Inspection and Test Plan - Pump 3 Operational test/check

ITP Reference Number 561482-ITP-009.3

SECTION 1 – GENERAL DETAILS										
Project Name:	DCC11014 Water Pump Station Renewals - SILVERSTREAM			**Inspection Key** *Use in sections 3, 4 and*		**Responsibilities** *Use in sections 3, 4 and 5.*				
Project Number:	561482			**A**	Action	**Role Key**		**Name**	**Signature/ Initial**	
Customer:	Dunedin City Council			**B**	Report by Breach	**CM**	Construction Manager	Stephen Vorgers		
Contract Number:	DCC11014 - WPS002			**C**	Check	**CR**	Cust. Representative	Joff Riley Mark Todd		
Area/ Sub-System:	Pump 3 Operational test/check	Lot ID Number:	N/A	**D**	Dimension Inspection	**IP**	Inspection Personnel	Bruce Allan		
				E	Examine	**MC**	Material Controller			
ITP Number:	561482-ITP-009.3	**Version**:	DRAFT	**H**	Hold Point	**OP**	Operations Manager			
ITP Description:	To test and check the operation of Pump 3 and associated valves/pipework			**I**	Inspection	**PM**	Project Manager	Matt Paterson		
Discipline:	Operational testing			**M**	Monitor on Random Basis	**PS**	Project Supervisor	Aaron Sutherland		
Specification:	C11014 Water Pump Station Renewals Specification 12581908			**O**	Operation	**QE**	Quality Engineer	Bruce Buxton		
				R	Review	**QM**	QA Manager			
Drawings:	Construction Issue Drawings as issued by GHD - Silverstream Pump Station Project Ref: 12581908-GHD-PS-MG-DRG-GN Drawings: G0001, M0001 through M0004, & P0001			**S**	Subcontractor	**SP**	Supervisor	Bruce Allan		
				V	Visual Verification	**ST**	Superintendent			
Prepared By: *(Name)*	Matt Paterson	Date:	10/12/2024	**W**	Witness Point	**SV**	Surveyor			
Quality Specified:	As Per Specification - Section 4.6 Acceptance Testing, Disinfection & Commissioning					**WS**	Welding Supervisor			

SECTION 2 – SIGNATURES – CLOSE-OUT & APPROVAL						
ITP Close-Out by Downer	Name:	Bruce Allan	Signature:		Date:	
Downer Approval	Name:	Matt Paterson/Stephen Vorgers	Signature:	Matt Paterson	Date:	
Customer Approval	Name:	Joff Riley / Bruce Buxton	Signature:		Date:	

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SECTION 3 – RECEIVING INSPECTIONS *Insert additional or delete unused rows as required. Include reference to specification.*								
Item No.	**Activity/ Task Description**	**Inspection Point: Quality Control Activity**	**Acceptance Criteria**	**Verifying Document**	**Frequency**	**Inspection Type** *(Visual, other)*	**Inspection**	
							Key	**By** *(Role Key)*
3.1	Fill Wet Well	Pressure testing between suction and discharge isolation valves	Completion of 561482-ITP-008	This ITP	once	Visual	Inspection	IP

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SECTION 4 – IN-PROCESS INSPECTIONS *Insert additional or delete unused rows as required. Include reference to specification.*								
Item No.	**Activity/ Task Description**	**Inspection Point: Quality Control Activity**	**Acceptance Criteria**	**Verifying Document**	**Frequency**	**Inspection Type** *(Visual, other)*	**Inspection**	
							Key	**By** *(Role Key)*
4.1	Filling of pipeline	Remove Entrained air	Bleed until water visible	**None**	**once**	**Visual**	**Inspection**	**IP**
4.2	Visual Check over of Pump 3 and motor	Look for any visible leaking	All pipework connections tight All Cable & Terminations secure	This ITP	once	Visual	Inspection	IP
4.3	Bump Start Pump 3	Check for correct pump rotation direction	Rotation direction is correct	Pump build sheet literature	once	Visual	Inspection	IP
4.4	Pressure testing between suction and diacharge isolation valves - Pump 3	VSD Energised, water in pump pipelines	No visible leaking as per Item 4.2	To meet Specification requirements and not to exceed pump manufacturers maximum pressure (Pump flanges 16Bar, Seal max pressure 20Bar)	once	Visual	Inspection	IP

WATER MAIN PRESSURE TEST RECORD

CONTRACT NUMBER: _____

PIPELINE DETAILS

PIPE LOCATION: _____

PIPE SIZE: DN ☐

LENGTH: ☐ m

MATERIAL: (tick) ☐ PVC-U ☐ PVC-M ☐ PE 80B ☐ PE100 ☐ OTHER

SERVICES? (tick) ☐ YES ☐ NO

IF SO, MATERIAL: (tick) ☐ PE 80B ☐ PVC-U ☐ OTHER _____

TEST INFORMATION

DATE OF TEST: ☐ / ☐ / ☐

TIME STARTED: ☐ : ☐ AM/PM TIME FINISHED: ☐ : ☐ AM/PM

SYSTEM TEST PRESSURE: ☐ kPa

PE	PVC
ΔV ☐ L Maximum allowable water loss: **PE80B** $\Delta V_{max} = \frac{L \times D \times D \times D \times \Delta p}{645 \times t}$ = _____ = _____ **PE100** $\Delta V_{max} = \frac{L \times D \times D \times D \times \Delta p}{870 \times t}$ = _____ = _____ Is ΔV less than ΔV_{max} ? YES/NO	Measured volume of make-up water: L ☐ L Maximum allowable volume of make-up water: $\Delta V_{max} = 0.014 \times L \times D \times H$ = _____ L = _____ L Is the measured volume less than the maximum allowable? ☐ YES ☐ NO

MANUAL RECORD

TIME	PRESSURE	TIME	PRESSURE	TIME	PRESSURE

CERTIFIED

SIGNED: _____ WITNESS: _____

NAME: _____ NAME: _____

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SECTION 5 – FINAL INSPECTION AND HANDOVER *Insert additional or delete unused rows as required. Include reference to specification.*								
Item No.	**Activity/ Task Description**	**Inspection Point: Quality Control Activity**	**Acceptance Criteria**	**Verifying Document**	**Frequency**	**Inspection Type** *(Visual, other)*	**Inspection**	
							Key	**By** *(Role Key)*
5.1	Pump 3 rotation direction	Pump rotation direction as per manufacturers technical information	Pump rotation direction is correct and matched the technicxal information	This ITP	Once	Record on ITP	Inspection	IP
5.2	Pump 3 pressure test pass	Record Guage pressure	Pass - no pressure loss or visible weaping	This ITP & Specified Pressure testing document	Once	Visual / Photo	Inspection	IP

SECTION 6 – COMMENTS					
	Customer Release Granted:	☐ Yes	☐ No	Date:	
	Certificate Number:				