INSPECTION TEST PLAN

CLIENT:	Watercare Services Limited	**INSPECTION AND TEST PLAN FOR:**		**ITP No:**	GAJV-ITP-00215_3.0
CONTRACT No. #	6661			**JOB/ITP TITLE:**	Installation of DN2100 concrete bypass pipe
CONTRACT:	Central Interceptor	**WORK DESCRIPTION: INSTALLATION OF DN2100 BYPASS PIPE CONNECTING CONFLUENCE CHAMBER AND THE DIVERSION CHAMBER.**		**PACKAGE No:**	
WORKPLACE NAME / ADDRESS:	Mangere Pump Station			**CHAINAGE (if any):**	N/A
DATE:	25/07/2024	**CONTRACTOR NAME: GAJV**		**WORK AREA:**	Diversion Chamber & Confluence Chamber
ENGINEERS NAME:	Kevin Rajan	**SUBCONTRACTOR/S NAME: SEIPP CONSTRUCTION**		**RELATD CEP No:**	GAJV-CEP-00330
				SWMS No (if any):	

The purpose of this Inspection and Test Plan is for identifying and tracking stages of completion and product traceability during all phases of construction.

ISSUED FOR CONSTRUCTION

Packages: - Discrete components or work areas.

Inspection and Test Plan: A sequential work method statement capturing quality related requirements that provide evidence of conformance to specifications.

Inspection Check Sheet: A document detailing specific criteria to be checked and recorded, often developed to meet testing requirements of standards and / or technical specifications.

Punch List / Defects List: A list of minor rectification type tasks which need to complete to satisfy the term of the contract.

Surveillance: Ongoing monitoring

Hold Point: A notice of the event must be provided and shall not proceed with the work without the client or its representative being present unless authority to proceed has been provided by the client in writing. Signature required

Witness Point: A notice of the event must be provided. If the client representative is not present at the designated time and place, work may proceed.

LEGEND:	W = WITNESS POINT	H = HOLD POINT	S= SURVEILLANCE	GAJV = GHELLA ABERGELDIE JOINT VENTURE	S/C = SUBCONTRACTOR	WSL = ENGINEER REPRESENTATIVE

ACTIVITY No. #	DESCRIPTION	RESPONSIBILITY	REQUIREMENTS / REFERENCE	CONFORMANCE CRITERIA	METHOD	FREQUENCY/PROCESS HELD	HOLD/WITNESS REQUIREMENTS		RECORDS OR CHECKLISTS
							TYPE	ATTENDANCE REQUIRED	
1.0 Preliminaries:									
1.1	Check -Drawings are IFC and current	GAJV	Ensure the latest IFC drawings are used and available onsite	Sighting of drawings	Retain drawings	Before project execution	**H**	GAJV	DWG register with the drawing revision.
1.2	Check - CEP, SWMS, TMP and ESCP in place and signed off by personnel	GAJV	Ensure latest IFC plans are used and available onsite	Sighting of plans	Retain plans	Before project execution	**H**	GAJV	Plan register with the revision used
2.0 Materials (approval):									
2.1	Concrete Pipe DN2100	S/C	IFC drawings 2012034.174 2012034.181 2012034.183 MS-03	RCRRJ Class 4 Pipe free from defects and meets requirements of specification	Visual inspection	Each delivery	**MAR**	WSL GAJV	Pipe Inspection Checklist Delivery dockets Manufacturer's QA Photos
2.2	Pipe Surround/Backfilling	S/C	2012034.174	Approved DM7/3	Material order review	Before procurement	**MAR**	GAJV	Delivery dockets Quarry material test results for PSD, MDD
2.3	Stabilised sand (if required to replace undercut)	S/C	2012034.174	Approved stabilised sand	Material order review	Before procurement	**MAR**	GAJV	Delivery dockets Quarry material test results for PSD, MDD
2.4	Flowable fill to below pipe and haunching	S/C	2012034.174	To be 5Mpa as per drawing	Material order review	Prior to commencement of work	**MAR**	WSL GAJV	Delivery dockets Mix design certificate

2.5	Underside of pipe - Wrapping layer	S/C	2012034.174	ABELFLEX or approved closed cell foam	Material order review	Prior to commencement of work	**MAR**	GAJV	Delivery Dockets
2.6	Subbase material	S/C	WSL GCCS – C1.4, WSL CG C2.16 2012034.174 ATCOP	GAP 65 Subbase material shall consist of clean crushed rock, all passing 65mm standard sieve in accordance with ATCOP section 16	Material order review	Before procurement	**MAR**	GAJV	Delivery dockets Quarry material test results for PSD, MDD
3.0 Construction:									
3.1	Survey and set out	GAJV	Drawings 2012034.174 2012034.181 2012034.183	Survey and set out as per design drawings.	Survey set out	Each line	**W**	GAJV	Survey request Aconex mail
3.2	Excavate Trench	S/C	Drawings 2012034.174 WSL GCCS – C2.9	Trench excavated as per design drawing.	Visual Inspection	Ongoing	**S**	S/C	Pipe laying checklist
3.3	Trench foundation	S/C	Drawing: 2012034.174	Subgrade at the base of the trench is to have a minimum of 30Kpa. If the minimum is not achieved the base of the trench requires undercut until 30KPa achieved.	Shear Vane	Every 15m.	**H**	GAJV	Field test results
							W	WSL	Field test results
3.4	Place stabilised sand (if required)	S/C	Drawing: 2012034.174 GC C3.1.2	Compacted to 95% of Maximum Dry Density	NDM Test	1 Test per 230mm layer per 20m of trench length	**H**	GAJV	NDM test results
3.5	Laying pipes	S/C	Drawings 2012034.181 2012034.183 WSL GCCS – C3.9.3	Pipes installed to flat gradient and to design alignment	Visual Inspection	Each line	**W**	GAJV	Pipe laying checklist
3.6	Wrap Install	S/C	Drawing: 2012034.174	Installed as required on drawings and to manufacturer's instructions	Visual Inspection	Each line	**W**	GAJV	Pipe laying checklist
3.7	Jointing pipes	S/C	Manufactures Specification CG-C18P Section 18P CG 10.5.2	Ensure the rubber sealing ring is installed and seated appropriately on the initial pipe groove. Deflection should not exceed 0.5º to ensure the joint is sealed Leakage testing as per GAJV-RFI-002693 – Pipe joint testing to 24kPa, if there are no visible leaks and pressure holds or drops no less than 7kPa in 5 seconds then acceptable.	Visual Inspection	Each joint	**H**	WSL GAJV	Pipeline checklist Test results
3.8	Placing sandbags	S/C	Drawing: 2012034.174	Sandbags in location as required.	Visual Inspection	Each location	**S**	GAJV	Pipe laying checklist Photos
3.9	Flowable fill pour	S/C	Drawing: 2012034.174	Sandbags in location before pour as per drawing. Flowable fill min 5MPa 300mm surrounding pipe required.	Review of results	Each pour	**W**	GAJV	Concrete delivery dockets IANZ Lab report
3.10	DM7/3 Backfill	S/C	Drawing: 2012034.174 GC C3.1.2	Compacted to 95% of Maximum Dry Density	NDM Test	1 Test per 230mm layer per 20m of trench length	**H**	GAJV	NDM test results
3.11	Warning Strip	S/C	Drawing: 2012034.174 WSL GCCS – C3.1	Continuous length of cream coloured warning strip installed. Warning strip to be 100mm wide at 450mm above pipeline. The wording in black on the warning strip shall be "caution-sewer below" as per note 2 on Drawing: 2012034.174	Visual Inspection	Entire line	**W**	S/C WSL GAJV	Pipeline checklist

3.12	GAP65 Subbase Compaction	S/C	Drawing: 2012034.174 GC C3.1.2	Compacted to 95% of Maximum Dry Density	NDM Test	1 Test per 230mm layer per 20m of trench length	**H**	GAJV	NDM test results

4.0 Post Construction:									
4.1	CCTV Inspection	S/C	WSL GCCS	On completion the line shall be CCTV inspected for defects	CCTV Inspection	Entire line	**W**	WSL GAJV	CCTV inspection form CCTV video and report from CCTV Subcontractor
4.2	As built records	GAJV	WSL GCCS – C3.1.1	Pipe shall be installed to the line and level required on the specific drawings. The position tolerance for pipe laying at any point along the length of the installation shall be within +/- 30mm from the specified design.	Survey	Each line	**H**	WSL GAJV	As built

INSPECTION TEST PLAN

ITEM	QA DOCUMENT CHECKLIST	TICK APPROPRIATE BOX	COMMENTS	ITEM	QA DOCUMENT CHECKLIST	TICK APPROPRIATE BOX	COMMENTS
1	Completed Inspection and Test Plan	☐		12	Check sheets Completed and signed	☐	
2	Material Delivery Dockets (if applicable)	☐		13	Independent Reviewer Report	☐	
3	Incoming Material Inspection Checklist	☐		14	Operation and Maintenance Manuals (if applicable)	☐	
4	All Aconex Mails Closed-Out - Related to Lots	☐		15	Warranties / Guarantees (if applicable)	☐	
5	Conformance Certificates (if applicable)	☐		16	Producer Statements	☐	
6	Test Reports	☐		17	Compliance Statement	☐	
7	Engineers Red-Line mark ups	☐		18	Relevant RFIs -	☐	
8	As Built Survey	☐		19	Instructions -	☐	
9	Photos	☐		20	Factory Acceptance Test (if applicable)	☐	
10	Geotechnical Site Inspection Report (if applicable)	☐		21	Other -	☐	
11	QA Engineer Site Inspection Report	☐		22	Other -	☐	

CONFORMANCE / VERIFICATION STATEMENT						
This closed lot conforms in all respects with the standards and requirements specified in the Contract Documents. The lot verification records are complete, and any non-conformances have been closed out in accordance with the Projects requirements.						
Construction Lot checked by the Senior Project Engineer responsible for the works	**PRINT NAME**	Click or tap here to enter text.	**SIGNATURE**		**DATE**	Click or tap to enter a date.
Construction Lot verified and closed by Quality Management Representative	**PRINT NAME**	Click or tap here to enter text.	**SIGNATURE**		**DATE**	Click or tap to enter a date.
Independent Verification Review (if required) by:	**PRINT NAME**	Click or tap here to enter text.	**SIGNATURE**		**DATE**	Click or tap to enter a date.