







# WHANGANUI AIRPORT

## RWY 11/29 Resurfacing Project

Airport User's Briefing



# The team leads

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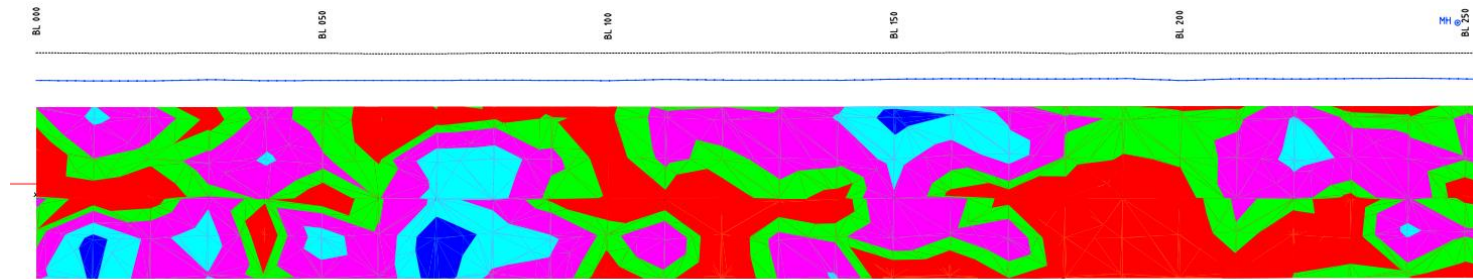
# The need (1)

- Original runway surface laid in 1960
- Last resurfaced with a chip seal surface in 2007
- Crack sealing maintenance in 2017/18/20/21
- Surface starting to break up with increasing amounts of loose chip appearing
- Last full sweep of the runway produced approximately 2m<sup>3</sup> of loose chip
- Expected life of new runway 15 years
- Stripping, delamination, flushing, chip loss, bandage failure, binder rise



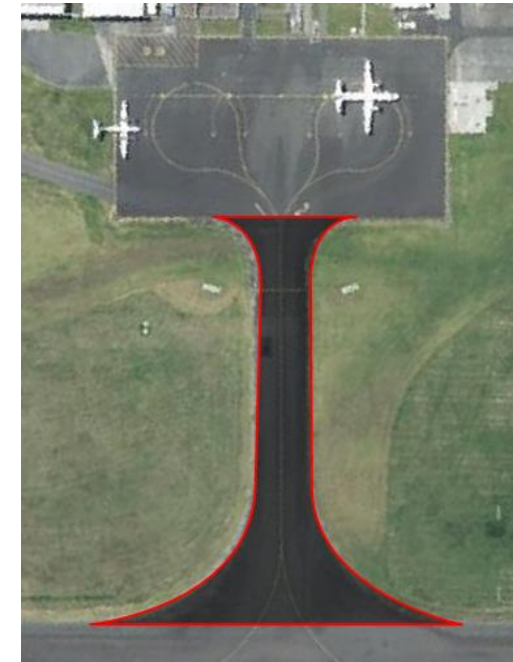
## The need (2)

- Runway condition survey and core samples in 2023
- Survey data sample shown below (RWY 29 threshold → TWY A)

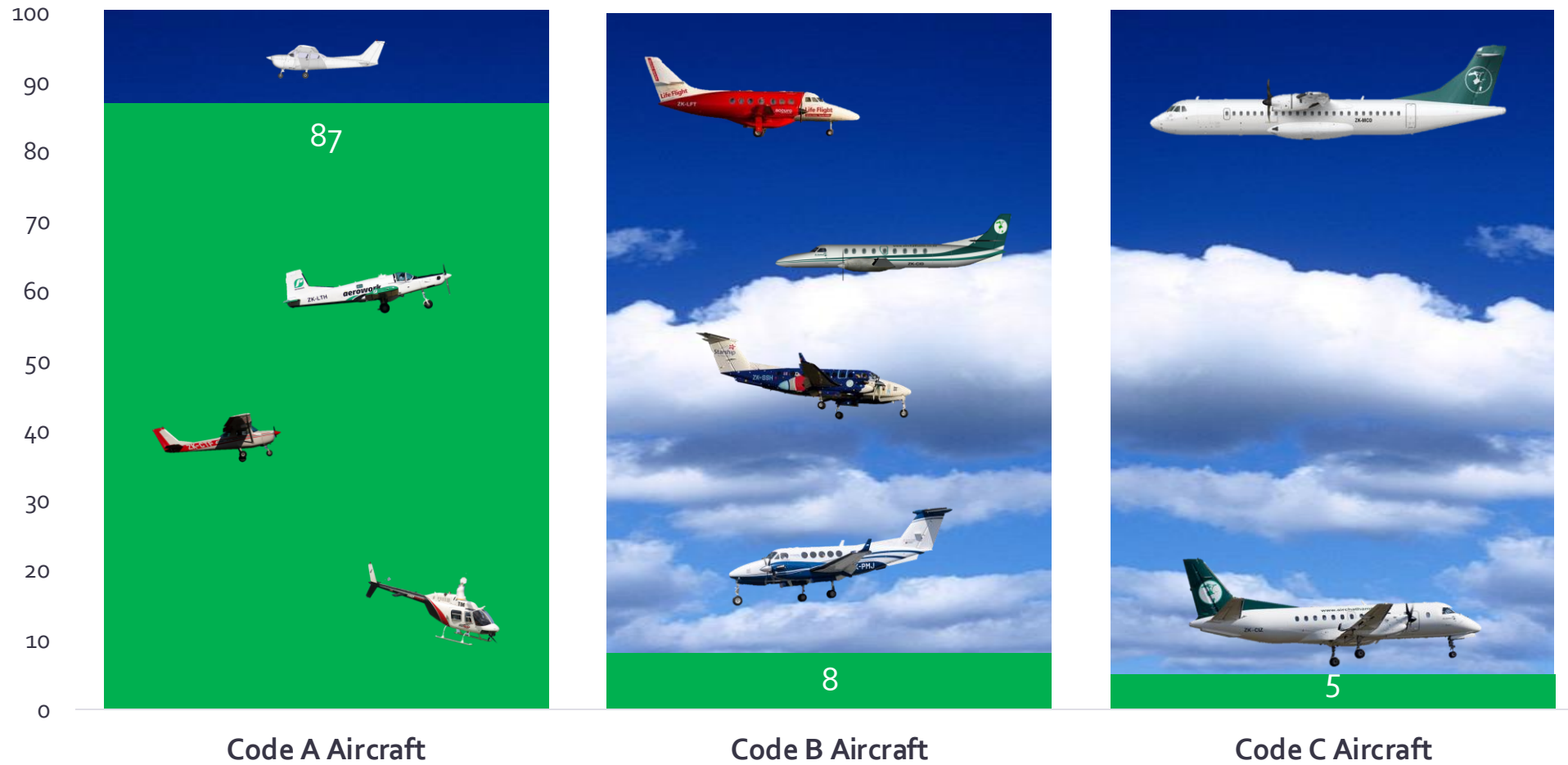


# The project

- Resurfacing of RWY 11/29 (approx. 64,000 m<sup>2</sup>)
- Resurfacing of TWY A (approx. 3,000 m<sup>2</sup>)
- Resurfacing of the apron (approx. 5,200 m<sup>2</sup>)
- Construction of hardstand area adjacent to Air Whanganui hangar #1 (approx. 890 m<sup>2</sup>)



# Whanganui Airport – Usage rate (% of movements)



# Runway resurfacing options

Option	Pros	Cons
Full chip seal	<ul style="list-style-type: none"> <li>• Cheapest option</li> <li>• Simplicity</li> </ul>	<ul style="list-style-type: none"> <li>• Increased likelihood of FOD</li> <li>• More wear-n-tear on aircraft tyres</li> <li>• Susceptible to damage from locked-wheel turns</li> <li>• Less longevity</li> </ul>
Asphalt (30m centre) with chip seal shoulders (7.5m each side) and a two-coat seal plus emulsion sand seal	<ul style="list-style-type: none"> <li>• Cost less than full asphalt</li> <li>• Reduced FOD</li> <li>• Less wear-n-tear on aircraft tyres</li> <li>• Longevity</li> <li>• No impact on GA aircraft ops (95%)</li> </ul>	<ul style="list-style-type: none"> <li>• Turning restrictions on Code C (5%) aircraft while shoulders bed-in (approx. 1 year)</li> <li>• Asphalt/seal joins</li> </ul>
Full asphalt	<ul style="list-style-type: none"> <li>• Reduced FOD</li> <li>• Less wear-n-tear on aircraft tyres</li> <li>• Longevity</li> <li>• Simplicity</li> </ul>	<ul style="list-style-type: none"> <li>• Most expensive option</li> </ul>

# New Plymouth Airport



# Timaru Airport



# Whakatane Airport



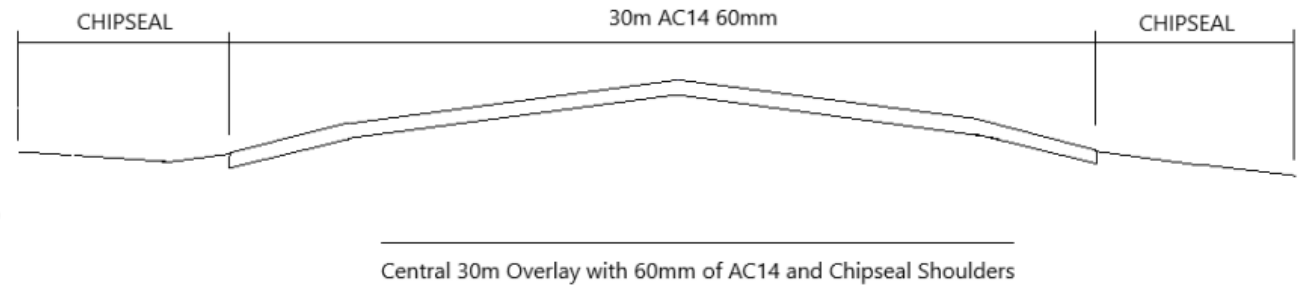
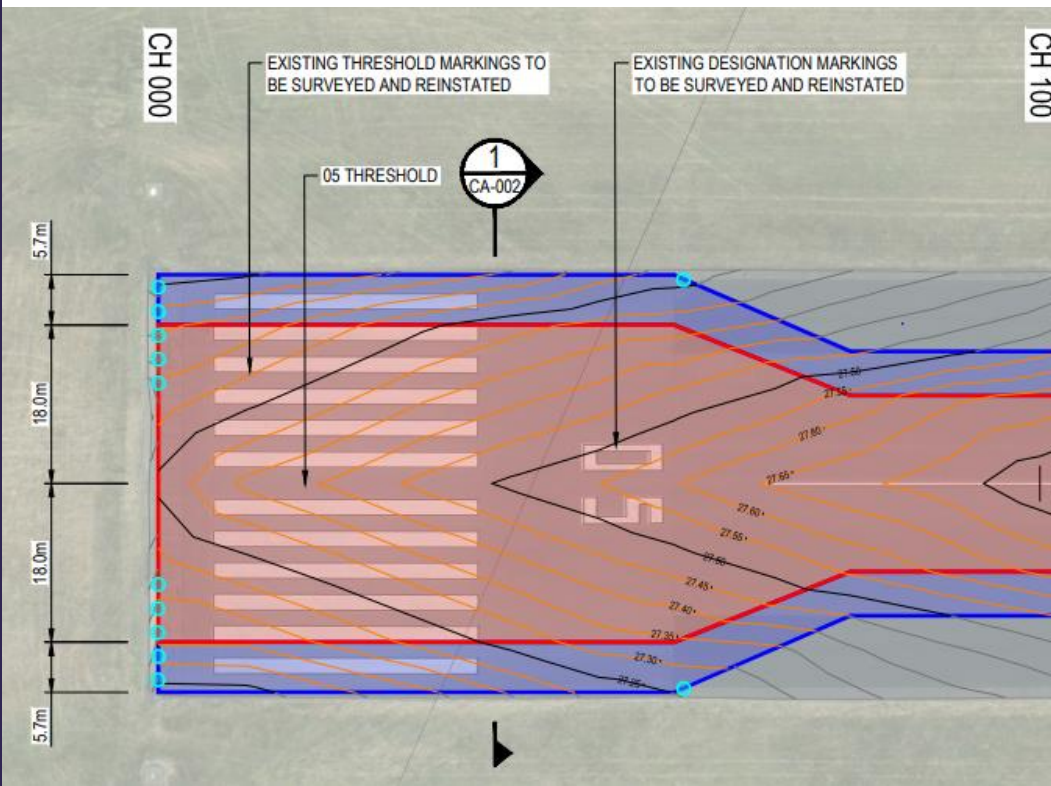
## NOTAM / AIPNZ amendment

- A) NZWU
- B) 2310150630 [start day Sunday 15 Oct 23, time 1930 LOCAL]
- C) 24xxxxxxxx [next AIP NZ amendment date]
- E) U-TURNS ON RWY 11/29 BY ACFT HEAVIER THAN 5700 KG MCTOW PERMITTED ONLY AT RWY ENDS.



# Runway construct

- Indicative example (New Plymouth)
- Typical cross-section (exaggerated vertical axis)
- Runway ends



# The works

- RWY 11/29 centre (30m) - asphalt
- RWY 11/29 shoulders (7.5m) - chip seal with a two-coat seal plus emulsion sand seal
- TWY A - asphalt
- Apron - asphalt
- Air Whanganui hardstand - civil works and asphalt



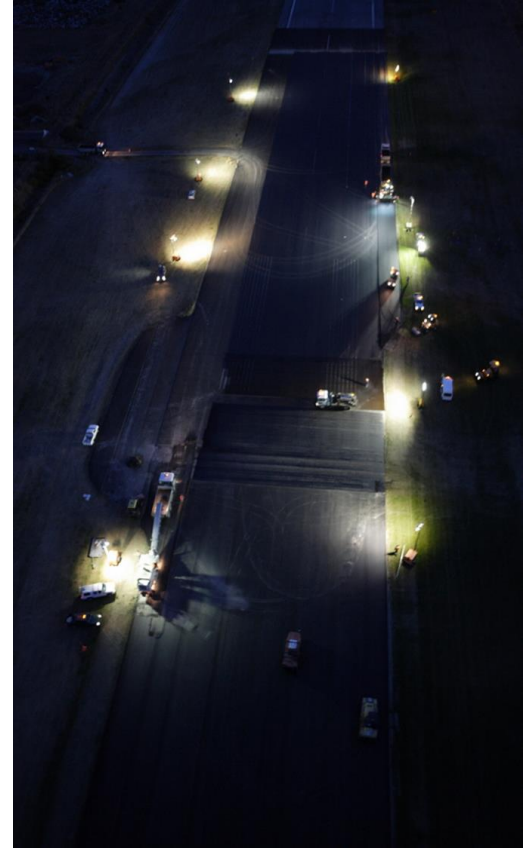
# Timeline

- Sep Determination of asphalt mix design
- 25 Sep Laydown trial
- Oct/Nov/Dec Hardstand – day works
- 15 Oct – 1 Nov RWY 11/29 works
- 5-6 Nov TWY A resurfacing
- Joint sealing RWY 11/29
- 7-8 Nov Apron resurfacing
- 29 Oct – 6 Nov RWY 11/29 shoulders
- 5 – 16 Nov Permanent runway line markings



## Workforce and equipment (VIDEO)

- Approx. 600 tonnes of asphalt per shift (up to 50 truckloads)
- Heavy construction units (paver, miller, rollers)
- Light vehicles and utility trucks
- 10 light towers
- 20+ workers on site
- 4 workers operating asphalt plant in Bulls
- Airport staff on site



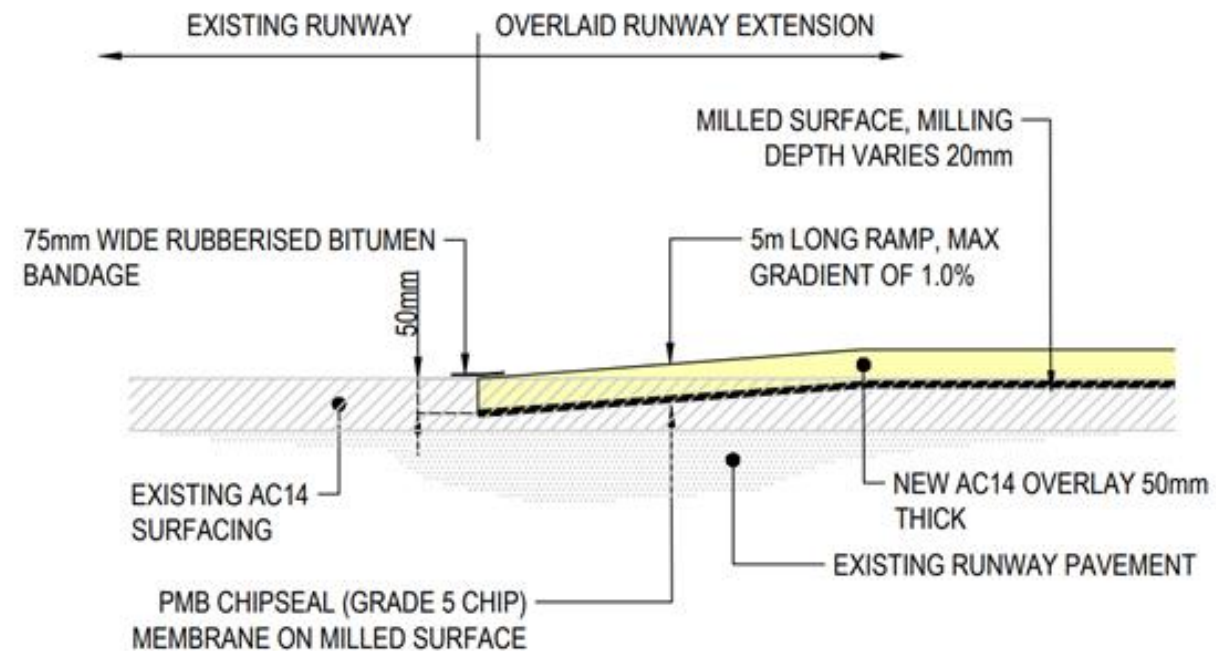
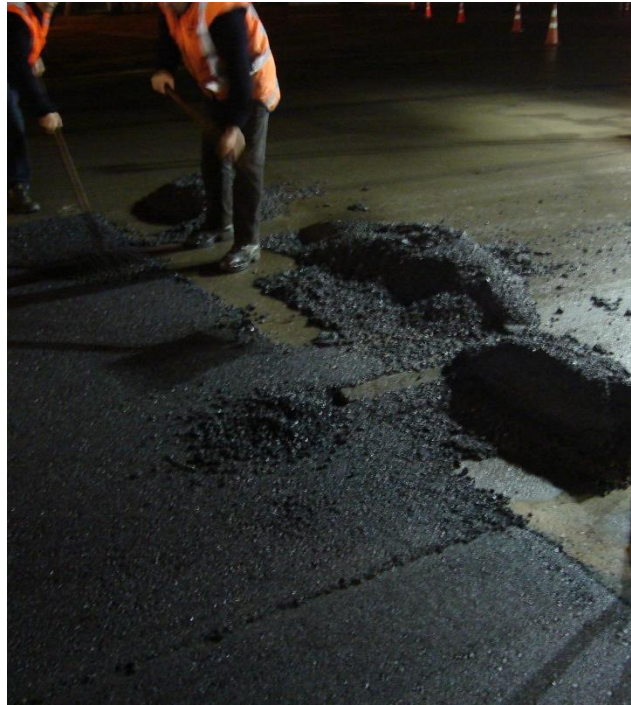
# Runway milling and asphaltting

- Surface milled to allow cross-sectional profile and remove old oxidized asphalt
- Minimum of 55-60 mm asphalt thickness
- Additional thickness in low-lying areas
- Millings recycled in predetermined locations on airfield



# Runway ramps

- Laid on completion of night work at end of resurfaced section
- Meets CAA requirements for maximum 1% slope
- Removed prior to commencing next section of work



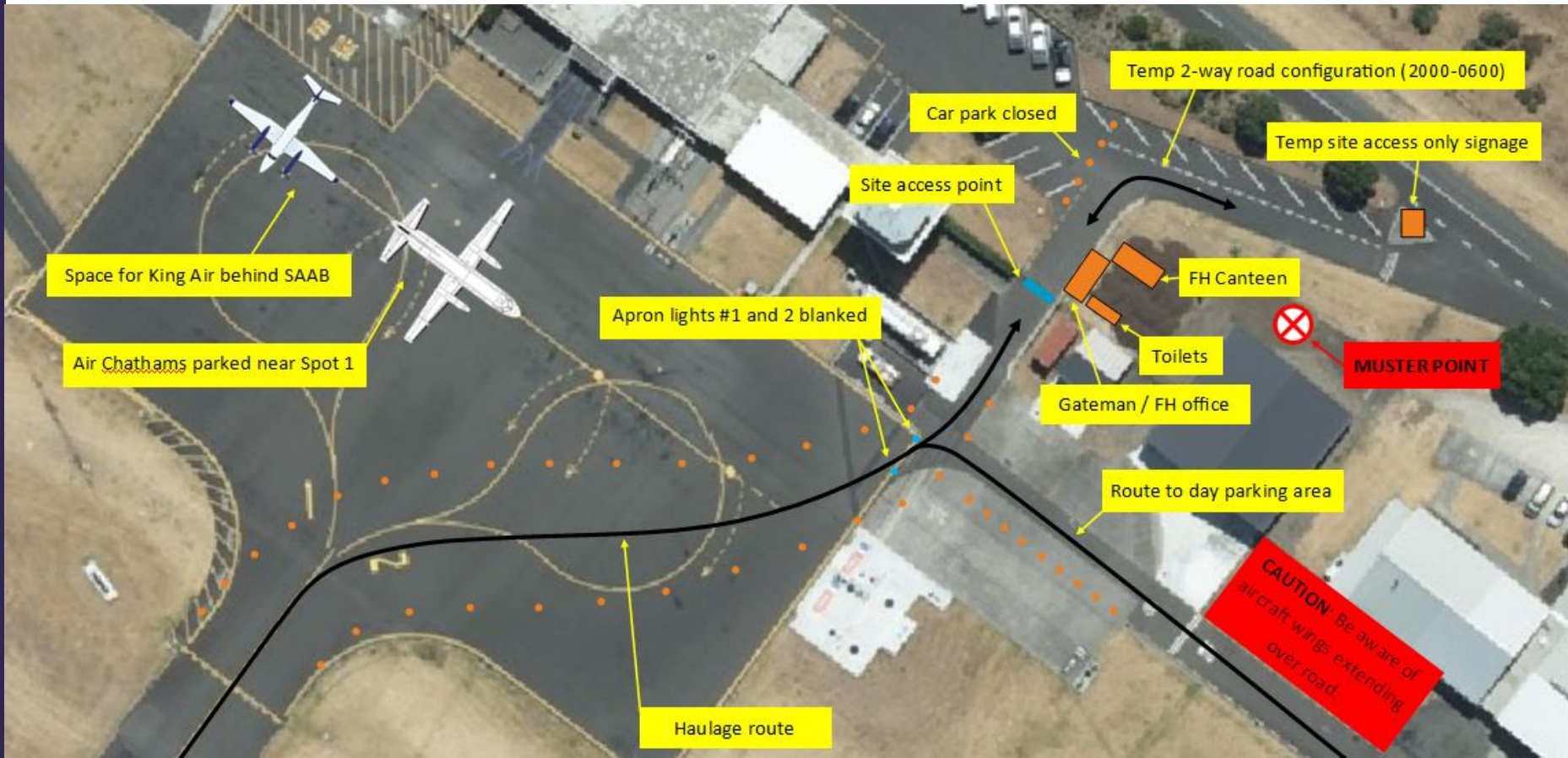
# Runway markings

- All runway markings will be replaced after each night shift
- Runway markings will be dry before runway is reopened
- On completion of all works a final top-coat will be completed in one run
- Reflective beads will be added to the final top-coat
- Update to ICAO compliant markings



# Construction equipment / accommodations (1)

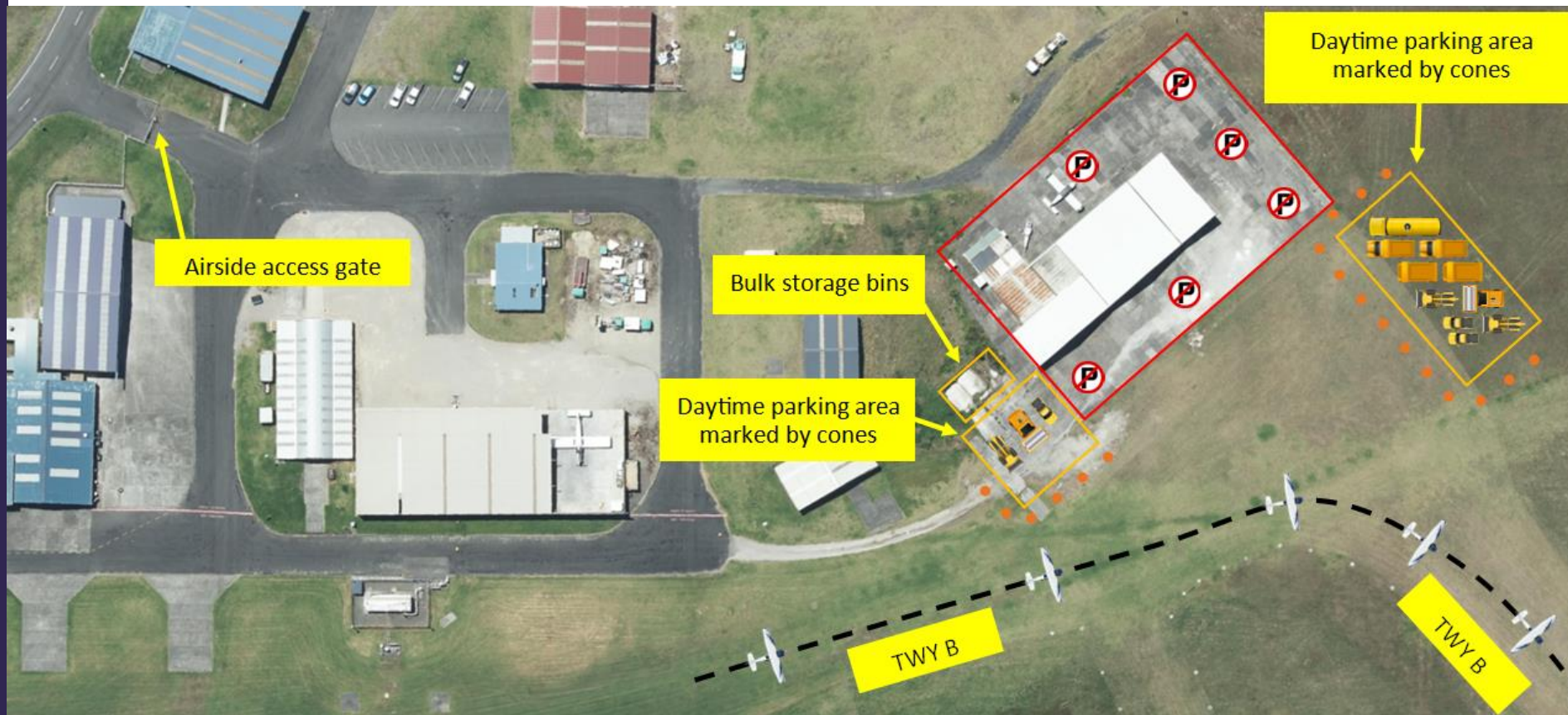
- Primary haulage route via 'Gate 1' beside control tower
- Fulton Hogan port-a-coms and gateman hut beside airport garage (landside)
- One-way entrance road used as entry & exit during construction (TMP and signage)





# Construction equipment / accommodations (2)

- Construction equipment parked by eastern hangars during the day
- TWY B open but slightly reduced area for run-ups



## Construction equipment / accommodations (3)



- **NO** aircraft parking within 5m of the road in front of John Luff's hangar, Wanganui Aero Club, and Aerowork hangars.
- Daytime access route for civil works.

# Night Schedule (1)

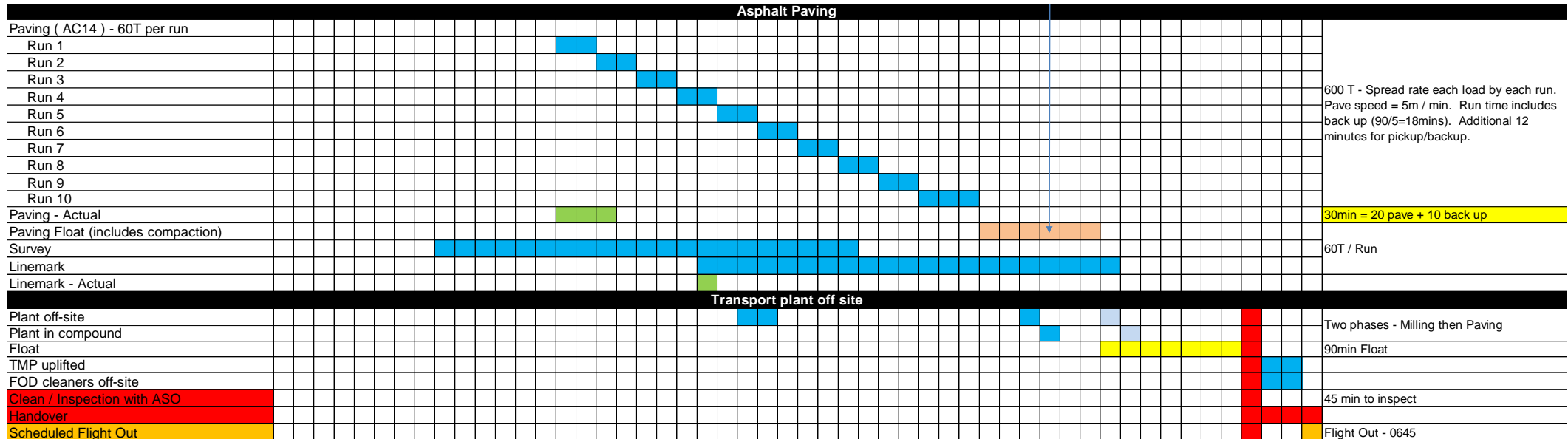
Whanganui Airport (NPL)																											Area	3000m2	400t	AC14 (55mm)	398.6																						
																											1/10/2023													RWY 11 -29													
Activity: Airport Paving	5:00	6:15	6:30	6:45	7:00	7:15	7:30	7:45	8:00	8:15	8:30	8:45	9:00	9:15	9:30	9:45	10:00	10:15	10:30	10:45	11:00	11:15	11:30	11:45	00:00	00:15	00:30	00:45	01:00	01:15	01:30	01:45	02:00	02:15	02:30	02:45	03:00	03:15	03:30	03:45	04:00	04:15	04:30	04:45	05:00	05:15	05:30	05:45	06:00	06:15	06:30	06:45	Comments / Feedback / Reasons
Pre-Shift																																																					
Weather Call																													May need to be earlier																								
Crew in Yard (Airport)																																																					
Pre Start - Daily Briefing	On Site																																																				
Airside Access																																																					
ASO confirmation of shift																																																					
<b>FLIGHT</b>	HOLD POINT																																																				
Access granted	Flight arrives 1920																																																				
Access - Actual	Actual establishment times																																																				
Onsite																																																					
Onsite - Actual																																																					
Transport Plant to site																																																					
1.3 Miller onsite																																																					
1.0 Back-Up Miller onsite																																																					
TMP installed - Light Towers active																																																					
Site controls active																																																					
Actual																																																					
Milling & Membrane																																																					
Milling Cut 1 (1.3m)																																																					
Milling Cut 2																																																					
Milling - Actual																																																					
Measure actual area for mix order																																																					
Surface Inspection/Survey																																																					
Membrane Sealing																																																					
Membrane - Actual																																																					
Mix Production/Transport																																																					
Mix Production																																																					
Mix Load Out																																																					
Mix delivered																																																					
Mix delivered - Actual																																																					
																											24 + 2 Trucks TBC																										
																											Approx 45min each way																										
																											2x50 T in bins (100T/Hr)																										
																											600 T target																										
																											To confirm Plant upgrade/system work in progress																										

- Weather call 1800
- Air Chathams 708 arrives 1920
- Airport closes 1930
- Milling start 1945

- Milling finish 2130
- Paving start 2130
- Paving finish 0230
- Paving compaction ends 0400

- Line marking/survey ends 0430
- FOD/Inspection 0600
- Airport reopens 0630
- Air Chathams 701 departs 0645

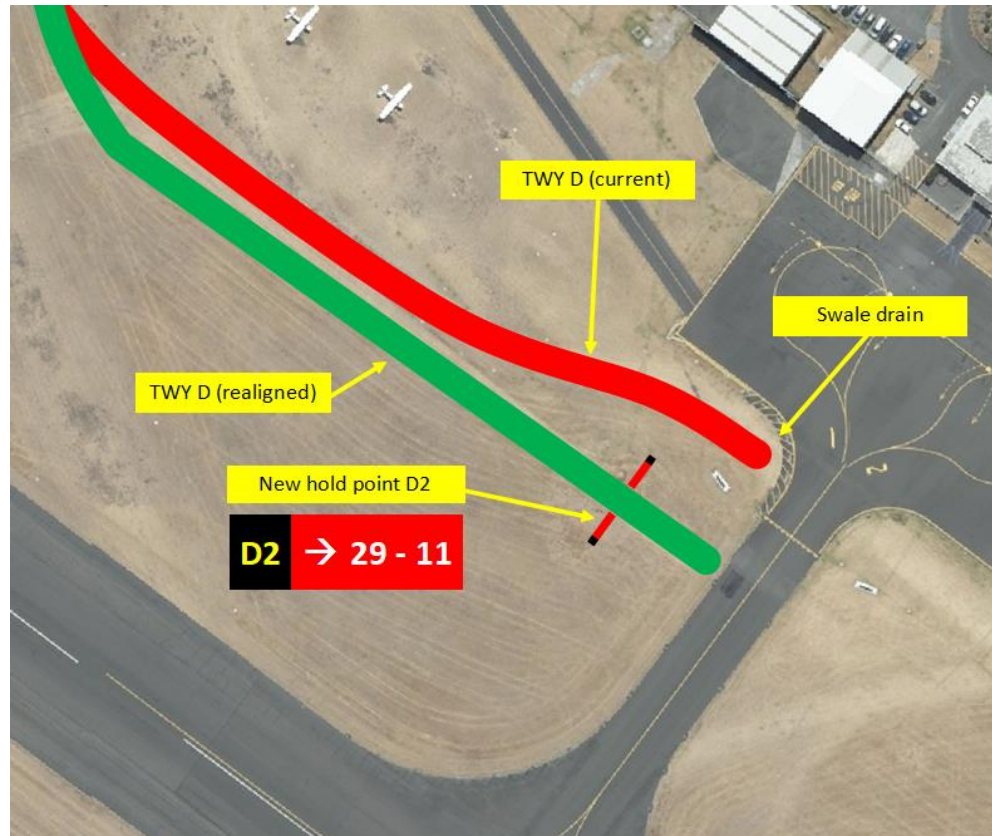
# Night Schedule (2)



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# Associated works (1)

- TWY D relocation due to increased depth of swale drain when additional asphalt laid on TWY A
- Realigned TWY D at 100m centres from RWY 11/29
- Hold point D2 added



## Associated works (2)

- Apron markings no longer ICAO compliant
- Will be updated to reflect latest standard
- Final design TBD

Whanganui Airport



Gisborne Airport (ICAO)



# Typical NOTAM (issued weekly)

A) NZWU

B) 2310150630

[start day Sunday 15 Oct 23, time 1930 LOCAL]

C) 2310191730

[stop day Friday 20 Oct 23 , time 0630 LOCAL]

D) DAILY 0630 TO 1730

[1930 to 0630 LOCAL]

E) AERODROME CLOSED EXCEPT TO APPROVED OPERATORS WITH PRIOR APPROVAL.

# Runway appearance

- Progressive change in runway appearance until project completion





Questions?

**WHANGANUI**  
**AIRPORT**

