

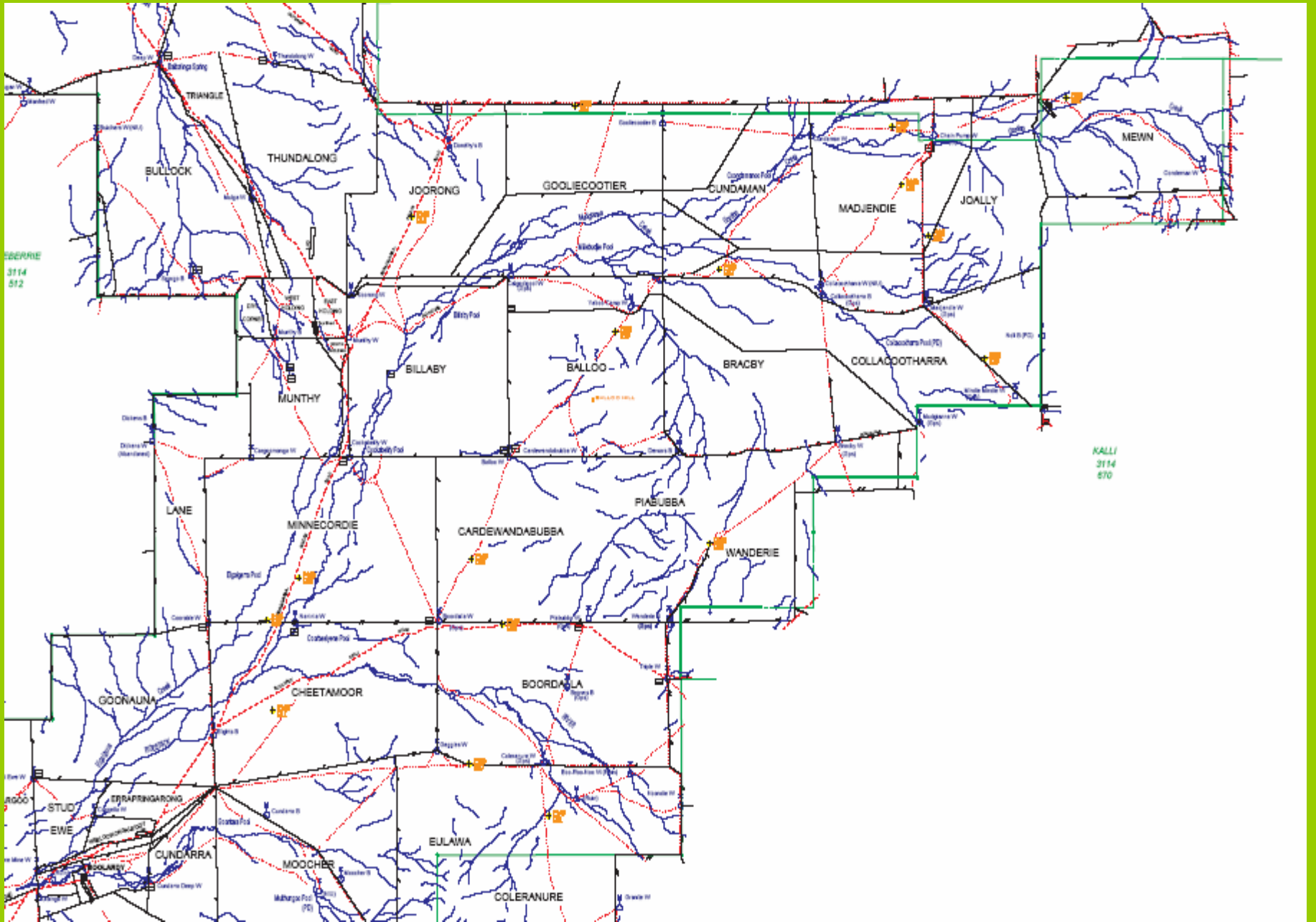


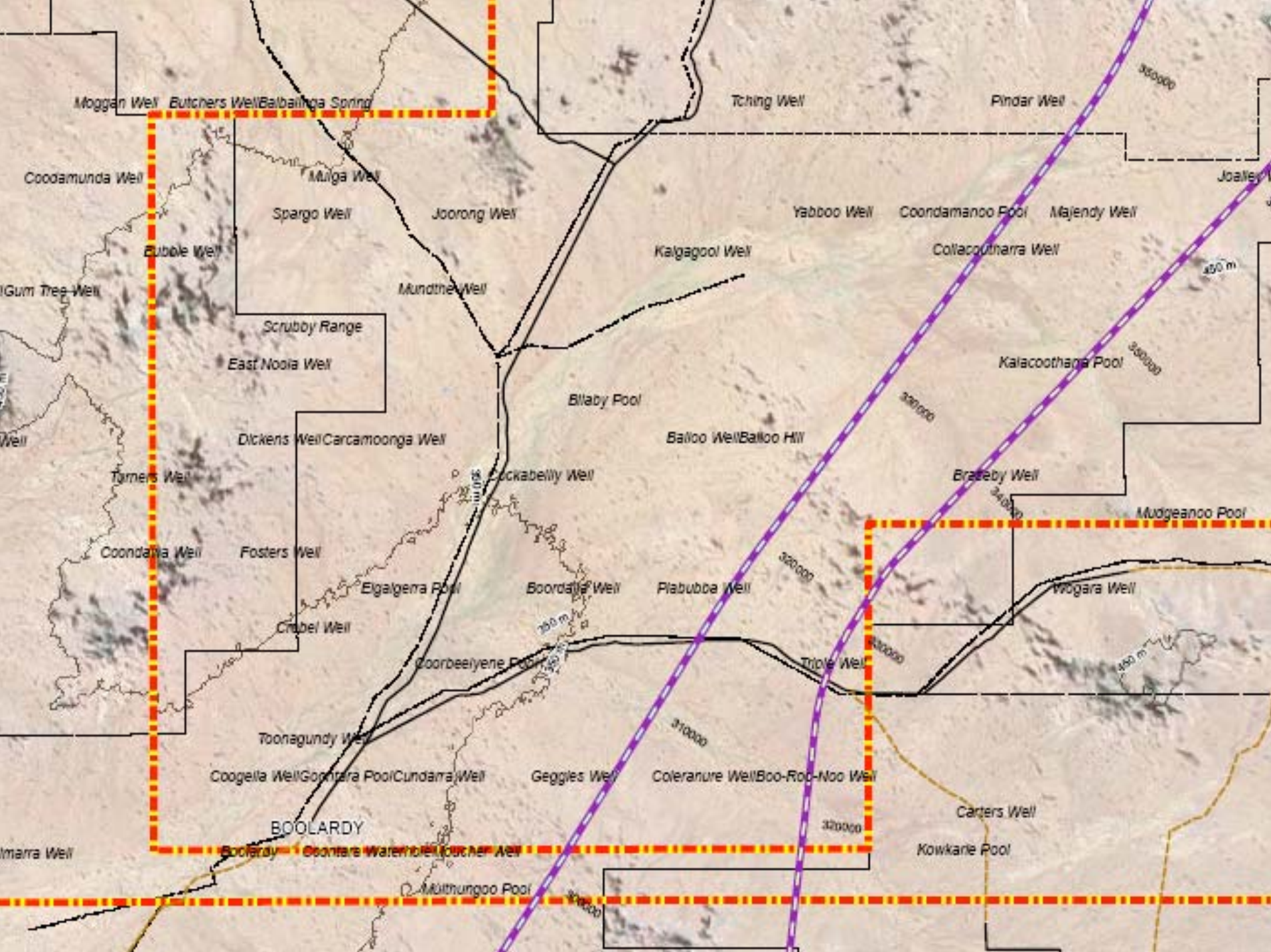
WA Infrastructure and Investment in Support of Radio Astronomy

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Overview

- Site
- History
- Infrastructure requirements
- Timelines / cash flow / resources
- Immediate actions





Background

- 1997 - no active radio astronomer in Western Australia (Govt Astronomer James Biggs)
- 1997 - WA Govt established a Radio Astronomy Committee under the Chief Scientist (M.Lynch a member)
- 2003 SKA meeting in Geraldton
- Chief Scientist plans support for radio astronomy

Personnel

- WA Govt \$2 M
- University of Western Australia \$2 M
- Curtin University \$1.4 M
- WA Govt \$0.5 M
- Total \$5.9 M

1998 - 2004

- Site investigations
- 8 sites across Western Australia
- Geological stability
- Geological significance
- Flooding evaluation
- RFI
- Topography
- Fire exposure
- Total investment \$AUD 3.0 million

Infrastructure 2005-2007

- Power
- Fibre
- Accommodation
- Road access
- Radio Astronomy Park –Mileura
- Section 19 - Mining Act
- EMC zone
- Purchase Mileura Pastoral Station

Allocation of \$4.0 M (infrastructure) – still unspent and inadequate

Investment to Date – WA Govt and WA Universities

Total ~ \$13.0 M

Site Infrastructure

- Consultants – GHD Pty Ltd successful bidder engaged by DoIR (~ \$50K)
- GHD Reported ~ April 2006 on Mileura site
- No action since!
- Proposed fibre connection for up to 3 locations
- Central shared RF screened laboratory (computers, personnel,..), solar roof
- Diesel / solar power generation ~ multiple 50kW diesel units

LFD Power / Site Infrastructure

- Power for 32/500 tile array, 4/16 nodes / receivers correlators
- Power for 32/500 tile computer(s)
- Power for air conditioning for caravan / lab
- Power for site lighting
- Interim voice / data up-link or fibre connect ?

Site Work

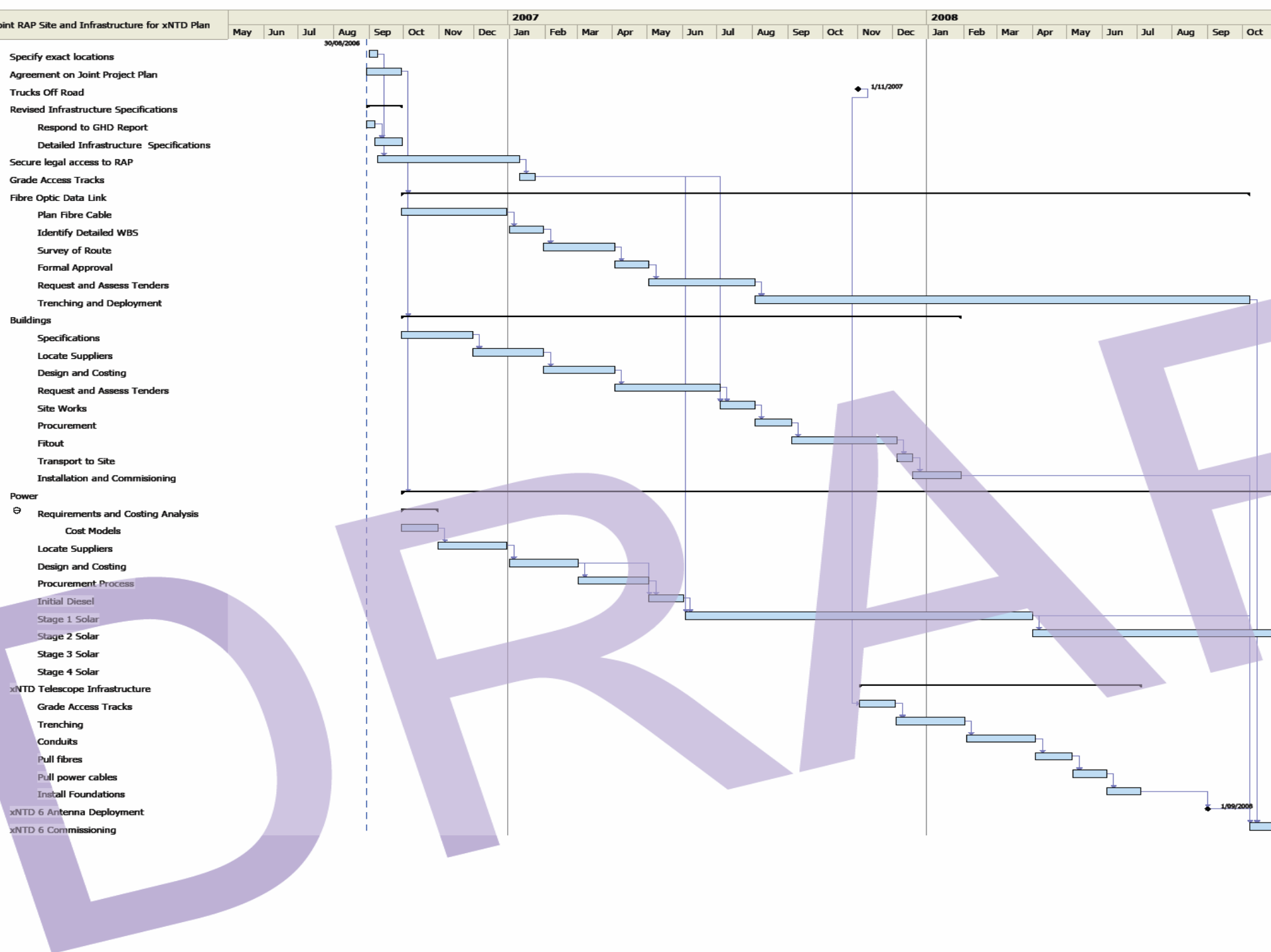
- 190 km Boolardy HS – Pindar road
- HS – site road ~ 30-40 km
- Site internal access tracks to 4 / 16 nodes
- Cable trenching: tiles to nodes / nodes to caravan / central facility
- Node installation
- Caravan? Central facility / lab (correlator, computer, airconditioning, electronics /shop, equipment store kitchen, short term rest area, toilets,first aid,..)

Homestead

- Power
- Accommodation (10 people?)
- Lab – electronics/mechanical/computing
- Interim ADSL internet uplink / fibre

Fibre

- Fibre cost ~ \$15K to \$18K per km ?
- Boolardy – Geraldton or ~250 km (\$3.75 – 4.5 M).
When and How? Federal Regional Network
development program (Axia Corp)
- Boolardy – Big Pipe ~ 180 km (\$2.25-\$2.7M). WA
Govt Broadband Network (WBN). When and How?
WBN – private sector bids close Dec 18, 2006



Immediate Actions by LFD

- RFI assessment – Judd /Alan Rogers system
- Deployment of tile #1 – spectrum analyser March, 2007
- GPS units for TED
- Compensation for site relocation costs
- Clear definition for DoIR of requirements for power, fibre and facilities (priority, what, when, staged or not)
- Timeline for infrastructure spending and installation completion from DoIR. More funds?
- Merging of xNTD and LFD requirements

Issues / Showstoppers Discussed with DoIR Dec 14, 2006

- Native Title issues – any risk?
- Locking in Boolardy site access with leaseholders?
- Environmental issues?
- Boolardy infrastructure update / risk?
- MML / MidWest / SinoSteel rail – risk?
- Cabinet reshuffle / reporting / Chief Scientist / Federal – State Task Force?
- Compensation issue?

END

