		Inspection and Test Plan - Control and Supervision of the Works		Doc ID: FH-ZU2-QU-ITP032 REV: 0	
Client: Melbourne Airport			Contract No: CP14038-01		Prepared By: Jihad Barbar
Project: Taxiway Zulu				Reviewed By: Jamal Khodr	
Construction Process: ALER Structure				Approved By: Marco Poggenberg	
Specifications: ZULU-BECA-001-SPC-00005, Drawing Package 030					
Structure / Component: Precast Concrete Panels & Structural Steel Roof Assembly					

Lot No:	Lot Details:	Lot size/Quantity:	Date:
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Item No.	Task/Activity Description	Inspection/Test					HP/ WP/ AP/ IP/ TP/ SCP	Responsibility	Checked by:			
		Frequency	Acceptance Criteria	Reference Documents	Inspection/ Test Method	Record of conformity		Project Engineer Principal's Rep. Surveyor Foreman	Principal's Rep.	FH	Date	
1.0	Preliminary Activities – Permits, Documentation, Approvals, Survey Documentation											
1.1	Check for correct documentation	Prior to commencing activity	Ensure that all employees and subcontractors are: - using the correct and complete set of drawings. - all drawings are the latest revision.	Drawings / Aconex Register	Verify	Drawings and drawing registers	HP*	Project Engineer				
1.2	Implementation of all measures and controls	Prior to commencing activity	All necessary measures and controls being implemented, that is PSP, EMP, TMP, SWMS & WP.	PSP, EMP, TMP, JSEA, SWMS, WP	Visual inspection	This ITP signed	HP*	Project Engineer				
1.3	Survey Checks	Prior to commencing activity	Check survey to be completed of all footing positions prior to placing any of the panels.	Drawings	Verify	This ITP signed Survey Report	HP*	Project Engineer / Surveyor				
1.4	Submission & approval of precast shop drawings	Prior to commencing activity	<u>HOLD POINT</u> Submit precast wall panel shop drawings to the principal's representative for approval prior to fabrication commencement.	ZULU-BECA-001-SPC-00005 0321 cl 1.16 Drawing 20003 note PC7	Verify	Aconex Reference	HP	Project Engineer / Principals Representative				
1.5	Submission & approval of structural steel shop drawings	Prior to commencing activity	<u>HOLD POINT</u>	Drawings 20002, 20020, 20113, 20221	Verify	Aconex Reference	HP	Project Engineer / Principals Representative				

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			Submit structural steel shop drawings to the principal's representative for approval prior to fabrication commencement.								
1.6	Material Submissions	Prior to commencing activity	HOLD POINT Items to include but not limited to: <ul style="list-style-type: none"> - Concrete Mix Design - Element Casting Checklist - Steel Reinforcement - Precast Sample - Bolts - Ferrules - Grout - Incompressible filler 	ZULU-BECA-001-SPC-00005 cl 1.16 Structural Drawing Set 030-20 AS/NZS 1252.2	Verify	Aconex Reference	HP	Project Engineer / Principals Representative			
1.7	Welding Certification	Prior to commencing activity	Submission & approval of the following: <ul style="list-style-type: none"> - Welding Procedure Qualification - Welding Procedure Specification - Welder Qualification - Approved Consumables 	AS1554.1	Verify	This ITP Signed Qualification Documents	HP*	Project Engineer			
1.8	Temporary Works – Pre-Cast Concrete Panels	Prior to commencing activity	Submission and approval of the following documentation by the FH Temp Works Coordinator (not limited to): <ul style="list-style-type: none"> - Certification of Lifting Points - Propping plan - Erection sequence - Lift Plan - Certification of Ground Platform for lift - Lifting inserts 	Structural Drawing Set 030-20	Verify	Certification of lifting points, propping plan, erection sequence, lift study Geo Report	HP*	Project Engineer			

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1.9	Temporary Works – Structural Steel Roof	Prior to commencing activity	Submission and approval of the following documentation by the FH Temp Works Coordinator (not limited to): <ul style="list-style-type: none"> - Certification of Lifting Points - Installation sequence - Lift Plan - Lifting Point calculation - Certification of Ground Platform for lift 	Structural Drawing Set 030-20	Verify	Certification of lifting points, erection sequence, lift study Geo Report	HP*	Project Engineer			
2.0	Construction - Precast Concrete Panel										
2.1	Fabrication Inspections	Each Lot	Inspection of the following prior to casting: <ul style="list-style-type: none"> - Formwork dimensions & stability - Edge details and penetrations - Connection materials and inserts in place - Reinforcement - Concreting Inspection of the following after casting <ul style="list-style-type: none"> - First precast element of each type at the earliest possible time before and immediately after stripping - Stripping & storage 	ZULU-BECA-001-SPC-00005 0321 Shop Drawings	Verify	This ITP Signed Element Casting Checklist	WP	Project Engineer / Principals Representative			
2.2	Delivery of Precast Panels	Each Lot	Complete inspection of precast panels whilst still loaded on the truck prior to accepting the delivery on site. Identify any damage/defects prior to unloading of the material and correct panel being delivered as per the sequence.	FH Quality Process	Visual Inspection	This ITP Signed Materials Inspection Checklist on Conqa	IP	Project Engineer / Site Engineer			

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			Precast element identification is available on each panel								
2.3	Erection Preparation	Each Lot	Complete Pre-Lift/s Commencement Checklist Ensure erection drawings & propping plans available to the crew	ZULU-BECA-001-SPC-00005 0321 AS 3850 cl 4.4.2	Visual Inspection	Pre-Lift/s Commencement Checklist This ITP Signed	IP, SCP	Site Engineer / Foreman / Surveyor			
2.4	Panel Placement	Each Lot	Levelling shims have been set correctly and gap between the footing & precast panel is not greater than 40mm Survey to confirm panel placement as per the design	ZULU-BECA-001-SPC-00005 0321 Drawings	Verify	This ITP Signed	IP / SCP	Site Engineer / Surveyor			
2.5	Propping & supports	Each Lot	Witness Point Propping plan is available for each precast panel Ensure propping is installed as per engineer's design and/or conforms to AS 3850.2 Sections 5 Inspection Notice provided for installed temporary bracing	ZULU-BECA-001-SPC-00005 0321 AS 3850.2 Section 5	Visual Inspection	This ITP Signed Building Engineering ITP	WP	Site Engineer / Foreman / Principals Representative			
2.6	Fixing & Welding on Precast Elements	Each Lot	Install all fixings as per the drawings & engineers plan All welding shall be carried out in accordance with AS 1554.1 unless noted otherwise, all welds shall be 6 continuous fillet category SP using E49XX electrodes - butt welds shall be complete penetration butt welds, category SP.	AS 1554.1 Drawing 20002	Verify	This ITP Signed Welding Certificate	HP*	Site Engineer / Foreman			

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2.7	Testing of Welding on Precast Elements (if required)	Each Lot	A competent inspector shall inspect welding works as per the below table or as otherwise stated by the engineer: <table><tr><td>WELD TYPE</td><td>% OF WELDS TESTED</td><td>TESTING PROCEDURE</td></tr><tr><td>ALL GP/SP</td><td>100%</td><td>VISUALLY SCANNED</td></tr><tr><td>SP</td><td>20%</td><td>VISUALLY EXAMINED</td></tr><tr><td>SP BUTT</td><td>5%</td><td>ULTRASONICALLY OR RADIOGRAPHICALLY</td></tr></table>	WELD TYPE	% OF WELDS TESTED	TESTING PROCEDURE	ALL GP/SP	100%	VISUALLY SCANNED	SP	20%	VISUALLY EXAMINED	SP BUTT	5%	ULTRASONICALLY OR RADIOGRAPHICALLY	Drawing 20002 Note S8	Verify	This Signed ITP Welding Test Certificate	HP*	Project Engineer / Site Engineer			
WELD TYPE	% OF WELDS TESTED	TESTING PROCEDURE																					
ALL GP/SP	100%	VISUALLY SCANNED																					
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2.8	Grouting	Each Lot	Grout to be used shall be non-shrink and have a 28 day characteristic strength of 40 MPA. Details of the proposed grout used to be submitted to the engineer for approval. Note: sealing of the panel vertical joints will be by the precast contractor.	Drawing 20003 Note PC35	Verify	This ITP Signed Building Engineering ITP	IP	Site Engineer / Foreman															
2.9	Removal of Props and Inspection of Completed Precast Walls	Each Lot	HOLD POINT Inspection Notice provided of the final structure before removal of temporary bracing All propping must remain in position until all structural elements (roof beams, bracing, struts and purlins) affecting stability are fully erected and braced, securely fixed to the panels and the panels have become an integral part of the structure. During construction the builder must ensure no panel props are disconnected by contractors other than the panel contractor. No propping is to be removed without the written consent of the engineer	Approved Shop Drawings Drawing 20003	Visual Inspection	This ITP Signed Engineers Written Approval Building Engineering ITP	HP*	Project Engineer / Principal's Representative															

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3.0	Construction - Structural Steel Roof										
3.1	Delivery of Steel Sections	Each Lot	Complete a materials inspection upon arrival of steel sections. Ensure correct components and sections have been sent	FH Quality Process	Visual Inspection	This ITP Signed Building Engineering ITP Materials Inspection Checklist on Conqa	HP*	Project Engineer / Site Engineer			
3.2	Erection Preparation	Each Lot	Complete Pre-Lift/s Commencement Checklist Lift sequence/arrangement of steel members available Adequate fall protection in place eg guard rails, safety mesh	Drawing 20002	Verify	This ITP Signed Building Engineering ITP	HP*	Project Engineer / Site Engineer			
3.3	Erection of Steel Members	Each Lot	Steel Members erected as per design layout and Steel Framing Schedule	Erection Sequence Approved Shop Drawings Structural Drawing Set 030-20	Visual Inspection	This ITP Signed Building Engineering ITP	IP	Site Engineer / Foreman			
3.4	Bolt installation	Each Lot	Unless otherwise noted, all bolts shall be M20 Grade 8.8/S, all H/D bolts shall be grade 4.6/S. No connection shall have less than 2 bolts	Drawing 20002 Note S6	Visual inspection	This ITP Signed	IP	Site Engineer / Foreman			

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			Bolts to be installed as per manufacturer/engineer specification																				
3.5	Welding on Steel Framing	Each Lot	All welding shall be carried out in accordance with AS 1554.1 unless noted otherwise, all welds shall be 6 continuous fillet category SP using E49XX electrodes - butt welds shall be complete penetration butt welds, category SP.	AS 1554.1 Drawing 20002	Verify	This ITP Signed Welding Certificate	HP* IP	Project Engineer / Site Engineer															
3.6	Testing of Welding on Steel Framing	Each Lot	A competent inspector shall inspect welding works as per the below table: <table><tr><td>WELD TYPE</td><td>% OF WELDS TESTED</td><td>TESTING PROCEDURE</td></tr><tr><td>ALL GP/SP</td><td>100%</td><td>VISUALLY SCANNED</td></tr><tr><td>SP</td><td>20%</td><td>VISUALLY EXAMINED</td></tr><tr><td>SP BUTT</td><td>5%</td><td>ULTRASONICALLY OR RADIOGRAPHICALLY</td></tr></table>	WELD TYPE	% OF WELDS TESTED	TESTING PROCEDURE	ALL GP/SP	100%	VISUALLY SCANNED	SP	20%	VISUALLY EXAMINED	SP BUTT	5%	ULTRASONICALLY OR RADIOGRAPHICALLY	Drawing 20002 Note	Verify	This Signed ITP Welding Test Certificate	HP*	Project Engineer / Site Engineer			
WELD TYPE	% OF WELDS TESTED	TESTING PROCEDURE																					
ALL GP/SP	100%	VISUALLY SCANNED																					
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3.7	Inspection of Completed Steel Framing	Each Lot	WITNESS POINT Provide notice for an inspection of the Steel Framing erected on site before installation of roofing sheets/lining.	ZULU-BECA-001-SPC-00005 0342 cl 1.17	Visual Inspection	This ITP Signed Building Engineering Structural Steel ITP	WP	Project Engineer / Principal's Representative															

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Final Inspection The signature below verifies that this ITP has been completed in accordance with the Fulton Hogan's Quality system Procedures and verifies lot compliance with specifications.			
Print Name:	Position:	Signature:	Date: / /

Legend:

HP	Hold Point	Work shall not proceed past the HP until released by the Principal's Representative	IP	Inspection point	Formal Inspection to be done and recorded
HP*	Fulton Hogan Hold Point	Work shall not proceed past the HP* until released by Fulton Hogan	TP	Test Point	Product compliance test to be undertaken and recorded/reported
WP	Witness Point	An inspection which must be witnessed by the Principal's Representative	SCP	Survey conformance point	A qualified surveyor to check product/section/structure and report
AP	Approval Point	Written or verbal approval given by the Principal's Representative			

Notes	
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