



# Inspection and test plan – Sewerage System

Project no. CC0375 Project name Hunter Power Project Date \_\_\_\_\_  
Symal ITP no. CC0375-ITP-026 Revision no. 1 Revision date 07/03/2024 Plant and equipment used \_\_\_\_\_  
UGL ITP no. 3200-0663-HPP-QA-ITP-126 SHL ITP no. HPP-UGL-QUA-GN-GEN-ITP-0066  
Lot no. \_\_\_\_\_ Location (chainages, detailed description or marked up plan) \_\_\_\_\_

Attach Dockets, Certificates and QA Documents to ITP



Contact Details	Summary of Requirements	Principle Codes / Standards	Records																																																		
<p><b>Customer:</b> <b>Construction Manager:</b> <b>Project Engineer:</b> <b>Quality Representative:</b></p> <div>Subcontractors</div> <div>Surveillance / Inspection Key</div> <p><b>HOLD POINT (H):</b> Nominated point beyond which work shall not proceed without verified acceptance by nominee.</p> <p><b>WITNESS POINT (W):</b> Points at which the nominee shall be notified and invited to witness an activity, but further work may proceed without the presence of the nominee.</p> <p><b>SURVEILLANCE (S):</b> Continuing evaluation of the status of methods, analysis of records and monitoring of activities on a random basis to ensure quality requirements will be met.</p> <p><b>VISUAL (V):</b> 100% Visual Inspection of work / item to ensure compliance with code / specification.</p> <p><b>DIMENSIONAL (D):</b> Measurement of critical dimensions to ensure work / item is within tolerance.</p>	<p><b>Process Qualifications</b></p> <p><b>Traceability:</b></p> <table><tr><td>Material:</td><td><input type="checkbox"/></td><td>Alloy Verification</td><td><input type="checkbox"/></td></tr><tr><td>Heat Treatment:</td><td><input type="checkbox"/></td><td>Pressure Testing</td><td><input type="checkbox"/></td></tr><tr><td>Consumable:</td><td><input type="checkbox"/></td><td>NDT:</td><td><input type="checkbox"/></td></tr><tr><td>Welder ID:</td><td><input type="checkbox"/></td><td>WPS:</td><td><input type="checkbox"/></td></tr><tr><td>Electrical:</td><td><input type="checkbox"/></td><td>Instruments</td><td><input type="checkbox"/></td></tr></table> <p><b>Heat Treatment:</b></p> <p><b>Dimensional Control:</b></p> <p><b>Testing (NDT):</b></p> <p><b>Acceptance Specification:</b></p> <p><b>Pressure Testing:</b></p> <p><b>Elect. / Instrumentation:</b></p> <div>Notes:</div>	Material:	<input type="checkbox"/>	Alloy Verification	<input type="checkbox"/>	Heat Treatment:	<input type="checkbox"/>	Pressure Testing	<input type="checkbox"/>	Consumable:	<input type="checkbox"/>	NDT:	<input type="checkbox"/>	Welder ID:	<input type="checkbox"/>	WPS:	<input type="checkbox"/>	Electrical:	<input type="checkbox"/>	Instruments	<input type="checkbox"/>	<p>ASNZS_3500.2-2021 Plumbing and drainage Part 2:</p> <div>Client Specifications</div> <p>HPP-AEC-CIV-GN-GEN-SPT-0161_0 QUALITY (CONSTRUCTION)</p> <p>HPP-AEC-CIV-GEN-SPT-8001 HYDRAULIC</p> <p>HPP-AEC-CIV-DD-SWS-SPT-1352_0 PIPE DRAINAGE</p> <div>Engineering Procedures / WI</div>	<p><b>(MDR Insert as marked <input type="checkbox"/>)</b></p> <table><tr><td>- Inspect Release Certs.</td><td><input type="checkbox"/></td></tr><tr><td>- Deviations/Concessions</td><td><input type="checkbox"/></td></tr><tr><td>- Material Certificates</td><td><input type="checkbox"/></td></tr><tr><td>- Conformance Certificate</td><td><input type="checkbox"/></td></tr><tr><td>- Welding Records</td><td><input type="checkbox"/></td></tr><tr><td>- Welder Qual. Register</td><td><input type="checkbox"/></td></tr><tr><td>- NDT Reports</td><td><input type="checkbox"/></td></tr><tr><td>- Report on Repairs</td><td><input type="checkbox"/></td></tr><tr><td>- Heat Treatment Records</td><td><input type="checkbox"/></td></tr><tr><td>- Dimensional Records</td><td><input type="checkbox"/></td></tr><tr><td>- Non-Conformance Rpts</td><td><input type="checkbox"/></td></tr><tr><td>- Pressure Test Records</td><td><input type="checkbox"/></td></tr><tr><td>- Drawings &amp; Data Sheets</td><td><input type="checkbox"/></td></tr><tr><td>- Misc Verification Records</td><td><input type="checkbox"/></td></tr><tr><td>- Electrical Test Sheets</td><td><input type="checkbox"/></td></tr></table>	- Inspect Release Certs.	<input type="checkbox"/>	- Deviations/Concessions	<input type="checkbox"/>	- Material Certificates	<input type="checkbox"/>	- Conformance Certificate	<input type="checkbox"/>	- Welding Records	<input type="checkbox"/>	- Welder Qual. Register	<input type="checkbox"/>	- NDT Reports	<input type="checkbox"/>	- Report on Repairs	<input type="checkbox"/>	- Heat Treatment Records	<input type="checkbox"/>	- Dimensional Records	<input type="checkbox"/>	- Non-Conformance Rpts	<input type="checkbox"/>	- Pressure Test Records	<input type="checkbox"/>	- Drawings & Data Sheets	<input type="checkbox"/>	- Misc Verification Records	<input type="checkbox"/>	- Electrical Test Sheets	<input type="checkbox"/>
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Prepared by: Earl Andrade	Date : 07/03/24	Approved By:	Date : 07/03/24																																																		



					Verification of acceptance by						Remarks / record (eg. test frequency, reports, certificates, checklist etc)
					Symal		HPP Con		HPP QA		
Item no.	Activity	Ref docs	Acceptance criteria	Acceptance	Key	Sign date	Key	Sign date	Key	Sign date	
1.0 Preliminaries											
1.1	Documentation	Issued drawings / Site copy drawings	Check that you have the latest site and engineering drawings BEFORE starting each task/set of tasks.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	S		S		S		
1.2	Lot Traceability	Spec. 0161 Quality [Cl 7.3]	Prepare a lot map for traceability of the work area	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	S		S		S		<input type="checkbox"/> Lot map
1.3	Pipe Material	Drawings	Has the correct class & type of drainage pipe been supplied and free of defects?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	S		S		S		<input type="checkbox"/> Material conformance certificate
1.4	Underlying Lot Conformance	Underlying Lot ITP	Underlying services and/or assets have been installed prior to commencing works over and/or above.  Refer underlying lot ITP(s)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	S		S		S		
1.5	Embedment Material	ASNZS_3500. 2-2021 Plumbing and drainage Part 2: [cl drainage 5.4.2]	Filling materials used for bedding of drains shall be one of the following: (a) Gravel screenings or similar recycled materials of nominal size between 7mm and 10 mm.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	S		S		S		
1.6	Set out	Drawings	Setout Culvert inlet/outlet and drainage structure positions to the location and levels on the drawings. This shall be presented for inspection by the superintendent.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	S		S		S		



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2.0 Excavation and Pipe Laying											
2.1	Excavation	Hydraulic Specification HPP-AEC-CIV- BL-GEN-SPT- 8001  6.21 -GRADES 6.7 -Trenches.  In Accordance with IFC Drawings	All trenches shall be excavated as per Drawings otherwise directed by HPP.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	S		S		S		
2.2	Pipe Laying and Joint Fitting	Drawings Manufacturer Specifications	Have correct pipes (size and type) been laid and jointing installed as per manufacturer specifications <b>HOLD POINT</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	H		H		H		



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2.3	Encasement Backfill	Spec. 1352 Pipe Drainage [CI 5.1, 5.2]	<p><b>DICL &amp; Flexible Pipes:</b></p> <p>Table 5.2 Trench and embedment dimensions</p> <table><tr><th>Extreme external</th><th colspan="4">Minimum dimensions (mm)</th></tr><tr><th>Dia (De)mm</th><th>x</th><th>s</th><th>o</th><th>y</th></tr><tr><td>≥ 75 ≤ 150</td><td>75</td><td>100</td><td>100</td><td>Pipe dia.</td></tr><tr><td>&gt; 150 ≤ 300</td><td>100</td><td>150</td><td>150</td><td>Pipe dia.</td></tr><tr><td>&gt; 300 ≤ 450</td><td>100</td><td>200</td><td>150</td><td>Pipe dia.</td></tr><tr><td>&gt; 450 ≤ 900</td><td>150</td><td>300</td><td>150</td><td>Pipe dia.</td></tr><tr><td>&gt; 900 ≤ 1500</td><td>150</td><td>350</td><td>200</td><td>Pipe dia.</td></tr></table> <p>Compacted with handheld equipment to point of refusal.</p>	Extreme external	Minimum dimensions (mm)				Dia (De)mm	x	s	o	y	≥ 75 ≤ 150	75	100	100	Pipe dia.	> 150 ≤ 300	100	150	150	Pipe dia.	> 300 ≤ 450	100	200	150	Pipe dia.	> 450 ≤ 900	150	300	150	Pipe dia.	> 900 ≤ 1500	150	350	200	Pipe dia.	<div><input type="checkbox"/> Yes <input type="checkbox"/> No</div> <div><input type="checkbox"/> N/A</div>	S	S	S	
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Item no.	Activity	Ref docs	Acceptance criteria	Acceptance	Key	Sign date	Key	Sign date	Key	Sign date	
2.4	Tank Installation (supplied by HPP)	Drawings Manufacturer Specifications	Install as per manufacture specifications and HPP instruction. <b>HOLD POINT</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	H		H		H		
3.0 Filling and Compaction											
3.1	Obtain Certificate of Compliance	Hydraulic Specification HPP-AEC-CIV-BL-GEN-SPT-8001 Cl.10.3	Certify on completion of each component or stage that the works comply with the requirements of the BCA certifier and/or other authorities.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	R		R		R		<input type="checkbox"/> Certificate of Compliance
3.2	Marker Tape	Design Drawings	Detectable Marker Tape to be installed a minimum of 300mm above the pipe.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	S		S		S		
3.3	Backfill & Compaction above embedded Sewer Pipes	Earthworks (Roadways) Cl 4.13, 7.1  Spec. 1352 Pipe Drainage [Cl 5.4]	Each layer to be compacted to a density that is no less than the density of the existing adjacent material. If the existing material density is unknown, minimum relative compaction to be: -  - 92% for general fill areas  - 95% for pit and conduit bedding  - 97% for select fill areas and sections of the trench above the overlay zone and within 1.5m of top of pavement.  <i>Layers not to exceed <b>150mm</b> compacted thickness.</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	S		S		S		<input type="checkbox"/> Test reports



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Item no.	Activity	Ref docs	Acceptance criteria	Acceptance	Key	Sign date	Key	Sign date	Key	Sign date	
<b>4.0 Conformance check</b>											
4.1	Hydrostatic Test	ASNZS_3500.2-2021 Plumbing and drainage Part 2: [cl 15.2]	<p>The sanitary plumbing and sanitary drainage shall be filled with water:</p> <p>(a) for sanitary drainage, to a height of not less than 1 m above the soffit level at the highest point of the section being tested;</p> <p>(b) for sanitary plumbing, to the spill level of the highest fixture or to the flood level of the lowest sanitary fixture, whichever is higher; and</p> <p>(c) in either case, not exceeding 3 m at the lowest point of the test section.</p> <p>The pressure shall be maintained without leakage for at least 15 min. The source of any leak shall then be ascertained, and any defects repaired. The section under test shall then be retested.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	R		R		R		<input type="checkbox"/> Inspection Report
4.2	Survey Report	Spec. 0161 Quality [Cl 3.13]	An as-built survey of the drainage system been completed to ensure all pipes are within construction tolerances. Plan: +/- 200mm Level: +/- 20mm	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	R		R		R		<input type="checkbox"/> Survey report
4.3	Acceptance and closure of non-conforming items	Spec. 0161 Quality [Cl 3.8]	NCRs to be opened for non-conforming items and closed prior to closing construction lot. <b>HOLD POINT</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	H		H		H		
<b>Comments:</b>											



**Acceptance of works:**

Symal Infrastructure representative name	_____	Symal Infrastructure representative signature	_____	Date	_____
HPP Construction representative name	_____	HPP Construction representative signature	_____	Date	_____
HPP Quality representative name	_____	HPP Quality representative signature	_____	Date	_____





## Inspection Checklist Report

Project no. CC0375 Project name: Hunter Power Project Date: \_\_\_\_\_  
Symal ITP no. CC0375-ITP-026  
UGL ITP no. 3200-0663-HPP-QA-ITP-0XX SHL ITP no. HPP-UGL-QUA-GN-GEN-ITP-0066  
Symal Lot no. \_\_\_\_\_ Symal Sub Lot no. \_\_\_\_\_  
Location (chainages, detailed description or marked up plan) \_\_\_\_\_

							Verify of acceptance by						Remarks / records
							Symal		HPP Con		HPP QA		
ID No.	Activity to be verified	ITP Step No.	Items conforms?			NCR / Test Report No.	Key	Sign Date	Key	Sign Date	Key	Sign Date	
			Yes	No	NA								
<b>Preliminaries</b>													
1.	Documentation	1.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		S		S		S		
2.	Lot Traceability	1.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		S		S		S		<input type="checkbox"/> Lot map
3.	Pipe Material	1.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		S		S		S		<input type="checkbox"/> Material conformance certificate
4.	Underlying Lot Conformance	1.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		S		S		S		
5.	Embedment Material	1.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		S		S		S		
6.	Set out	1.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		S		S		S		
<b>Excavation and Pipe Laying</b>													
7.	Excavation	2.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		S		S		S		
8.	Pipe Laying and Joint Fitting <b>HOLD POINT</b>	2.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		H		W		W		
9.	Encasement Backfill	2.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		S		S		S		
10.	Tank Installation <b>HOLD POINT</b>	2.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		H		W		W		
<b>Filling and Compaction</b>													
11.	Obtain Certificate of Compliance	3.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		R		R		R		<input type="checkbox"/> Certificate of Compliance
12.	Marker Tape	3.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		S		S		S		
13.	Backfill & Compaction above embedded Sewer Pipes	3.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		S		S		S		<input type="checkbox"/> Test reports
<b>Conformance Check</b>													
14.	Hydrostatic Test	4.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		R		R		R		<input type="checkbox"/> Inspection Report
15.	Survey Report	4.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		R		R		R		<input type="checkbox"/> Survey report
16.	Acceptance and closure of non-conforming items <b>HOLD POINT</b>	4.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		H		H		H		



I certify that this Lot conforms to the requirements of the design and specifications; that all associated NCRs have been closed out: and all survey, conformance testing and inspections have been undertaken in accordance with the specified requirements.		
<b>Symal Representative</b>	<b>Signature</b>	<b>Date</b>
<b>HPP Construction Representative</b>	<b>Signature</b>	<b>Date</b>
<b>HPP Quality Representative</b>	<b>Signature</b>	<b>Date</b>
<b>Comments:</b>		