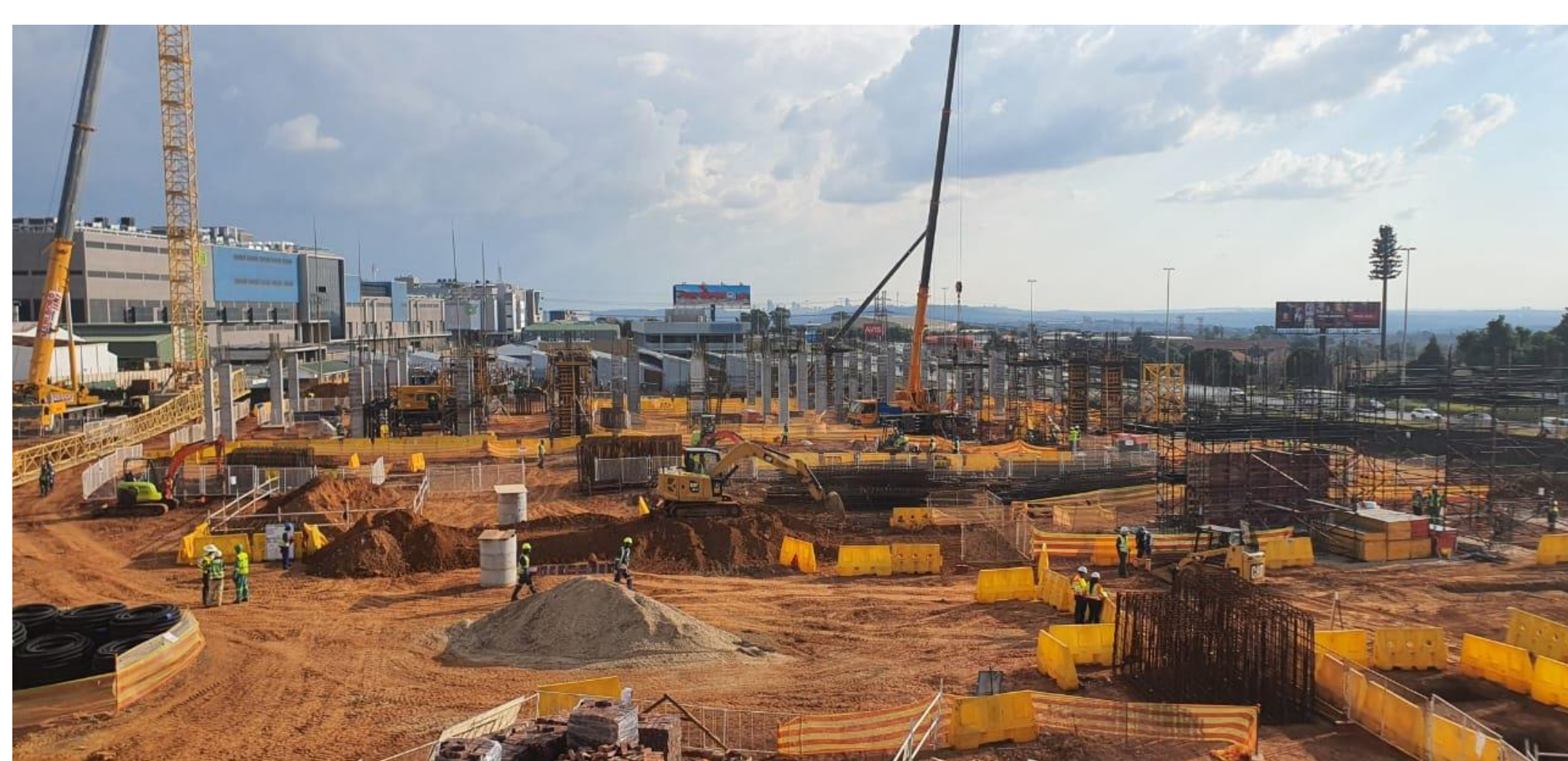
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# Teraco Data Centre (Winner)

- Large multi-storey framed structure
- Floor to floor height of 6,8 m
- Very heavy loads and large spans
- Required large column heads
- 120 minute fire rating
- Large number of services at soffit level, no beams

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# Fountains View

- Student accommodation for 894 students
- Concrete bearing walls between rooms with one-way spanning slabs
- Bottom walls 50 MPa
- Precast stairs

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# Fountains View



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# Herringbone

- Affordable housing, 398 units (168 studio, 154 one-bed and 76 two-bed)
- Reinforced bearing walls and flat slabs
- No wet wall finishes and door frames cast in



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# Herringbone



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# Infrastructure < R100 Million

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# 2,5 MI Edelweiss Water Tower (Winner)

- Exceptional quality
- Africa's first
- 14 month completion
- 34 m high and 18 m diameter
- All elements precast in a factory
- 170 mm wall panels and 150 mm hollow-core roof
- Used a slide and pin system
- Robotic total station used

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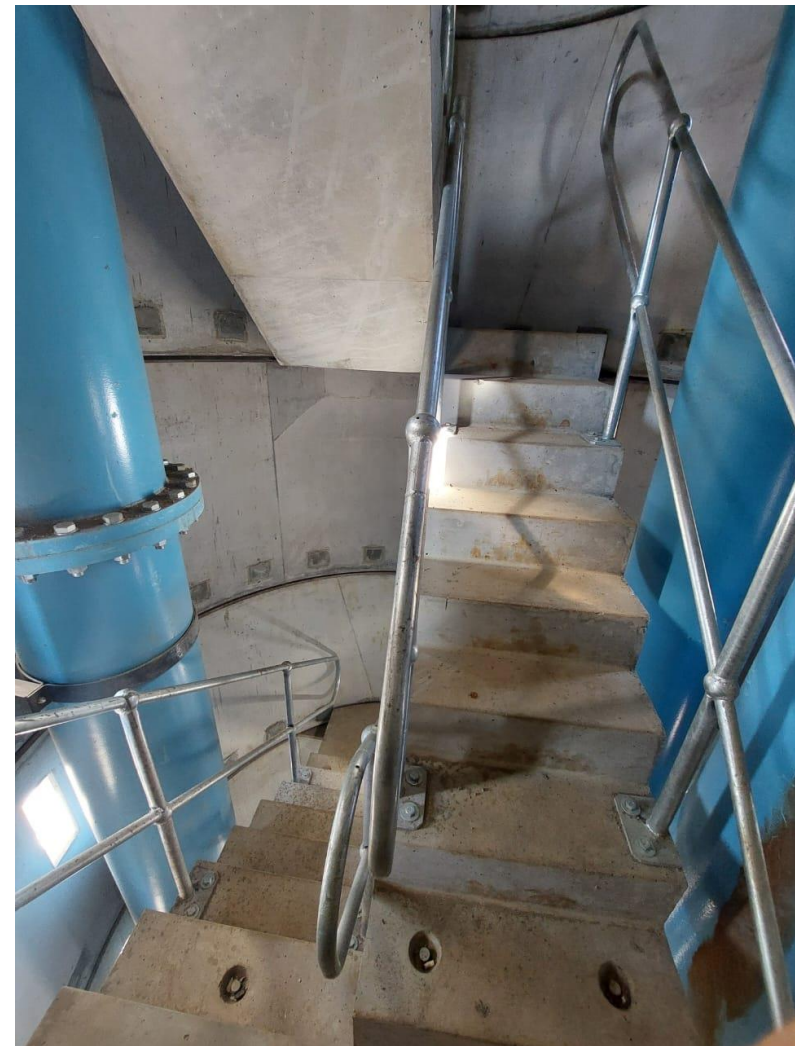




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# Blundell Road Bridge (Commendation)

- First long, integral bridge with a strong curve and variable alignment
- Has electronic sensors to monitor movements
- 41 m straight and 49 m curved
- Custom made coping
- Custom “finger” abutment at curved end

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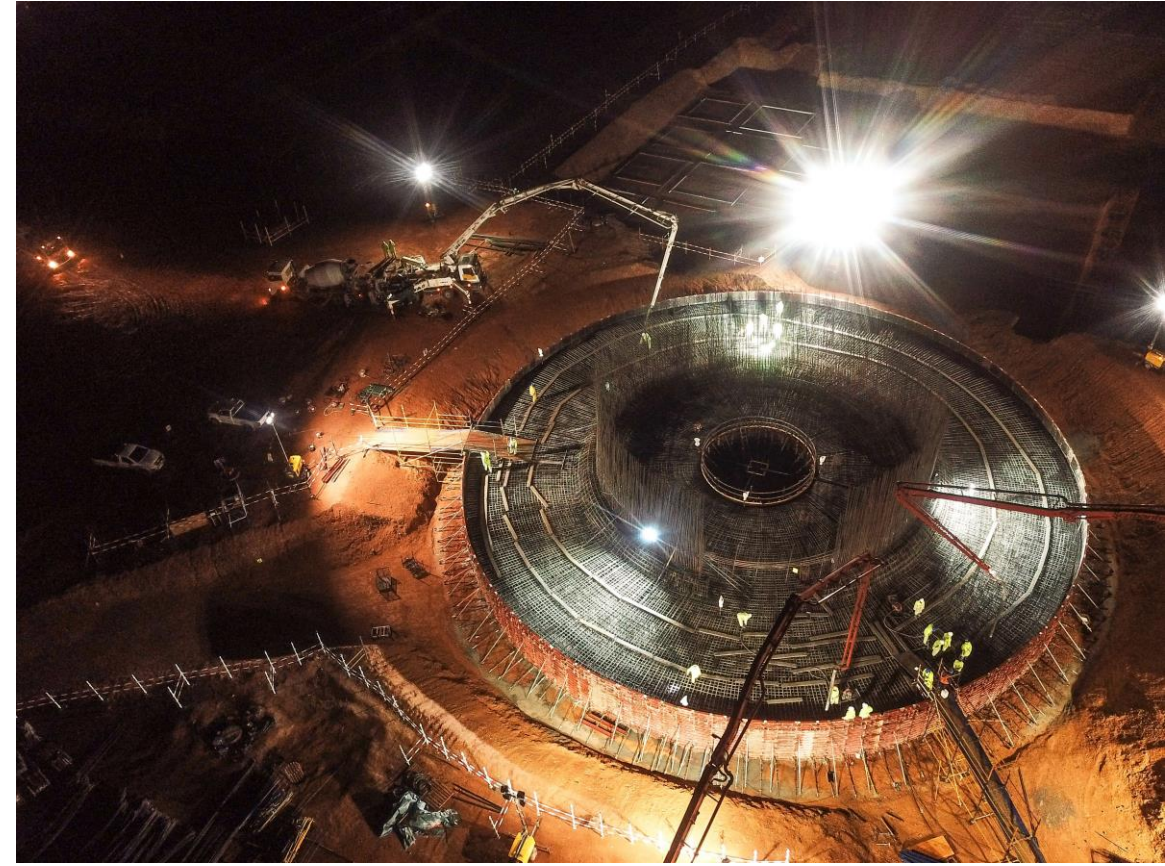
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# Redstone Solar Plant

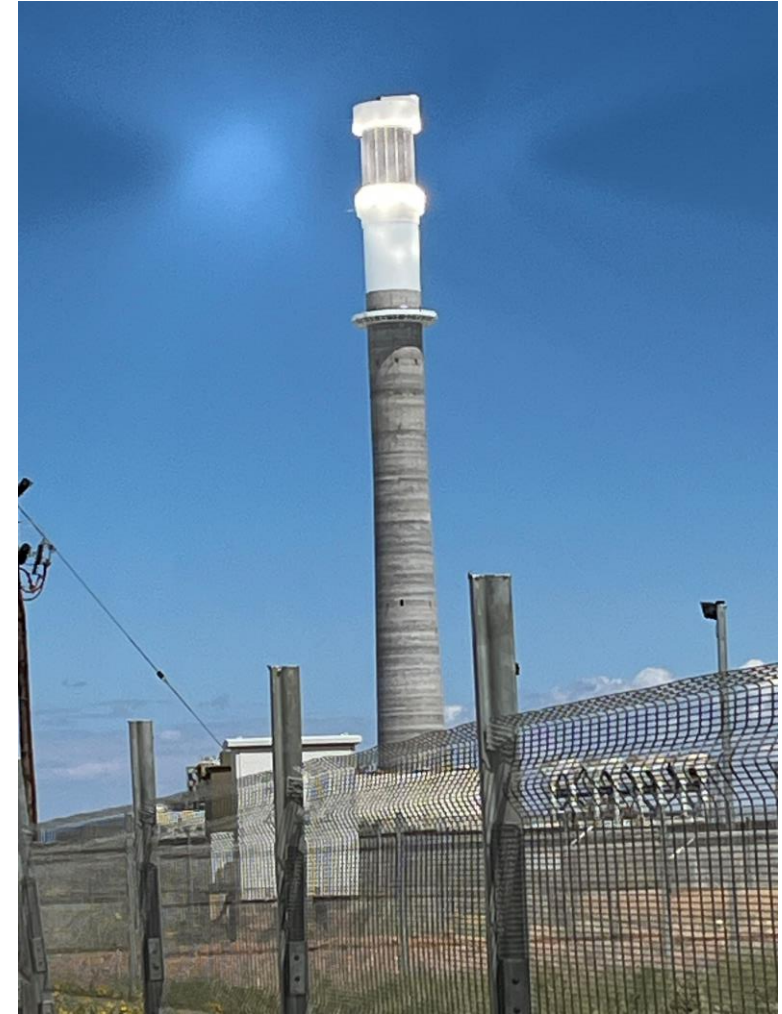
- 250 m high tower slid
- Foundation 42 m x 3 m (4 000 m<sup>3</sup>)
- 55 000 m<sup>3</sup> in tower itself
- Very high temperatures (up to 50° C)
- Extensive use of admixtures



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# Redstone Solar Plant



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# Redstone Solar Plant

- Salt temperatures
  - Cold 285°C
  - Hot 580°C
- Damage to mirrors

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# Grandstand

- Elements constructed at ground level
- Very tight tolerances
- Completed in 4 months (> 12 to 14 months)



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# Grandstand



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# Durban bridges

- Three bridges to replace flood damaged ones
- All integral bridges with instrumentation
- Use of double concrete hinges in one bridge
- Use of finger panel abutment in curved bridge
- Use of SCC
- Consistent night pours and extended midspan propping

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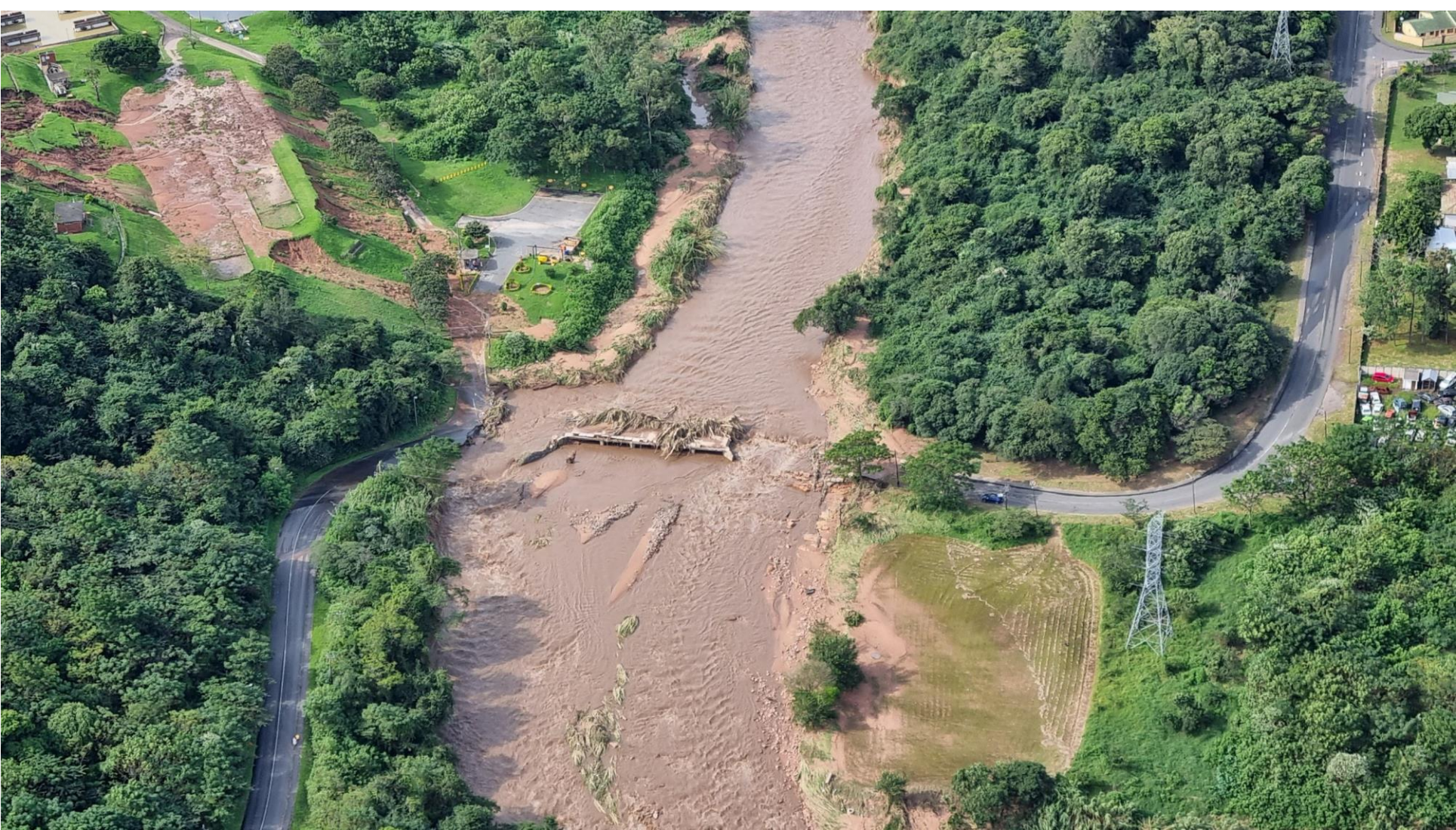
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# Infrastructure > R100 Million

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# Kariba Plunge Pool Rehab (Winner)



- Erosion over last 70 years, eroded a plunge pool 91 m deep

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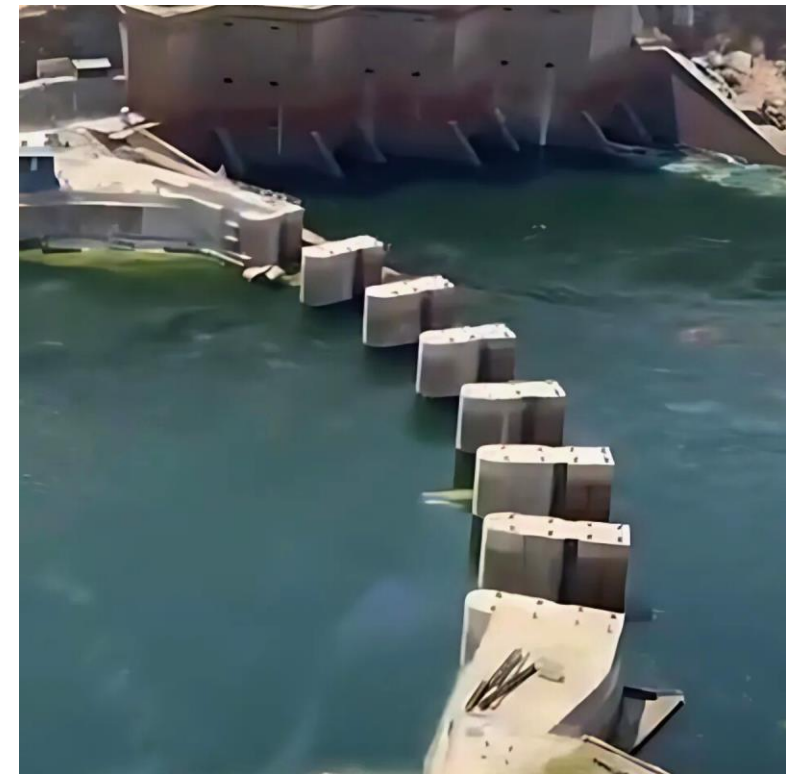
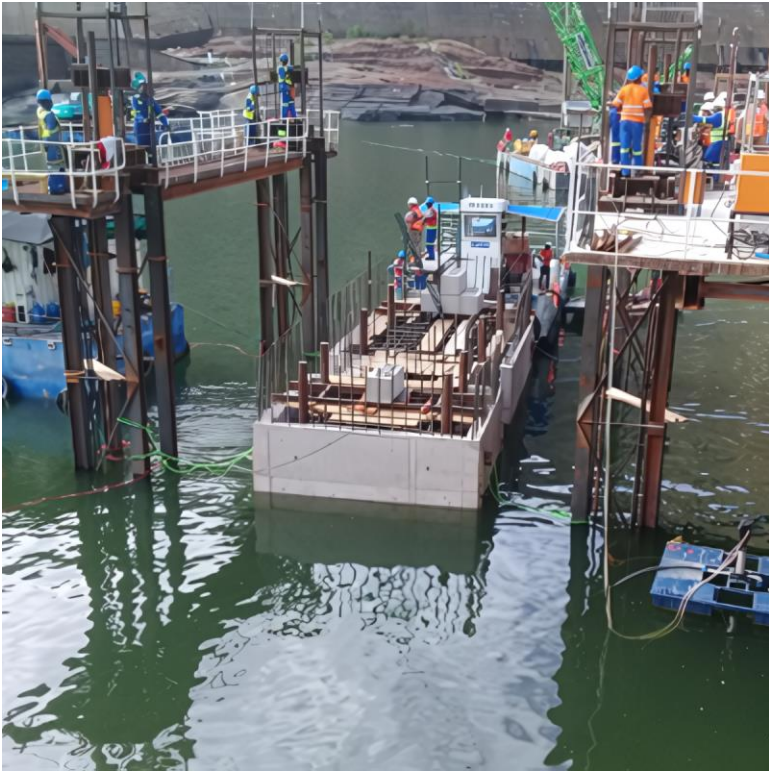


- Creation of a coffer dam to drain plunge pool
- 22 000 m<sup>3</sup> underwater concrete with divers and tremies
- Piers slipformed, floated into place, anchored and filled with concrete

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- 300 000 m<sup>3</sup> rock removed by blasting

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- 30 000 m<sup>3</sup> concrete to protect fault including 6 000 m<sup>3</sup> reinforced concrete sarcophagus
- 7 000 m<sup>3</sup> specialised concrete in 90 m high 45 m wide, 2,5 m wide wall in front of shield

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# Nancefield Bridge (Commendation)

- 13 m high pair of hands supporting the bridge with two identical hand sculptures at the approaches
- Two spans, 41 m and 32 m twin box girder
- Certain sections with exposed aggregate
- Challenge with ambient temps up to 45° required a cooling tower and precision sprayers

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# Limpopo Travel

- Day one
  - Drive Jhb to Senwarbana 420 km
  - Drive Senwarbana to Musina 180 km
- Day 2
  - Drive Musina to Thohoyandu 140 km
  - 500km back to Johannesburg



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# Innovation and Invention

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# 2 x 10 Ml Reservoirs at Phiphidi (Winner)

- Each reservoir completed in 4 months
- All components in a factory with industrial technology on large scale
- Slide and pinned system allowing wall panels to slide during tensioning
- Unique sealing system between adjacent panels

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# Durban bridges (Commendation)

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# The One

- Largest single building with 508 units
- 553 underground parking bays 7m deep
- Needed deep piles, soil nails and lateral support



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# The One



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# NWW Treatment works

- Extensive additions to existing plant including:
  - 2 x 35 m Sedimentation tanks
  - Balancing tank 77m x 40 m x 2 m
  - Sludge reactor 146m x 35 m x 5m
  - 2 x 35 m Clarifiers
  - 1 x 35 m Thickeners
  - Miscellaneous works



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# NWW Treatment works



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# Zinc Mine Aggenys

- Increasing mining output from 4 mil tpy to 8 mil tpy
- Increasing metal output from 300 000tpy to 500 000tpy
- Includes:
  - Primary crusher
  - Stockpile tunnel
  - Milling plant
  - Flotation plant
  - Thickener

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# Zinc Mine Aggenys

- Casting monolithic pedestals 13 m high
- 46 mm bolts suspended in the air during placing
- The crusher is 30 m high with 6 intermediate decks
- Biggest challenge temperatures varying between -2°C and 50°C



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# Zinc Mine Aggenys



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# Northern Cape Travel

- Day one
  - Fly Upington
  - Drive 300 km to Lime Acres
  - 300 km back to Upington
- Day 2
  - Drive 300 km to Aggenys
  - 300km back to Upington
- Day 3
  - Fly home



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On behalf of the Judges,  
Thanks to the Society for  
allowing us to be part of a  
very special experience.

Any questions

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# Thank you

Any questions

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