## AUCKLAND INTERNATIONAL AIRPORT LTD

# METHOD OF WORK PLAN 

## Taxiway Kilo between Stands 3 and 7 Pavement Works

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### 2.0 WORKS INFORMATION

### 2.1 INTRODUCTION

Auckland International Airport Ltd. (AIAL) wishes to implement pavement works in the area of Taxiway Kilo between Stands 3 and 7. The work also includes the reinstallation of associated airfield ground lighting infrastructure.

### 2.2 SCOPE OF WORK

The works will be carried out by Brian Perry Civil as main contractor in association with several sub-contractors.

The works to be undertaken and covered by this MOWP are the following:

- Isolation and diversion of existing AGL services within the construction area and the closed taxiway surrounding it;
- Provision of temporary paint markings including the blacking out and removal of existing paint markings as required;
- Installation of barriers to isolate the construction site from operational areas;
- Installation of temporary obstruction lights to barriers to isolate construction from operational areas;
- Removal of existing AGL fittings, cabling, light bases and ducting
- Sawcutting and removal of existing (approximately 350 to 400 mm thick) concrete slabs;
- Removal of approximately 300 to 350 mm depth of basecourse;
- Milling of existing asphaltic concrete pavement and basecourse in approximately 125 mm to 325 mm total depth;
- Installation of new stormwater drainage manholes and pipes
- Construction of granular subbase;
- Construction of cement stabilised basecourse;
- Trenching for airfield ground lighting (AGL) ducting;
- Installation of AGL ducting and light bases;
- Installation of AGL cabling and electrical works;
- Construction of new 500 to 600 mm thick concrete slabs;
- Construction of new taxiway pavement with bitumen bound basecourse and asphaltic concrete pavement in approximately 125 mm to 325 mm total depth;
- Installation of AGL cabling and electrical works;
- Testing and commissioning of new AGL within the work area;
- Removal of barrier lighting and AGL diversions;
- Removal of barriers and change back of site to normal operations;
- Removal of temporary paint markings and reinstatement of permanent markings;
- Change back of AGL services to normal operations;


### 2.2.1 Construction Traffic

Construction traffic will access enter and exit the work areas from the Western Gate via existing airside roads. If required, during the course of the project, alternative access points may be used.

Sweepers will be provided by the Contractor and positioned at any taxiway crossing to remove any potential FOD left by crossing vehicles.

Oversize dump trucks will not be used for the works.

### 2.3 PROGRAMME

Indicative milestone dates are:

| Description | Commencement | Completion | Working <br> Hours |
| :--- | :--- | :--- | :--- |
| Taxiway Kilo between | 17 January 2024 | 22 May 2024 | $00: 00$ to |
| Stands 3 and 7 |  |  | $23: 59$ LT |

NOTAMs will be issued detailing operational restrictions not less than 48 hours prior to the works commencing.

### 3.0 RESTRICTIONS TO AIRCRAFT OPERATIONS

### 3.1 OPERATIONS

All construction work will generally be undertaken within areas delineated by red and white construction barriers and marked by red obstruction lights where these areas interface with the manoeuvring area.

The work area will be closed off to aircraft movements generally by barriers and obstruction lighting. Barrier layout is shown on the attached drawing AF104-BECA-DRW-CV-BZ-1406.

Taxiway closures and temporary taxiing routes throughout the duration of the works are the following:

- Taxiway Kilo closed between Stand 3 and Stand 7
- Stand 5 closed
- Stand 78 closed
- Stand 78R closed
- Stand 78L closed
- Stand 79 closed

Other operational restrictions during the works are the following:

- Pushback from Stands 1, 3 and 15 to Stand 80 / 81 or other available stands or location as directed by Apron Tower.
- Pushback from Stand 16 tail east to a temporary stop position.
- An unlit, tow only route will be available for up to Code E size aircraft, connecting TWY K with TWY F (Drawing AF104-BECA-SKT-CV-BZ-1425). A follow me will be provided for tows during night operations.
- Back-of-stand road behind Stand 5 closed between Stands 3 and 7. Road traffic to use alternate route west of Stand 79.

Barriers across Taxiway Kilo will be 40 m from the Stand 3 lead-in line and 40 m from the Stand 7 lead-in line (Drawing AF104-BECA-DRW-CV-BZ-1406).

The Code E taxilane wingtip clearance from the temporary tow route centreline will be marked on the ground and construction equipment and personnel will pull back when directed by the Airfield Safety Officers for all widebody operations on the temporary tow route connecting TWY K with TWY F (Drawing AF104-BECA-SKT-CV-BZ-1425).

In the event of low visibility operations there will be restrictions to the low visibility taxi routes on Taxiway Kilo and Foxtrot. A follow me vehicle will be available for low visibility operations.

Aeronautical information pertaining to the Auckland Airport aerodrome operating status is to be published via NOTAMs and AIP Sup by AIAL.

Any variations to that advised below will also be notified via NOTAM.

### 3.2 EMERGENCY \& ADVERSE WEATHER

In case of an emergency, the Contractor will comply with all Airfield Safety Officer instructions for ceasing operations and removing plant and personnel from the immediate location of the works as directed by the Airfield Safety Officer.

In extreme adverse weather the Airfield Projects and Works Manager has authority to stop the work where worker or operational safety is considered at risk. Work will resume when those conditions abate but at the discretion of the Airfield Projects and Works Manager.

The Apron Operations Team (AOT) will maintain constant communications with the Contractor at all times via the Airfield Safety Officer or the Works Supervisor.

### 3.3 NAVIGATIONAL AIDS

## Instrument Approach Aids

The works will not affect the operation of Runway 05R/23L. Navigational aids available during the normal operation of this runway will be available with workers pulling back in adverse weather conditions

## Visual Aids

Normal ground navigation lighting will be in operation for runway and available taxiway routes. Taxiway lighting and pavement markings within and leading to the works site will be decommissioned for the works period.

Refer to the NOTAMs for further details.

### 3.4 PUBLICATIONS AND NOTAMs

NOTAMs will be issued providing operational restrictions, available taxi routes, the timing and other details prior to the commencement of work and as required during construction.

Details of the likely NOTAMs to be published for the works are as follows. Key points about these NOTAMs include the following:

- Generally, NOTAM(s) issued by AIAL will notify the physical status of the aerodrome with regard to operations.
- The forms of NOTAMs that follow are a draft of those to be issued by AIAL before and during the works.
- Dates and times for NOTAMs will be confirmed by AIAL at the time of issue, however they will be issued no less than 48 hours before commencement of works (refer section 2.3 for approximate dates).

Indicative NOTAM text is as follows:
DURING LOW VIS OPS DUE WIP:
ACFT DEPARTING FROM ACFT STANDS 1, 3, 15, 16, 17, 18, 19, 80 AND 81 WILL BE PROVIDED WITH A FOLLOW ME VEHICLE TO CONTROLLED STOPBAR H6 OR TO A POSITION AS CLEARED BY ATC

## TWY K CLSD BTN ACFT STAND 3 AND ACFT STAND 7. ACFT STAND 5 CLSD DUE WIP

Active NOTAMs may vary during the course of this project.

### 4.0 RESTRICTIONS OF WORK ORGANISATION

### 4.1 GENERAL

AIAL will provide Airfield Safety Officers who will have complete authority to direct the Contractor on Aerodrome Operational Requirements.

Any changes or additions to the scope or methodology that could have an impact on operations must be advised to AIAL.
4.1.1 The Contractor shall comply with the requirements of the Contract Documents produced for this project and this MOWP. The Contractor's site representative shall contact the Airfield Safety Officers prior to the start of each working period to ascertain the status for the proposed work with respect to the operational requirements of the aerodrome.
4.1.2 An AUTHORISATION OF WORK form shall be issued by the Apron Operations Team (AOT) Duty Team Leader for the project. This form shall include any special requirements that will apply for the period of work.

### 4.2 CONTRACTOR'S METHODOLOGY

The Contractor shall have a written construction methodology including, but not restricted to, the items listed in this section. The Contractor's methodology shall be accepted in writing by AIAL before the commencement of the Works.

### 4.2.1 FOD and Wildlife Management

The Contractor's written methodology shall include a policy and procedures to ensure that there is no FOD on active taxiways and the runway. The policy shall include measures to mitigate, control and monitor FOD and it shall be accepted in writing by AIAL.

The contractor is to avoid creating areas of standing water during excavations to mitigate against potential mosquito breeding environments and bird baths. The contractor is also to ensure construction and food waste generated airside is binned in secure bins or containers to avoid attracting wildlife to the worksite.

AIAL will undertake additional taxiway inspections during the works to monitor FOD.

### 4.2.2 Emergency and Adverse Weather

In case of an emergency, the Contractor will comply with all Airfield Safety Officer instructions for ceasing operations and removing plant and personnel from the immediate location of the works as directed by the Airfield Safety Officer.

In extreme adverse weather the Airfield Projects and Works Manager has authority to stop the work where worker or operational safety is considered at risk. Work will resume when those conditions abate but at the discretion of the Airfield Projects and Works Manager.

The Apron Operations Team (AOT) will maintain constant communications with the Contractor at all times via the Airfield Safety Officer or the Works Supervisor.

### 4.2.3 Site Lighting during Works outside Daylight Hours

The Contractor's written methodology shall include a policy and procedures to ensure that lighting used during works outside of daylight hours does not adversely impact flight crews. This includes vehicles lights being directed away from approaching aircraft and site lighting directed so as to not be a distraction to aircraft on approach or take off. The policy shall include measures to plan, approve and monitor site lighting.

The Contractor's proposed site lighting plan shall be accepted in writing by AA and the Contractor shall obtain approval from AA prior to any changes to the accepted site lighting arrangement.

### 4.2.4 Construction Height Limitations

The Contractor's written methodology shall include a policy and procedures to ensure that their staff, plant and equipment operates below the 45 m construction height limitation of the inner horizontal OLS. The policy shall include appropriate measures to mark construction height limitations on site with barrier lines, ground pegs, poles or paint markings as appropriate, including the use of low height equipment or fitting of physical limit devices as applicable. In addition, when equipment with the potential to breach the OLS is in use, the contractor shall have appropriately trained staff and AIAL shall have Airfield Safety Officers continuously monitoring equipment height against the appropriate markings to ensure compliance with OLS restrictions.

The methodology shall include the process for seeking sign-off, communicating (eg NOTAM) and managing obstacles that may temporarily penetrate the OLS.

The Contractor's proposed construction height control procedures shall be accepted in writing by AIAL and the Contractor shall obtain approval from AIAL prior to any changes to the accepted procedures.

### 4.2.5 Site Boundaries

The Contractor's written methodology shall include a policy and procedures to ensure that their staff, plant and equipment operate within the agreed site boundaries shown on drawing AF104-BECA-DRW-CV-BZ-1406.

Barriers across Taxiway Kilo will be 40 m from the Stand 3 lead-in line and 40 m from the Stand 7 lead-in line (Drawing AF104-BECA-DRW-CV-BZ-1406).

The Code E taxilane wingtip clearance from the temporary tow route centreline will be marked on the ground and construction equipment and personnel will pull back when directed by the Airfield Safety Officers for all widebody operations on the temporary tow route connecting TWY K with TWY F (Drawing AF104-BECA-SKT-CV-BZ-1425).

Procedures shall include the process for the sign-off of works outside of the site boundaries.

### 4.2.6 Change Management and Sign-off of Additional Works

The Contractor's written methodology shall include a policy and procedures for change management. Procedures shall include the process for the sign-off of newly identified / opportunistic work by AIAL to prevent such works from inadvertently introducing non-compliant objects or resulting in infringement.

### 4.3 PERSONNEL, EQUIPMENT \& MATERIALS

The Contractor's access will be limited to the work area as shown on the attached drawing AF104-BECA-DRW-CV-BZ-1406.

All construction work will generally be undertaken within areas delineated by red and white construction barriers and marked by red obstruction lights where these areas interface with the manoeuvring area.

The Contractor will be required to withdraw personnel and equipment from the construction area in the event of an emergency.

Only equipment, plant and materials that are required for daily activities will be located within the construction site.

All plant, equipment and materials will be secured at all times during the work so that it is not vulnerable to jet blast or be able to be wind borne. Plant and materials will be stored in such a manner that wing tip clearances of aircraft operating around the site are not compromised. No storage of materials or equipment is allowed outside the works areas and dedicated laydown areas.

Plant, equipment and materials shall not exceed the 45 m construction height restriction of the inner horizontal OLS.

### 4.4 HEALTH AND SAFETY

### 4.4.1 General

The PCBU in control of the works under the Health \& Safety at Work Act (2015) is the Contractor. The Contractor will prepare a Site Health and Safety Plan prior to the commencement of the work.

Only personnel who have attended the Contractor's site induction meeting will be allowed on site. This will be held prior to commencing the Works. The site induction meeting is to be attended by contractor personnel, AIAL and Beca personnel. The names of all personnel attending are to be recorded.
The Contractor will hold daily toolbox meetings for all staff working on site prior to the commencement of each day's work.

The Principal, the Engineer and the Contractor will review risks and agree on mitigation measures at regular risk management meetings.

In case of adverse weather (e.g. fog) being forecast the Principal may decide to deny the Contractor access to site. A decision is expected prior to the commencement of each shift.

### 4.4.2 Jet Blast

Jet blast during aircraft taxiing to adjacent stands may impact the site. The simulated jet blast velocity contours are shown on drawing AF104-BECA-DWG-CV-BZ-1417. These velocities will be validated at the commencement of the project via field measurements.

The Contractor shall consider the effect of jet blast to their operations, protect their staff and secure plant, equipment and materials during the works so that it is not vulnerable to jet blast or be able to be wind borne. Refer to the project risk register for mitigation measures.

Modelling shows part of the work area within the $56 \mathrm{~km} / \mathrm{hr}$ jet blast contour for the most critical aircraft types. Although this is not considered unsafe, workers should still remain vigilant and aware of jet blast, ensuring that tools and equipment are secured at all times and that PPE including eye protection is worn.

The Airfield Safety Officers will monitor aircraft movements. If aircraft are turning to adjacent stands, the Airfield Safety Officer may direct construction personnel to pull back further from the aircraft.

Details on recommended maximum jet blast velocities can be found AC139-6 Section 5.2.100

### 4.5 SITE ACCESS

Entry to the works "airside" shall only be by those accredited with Airport Identity Cards issued by the CAA Aviation Security Service (AVSEC). Those people driving vehicles or equipment airside must be holders of an AIAL "Airside Drivers Permit" or under escort by a permit holder authorised to undertake escort duties.

Vehicles that travel to and from the Airside works must have an Airside Vehicle Permit (AVP), or they will require an escort on each trip.

Sweepers will be provided by the Contractor and positioned at the taxiway crossing to remove any potential FOD left by crossing vehicles.

Oversize dump trucks will not be used for the works. Any occasional oversize or overload traffic not suitable for the airside road is to use taxiways to access the work area with follow me traffic management provided by AIAL Airfield Safety Officers. This may require the controlled use of Taxiways.

### 4.5.1 Site Access

Contractor's plant, materials and staff will access airside and the construction site via the existing manual security gate (Western Gate) and existing airside roads. The gate will be operated by security personnel provided by Auckland Airport.

Construction traffic to give way to aircraft operating on Taxiway Kilo in accordance with airside driving rules.

### 4.6 AERODROME MARKERS, MARKINGS \& LIGHTS

The work areas that directly interface with the manoeuvring area shall be barricaded off with red and white plastic water filled barriers set out on site by the Contractor. These shall be marked at night with continuous red coloured obstruction lighting.

### 4.7 PROTECTION OF ELECTRICAL \& COMMUNICATION SERVICES

As part of the contract works existing electrical and communication cabling may be affected. Standard AIAL procedures will be applied requiring a Ground Penetration Certificate (GPC) before excavation can commence.

Once a GPC has been issued, any essential services will be field-marked prior to work starting and an authorised representative of the affected services management group will attend site to liaise with the Contractor and attend to any requirements necessary to facilitate the works.

In addition to the requirement for the Contractor to become familiar with the location of all services and obtain GPC, as appropriate, pilot holes will be excavated by hydro-excavation to safeguard vital services. Any excavation in the proximity of critical services will be monitored by an appropriate stand over person.

Consultation with AIRWAYS and AIAL staff will be maintained throughout the project.

### 5.0 ADMINISTRATION

### 5.1 AIAL REPRESENTATIVES

The PROJECT MANAGER is Mr. Shane Saheem, Infrastructure Project Manager, who can be contacted via the following number:

- Mobile: +64 221622763

The AIRFIELD PROJECTS AND WORKS MANAGER, Mr. Ross Cameron, can be contacted via the following number:

- Mobile: +64 278864658

He shall be responsible for the operational safety aspects of the project. His representative will be the Airfield Safety Officer who will communicate with the Contract Supervisor on matters necessary for ensuring the safe progress of the work. All communications with the Airways Corporation Control Tower shall be through the Airfield Safety Officer.

The AIRFIELD POWER AND LIGHTING ENGINEER, Mr. Neil Fan can be contacted via the following number:

- Mobile: +64 212755660


### 5.2 CONTRACTORS REPRESENTATIVES

There will be one Principal Contractor, Brian Perry Civil, working on this project.

The Principal Contractor's representative is Mr. Sam Temple, who can be contacted via the following number:

- Mobile: +64 275320571


### 5.3 CONSULTANT REPRESENTATIVES

The technical advisor to AIAL for this project is Beca Ltd.
Their principal representative and PROJECT MANAGER of the consultant is Mr. Tamas Andrell who can be contacted via the following number:

- Work: +64 93009173
- Mobile: +64 210596049

The ENGINEER'S REPRESENTATIVE is Mr. Andrew Ward who can be contacted via the following number:

### 6.0 AUTHORITY

All works will be carried out in accordance with this MOWP.

Approved: RAf Cameron 10/01/2024
Ross Cameron - Airfield Projects and Works Manager

### 7.0 DRAWINGS

| Title | Drawing No. |
| :--- | :---: |
| METHOD OF WORKS PLAN LEGEND | AF104-BECA-DRW-CV-AZ-0002 |
| AIRCRAFT TAXIING ROUTES | AF104-BECA-DWG-CV-BZ-1406 |
| AIRCRAFT JETBLAST CONTOURS | AF104-BECA-DWG-CV-BZ-1417 |
| CODE E TOW ROUTE | AF104-BECA-SKT-CV-BZ-1425 |

### 8.0 DISTRIBUTION LIST

Distribution of this document shall be to the following:

- Chief Operations Officer
- Chief Infrastructure Officer
- Head of Airfield
- Head of Airport Operations
- Head of Airport Assets and Commercial
- Aeronautical Planning Manager
- Corporate Affairs Manager
- Infrastructure Programme Director
- Project Manager
- Airfield Projects \& Works Manager
- CAA
- AVSEC
- Airways Corporation New Zealand
- Airlines (operating at Auckland Airport)
- Contractor (Brian Perry Civil)
- Consultant (Beca)
- Engineer's Representative (TSA Management)
- BARNZ
- Airport Emergency Services
- Refuellers


### 9.0 GLOSSARY OF TERMS

- AA $\quad \Rightarrow$ Auckland Airport
- AC $\quad \Rightarrow$ Advisory Circular (Issued by CAANZ)
- AIAL $\quad \Rightarrow$ Auckland International Airport Limited
- AIP $\quad \Rightarrow$ Aeronautical Information Publication
- AIRAC $\Rightarrow$ Aeronautical Information Publication NZ update cycle
- Airside $\Rightarrow$ The operational/movement areas of the airport, adjacent terrain and buildings or portions thereof, access to which is controlled.
- AGL $\quad \Rightarrow$ Airfield Ground Lighting
- AOT $\Rightarrow$ Apron Operations Team
- ASDA $\Rightarrow$ Accelerate Stop Distance Available
- ATC $\quad \Rightarrow$ Air Traffic Control
- AVSEC $\Rightarrow$ Aviation Security Service
- CAANZ $\Rightarrow$ Civil Aviation Authority of New Zealand
- FOD $\Rightarrow$ Foreign Object Damage
- GPC $\quad \Rightarrow$ Ground Penetration Certificate
- ICAO $\Rightarrow$ International Civil Aviation Organization
- ITB $\Rightarrow$ International Terminal Building
- LDA $\Rightarrow$ Landing Distance Available
- MAGS $\Rightarrow$ Movement Area Guidance Sign
- MOWP $\Rightarrow$ Method of Work Plan
- NOTAM $\Rightarrow$ Notice to Airmen/Airwomen
- OLS $\quad \Rightarrow$ Obstacle Limitation Surface
- REIL $\quad \Rightarrow$ Runway End Indicator Lights
- RESA $\Rightarrow$ Runway End Safety Area
- RETS $\Rightarrow$ Rapid Exit Taxiways
- RWY $\Rightarrow$ Runway
- TORA $\Rightarrow$ Take Off Run Available
- TODA $\Rightarrow$ Take Off Distance Available

| GENERAL |  |
| :---: | :---: |
| - - --- - | SLAB REPLACement AREA |
|  | Extent of desion |
|  | Exiting contours |
|  | new Contours |
| $\longrightarrow$ | mana access route |
| $\longrightarrow$ | seconoarr access route |
|  | CONTRACTORS COMPOUND |
|  | Lavoown area |
| - | 600mm Waterfilled darriers (LT at nght) |
| 5 | OLS FAN- Ttak- off fan contours |
| -5 | ols fan-aprroachfan contours |
| 5 | transtional surface |
|  | taxilig route |

FY21- FY23
PROUECT TYE
NEW CONSTRUCTION
EW CONSTRUCTIO $\qquad$ PROIEC Phase
DETALLED DESIGN




