Yorkshire Water Services Ltd

Neiley Sludge Treatment Facility

Surrender of Permit (No. KP3536LL)

Surrender Site Condition Report

09/01/2025

Document Version

Revision	Date	Description	Author	Checked	Reviewed	Approved
1	January 2025	Final	TK/AB	DS/AB	DS/AB	AB

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1 Introduction

1.1 Report context

Neiley Sludge Treatment Facility (STF) is owned by Yorkshire Water Services (YWS) Ltd. This report has been produced by YWS to support the surrender of Environmental Permit number KP3536LL for Neiley STF.

1.2 Background

The original permit application (EPR number KP3536LL) was determined in 2007. In September 2008, there was an administration variation (variation notice KP3536LL/V002) to amend and remove various conditions to add clarity to the permit. In September 2008 YWS appealed several permit clauses within the STF PPC permits. A key point raised within the appeals was that a 5 yearly integrity testing was suitable for the PPC STF sites rather than the mixture of 1 year, 5 year, and 10 years as specified in the permits. The EA accepted 5 yearly testing in relation to a number of sites including Neiley STF. An extract from the email correspondence confirming this is included in Appendix.

YWS propose to surrender this permit following cessation of dewatering for disposal. The site will remain operational with dewatered sludge sent for recycling only. Under the Environmental Permitting (England and Wales) Regulations 2016, this activity is exempt from requiring a permit. The STF will remain managed by YWS.

1.3 Permit surrender requirements

In order to surrender the permit for the works, it must be demonstrated that the necessary measures have been taken:

(a) To avoid a pollution risk resulting from the operation of the regulated installation;

(b) To return the site of the regulated installation to a satisfactory state, having regard to the state of the site before the installation was put into operation.

This surrender site condition report has been prepared to assess whether the ground and groundwater beneath the site are in a suitable condition for a surrender.

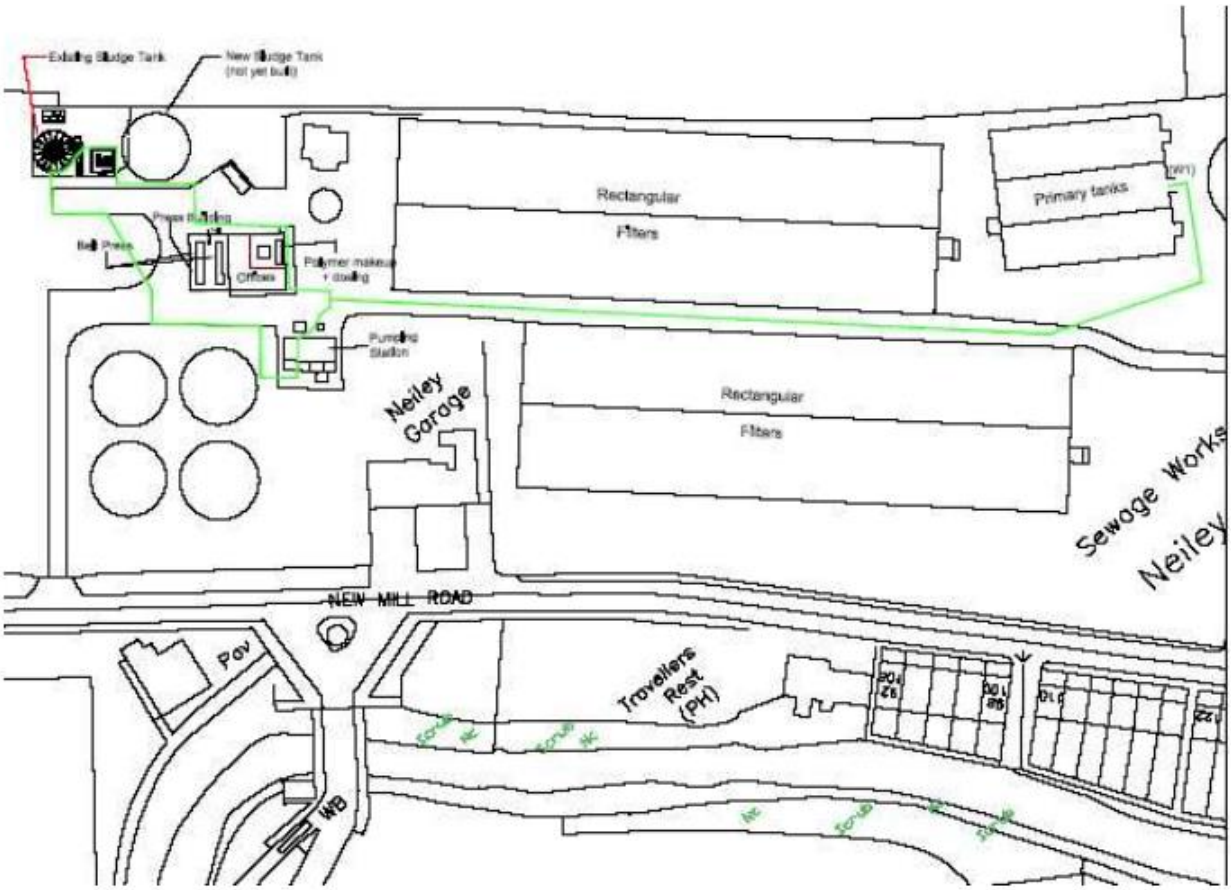
Reference sources used in preparing this report include the following documents:

- RGN 9: Surrender;
- Neiley STF Environmental Permit (EPR/KP2425LL);
- Neiley STF Environmental Permit Variation Notice V002 (EPR/KP2425LL/V002); and,
- Neiley STF Environmental Permit Variation Notice V003 (EPR/KP2425LL/V003).

1.4 Site Location

The STF is located at Neiley Wastewater Treatment Work (WwTW), New Mill Road, Brockholes, Holmfirth, West Yorkshire, HD9 7AZ. Figure 1 displays the Neiley WwTW along with the Neiley STF. The WwtW is at NGR SE 14759 11602 and Neiley STF is at NGR SE 14696 11656.

Figure 1. Neiley Sludge Treatment Facility



1.5 Site operations

The STF is designed to reduce the water content of surplus activated sludge (SAS) produced by the adjacent WwTW. The WwTW does not form part of the permitted installation The STF infrastructure within the permit boundary includes:

- Sludge thickener building
- Centrifuges
- Conveyor screw

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- Pipework
- Polymer mixing tank
- Polymer stock tank
- Polymer storage
- Portable water break tank
- Surface and foul water drainage
- Liquor pumping station

Unthickened sludge is pumped, under control, from SAS storage tanks. These tanks are not part of the installation – they are part of the Urban Waste Water Treatment Directive (UWWTD) WwTW. The unthickened sludge is pumped into the STF onto the GBT for sludge thickening. Polymer is added to aid flocculation. The material is temporarily stored in a rectangular skip before being transferred to another YW site for further treatment.

Liquids coming from the GBT process are pumped back to the WwTW for treatment. Liquids from drains are pumped to the WwTW for treatment.

The containment system in place has prevented any releases to the environment including any potential risks to the New Mill Dyke. There are no discharges to groundwater from the installation.

The activities carried out do not create noise pollution.

2 Condition at permit issue

The application for Neiley STF was submitted for a permit to operation an installation under Regulation 10 of the Pollution Prevention and Control (England and Wales) Regulations 2000, which have since been replaced by EPR.

Records of the site and surrounding areas were reviewed, along with operational site records, in order to describe the condition of the site and, in particular, to identify any substance in, on, or under the land that may constitute a pollution risk to the land. Pollution prevention measures were identified and an assessment of pollution potential to land was undertaken.

An assessment of the likelihood of land pollution was undertaken for each of the site operations or site zones listed in Section 1.4. The conclusions of the report were that there was little likelihood that land pollution or leaks to land would occur during the future life of the permit. Therefore, there was no requirement for reference/baseline sample data to be collected.

3 Permitted activities

3.1 Permitted activities

The original permit application for Neiley STF was determined in 2007 and the original permitted activities are displayed in Table 1.

Table 1: Original Permitted Activities at the Neiley STF

Environmental Permit Number	Activity listed in Schedule 1 of the PPC Regulations	Description of specified activity and WFD Annex IIA and IIB operations	Limits of specified activity and waste types
KP3536LL	S5.4 A1(a)(ii)	Physico-chemical treatment of Non-hazardous sewage sludge (D9)	Receipt of sewage sludge into process, thickening, polymer make up, liquor storage, and return pipework, storage of thickened sewage sludge. Waste types to be as specified in Schedule 3 tables(s) S3.2, S3.3, etc.

3.1.1 Changes to permit

There was an administration variation in 2008 (KP3536LL V002) to amend and remove various conditions to add clarity to the permit.

There was a further permit variation in 2014 (KP3536LL V003) instigated by the EA in order to implement changes to the listed activities following the introduction of the Industrial Emissions Directive.

3.1.2 Dangerous substances resulting from permitted activities

A list of all substances used, stored, manufactured (or waste by-products from the manufacturing process) are displayed in Table 2.

Table 2. Neiley STF Potentially Polluting Substances.

Substances used, stored, and by-products	Maximum Volume Stored	Environmental Properties		
		Toxicity	Behaviour	Transport
Sewage Sludge (in skips)	Each skip held a maximum of 15 tonnes; usually 4 onsite	Toxic	Odourous material. May contain variety of heavy metals, pathogens, and organic pollutants	Leaks to soil and groundwater.
Return liquor	None – This is not stored but pumped straight to a return liquor wet well and	Low	May contain variety of heavy metals, pathogens,	Leaks to soil and groundwater.

	pumped back to the WwTW.		and organic pollutants.	
Polymer (Holding tank)	6.4m^3	Not known	Remains in soil and groundwater.	Leaks to soil and groundwater.
Polymer (Mixing tank)	5.0m^3			
Polymer (Bagged)	Each bag weight 1,050kg; Usually 2 bags on site at any one time			

4 Summary of application site conditions record

4.1 Background

In support of the Neiley STF permit, YWS developed:

- A site-specific Odour Management Plan; and,
- A Site Closure Plan.

4.1.1 Underground pipes and sumps

A risk assessment was submitted as part of the Neiley STF EPR Site Condition report. This concluded that there was little likelihood of pollution risk to the environment from the storage of substances in tanks at the installation and that there was no risk to the environment from the transfer of substances in underground pipework.

All structures and pipework on YWS operational sites are designed to relevant British Standards, Codes of Practice, and to YWS own additional Engineering Specifications to ensure that they are fit for purpose and will maintain their structural integrity for the duration of their asset life.

4.1.2 Neiley STF odour management plan

The Neiley STF Odour Management Plan was submitted to the EA by YWS during the original environmental permit application process.

4.1.3 Site Closure Plan

A Site Closure Plan has been developed for Neiley STF. However, the site will operate under T21 exemption and will not cease to operate after surrendering the permit.

5 Site inspection

5.1 EA Site Inspections

YW had arranged a site inspection with the EA for the permit surrender application on 11th September 2024. The site visit was carried out by Penny Johnston, who was accompanied by David Shaw, Senior Compliance Analyst at YW. The site was found to be in a satisfactory state and deemed suitable for a low risk surrender. An EPR Compliance Assessment Report was issued from the site visit on 11th September 2024, as included in Appendix B.

5.2 Asset Inspections

Asset inspections have been conducted by YWS on the integrity of the assets (storage tanks, below and above ground pipes and sumps). The visual inspection of above ground assets did not reveal any significant defects.

Previous asset integrity inspections at the Neiley STF were carried out by Arup for YWS on 7th October 2019. The report comprises the results from the testing and inspection of assets according to the method of work report, is included in Appendix C.

On 15th January 2013, an asset integrity inspection was conducted at the Neiley STF by MGJV. It was a visual inspection of above ground assets, which did not reveal any significant defects. The report is included in Appendix D.

Between 1st to 3rd December 2008, an asset integrity inspection was conducted at Neiley STF by Arup. The assets were found to be in a satisfactory condition. The report forms part of the 2013 report that is included in Appendix D.

6 Monitoring and reporting

6.1 Monitoring

The STF operates in accordance with the YWS Integrated Management System (IMS) which identifies and minimises risks of pollution by regular inspection of above and below ground assets within the permit boundary.

Throughout the life of the permit, YW's Senior Compliance Analyst has undertaken monthly TCM inspections at the site. YW's site operators have and will continue to undertake daily checks.

The STF is surrounded by other WwTW plant on all sides, and the majority of the ground surface is concrete or tarmac, with very little vegetation.

The GBT process is checked to ensure that the system is running effectively and to minimise the use of polymer conditioning chemicals.

Sludge sampling and analysis is carried out to optimise the process and produce a good sludge product, using the least amount of conditioning chemicals. The samples are tested on site and recorded.

An example of the YWS IMS monitoring and maintenance records are included in Appendix E.

6.2 Reporting

All relevant data has been provided to the EA in accordance with conditions for the Permit.

7 Summary of surrender site condition

7.1 General

A site walkover of the Neiley STF was undertaken on 8th July 2024 to visually assess the land condition and site infrastructure. Selected photographs are included in Appendix A.

7.2 Drainage and hardstanding

Liquors from the STF are pumped to the WwTW via a pumping station.

During the site visit, the drains and hardstanding appeared to be in satisfactory condition and free from obstruction.

There are no watercourses or drainage ditches within the STF boundary.

7.3 Site buildings and infrastructure

7.3.1 Sludge Thickening Building

The Sludge Thickening Building is well maintained. During the site visit, it was tidy and orderly (see Appendix A, Photo 1). The Sludge Thickening Building is approximately 39 years old. The building is split over two floors with the Thickened Sludge Storage under the building (Appendix A, Photo 6) and polymer dosing above the storage (Appendix A, Photo 2). There are some materials on the floor but it is reasonably tidy with no appearance of stain.

7.3.2 Polymer storage, and dosing

The Polymer Storage Area sits within the Sludge Thickening Building (Appendix A, Photo 3). It is in a satisfactory condition.

7.3.3 Thickened sludge storage tank

The thickened sludge storage tank appears to be in satisfactory condition (Appendix A, Photo 6).

7.3.4 Odour Control Biofilter

There is an odour control biofilter unit which appears to be in satisfactory condition (Appendix A, Photo 7).

7.3.5 Return liquors

The return liquors coming from the process are pumped to the Liquors where they are returned to the head of WwTW for treatment.

7.3.6 Fuel Storage

There is no fuel stored within the permitted boundary.

7.4 Land condition

There is no evidence of contamination within the permit boundary.

7.5 Pollution incidents and complaints

There have been no complaints regarding noise at the STF.

There has been a complaint regarding odour from the WwTW. However, following a monitoring exercise, it has been determined that the source of odour is not from the YWS site.

There have been no pollution incidents from the STF activities.

7.6 Remediation

In 2019, remediation work on the short section of the return liquors rising main has been done. The pipe that goes below ground to cross the site access road was investigated and repaired in order to pass a pressure test to 3 bar.

8 Statement of Site Condition

YWS wish to surrender the permit for the STF following the cessation of thickening before disposal (via incineration). The permit has been in operation since 2007.

The Surrender Site Condition Report has demonstrated through a review of monitoring and maintenance records during the lifetime of the permit, discussions with YW's operatives, and a site visit that the condition of the land and the STF assets are in a satisfactory state.

The records of the site and surrounding areas that have been reviewed, along with operational site records and the site visit demonstrate that there has been no pollution to land.

The STF will remain operational and managed by YWS with thickened sludge sent from this site being sent to onwards recovery (via digestion). Under the Environmental Permitting (England and Wales) Regulations 2016, this activity is exempt from requiring a permit.

The conclusion of the report is the land has not deteriorated from the baseline condition since the permit application was submitted. Therefore, the permit may be surrendered because the site condition is satisfactory.

Appendix A. Neiley STF photographs from 8th July 2024

These photographs of Neiley STF were taken during the site visit on Monday 8th July 2024.

Photo 1. Sludge Thickening Building

Photo 2. Polymer Mixing Area

Photo 3. Polymer Storage Area

Photo 4. Gravity Belt Thickener

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Photo 5. MCC Room

Photo 6. Thickened Sludge Storage

Appendix B. EPR Compliance Assessment Report

Environment Agency	**EPR Compliance Assessment Report**	Report ID: KP3536LL/0518753

This form will report compliance with your permit as determined by an Environment Agency officer

Site	Neiley Sludge Treatment Facility EPR/KP3536LL			Permit Ref	KP3536LL		
Operator/ Permit holder	YORKSHIRE WATER SERVICES LIMITED						
Date	11/09/2024			Time in	13:55	Out	14:30
What parts of the permit were assessed	Permitted area						
Assessment	Site Inspection	EPR Activity:	Installation X	Waste Op		Water Discharge	
Recipient's name/position	David Shaw						
Officer's name	Penny Johnston, David Shaw			Date issued	11/09/2024		

Section 1 - Compliance Assessment Summary

This is based on the requirements of the permit under the Environmental Permitting Regulations (EPR). A detailed explanation and any action you may need to take are given in the "Detailed Assessment of Compliance" (section 3). This summary details where we believe any non-compliance with the permit has occurred, the relevant condition and how the non-compliance has been categorised using our Compliance Classification Scheme (CCS). CCS scores can be consolidated or suspended, where appropriate, to reflect the impact of some non-compliances more accurately. For more details of our CCS scheme, contact your local office.

Permit Conditions and Compliance Summary				Condition(s) breached
a) Permitted activities	1. Specified by permit	N		
b) Infrastructure	1. Engineering for prevention & control of pollution	N		
	2. Closure & decommissioning	A		
	3. Site drainage engineering (clean & foul)	N		
	4. Containment of stored materials	N		
	5. Plant and equipment	A		
c) General management	1. Staff competency/ training	A		
	2. Management system & operating procedures	N		
	3. Materials acceptance	N		
	4. Storage handling, labelling, segregation	N		
d) Incident management	1. Site security	N		
	2. Accident, emergency & incident planning	N		
e) Emissions	1. Air	N		
	2. Land & Groundwater	N		
	3. Surface water	N		
	4. Sewer	N		
	5. Waste	N		
f) Amenity	1. Odour	N		
	2. Noise	N		
	3. Dust/fibres/particulates & litter	N		
	4. Pests, birds & scavengers	N		
	5. Deposits on road	N		
g) Monitoring and records, maintenance and reporting	1. Monitoring of emissions & environment	N		
	2. Records of activity, site diary, journal & events	N		
	3. Maintenance records	N		
	4. Reporting & notification	A		
h) Resource efficiency	1. Efficient use of raw materials	N		
	2. Energy	N		

KEY: **C1, C2, C3, C4** = CCS breach category **(* suspended scores are marked with an asterisk),**
A = Assessed (no evidence of non-compliance), **N** = Not assessed, **NA** = Not Applicable, **O** = Ongoing non-compliance – not scored
MSA, MSB, TCM = Management System condition A, Management System Condition B and Technically Competent Manager condition which are environmental permit conditions from Part 3 of schedule9 EPR (see notes in Section 5/6).

Number of breaches recorded	0	Total compliance score (see section 5 for scoring scheme)	0

If the Total No Breaches is greater than zero, then please see Section 3 for details of our proposed enforcement response

Section 2 – Compliance Assessment Report Detail

This section contains a report of our findings and will usually include information on:

- the part(s) of the permit that were assessed (e.g. maintenance, training, combustion plant, etc)
- where the type of assessment was 'Data Review' details of the report/results triggering the assessment
- any non-compliances identified
- any non-compliances with directly applicable legislation
- details of any multiple non-compliances
- information on the compliance score accrued inc. details of suspended or consolidated scores.
- details of advice given
- any other areas of concern
- all actions requested
- any examples of good practice.
- a reference to photos taken

This report should be clear, comprehensive, unambiguous and normally completed within 14 days of an assessment.

This was a pre arranged visit to this site where I met with David Shaw the TCM and Senior Compliance Analyst with Yorkshire Water.

Site visit

The process of centrifuging the sewage sludge to remove water is no longer carried out at this site and the centrifuge has been decommissioned. Instead the sludge is thickened by adding a flocculent to it before it is transported to another YW site for anaerobic digestion.
The flocculent is currently stored in the building where the centrifuge is housed.
The area where the permitted activity takes place is fully concreted as is the area where the buildings are.

We discussed the fact that YW are currently considering surrendering the permit. The site should be suitable for a low risk surrender.

Thank you for your time taken to accompany me on the visit.

Section 3- Enforcement Response

Only one of the boxes below should be ticked

You must take immediate action to rectify any non-compliance and prevent repetition.
Non-compliance with your permit conditions constitutes an offence* and can result in criminal prosecutions and/or suspension or revocation of a permit. Please read the detailed assessment in Section 2 and the steps you need to take in Section 4 below.

Non-compliance with **MSA, MSB & TCM do not constitute an offence but can result in the service of a compliance, suspension and/or revocation notice.*

Other than the provision of advice and guidance, at present we do not intend to take further enforcement action in respect of the non-compliance identified above. This does not preclude us from taking enforcement action if further relevant information comes to light or advice isn't followed.	
In respect of the above non-compliance you have been issued with a warning. At present we do not intend to take further enforcement action. This does not preclude us from taking additional enforcement action if further relevant information comes to light or offences continue.	
We will now consider what enforcement action is appropriate and notify you, referencing this form.	

Section 4- Action(s)

Where non-compliance has been detected and an enforcement response has been selected above, this section summarises the steps you need to take to return to compliance and also provides timescales for this to be done.

Criteria Ref.	CCS Category	Action Required / Advised	Due Date
See Section 1 above			

Section 5 - Compliance notes for the Operator

To ensure you correct actual or potential non-compliance we may

- advise on corrective actions verbally or in writing
- require you to take specific actions in writing
- issue a notice
- require you to review your procedures or management system
- change some of the conditions of your permit
- decide to undertake a full review of your permit

Any breach of a permit condition is an offence* and we may take legal action against you.

- We will normally provide advice and guidance to assist you to come back into compliance either after an offence is committed or where we consider that an offence is likely to be committed. This is without prejudice to any other enforcement response that we consider may be required.
- Enforcement action can include the issue of a formal caution, prosecution, the service of a notice and or suspension or revocation of the permit.
- A civil sanction Enforcement Undertaking (EU) offer may also be available to you as an alternative enforcement response for this/these offence(s).

See our Enforcement and Civil Sanctions guidance for further information

A breach of permit condition **MSA, MSB & TCM is not an offence but may result in the service of a notice requiring compliance and/or suspension or revocation of the permit.*

This report does not relieve the site operator of the responsibility to

- ensure you comply with the conditions of the permit at all times and prevent pollution of the environment
- ensure you comply with other legislative provisions which may apply.

Non-compliance scores and categories

CCS category	Description	Score
C1	A non-compliance which could have a **major** environmental effect	60
C2	A non-compliance which could have a **significant** environmental effect	31
C3	A non-compliance which could have a **minor** environmental effect	4
C4	A non-compliance which has **no** potential environmental effect	0.1

Operational Risk Appraisal (Opra) - Compliance assessment findings may affect your Opra score and/or your charges. This score influences the resource we use to assess permit compliance.

MSA, MSB & TCM are conditions inserted into certain permits by Schedule 9 Part 3 EPR

MSA requires operators to manage and operate in accordance with a written management system that identifies and minimises risks of pollution.

MSB requires that the management system must be reviewed, kept up-to-date and a written record kept of this.

TCM requires the submission of technical competence information.

Section 6 – General Information

Data protection notice

The information on this form will be processed by the Environment Agency to fulfill its regulatory and monitoring functions and to maintain the relevant public register(s). The Environment Agency may also use and/or disclose it in connection with:

- offering/providing you with its literature/services relating to environmental matters
- consulting with the public, public bodies and other organisations (e.g. Health and Safety Executive, local authorities) on environmental issues
- carrying out statistical analysis, research and development on environmental issues
- providing public register information to enquirers
- investigating possible breaches of environmental law and taking any resulting action
- preventing breaches of environmental law
- assessing customer service satisfaction and improving its service
- Freedom of Information Act/Environmental Information Regulations request.

The Environment Agency may pass it on to its agents/representatives to do these things on its behalf. You should ensure that any persons named on this form are informed of the contents of this data protection notice.

Disclosure of information

The Environment Agency will provide a copy of this report to the public register(s). However, if you consider that any information contained in this report should not be released to the public register(s) on the grounds of commercial confidentiality, you must write to your local area office within 28 days of receipt of this form indicating which information it concerns and why it should not be released, giving your reasons in full.

Customer charter

What can I do if I disagree with this compliance assessment report?

A permit holder can challenge any part of the CAR form by writing to the Environment Agency office local to the site within 28 days of receipt. If the issue cannot be resolved by the local office, a permit holder may request an appeal of the regulatory decision by emailing enquiries@environment-agency.gov.uk within 14 days of receipt of the outcome.

If you are still dissatisfied, you can make a complaint to the Ombudsman. For advice on how to complain to the Parliamentary and Health Service Ombudsman phone their helpline on 0345 015 4033.

Appendix C. Asset Inspection Reports by Arup (2019)

Yorkshire Water Services Ltd

Assessment of STF Compliance with IPPC Improvement Programme

Neiley - Testing Results Report

Draft 1 | 7 October 2019

Job number 264121

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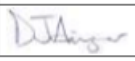
ARUP

Document verification

ARUP

Job title		Assessment of STF Compliance with IPPC Improvement Programme		Job number 264121
Document title		Neiley - Testing Results Report		File reference
Document ref				
Revision	Date	Filename	Neiley - Testing Results - Draft 1 07-10-19.docx	
Draft 1	07/10/19	Description	First draft	
			Prepared by	Checked by	Approved by
		Name	Ian Farmery	Ian Farmery	Dom Ainger
		Signature			
		Filename			
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		Filename			
		Description			
			Prepared by	Checked by	Approved by
		Name			
		Signature			
				Issue Document verification with document	✓

Contents

1 Background

Arup has been appointed by Yorkshire Water Services Ltd (YWS), to carry out an assessment of integrity of assets (tanks, surface pipes, subsurface pipes and sumps) for three YWS Sludge Treatment Facilities (STF) that are under IPPC Permit.

The output of the project is to produce reports including:

1. Statements on the physical condition of each asset
2. Statements on the integrity of each asset
3. Recommended inspection programme based on 1 and 2

This report has been produced for the Neiley Sludge Treatment Facility (STF). A drawing showing the assets and site layout is included in Appendix A.

This report comprises the results from the testing and inspection of assets and should be read in conjunction with the method of work report.

2 Statement on report

The report has been prepared by Arup.

Arup is not able to provide a guarantee on the period that the integrity of assets will be maintained. An assessment of asset integrity based on asset records, specified design life, inspection and results of testing is provided in section 7.

The year of construction of assets provided in the report has been obtained from YWS' Electronic Data Management System (EDMS). The accuracy and completeness of these records has not been verified by Arup.

3 Testing procedure

A generic testing methodology for all assets at the sites has been developed based on the Civil Engineering Specification for the Water Industry and the Yorkshire Water Engineering Specification. This has been used as a basis for testing the assets at Neiley STF. The testing of these assets took place in the period 21st August 2019 to 17th September 2019.

4 Testing summary

The integrity testing at Neiley was undertaken in accordance with the generic testing methodology and site-specific method of work documents. The asset/item numbering system follows the method of work report for Neiley STF.

5 Testing results

5.1 Unthickened sludge pipework to the dewatering plant

Item No. 1 and 2 on drawing no. SK-N001. The pipework from the unthickened sludge tanks to the sludge dewatering feed pumps has not been tested as it is located before the start of the IPPC boundary.

Photos of newly refurbished pipework configuration at unthickened sludge tanks

Item No. 3 on drawing no. SK-N001. This pipework conveys sludge from the feed pumps to the dewatering equipment. The pipework complies with IPPC design principles as it has double containment, therefore the pipe was not tested.

Item No 4 on drawing no. SK-N001. This item is a continuation of item 3 from the point the pipe emerges above ground. The pipework is above ground and a visual inspection was carried out in accordance with the generic testing methodology whilst the equipment was operational. The pipe appears in good condition and no evidence of leakage was observed therefore the pipe passed inspection.

Photos of above ground unthickened sludge pipework to centrifuges with lagging removed

5.2 Sludge tank overflow pipework

Item nos. 5 and 6 on drawing no. SK-N001. The pipework has not been tested as it is located before the start of the IPPC boundary. However, a general observation of the area revealed that there is no evidence of leakage from these two pipes.

5.3 Sludge drainage lines

Item nos. 7 and 8 on drawing no. SK-N001. The pipework has not been tested as it is located before the start of the IPPC boundary.

Item no. 9 on drawing no. SK-N001. This section of pipe runs from the unthickened sludge storage tanks point B to the manhole at point C on the drawing. When in use the pipe allows unthickened sludge to be returned into the process via the return liquors wet well. The pipe is a non-pressure pipeline and was therefore inspected by means of a CCTV survey. The pipe passed this inspection as no Grade 3, 4 or 5 defects were recorded (no defects of any grade were recorded). A copy of the CCTV survey report can be found in appendix C (See survey sections 4, 5 and 6)

Item no. 10 on drawing no. SK-N001. This section of pipe runs from the manhole at point C to the manhole at point D on the drawing. When in use the pipe allows unthickened sludge to be returned into the process via the return liquors wet well. The pipe is a non-pressure pipeline and was therefore inspected by means of a CCTV survey. The pipe passed this inspection as no Grade 3, 4 or 5 defects were recorded (no defects of any grade were recorded). A copy of the CCTV survey report can be found in appendix C (See survey section 8).

5.4 Return liquor line from above ground pipework to return liquors wet well

Item no. 11 on drawing no. SK-N001. The pipework drains the liquors from the centrifuge to the external drainage system. The pipe is above ground and has therefore been tested by means of a visual inspection in accordance with the generic testing methodology during operation of the dewatering equipment. There was no evidence of leakage therefore the pipe passed the inspection.

Photo of above ground section of liquor drain from centrifuges

Item no. 12 on drawing no. SK-N001. The pipework drains the liquors from the centrifuge to the external drainage system at point D. The pipe is a below ground non-pressure pipeline and was therefore inspected by means of a CCTV survey. The pipe passed this inspection as no Grade 3, 4 or 5 defects were recorded (no defects of any grade were recorded). A copy of the CCTV survey report can be found in appendix C (See survey section 7).

Item no. 13 on drawing no. SK-N001 This pipework contains dewatered sludge liquors and unthickened sludges between the manhole at point D and the manhole at point J. The pipe is a below ground non-pressure pipeline and was therefore inspected by means of a CCTV survey. The pipe passed this inspection as no Grade 3, 4 or 5 defects were recorded.

Some encrustation was identified within the pipe, but this only reduces hydraulic capacity and does not adversely affect the integrity of the pipe. A bar was also found lodged in chamber J, but again this does not compromise the pipe's integrity.

A copy of the CCTV survey report can be found in Appendix C (See survey section 9).

Item no. 14 on drawing no. SK-N001 This pipework contains dewatered sludge liquors and unthickened sludges between the manhole at point J and the liquors return wet well. The pipe is a below ground non-pressure pipeline and was therefore inspected by means of a CCTV survey. The pipe passed this inspection as no Grade 3, 4 or 5 defects were recorded.

Some encrustation was identified within the pipe, but this only reduces hydraulic capacity and does not adversely affect the integrity of the pipe. A bar was also found lodged in chamber J, but again this does not compromise the pipe's integrity.

A copy of the CCTV survey report can be found in Appendix C (See survey sections 10 and 11).

5.5 Return liquors suction main from return liquor pumping station wet well to liquor return pumps

Item no. 15 on drawing no. SK-N001. The short section of pipe from the return liquors wet well to the return liquor pumps was visually inspected whilst the system was operational.

There was no evidence of any leakage therefore the pipe passed the test.

Photos of pipework from liquor return wet-well to liquor return pumps

5.6 Return liquors rising main from liquor return pumping station to liquor return point at PST distribution chamber

Item no. 16 on drawing no. SK-N001. This rising main is above ground within the pumping station dry well and exits the building structure above ground. The pipe goes underground to cross the site access road and then returns above ground running along the full length of the edge of the rectangular filters before passing underground before finally emerging at the primary tank distribution chamber. The above ground sections were tested by visual inspection and the below ground sections by pressure test in accordance with the generic testing methodology.

There was no evidence of any leakage on any of the above ground sections, therefore those sections of the pipe passed the test.

Pressure tests were undertaken in accordance with the generic testing methodology on the two below ground sections of the pipeline:

Section 1 comprises the length close to the pumping station where the pipe crosses the site access road. The pipe was pressurised to 3 bar, but it proved impossible to maintain the pressure for any length of time, indicating that the integrity of the pipe is compromised by one or more leaks. The pipe is deemed to have failed the testing procedure. The pipe should be further investigated to confirm the location of the leak(s). Suitable repairs should then be undertaken before the pressure test is repeated to confirm the restored integrity of the pipe.

Section 2 comprises the length from the end of the rectangular filters to the primary tank distribution chamber. This section of the pipe passed the pressure test.

A copy of the test results records is included in appendix B

Photos of above ground sections of liquor return pipe including pressure test equipment for below ground sections (bottom right)

5.7 Sludge cake skips

Item no. 17 on drawing no. SK-N001. The sludge cake skips receive the dewatered sludge and are changed on a regular basis. The skips on site at the time of inspection were fit for purpose.

Photos of sludge cake skips on site at the time of inspections

5.8 Sludge drainage lines

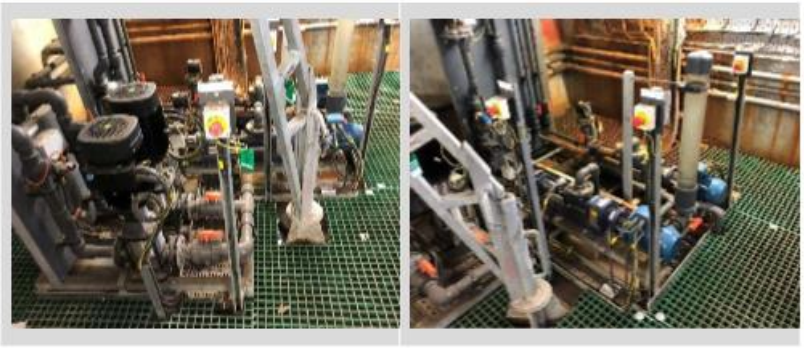
Item no. 18 on drawing no. SK-N001. This pipework comprises the drainage pipe the from sludge cake skips slab from point G and F to point C. The pipe is a non-pressure pipeline and was therefore inspected by means of a CCTV survey. The pipe passed this inspection as no Grade 3, 4 or 5 defects were recorded.

Some encrustation was identified within the pipe in survey section 2. This may reduce hydraulic capacity but does not adversely affect the integrity of the pipe.

A copy of the CCTV survey report can be found in Appendix C (See survey sections 1, 2 and 3).

5.9 Polymer dosing equipment

Item no. 19 on drawing no. SK-N001 The polymer dosing equipment is located inside the centrifuge building and is sited in a bunded area for the containment of any leakage. The installation was tested as above ground pipework as described in the generic testing methodology. There was no sign of any leakage on the dosing system, therefore the equipment passed the test.



Photos of polymer dosing equipment in bunded area

Photo of polmer tank

Photo of polymer dosing line

5.10 Liquor return pumping station wet well

Item no. 20 on drawing no. SK-N001. The wet well was isolated and cleaned out in preparation for testing. The wet well was visually inspected with no obvious signs of leakage identified. The wet well was filled to the test level and left overnight to allow absorption to occur. A drop test was conducted the following day during which the water level within the wet well remained unchanged. The wet well passed the drop test.

A copy of the test record is included in appendix B.

Photos of liquor return wet-well

6 Remedial Works

The following remedial works are required:

- The short section of the return liquors rising main (**Item No. 16**) where the pipe goes below ground to cross the site access road, needs further investigation and repair, so that it can pass a pressure test to 3 bar.

7 Physical condition and statement on integrity of assets

The following table provides an assessment of asset integrity based on asset records, inspection and results of testing.

The design asset lives were obtained from the Yorkshire Water Engineering Specification as follows:

- Inter Process Pipe work (sewage) – 60 years
- Operational Structures (concrete tanks) – 60 years
- Operational Structures (metal tanks) – 30 years
- Operational Structures (pumping stations) – 60 years
- Process Plant E&M major items (P2 – dosing plant) – 20 years

Physical condition key:

- Good – serviceable with little or no sign of deterioration
- Satisfactory – serviceable showing signs of deterioration
- Poor – remedial works required

Item no.	Asset	Year constructed	Physical condition	Theoretical remaining asset life	Statement on integrity
1	Unthickened sludge pipeline from existing sludge tank to connection with new sludge tank pipework	2007			Asset removed from scope as the pipe is before the start of the IPPC boundary.
2	Unthickened sludge pipeline from new sludge tank to sludge feed pumps	2007			Asset removed from scope as the pipe is before the start of the IPPC boundary.
3	Unthickened sludge pipeline from feed pumps into centrifuge building	2007			Asset has double containment and complies with IPPC design philosophy.

Item no.	Asset	Year constructed	Physical condition	Theoretical remaining asset life	Statement on integrity
4	Unthickened sludge pipeline inside the centrifuge building	2007	Good	48 years	Asset integrity test passed. Asset to be retested in accordance with the Generic Testing Methodology return period.
5	Overflow from existing sludge tank to point A	2000			Asset removed from scope as the pipe is before the start of the IPPC boundary.
6	Overflow from new sludge tank to point H	2007			Asset removed from scope as the pipe is before the start of the IPPC boundary.
7	Sludge drain pipe from point A to point B	2000			Asset removed from scope as the pipe is before the start of the IPPC boundary.
8	Sludge drain pipe from point H to point B	2007			Asset removed from scope as the pipe is before the start of the IPPC boundary.
9	Sludge drain pipe from point B to point C	2000	Satisfactory	41 years	Asset integrity test passed. Asset to be retested in accordance with the Generic Testing Methodology return period.
10	Sludge drain pipe from point C to point D	1968	Satisfactory	9 years	Asset integrity test passed. Asset to be retested in accordance with the Generic Testing Methodology return period.
11	Liquors line inside the centrifuge building	2007	Good	48 years	Asset integrity test passed. Asset to be retested in accordance with the Generic Testing Methodology return period.
12	Liquors line from the centrifuge building to point D	2007	Good	48 years	Asset integrity test passed. Asset to be retested in accordance with the Generic Testing Methodology return period.
13	Sludge/liquors drain pipe from point D to point J	1968	Satisfactory	9 years	Asset integrity test passed. Asset to be retested in accordance with the Generic Testing Methodology return period.
14	Sludge/liquors drain pipe from point J to the pumping station wet well	1968	Satisfactory	9 years	Asset integrity test passed. Asset to be retested in accordance with the Generic Testing Methodology return period.
15	Liquors line from the pumping station wet well to the pumps	2000	Good	41 years	Asset integrity test passed. Asset to be retested in accordance with the Generic Testing Methodology return period.
16	Liquors line from the pumping station pumps to PST distribution chamber	2010	Poor	51	Requires remedial work and re-test.

Item no.	Asset	Year constructed	Physical condition	Theoretical remaining asset life	Statement on integrity
17	Sludge cake skips	N/A	Good	N/A	Asset integrity test passed. Asset to be retested in accordance with the Generic Testing Methodology return period.
18	Drainage pipe from sludge cake skips slab: from point G and F to point C	1968	Satisfactory	9 years	Asset integrity test passed. Asset to be retested in accordance with the Generic Testing Methodology return period.
19	Polymer line from mixing tank to centrifuges	2007	Satisfactory	48 years	Asset integrity test passed. Asset to be retested in accordance with the Generic Testing Methodology return period.
20	Liquor return pumping station wet well	1968	Good	9 years	Asset integrity test passed. Asset to be retested in accordance with the Generic Testing Methodology return period.

8 Conclusions

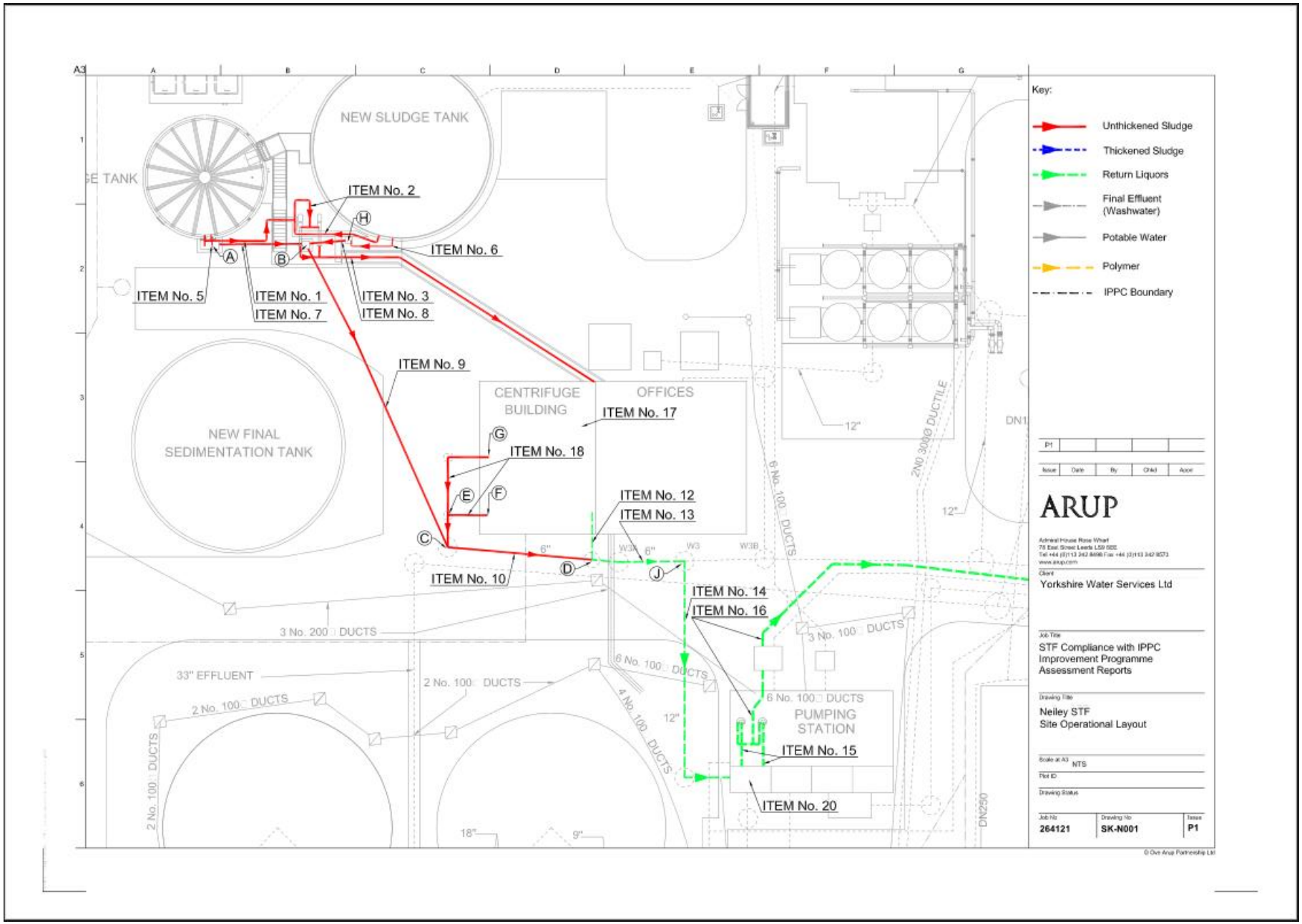
The majority of relevant assets have passed the integrity testing procedure and are in a good or satisfactory condition. However, the repairs identified in section 6 should be undertaken and the associated assets re-tested to ensure the integrity of all assets required to be tested under the IPPC permit.

Further monitoring and testing to recommended return periods for testing of assets needs to be undertaken in accordance with the generic testing methodology developed by Arup.

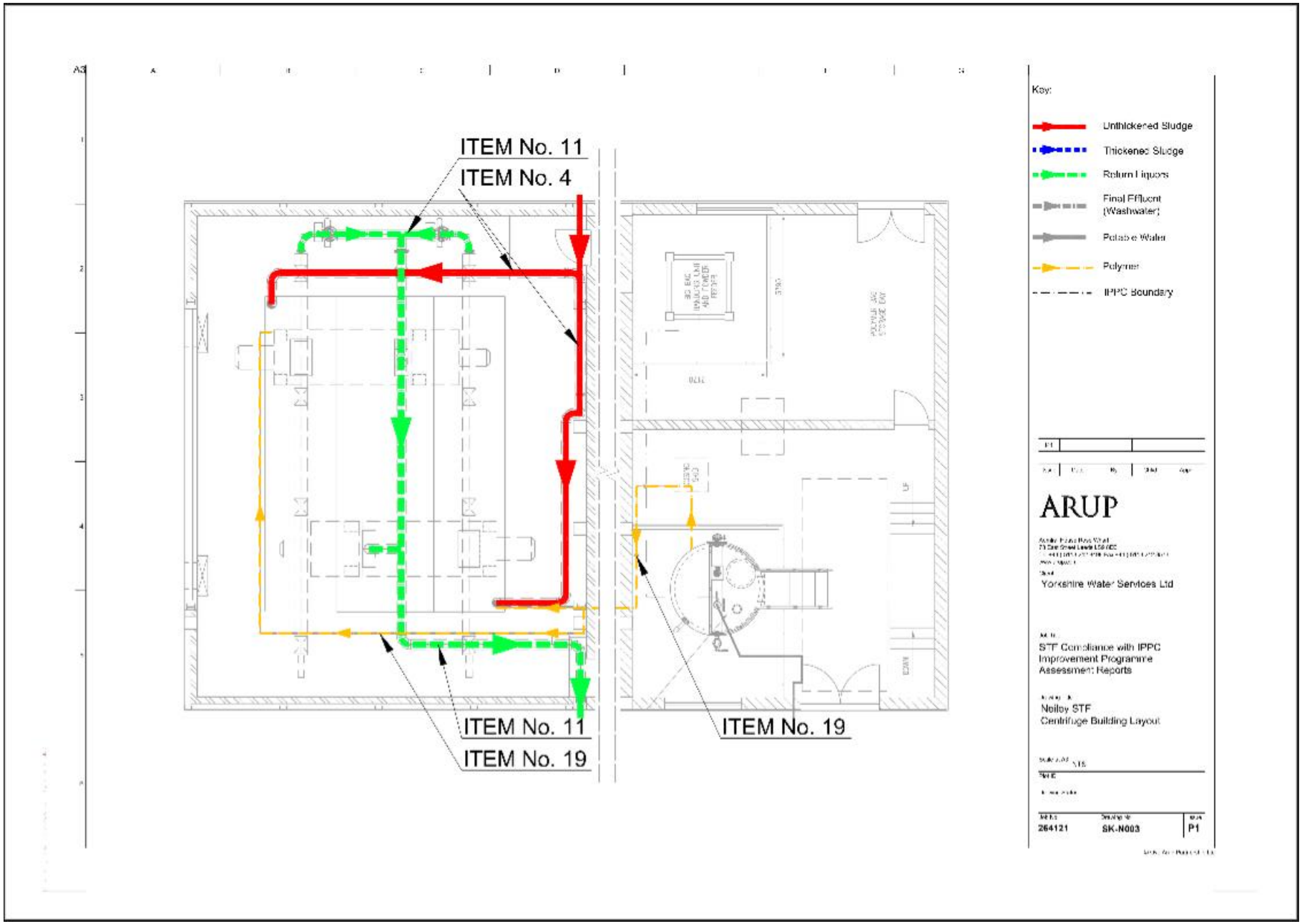
Appendix A

Layout Drawings

A1


NEW SLUDGE TANK
NEW FINAL SEDIMENTATION TANK
CENTRIFUGE BUILDING
OFFICES
PUMPING STATION
ITEM No. 1
ITEM No. 2
ITEM No. 3
ITEM No. 5
ITEM No. 6
ITEM No. 7
ITEM No. 8
ITEM No. 9
ITEM No. 10
ITEM No. 12
ITEM No. 13
ITEM No. 14
ITEM No. 15
ITEM No. 16
ITEM No. 17
ITEM No. 18
ITEM No. 20
3 No. 200 DUCTS
6 No. 100 DUCTS
2 No. 100 DUCTS
4 No. 100 DUCTS
3 No. 100 DUCTS
33" EFFLUENT
2ND 300Ø DUCTILE
Key:
Unthickened Sludge
Thickened Sludge
Return Liquors
Final Effluent (Washwater)
Potable Water
Polymer
IPPC Boundary
ARUP
Yorkshire Water Services Ltd
STF Compliance with IPPC Improvement Programme Assessment Reports
Neiley STF
Site Operational Layout
NTS
264121
SK-N001
P1


A3
A
B
C
D
E
F
G
1
2
3
4
5
6
ITEM No. 16
ITEM No. 16
ITEM No. 16
ITEM No. 20
RECTANGULAR FILTERS
PRIMARY TANKS
RECTANGULAR FILTERS
6" Blowout Pumping
23" Storm
4" Washout
4" Washout
12" Sludge
8" Pumping
12" Recirc
NEW MILL ROAD
KIOSK
Key:
Unthickened Sludge
Thickened Sludge
Return Liquors
Final Effluent (Washwater)
Potable Water
Polymer
IPPC Boundary
P1
Issue
Date
By
Chkd
Appd
ARUP
Admiral House Rose Wharf
78 East Street Leeds LS9 8EE
Tel +44 (0)113 242 8498 Fax +44 (0)113 242 8573
www.arup.com
Client
Yorkshire Water Services Ltd
Job Title
STF Compliance with IPPC Improvement Programme Assessment Reports
Drawing Title
Neiley STF
Route of Return Liquors Main
Scale at A3 NTS
Plot ID
Drawing Status
Job No
264121
Drawing No
SK-N002
Issue
P1
© Ove Arup Partnership Ltd


ITEM No. 11
ITEM No. 4
ITEM No. 11
ITEM No. 19
ITEM No. 19
Key:
Unthickened Sludge
Thickened Sludge
Return Liquors
Final Effluent (Washwater)
Potable Water
Polymer
IPPC Boundary
ARUP
Yorkshire Water Services Ltd
STF Compliance with IPPC Improvement Programme Assessment Reports
Nelley STF
Centrifuge Building Layout
264121
SK-N003
P1

Appendix B

Test Record Sheets

B1

Safety Communication Quality Integrity Team*Spirit* Caring Trust Pride

Barhale

Pipeline Testing Record

Business Unit:	Yorkshire	Area:		Checklist No.:		Sheet No.:	1 of 1
Contract:	IDOC Testing	Contract No.:	LE0020		Location:	Nesley	
Section:	16	Element:	O/S Pump Station		Drawing Reference & Revision Number:	WC7072	

Details of pipe run									
	Test		Visual	Water	Air	Non Destructive	Pigged	Other	Equipment Checked
		Starting Pressure		3bar					
		Finishing Pressure		1bar					
		Time Lapsed		3min					
	Material		UPVC	HPDE	DI ✓	Steel	Concrete	Other	Trench width
	Joint		Spigot & Socket	Welded Collar	Welded	Tyton	Flanged ✓	Other	Comments
	Bedding		None	Granular	Granular bed and surround	Concrete bed	Concrete bed and surround	Other	Bedding Thickness
	Restraints							Unknown	

Specification reference	Name of test	Comments	Pass	Fail	Name	Signature	Date
Cesmi	Pressure Test	Not Holding Pressure		✓	B Marsh		12/9/19

Comments

Barhale Approval:				**Client Approval:**			
Black hat responsible for work:				Organisation:			
Black Hat Signature:							
Site Manager Name:	B Marsh			Print:			
Site Manager Signature:		Date:	12/9/19	Sign:		Date:	

Pipeline Testing Record

Business Unit:	Yorkshire	Area:		Checklist No.:		Sheet No.:	Of
Contract:	IPPC	Contract No.:	LE0020		Location:	Neiley STW	
Section:	Item 16	Element:	By PST		Drawing Reference & Revision Number:	WC0702	

Details of pipe run									
Test		Visual	Water	Air	Non Destructive	Pigged	Other	Equipment Checked	
	Starting Pressure		3.64 bar						
	Finishing Pressure		3.72 bar						
	Time Lapsed		1hr						
Material		UPVC	HPDE	DI	Steel	Concrete	Other	Trench width	
				X					
Joint		Spigot & Socket	Welded Collar	Welded	Tyton	Flanged	Other	Comments	
						X			
Bedding		None	Granular	Granular bed and surround	Concrete bed	Concrete bed and surround	Other	Bedding Thickness	
							unknown		
Restraints									

Specification reference	Name of test	Comments	Pass	Fail	Name	Signature	Date
IPPC Appendix B5	1hr Pressure test	Min. pressure is 3bar	X		B Harrold	BH	16/09/19

Comments
See attached pressure test data

Barhale Approval:				**Client Approval:**			
Black hat responsible for work:				Organisation:			
Black Hat Signature:							
Site Manager Name:	Brian Harrold			Print:			
Site Manager Signature:	BH	Date:	16/09/19	Sign:		Date:	

PRESSURE TESTING

Pressure-Testing.com

HYDROSTATIC PRESSURE TEST RESULTS ONE HOUR TEST
(Constant Pressure)

S & B Utilities Ltd (UTI002)

Test Number: UTI002 4054 16-09-19 #361 **Customer's Job Ref:** Item 16 Test 2
Start Date Time: 16/09/2019 07:43
Site: Neiley STW
Section: Rising Main
GPS Coordinates: None
Map Link: Unavailable
Test Pressure: 3.74 bar

Test carried out in accordance with the Civil Engineering Specification for the Water Industry 7th Edition March 2011 Clause 7.9 (BS EN805 11.3.3.4.2 Water Loss Method b) Data input sheet provided by yourselves

	Time	bar	*bar	total bar	Temp
Start test period pressure	16/09/2019 07:43:	3.640	0.100	3.740	12.0
End test period pressure	16/09/2019 08:43:	3.720	0.100	3.820	13.0
Difference in pressure (start - end) =	**loss (bar)**	**-0.080**			

*** Add static head of water below test manifold level**

Recorded measured volume of water added using Water Loss method b) = 0.015 ltrs

Row	Nom. Diam.(mm)	Material	Class	Length (m)	Allowable Water Loss Per km (ltrs)	Allowable Water Loss Total (ltrs)
1	250	DI	PN 16	31	1.13	0.04

Allowable Water Loss grand total: 0.035 ltrs

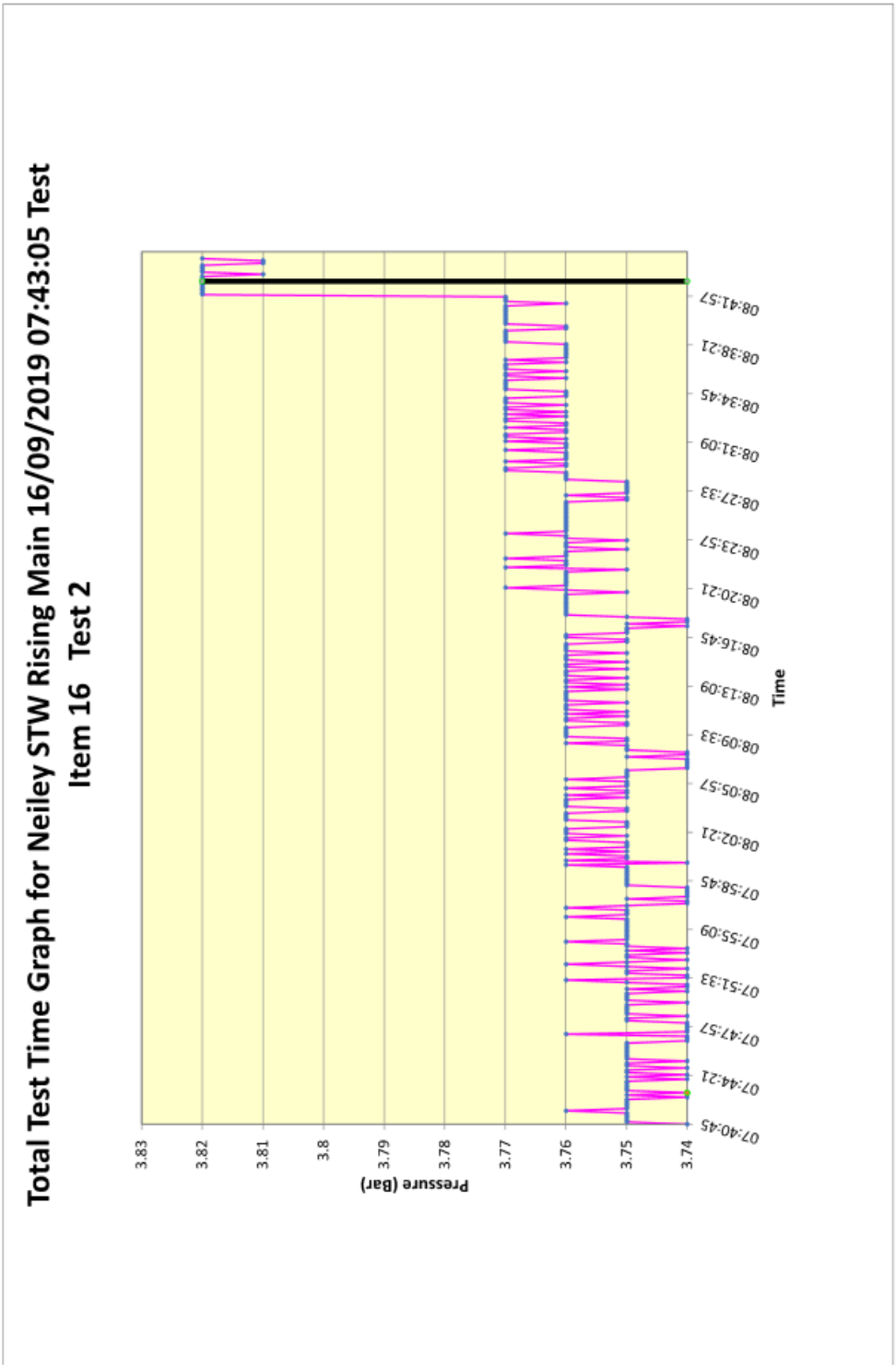
The actual lost/added volume of water was less than the maximum allowable loss/addition.
The test was, therefore, satisfactory.

Date: 16/09/2019

Ant Hire Solutions LLP

Note
The following information attached:
One hour test time graph
Data logging readings
Customer supplied data
Certificate of calibration, gauge & data logger

Ant Hire Solutions


Total Test Time Graph for Neiley STW Rising Main 16/09/2019 07:43:05 Test
Item 16 Test 2
Pressure (Bar)
3.83
3.82
3.81
3.8
3.79
3.78
3.77
3.76
3.75
3.74
Time
07:40:45
07:44:21
07:47:57
07:51:33
07:55:09
07:58:45
08:02:21
08:05:57
08:09:33
08:13:09
08:16:45
08:20:21
08:23:57
08:27:33
08:31:09
08:34:45
08:38:21
08:41:57

HYDROSTATIC PRESSURE TEST SUMMARY OF DATA

ONE HOUR TEST (Constant Pressure)

Contractors Name: S & B Utilities Ltd

Site: Neiley STW

Section of pipeline under test: Rising Main

Test Number: UTI002 4054 1 **Test Date:** 16/09/2019

Pipe details:

Row	Bore/DN size(mm)	Material	Class	Length (m)
1	250	DI	PN 16	31

Pipe Manufacturer: Electrosteel

Test Pressure (bar): 3.740

Test manifold vertical height relative to lowest point of pipeline (m): 1.00

Csv file name: UTI002_4054_16-09-19_#361
Pressure pump capacity (l/m): 1.50
Data logger serial number: DL4054

Downloaded Data for **Neiley STW Rising Main 16/09/2019 07:43:05 Test Item 16 Test 2**

Date	Time	Temp	Bar	True Test Pressure	Flow L/20 secs	Replaced Bar	Comments	
16/09/2019	07:40:45	12.0	3.640	3.740	0.000			
16/09/2019	07:40:55	12.0	3.650	3.750	0.000			
16/09/2019	07:41:05	12.0	3.650	3.750	0.000			
16/09/2019	07:41:15	12.0	3.650	3.750	0.000			
16/09/2019	07:41:25	12.0	3.650	3.750	0.000			
16/09/2019	07:41:35	12.0	3.650	3.750	0.000			
16/09/2019	07:41:45	12.0	3.660	3.760	0.000			
16/09/2019	07:41:55	12.0	3.650	3.750	0.000			
16/09/2019	07:42:05	12.0	3.650	3.750	0.000			
16/09/2019	07:42:15	12.0	3.650	3.750	0.000			
16/09/2019	07:42:25	12.0	3.650	3.750	0.000			
16/09/2019	07:42:35	12.0	3.650	3.750	0.000			
16/09/2019	07:42:45	12.0	3.640	3.740	0.000			
16/09/2019	07:42:55	12.0	3.650	3.750	0.000			
16/09/2019	07:43:05	12.0	3.640	3.740	0.000		Start of test	
16/09/2019	07:43:15	12.0	3.650	3.750	0.000			
16/09/2019	07:43:25	12.0	3.650	3.750	0.000			
16/09/2019	07:43:35	12.0	3.650	3.750	0.000			
16/09/2019	07:43:45	12.0	3.650	3.750	0.000			
16/09/2019	07:43:55	12.1	3.650	3.750	0.000			
16/09/2019	07:44:05	12.1	3.640	3.740	0.000			
16/09/2019	07:44:15	12.1	3.650	3.750	0.000			
16/09/2019	07:44:25	12.1	3.640	3.740	0.000			
16/09/2019	07:44:35	12.1	3.650	3.750	0.000			
16/09/2019	07:44:45	12.1	3.650	3.750	0.000			
16/09/2019	07:44:55	12.1	3.640	3.740	0.000			
16/09/2019	07:45:05	12.1	3.650	3.750	0.000			
16/09/2019	07:45:15	12.1	3.650	3.750	0.000			
16/09/2019	07:45:25	12.1	3.640	3.740	0.000			
16/09/2019	07:45:35	12.1	3.650	3.750	0.000			
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16/09/2019	07:46:45	12.1	3.650	3.750	0.000			
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16/09/2019	07:48:05	12.2	3.640	3.740	0.000			
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16/09/2019	07:48:35	12.2	3.650	3.750	0.000			
16/09/2019	07:48:45	12.2	3.640	3.740	0.000			
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16/09/2019	07:49:05	12.2	3.650	3.750	0.000			
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16/09/2019	07:49:35	12.2	3.650	3.750	0.000			
16/09/2019	07:49:45	12.2	3.640	3.740	0.000			
16/09/2019	07:49:55	12.2	3.650	3.750	0.000			
16/09/2019	07:50:05	12.2	3.650	3.750	0.000			
16/09/2019	07:50:15	12.2	3.650	3.750	0.000			
16/09/2019	07:50:25	12.2	3.650	3.750	0.000			
16/09/2019	07:50:35	12.2	3.640	3.740	0.000			

16/09/2019	07:50:45	12.2	3.650	3.750	0.000
16/09/2019	07:50:55	12.2	3.640	3.740	0.000
16/09/2019	07:51:05	12.2	3.640	3.740	0.000
16/09/2019	07:51:15	12.2	3.650	3.750	0.000
16/09/2019	07:51:25	12.3	3.660	3.760	0.000
16/09/2019	07:51:35	12.3	3.640	3.740	0.000
16/09/2019	07:51:45	12.3	3.640	3.740	0.000
16/09/2019	07:51:55	12.3	3.650	3.750	0.000
16/09/2019	07:52:05	12.3	3.650	3.750	0.000
16/09/2019	07:52:15	12.3	3.640	3.740	0.000
16/09/2019	07:52:25	12.3	3.650	3.750	0.000
16/09/2019	07:52:35	12.3	3.660	3.760	0.000
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16/09/2019	07:53:45	12.3	3.640	3.740	0.000
16/09/2019	07:53:55	12.3	3.650	3.750	0.000
16/09/2019	07:54:05	12.3	3.650	3.750	0.000
16/09/2019	07:54:15	12.3	3.660	3.760	0.000
16/09/2019	07:54:25	12.3	3.650	3.750	0.000
16/09/2019	07:54:35	12.3	3.650	3.750	0.000
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16/09/2019	07:55:15	12.3	3.650	3.750	0.000
16/09/2019	07:55:25	12.3	3.650	3.750	0.000
16/09/2019	07:55:35	12.3	3.650	3.750	0.000
16/09/2019	07:55:45	12.3	3.650	3.750	0.000
16/09/2019	07:55:55	12.3	3.650	3.750	0.000
16/09/2019	07:56:05	12.3	3.660	3.760	0.000
16/09/2019	07:56:15	12.3	3.650	3.750	0.000
16/09/2019	07:56:25	12.3	3.650	3.750	0.000
16/09/2019	07:56:35	12.4	3.650	3.750	0.000
16/09/2019	07:56:45	12.4	3.660	3.760	0.000
16/09/2019	07:56:55	12.4	3.650	3.750	0.000
16/09/2019	07:57:05	12.4	3.640	3.740	0.000
16/09/2019	07:57:15	12.4	3.640	3.740	0.000
16/09/2019	07:57:25	12.4	3.650	3.750	0.000
16/09/2019	07:57:35	12.4	3.640	3.740	0.000
16/09/2019	07:57:45	12.4	3.640	3.740	0.000
16/09/2019	07:57:55	12.4	3.640	3.740	0.000
16/09/2019	07:58:05	12.4	3.640	3.740	0.000
16/09/2019	07:58:15	12.4	3.640	3.740	0.000
16/09/2019	07:58:25	12.4	3.650	3.750	0.000
16/09/2019	07:58:35	12.4	3.650	3.750	0.000
16/09/2019	07:58:45	12.4	3.650	3.750	0.000
16/09/2019	07:58:55	12.4	3.650	3.750	0.000
16/09/2019	07:59:05	12.4	3.650	3.750	0.000
16/09/2019	07:59:15	12.4	3.650	3.750	0.000
16/09/2019	07:59:25	12.4	3.650	3.750	0.000
16/09/2019	07:59:35	12.4	3.650	3.750	0.000
16/09/2019	07:59:45	12.4	3.650	3.750	0.000
16/09/2019	07:59:55	12.4	3.660	3.760	0.000
16/09/2019	08:00:05	12.4	3.640	3.740	0.000
16/09/2019	08:00:15	12.4	3.660	3.760	0.000
16/09/2019	08:00:25	12.4	3.650	3.750	0.000
16/09/2019	08:00:35	12.4	3.650	3.750	0.000
16/09/2019	08:00:45	12.4	3.660	3.760	0.000
16/09/2019	08:00:55	12.5	3.650	3.750	0.000
16/09/2019	08:01:05	12.5	3.660	3.760	0.000
16/09/2019	08:01:15	12.5	3.650	3.750	0.000
16/09/2019	08:01:25	12.5	3.650	3.750	0.000
16/09/2019	08:01:35	12.5	3.650	3.750	0.000
16/09/2019	08:01:45	12.5	3.660	3.760	0.000

16/09/2019	08:01:55	12.5	3.660	3.760	0.000
16/09/2019	08:02:05	12.5	3.650	3.750	0.000
16/09/2019	08:02:15	12.5	3.660	3.760	0.000
16/09/2019	08:02:25	12.5	3.660	3.760	0.000
16/09/2019	08:02:35	12.5	3.660	3.760	0.000
16/09/2019	08:02:45	12.5	3.650	3.750	0.000
16/09/2019	08:02:55	12.5	3.650	3.750	0.000
16/09/2019	08:03:05	12.5	3.650	3.750	0.000
16/09/2019	08:03:15	12.5	3.660	3.760	0.000
16/09/2019	08:03:25	12.5	3.660	3.760	0.000
16/09/2019	08:03:35	12.5	3.660	3.760	0.000
16/09/2019	08:03:45	12.5	3.660	3.760	0.000
16/09/2019	08:03:55	12.5	3.650	3.750	0.000
16/09/2019	08:04:05	12.5	3.650	3.750	0.000
16/09/2019	08:04:15	12.5	3.660	3.760	0.000
16/09/2019	08:04:25	12.5	3.660	3.760	0.000
16/09/2019	08:04:35	12.5	3.660	3.760	0.000
16/09/2019	08:04:45	12.5	3.660	3.760	0.000
16/09/2019	08:04:55	12.5	3.650	3.750	0.000
16/09/2019	08:05:05	12.5	3.660	3.760	0.000
16/09/2019	08:05:15	12.5	3.650	3.750	0.000
16/09/2019	08:05:25	12.6	3.650	3.750	0.000
16/09/2019	08:05:35	12.5	3.660	3.760	0.000
16/09/2019	08:05:45	12.5	3.650	3.750	0.000
16/09/2019	08:05:55	12.6	3.650	3.750	0.000
16/09/2019	08:06:05	12.6	3.650	3.750	0.000
16/09/2019	08:06:15	12.6	3.660	3.760	0.000
16/09/2019	08:06:25	12.6	3.650	3.750	0.000
16/09/2019	08:06:35	12.6	3.650	3.750	0.000
16/09/2019	08:06:45	12.6	3.650	3.750	0.000
16/09/2019	08:06:55	12.6	3.650	3.750	0.000
16/09/2019	08:07:05	12.6	3.640	3.740	0.000
16/09/2019	08:07:15	12.6	3.640	3.740	0.000
16/09/2019	08:07:25	12.6	3.640	3.740	0.000
16/09/2019	08:07:35	12.6	3.640	3.740	0.000
16/09/2019	08:07:45	12.6	3.640	3.740	0.000
16/09/2019	08:07:55	12.6	3.650	3.750	0.000
16/09/2019	08:08:05	12.6	3.640	3.740	0.000
16/09/2019	08:08:15	12.6	3.640	3.740	0.000
16/09/2019	08:08:25	12.6	3.650	3.750	0.000
16/09/2019	08:08:35	12.6	3.650	3.750	0.000
16/09/2019	08:08:45	12.6	3.650	3.750	0.000
16/09/2019	08:08:55	12.6	3.660	3.760	0.000
16/09/2019	08:09:05	12.6	3.650	3.750	0.000
16/09/2019	08:09:15	12.6	3.650	3.750	0.000
16/09/2019	08:09:25	12.6	3.660	3.760	0.000
16/09/2019	08:09:35	12.6	3.660	3.760	0.000
16/09/2019	08:09:45	12.6	3.660	3.760	0.000
16/09/2019	08:09:55	12.6	3.660	3.760	0.000
16/09/2019	08:10:05	12.6	3.660	3.760	0.000
16/09/2019	08:10:15	12.6	3.650	3.750	0.000
16/09/2019	08:10:25	12.6	3.650	3.750	0.000
16/09/2019	08:10:35	12.6	3.660	3.760	0.000
16/09/2019	08:10:45	12.6	3.660	3.760	0.000
16/09/2019	08:10:55	12.6	3.650	3.750	0.000
16/09/2019	08:11:05	12.7	3.660	3.760	0.000
16/09/2019	08:11:15	12.7	3.650	3.750	0.000
16/09/2019	08:11:25	12.7	3.660	3.760	0.000
16/09/2019	08:11:35	12.7	3.660	3.760	0.000
16/09/2019	08:11:45	12.7	3.660	3.760	0.000
16/09/2019	08:11:55	12.7	3.650	3.750	0.000
16/09/2019	08:12:05	12.7	3.660	3.760	0.000
16/09/2019	08:12:15	12.7	3.660	3.760	0.000
16/09/2019	08:12:25	12.7	3.660	3.760	0.000
16/09/2019	08:12:35	12.7	3.660	3.760	0.000
16/09/2019	08:12:45	12.7	3.660	3.760	0.000
16/09/2019	08:12:55	12.7	3.650	3.750	0.000

16/09/2019	08:13:05	12.7	3.660	3.760	0.000
16/09/2019	08:13:15	12.7	3.650	3.750	0.000
16/09/2019	08:13:25	12.7	3.660	3.760	0.000
16/09/2019	08:13:35	12.7	3.660	3.760	0.000
16/09/2019	08:13:45	12.7	3.650	3.750	0.000
16/09/2019	08:13:55	12.7	3.660	3.760	0.000
16/09/2019	08:14:05	12.7	3.660	3.760	0.000
16/09/2019	08:14:15	12.7	3.660	3.760	0.000
16/09/2019	08:14:25	12.7	3.650	3.750	0.000
16/09/2019	08:14:35	12.7	3.660	3.760	0.000
16/09/2019	08:14:45	12.7	3.660	3.760	0.000
16/09/2019	08:14:55	12.8	3.650	3.750	0.000
16/09/2019	08:15:05	12.8	3.660	3.760	0.000
16/09/2019	08:15:15	12.8	3.660	3.760	0.000
16/09/2019	08:15:25	12.8	3.660	3.760	0.000
16/09/2019	08:15:35	12.8	3.650	3.750	0.000
16/09/2019	08:15:45	12.8	3.660	3.760	0.000
16/09/2019	08:15:55	12.8	3.660	3.760	0.000
16/09/2019	08:16:05	12.8	3.660	3.760	0.000
16/09/2019	08:16:15	12.8	3.660	3.760	0.000
16/09/2019	08:16:25	12.8	3.650	3.750	0.000
16/09/2019	08:16:35	12.8	3.650	3.750	0.000
16/09/2019	08:16:45	12.8	3.660	3.760	0.000
16/09/2019	08:16:55	12.8	3.660	3.760	0.000
16/09/2019	08:17:05	12.8	3.650	3.750	0.000
16/09/2019	08:17:15	12.8	3.650	3.750	0.000
16/09/2019	08:17:25	12.8	3.650	3.750	0.000
16/09/2019	08:17:35	12.8	3.640	3.740	0.000
16/09/2019	08:17:45	12.8	3.650	3.750	0.000
16/09/2019	08:17:55	12.8	3.640	3.740	0.000
16/09/2019	08:18:05	12.8	3.640	3.740	0.000
16/09/2019	08:18:15	12.8	3.650	3.750	0.000
16/09/2019	08:18:25	12.8	3.660	3.760	0.000
16/09/2019	08:18:35	12.8	3.660	3.760	0.000
16/09/2019	08:18:45	12.8	3.660	3.760	0.000
16/09/2019	08:18:55	12.8	3.660	3.760	0.000
16/09/2019	08:19:05	12.8	3.660	3.760	0.000
16/09/2019	08:19:15	12.8	3.660	3.760	0.000
16/09/2019	08:19:25	12.8	3.660	3.760	0.000
16/09/2019	08:19:35	12.8	3.660	3.760	0.000
16/09/2019	08:19:45	12.8	3.660	3.760	0.000
16/09/2019	08:19:55	12.8	3.660	3.760	0.000
16/09/2019	08:20:05	12.8	3.650	3.750	0.000
16/09/2019	08:20:15	12.8	3.660	3.760	0.000
16/09/2019	08:20:25	12.8	3.670	3.770	0.000
16/09/2019	08:20:35	12.8	3.660	3.760	0.000
16/09/2019	08:20:45	12.8	3.660	3.760	0.000
16/09/2019	08:20:55	12.8	3.660	3.760	0.000
16/09/2019	08:21:05	12.8	3.660	3.760	0.000
16/09/2019	08:21:15	12.8	3.660	3.760	0.000
16/09/2019	08:21:25	12.8	3.660	3.760	0.000
16/09/2019	08:21:35	12.8	3.660	3.760	0.000
16/09/2019	08:21:45	12.9	3.650	3.750	0.000
16/09/2019	08:21:55	12.9	3.670	3.770	0.000
16/09/2019	08:22:05	12.9	3.660	3.760	0.000
16/09/2019	08:22:15	12.9	3.660	3.760	0.000
16/09/2019	08:22:25	12.9	3.660	3.760	0.000
16/09/2019	08:22:35	12.9	3.670	3.770	0.000
16/09/2019	08:22:45	12.9	3.660	3.760	0.000
16/09/2019	08:22:55	12.9	3.660	3.760	0.000
16/09/2019	08:23:05	12.9	3.660	3.760	0.000
16/09/2019	08:23:15	12.9	3.650	3.750	0.000
16/09/2019	08:23:25	12.9	3.660	3.760	0.000
16/09/2019	08:23:35	12.9	3.660	3.760	0.000
16/09/2019	08:23:45	12.9	3.660	3.760	0.000
16/09/2019	08:23:55	12.9	3.650	3.750	0.000
16/09/2019	08:24:05	12.9	3.660	3.760	0.000

16/09/2019	08:24:15	12.9	3.660	3.760	0.000
16/09/2019	08:24:25	12.9	3.670	3.770	0.000
16/09/2019	08:24:35	12.9	3.660	3.760	0.000
16/09/2019	08:24:45	12.9	3.660	3.760	0.000
16/09/2019	08:24:55	12.9	3.660	3.760	0.000
16/09/2019	08:25:05	12.9	3.660	3.760	0.000
16/09/2019	08:25:15	12.9	3.660	3.760	0.000
16/09/2019	08:25:25	12.9	3.660	3.760	0.000
16/09/2019	08:25:35	12.9	3.660	3.760	0.000
16/09/2019	08:25:45	12.9	3.660	3.760	0.000
16/09/2019	08:25:55	12.9	3.660	3.760	0.000
16/09/2019	08:26:05	12.9	3.660	3.760	0.000
16/09/2019	08:26:15	12.9	3.660	3.760	0.000
16/09/2019	08:26:25	12.9	3.660	3.760	0.000
16/09/2019	08:26:35	12.9	3.660	3.760	0.000
16/09/2019	08:26:45	12.9	3.660	3.760	0.000
16/09/2019	08:26:55	12.9	3.650	3.750	0.000
16/09/2019	08:27:05	12.9	3.650	3.750	0.000
16/09/2019	08:27:15	12.9	3.660	3.760	0.000
16/09/2019	08:27:25	12.9	3.650	3.750	0.000
16/09/2019	08:27:35	12.9	3.650	3.750	0.000
16/09/2019	08:27:45	12.9	3.650	3.750	0.000
16/09/2019	08:27:55	12.9	3.650	3.750	0.000
16/09/2019	08:28:05	12.9	3.650	3.750	0.000
16/09/2019	08:28:15	12.9	3.650	3.750	0.000
16/09/2019	08:28:25	12.9	3.660	3.760	0.000
16/09/2019	08:28:35	12.9	3.660	3.760	0.000
16/09/2019	08:28:45	12.9	3.660	3.760	0.000
16/09/2019	08:28:55	12.9	3.660	3.760	0.000
16/09/2019	08:29:05	12.9	3.670	3.770	0.000
16/09/2019	08:29:15	12.9	3.670	3.770	0.000
16/09/2019	08:29:25	12.9	3.660	3.760	0.000
16/09/2019	08:29:35	12.9	3.660	3.760	0.000
16/09/2019	08:29:45	12.9	3.670	3.770	0.000
16/09/2019	08:29:55	12.9	3.660	3.760	0.000
16/09/2019	08:30:05	12.9	3.660	3.760	0.000
16/09/2019	08:30:15	12.9	3.660	3.760	0.000
16/09/2019	08:30:25	12.9	3.660	3.760	0.000
16/09/2019	08:30:35	12.9	3.670	3.770	0.000
16/09/2019	08:30:45	12.9	3.660	3.760	0.000
16/09/2019	08:30:55	12.9	3.660	3.760	0.000
16/09/2019	08:31:05	12.9	3.660	3.760	0.000
16/09/2019	08:31:15	12.9	3.670	3.770	0.000
16/09/2019	08:31:25	12.9	3.660	3.760	0.000
16/09/2019	08:31:35	12.9	3.670	3.770	0.000
16/09/2019	08:31:45	12.9	3.670	3.770	0.000
16/09/2019	08:31:55	12.9	3.660	3.760	0.000
16/09/2019	08:32:05	12.9	3.660	3.760	0.000
16/09/2019	08:32:15	12.9	3.670	3.770	0.000
16/09/2019	08:32:25	12.9	3.660	3.760	0.000
16/09/2019	08:32:35	12.9	3.660	3.760	0.000
16/09/2019	08:32:45	12.9	3.670	3.770	0.000
16/09/2019	08:32:55	12.9	3.670	3.770	0.000
16/09/2019	08:33:05	12.9	3.660	3.760	0.000
16/09/2019	08:33:15	12.9	3.670	3.770	0.000
16/09/2019	08:33:25	13.0	3.660	3.760	0.000
16/09/2019	08:33:35	13.0	3.670	3.770	0.000
16/09/2019	08:33:45	13.0	3.670	3.770	0.000
16/09/2019	08:33:55	13.0	3.660	3.760	0.000
16/09/2019	08:34:05	13.0	3.670	3.770	0.000
16/09/2019	08:34:15	13.0	3.670	3.770	0.000
16/09/2019	08:34:25	13.0	3.670	3.770	0.000
16/09/2019	08:34:35	13.0	3.660	3.760	0.000
16/09/2019	08:34:45	13.0	3.660	3.760	0.000
16/09/2019	08:34:55	13.0	3.660	3.760	0.000
16/09/2019	08:35:05	13.0	3.670	3.770	0.000
16/09/2019	08:35:15	13.0	3.670	3.770	0.000

16/09/2019	08:35:25	13.0	3.670	3.770	0.000	
16/09/2019	08:35:35	13.0	3.670	3.770	0.000	
16/09/2019	08:35:45	13.0	3.670	3.770	0.000	
16/09/2019	08:35:55	13.0	3.660	3.760	0.000	
16/09/2019	08:36:05	13.0	3.670	3.770	0.000	
16/09/2019	08:36:15	13.0	3.670	3.770	0.000	
16/09/2019	08:36:25	13.0	3.660	3.760	0.000	
16/09/2019	08:36:35	13.0	3.670	3.770	0.000	
16/09/2019	08:36:45	13.0	3.670	3.770	0.000	
16/09/2019	08:36:55	13.0	3.670	3.770	0.000	
16/09/2019	08:37:05	13.0	3.660	3.760	0.000	
16/09/2019	08:37:15	13.0	3.670	3.770	0.000	
16/09/2019	08:37:25	13.0	3.660	3.760	0.000	
16/09/2019	08:37:35	13.0	3.660	3.760	0.000	
16/09/2019	08:37:45	13.0	3.660	3.760	0.000	
16/09/2019	08:37:55	13.0	3.660	3.760	0.000	
16/09/2019	08:38:05	13.0	3.660	3.760	0.000	
16/09/2019	08:38:15	13.0	3.660	3.760	0.000	
16/09/2019	08:38:25	13.0	3.660	3.760	0.000	
16/09/2019	08:38:35	13.0	3.670	3.770	0.000	
16/09/2019	08:38:45	13.0	3.670	3.770	0.000	
16/09/2019	08:38:55	13.0	3.670	3.770	0.000	
16/09/2019	08:39:05	13.0	3.670	3.770	0.000	
16/09/2019	08:39:15	13.0	3.670	3.770	0.000	
16/09/2019	08:39:25	13.0	3.670	3.770	0.000	
16/09/2019	08:39:35	13.0	3.660	3.760	0.000	
16/09/2019	08:39:45	13.0	3.660	3.760	0.000	
16/09/2019	08:39:55	13.0	3.670	3.770	0.000	
16/09/2019	08:40:05	13.0	3.670	3.770	0.000	
16/09/2019	08:40:15	13.0	3.670	3.770	0.000	
16/09/2019	08:40:25	13.0	3.670	3.770	0.000	
16/09/2019	08:40:35	13.0	3.670	3.770	0.000	
16/09/2019	08:40:45	13.0	3.670	3.770	0.000	
16/09/2019	08:40:55	13.0	3.670	3.770	0.000	
16/09/2019	08:41:05	13.0	3.670	3.770	0.000	
16/09/2019	08:41:15	13.0	3.670	3.770	0.000	
16/09/2019	08:41:25	13.0	3.660	3.760	0.000	
16/09/2019	08:41:35	13.0	3.670	3.770	0.000	
16/09/2019	08:41:45	13.0	3.670	3.770	0.000	
16/09/2019	08:41:55	13.0	3.670	3.770	0.000	
16/09/2019	08:42:05	13.0	3.720	3.820	0.015	
16/09/2019	08:42:15	13.0	3.720	3.820	0.000	
16/09/2019	08:42:25	13.0	3.720	3.820	0.000	
16/09/2019	08:42:35	13.0	3.720	3.820	0.000	
16/09/2019	08:42:45	13.0	3.720	3.820	0.000	
16/09/2019	08:42:55	13.0	3.720	3.820	0.000	
16/09/2019	08:43:05	13.0	3.720	3.820	0.000	End of test
16/09/2019	08:43:15	13.0	3.720	3.820	0.000	
16/09/2019	08:43:25	13.0	3.720	3.820	0.000	
16/09/2019	08:43:35	13.0	3.710	3.810	0.000	
16/09/2019	08:43:45	13.0	3.720	3.820	0.000	
16/09/2019	08:43:55	13.0	3.720	3.820	0.000	
16/09/2019	08:44:05	13.0	3.720	3.820	0.000	
16/09/2019	08:44:15	13.0	3.720	3.820	0.000	
16/09/2019	08:44:25	13.0	3.710	3.810	0.000	
16/09/2019	08:44:35	13.0	3.710	3.810	0.000	
16/09/2019	08:44:45	13.0	3.720	3.820	0.000	

INSPECTION CHECKLIST

Safety Communication Quality Integrity TeamSpirit Caring Trust Pride

Barhale

Business Unit: Yorkshire	Area:	Checklist No.:	Sheet No.: 1 of 1
Contract: IPPC Method Testing			Contract No.: LE0020
Section: Nelley STW		Element: Item 20 Liquors Wet Well	

Wet Well Drop Test

		Result	✓/✗	Comments
1)	Clean well. Take photos of all surfaces		✓	
2)	Bund off inlets and outlets. Record size and loaction		✓	3
2a)	1 x 300mm invert 96.2 - Liquors		✓	
2b)	1 x 300mm invert 95.32 - unknown		✓	
2c)	1 x 200mm invert 95.12 - unknown		✓	
2d)	Overflow invert 99.20			
3)	Fill to 0.2m below coping level or to the level of overflow. Leave absorb for 8hrs	9/9 1300. 10/9 07:55	✓	
4)	Refill wet well 99.20m		✓	
5)	Record start time	0900	✓	
6)	Record level after 30min. Maximum change = 3mm	99.20 @ 0830	✓	

Comments:
wet well Cleaned & filled 9/9/19
Tested 10/9/19

Barhale Approval:				Client Approval:			
Black hat responsible for work:				Organisation:			
Black Hat Signature:							
Site Manager Name:	Brian Kerr			Print:			
Site Manager Signature:		Date:	10/9/19	Sign:		Date:	

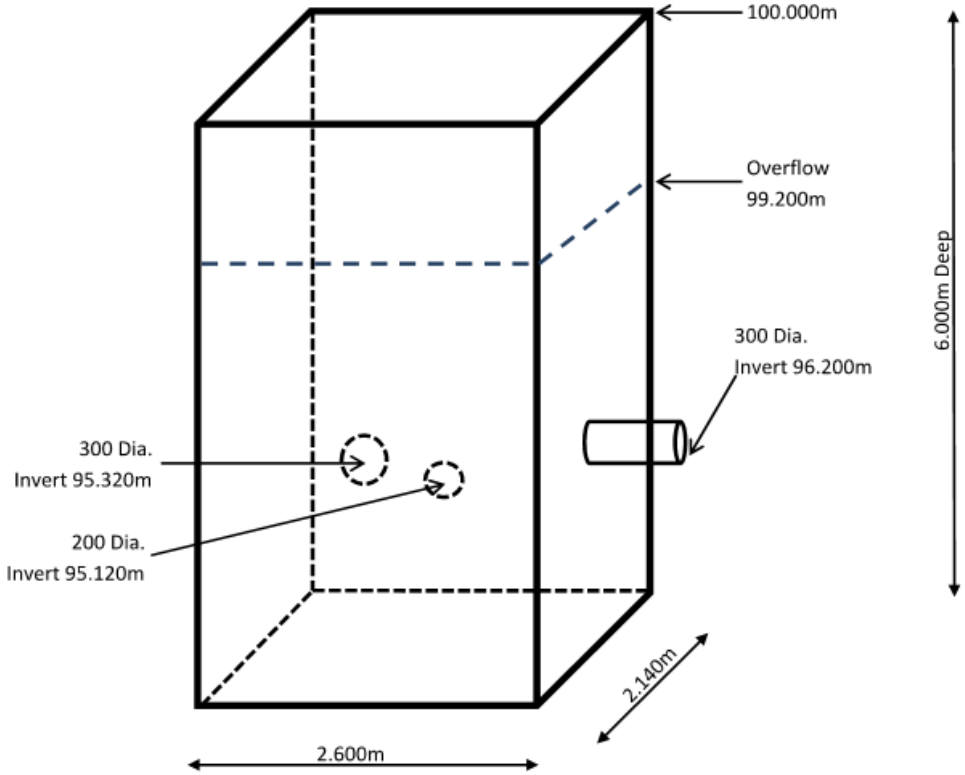
CF322-52 Version 3

B7 Drop Test for Concrete Sumps & Wet Wells.

Date: Tuesday 10th September 2019

Location: Neiley Sewage Treatment Works

Element: Liquor Return Wet Well



Fill Level	09.09.2019	99.200m	Time: 13:00 PM
Level	10.09.2019	99.190m	Time: 07:55 AM
Top up to level	10.09.2019	99.200m	Time: 08:00 AM
Level After 30 minutes	10.09.2019	99.200m	Time: 08:30 AM

Appendix C

CCTV Survey Report

C1

JET AIRE SERVICES

GR7136 NEILY WWTW

Jet Aire Services, Northways Court, Great North Road, Aberford, West Yorkshire
Telephone: 0113 393 5500, Email: enquiries@jetaire.co.uk

JET AIRE SERVICES
IRON MASTER PARK, RIVERSIDE PARK ROAD
MIDDLESBROUGH
Tel.: 01642 690045
Fax:
Email: Gavin.McCann@jetaire.co.uk

Table of contents

Project Name:	Project number:	Date:	Contact:	
GR7136 NEILY WWTW	GR/7136	30/08/2019		

Inspection: 1

JET AIRE SERVICES
IRON MASTER PARK, RIVERSIDE PARK ROAD
MIDDLESBROUGH
Tel: 01642 690045
Fax:
Email: Gavin.McCann@jetaire.co.uk

Project-information

Project name :	Project Number :	Contact :	Date :
GR7136 NEILY WWTW	GR/7136		22/08/2019

Client:	**S & B UTILITIES LTD**
Contact Name:	**SCOTT DEVANEY**
Department:	
Road:	**MARKET FLAT LANE**
Town:	**KNARESBOROUGH**
County:	**NORTH YORKSHIRE**
Telephone:	
Fax:	
Mobile:	
E-mail:	

Site:	**NEILY WWTW**
Contact Name:	**SCOTT DEVANEY**
Department:	
Road:	**NEW MILL ROAD**
Town:	**BROCKHOLES**
County:	**WEST YORKSHIRE**
Telephone:	
Fax:	
Mobile:	
E-mail:	

Contractor	**JET AIRE SERVICES**
Contact Name:	**GAVIN MCCANN**
Department:	
Road:	**IRON MASTER PARK, RIVERSIDE PARK ROAD**
Town:	**MIDDLESBROUGH**
County:	**TEESSIDE**
Telephone:	**01642 690045**
Fax:	
Mobile:	
E-mail:	**Gavin.McCann@jetaire.co.uk**

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
22/08/2019	GR/7136	no rain or snow	AW	1	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	YA16 HDG	PUSHROD		yes	AW

Place :	BROCKHOLES	Location details:		U/S MH :	G1
Road :	NEILY WWTW, NEW MILL ROAD	Catchment:		U/S Depth :	
Location	Other (state in comments)	Tape number :		D/S MH :	G
Inspection	G (U/S) G1	Pipe Length		D/S Depth :	0.58
Use:	Trade effluent		Pipe shape :	Circular	
Year laid :	Z		Pipe size :	150 mm	
Purpose :	Routine inspection of condition		Pipe material :	Cast iron	
Total length :	6.08 m		Lining :		

Comment :

1:60 Position	Observation	Grade
Depth: 0.58		
G		
0.00	Start node type, manhole reference number: G	0
0.00	Water level, 5% of the vertical dimension	0
6.08	Finish node type, gully reference number: G1 ACO Remarks: ACO	0
G1		

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
22/08/2019	GR/7136	no rain or snow	AW	2	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	YA16 HDG	PUSHROD		yes	AW

Place :	BROCKHOLES	Location details:		U/S MH :	G
Road :	NEILY WWTW, NEW MILL ROAD	Catchment:		U/S Depth :	0.58
Location	Other (state in comments)	Tape number :		D/S MH :	E
Inspection	G (D/S) E	Pipe Length		D/S Depth :	
Use:	Trade effluent		Pipe shape :	Circular	
Year laid :	Z		Pipe size :	150 mm	
Purpose :	Routine inspection of condition		Pipe material :	Cast iron	
Total length :	4.09 m		Lining :		

Comment :

1:50 Position		Observation	Grade
Depth: 0.58			
0.00		Start node type, manhole reference number: G	0
0.00		Water level, 5% of the vertical dimension	0
2.96	S01	Attached deposits, encrustation, from 10 to 2 o'clock, 10% cross-sectional area loss, Start	3
4.09	F01	Attached deposits, encrustation, from 10 to 2 o'clock, 10% cross-sectional area loss, End	3
4.09		Finish node type, manhole reference number: E	0

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	1	2	0.54	2.2	3

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
22/08/2019	GR/7136	no rain or snow	AW	3	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	YA16 HDG	PUSHROD		yes	AW

Place :	BROCKHOLES	Location details:		U/S MH :	E
Road :	NEILY WWTW, NEW MILL ROAD	Catchment:		U/S Depth :	
Location	Other (state in comments)	Tape number :		D/S MH :	C
Inspection	E (D/S) C	Pipe Length		D/S Depth :	
Use:	Trade effluent		Pipe shape :	Circular	
Year laid :	Z		Pipe size :	150 mm	
Purpose :	Routine inspection of condition		Pipe material :	Cast iron	
Total length :	2.03 m		Lining :		

Comment :

1:50	Position	Observation	Grade
E	0.00	Start node type, manhole reference number: E	0
	0.00	Water level, 5% of the vertical dimension	0
	0.89	Line deviates down Remarks: SHARP	0
	2.03	Finish node type, manhole reference number: C	0
C			

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
22/08/2019	GR/7136	no rain or snow	AW	4	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	YA16 HDG	PUSHROD		yes	AW

Place :	BROCKHOLES	Location details:		U/S MH :	B
Road :	NEILY WWTW, NEW MILL ROAD	Catchment:		U/S Depth :	
Location	Other (state in comments)	Tape number :		D/S MH :	B1
Inspection	B1 (U/S) B	Pipe Length		D/S Depth :	0.36
Use:	Trade effluent		Pipe shape :	Circular	
Year laid :	Z		Pipe size :	150 mm	
Purpose :	Routine inspection of condition		Pipe material :	Polyvinyl chloride	
Total length :	1.97 m		Lining :		

Comment :

1:50 Position	Observation	Grade
Depth: 0.36		
B1		
0.00	Start node type, manhole reference number: B1	0
0.00	Water level, 5% of the vertical dimension	0
1.97	Finish node type, manhole reference number: B	0
B		

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
22/08/2019	GR/7136	no rain or snow	AW	5	X
Weather	Vehicle :	Camera :	Preset :	Cleaned :	Operator :
no rain or snow	YA16 HDG	PUSHROD		yes	AW

Place :	BROCKHOLES	Location details:		U/S MH :	B1
Road :	NEILY WWTW, NEW MILL ROAD	Catchment:		U/S Depth :	0.36
Location	Other (state in comments)	Tape number :		D/S MH :	B2
Inspection	B1 (D/S) B2	Pipe Length		D/S Depth :	
Use:	Trade effluent		Pipe shape :	Circular	
Year laid :	Z		Pipe size :	150 mm	
Purpose :	Routine inspection of condition		Pipe material :	Polyvinyl chloride	
Total length :	2.62 m		Lining :		

Comment :

1:50 Position	Observation	Grade
Depth: 0.36		
B1		
0.00	Start node type, manhole reference number: B1	0
0.00	Water level, 5% of the vertical dimension	0
0.95	Water level, 10% of the vertical dimension	0
1.31	Line deviates right Remarks: SLIGHT	0
2.10	Water level, 5% of the vertical dimension	0
2.62	Finish node type, manhole reference number: B2	0
B2		

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
22/08/2019	**GR/7136**	**no rain or snow**	**AW**	**6**	**X**
Weather	Vehicle :	Camera :	Preset :	Cleaned :	Operator :
no rain or snow	**YA16 HDG**	**PUSHROD**		**yes**	**AW**

Place :	**BROCKHOLES**	Location details:		U/S MH :	**B2**
Road :	**NEILY WWTW, NEW MILL ROAD**	Catchment:		U/S Depth :	**1.4**
Location	**Other (state in comments)**	Tape number :		D/S MH :	**C**
Inspection	**B2 (D/S) C**	Pipe Length		D/S Depth :	
Use:	**Trade effluent**		Pipe shape :	**Circular**	
Year laid :	**Z**		Pipe size :	**225 mm**	
Purpose :	**Routine inspection of condition**		Pipe material :	**Cast iron**	
Total length :	**19.60 m**		Lining :		

Comment :

1:165 Position	Observation	Grade
Depth: 1.4		
B2		
0.00	Start node type, manhole reference number: B2	0
0.00	Water level, 5% of the vertical dimension	0
19.60	Finish node type, manhole reference number: C	0
C		

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
23/08/2019	GR/7136	no rain or snow	AW	7	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	YA16 HDG	PUSHROD		yes	AW

Place :	BROCKHOLES	Location details:		U/S MH :	D1
Road :	NEILY WWTW, NEW MILL ROAD	Catchment:		U/S Depth :	1.9
Location	Other (state in comments)	Tape number :		D/S MH :	D
Inspection	D1 (D/S) D	Pipe Length		D/S Depth :	
Use:	Trade effluent		Pipe shape :	Circular	
Year laid :	Z		Pipe size :	150 mm	
Purpose :	Routine inspection of condition		Pipe material :	Cast iron	
Total length :	2.16 m		Lining :		

Comment :

1:50 Position	Observation	Grade
Depth: 1.9		
D1		
0.00	Start node type, manhole reference number: D1	0
0.00	Water level, 10% of the vertical dimension	0
0.27	Line deviates left Remarks: MEDIUM	0
0.27	Water level, 5% of the vertical dimension	0
2.16	Finish node type, manhole reference number: D	0
D		

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
23/08/2019	GR/7136	no rain or snow	AW	8	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	YA16 HDG	CRAWLER		yes	AW

Place :	BROCKHOLES	Location details:		U/S MH :	C
Road :	NEILY WWTW, NEW MILL ROAD	Catchment:		U/S Depth :	1.83
Location	Other (state in comments)	Tape number :		D/S MH :	D
Inspection	C (D/S) D	Pipe Length		D/S Depth :	
Use:	Trade effluent		Pipe shape :	Circular	
Year laid :	Z		Pipe size :	225 mm	
Purpose :	Routine inspection of condition		Pipe material :	Cast iron	
Total length :	11.16 m		Lining :		

Comment :

1:90 Position	Observation	Grade
Depth: 1.83		
C		
0.00	Start node type, manhole reference number: C	0
0.00	Water level, 5% of the vertical dimension	0
11.16	Finish node type, manhole reference number: D	0
D		

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

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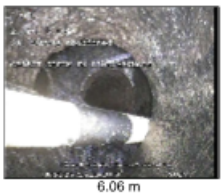
Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
23/08/2019	GR/7136	no rain or snow	AW	9	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	YA16 HDG	CRAWLER		yes	AW

Place :	BROCKHOLES	Location details:		U/S MH :	D
Road :	NEILY WWTW, NEW MILL ROAD	Catchment:		U/S Depth :	2.6
Location	Other (state in comments)	Tape number :		D/S MH :	J
Inspection	D (D/S) J	Pipe Length		D/S Depth :	
Use:	Trade effluent		Pipe shape :	Circular	
Year laid :	Z		Pipe size :	225 mm	
Purpose :	Routine inspection of condition		Pipe material :	Cast iron	
Total length :	6.06 m		Lining :		

Comment :

1:60 Position Depth: 2.6		Observation	Grade
0.00		Start node type, manhole reference number: D	0
0.00		Water level, 5% of the vertical dimension	0
0.00	S01	Attached deposits, encrustation, from 7 to 5 o'clock, 10% cross-sectional area loss, Start	3
1.45		Water level, 10% of the vertical dimension	0
5.15		Water level, 5% of the vertical dimension	0
6.06	F01	Attached deposits, encrustation, from 7 to 5 o'clock, 10% cross-sectional area loss, End	3
6.06		Other obstacles, other object in invert, from 8 to 4 o'clock, 10% cross-sectional area loss Remarks: BAR COMING FROM MANHOLE	5
6.06		Finish node type, manhole reference number: J	0


6.06 m

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	2	12	3.63	22	5

Place :

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Inspection pictures

Place :	Road :	Date :	Section number :	PLR Suffix :
BROCKHOLES	NEILY WWTW, NEW MILL ROAD	23/08/2019	9	X

Photo: 9_1_7_30082019_091900_A.jpg
6.06m, Other obstacles, other object in invert, from 8 to 4 o'clock, 10% cross-sectional area loss

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
23/08/2019	GR/7136	no rain or snow	AW	10	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	YA16 HDG	CRAWLER		yes	AW

Place :	BROCKHOLES	Location details:		U/S MH :	J
Road :	NEILY WWTW, NEW MILL ROAD	Catchment:		U/S Depth :	
Location	Other (state in comments)	Tape number :		D/S MH :	K
Inspection	K (U/S) J	Pipe Length		D/S Depth :	3.2
Use:	Trade effluent		Pipe shape :	Circular	
Year laid :	Z		Pipe size :	300 mm	
Purpose :	Routine inspection of condition		Pipe material :	Cast iron	
Total length :	15.87 m		Lining :		

Comment :

1:135 **Position** **Observation** **Grade**

Depth: 3.2

Position		Observation	Grade
K			
0.00		Start node type, manhole reference number: K	0
0.00		Water level, 10% of the vertical dimension	0
0.00	S01	Attached deposits, encrustation, from 7 to 5 o'clock, 5% cross-sectional area loss, Start	3
1.38		Water level, 15% of the vertical dimension	0
7.07		Water level, 5% of the vertical dimension	0
15.87	F01	Attached deposits, encrustation, from 7 to 5 o'clock, 5% cross-sectional area loss, End	3
15.87		General remark Remarks: BAR IN MANHOLE	0
J			
15.87		Finish node type, manhole reference number: J	0

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	1	2	1.99	31.6	3

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
23/08/2019	GR/7136	no rain or snow	AW	11	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	YA16 HDG	CRAWLER		yes	AW

Place :	BROCKHOLES	Location details:		U/S MH :	K
Road :	NEILY WWTW, NEW MILL ROAD	Catchment:		U/S Depth :	3.2
Location	Other (state in comments)	Tape number :		D/S MH :	PUMP STATION
Inspection	K (D/S) PUMP STATION	Pipe Length		D/S Depth :	
Use:	Trade effluent		Pipe shape :	Circular	
Year laid :	Z		Pipe size :	300 mm	
Purpose :	Routine inspection of condition		Pipe material :	Cast iron	
Total length :	3.02 m		Lining :		

Comment :

1:50 Position		Observation	Grade
Depth: 3.2			
0.00		Start node type, manhole reference number: K	0
0.00		Water level, 5% of the vertical dimension	0
0.00	S01	Attached deposits, encrustation, from 7 to 5 o'clock, 10% cross-sectional area loss, Start	3
0.80		Settled deposits, coarse, 5% cross-sectional area loss	3
3.02	F01	Attached deposits, encrustation, from 7 to 5 o'clock, 10% cross-sectional area loss, End	3
3.02		Finish node type, other special chamber reference number: PUMP STATION PUMP STATION Remarks: PUMP STATION	0

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	2	4	2.65	8	4

Appendix D. Asset Integrity Report by MGJV (2013)

MORGAN SINDALL Grontmij JOINT VENTURE

Form Ref: F C1 019 YW Rev A

Amp 5 iPPC Compliance testing and Inspection

Client:	Yorkshire Water	**Batch/ Project No:**	100252
Batch/ Project Name:	Compliance with Sludge Licencing – IPPC Investigations	**Report Title:**	Nelley STF, Compliance with IPPC, Asset Inspection Report
Client Ref:	Q0227	**Doc Reference:**	RE-100252-07-01
Date:	13th March 2013	**Revision No:**	1

Main Contributors	Role	Signature
M. Thorpe	Senior Engineer	M Thorpe.

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Signed:	T T Kelly	**Signed:**	A Sang
Position:	CP Batch Design Manager	**Position:**	CP Stream Manager
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Accepted by:	L. Stubbs	**Accepted by:**	Z. Cranmer
Signed:		**Signed:**	
Position	YWS Solution Engineer	**Position**	YWS Project Manager

AMENDMENT RECORD

issue	Date	Details of Changes	Checked	Approved
1				
2				
3				
4				

TABLE OF CONTENTS

1 Introduction

Yorkshire Water Services (YWS) operate the Neiley Sludge Treatment Facility (STF) in accordance with the Integrated Pollution Prevention and Control (IPPC) permit number KP3536LL issued by the Environment Agency (EA) on the 16th March 2007.

The conditions of the IPPC permit state that the STF shall be operated in accordance with a management system, which identifies and minimises risks of pollution by regular inspection of above and below ground assets within the IPPC permit boundary. These inspections have been conducted by Morgan Sindall Grontmij Joint Venture (MGJV) for YW, in line with the generic testing methodology document W0001P3, issued by Ove Arup and Partners on the 4th November 2009

The content of this MGJV report has been produced in accordance with the procedures and recommended testing intervals set out in the Ove Arup document W0001P3. This report should be read in conjunction with the Ove Arup Testing Results Report, Appendix 2 and the conditions of the IPPC permit issued by the Environment Agency.

2 MGJV Asset Inspection Report

The Neiley STF was visited by MGJV on 15th January 2013. The integrity of the assets (Storage tanks, below and above ground pipes and sumps) assessed are those identified within the IPPC boundary limits shown on the site plan in section 4.1. YWS confirmed to the MGJV/YWS site visit that the IPPC boundary limits were correct and agreed with the EA. Only the assets within the IPPC boundary limits have been considered by this report.

Previous tests at the Neiley STF were carried out by Ove Arup and Partners in December 2008.

MGJV has used the same asset/item numbering system as in these previous tests and has taken asset installation dates, life expectancy and condition at the time of these tests from the test report (Arup 2010). MGJV has accepted this information as a true record for the purposes of this report.

3 Weekly Site Inspection and Reporting as Required by the IPPC Permit

The site operator on a weekly basis visually inspects the above ground assets within the IPPC boundary and the results are recorded. Records are kept on site for inspection and were viewed during this site survey; a sample copy of the record is shown in Appendix 1.

4 Testing and Inspection as Required by the IPPC Permit

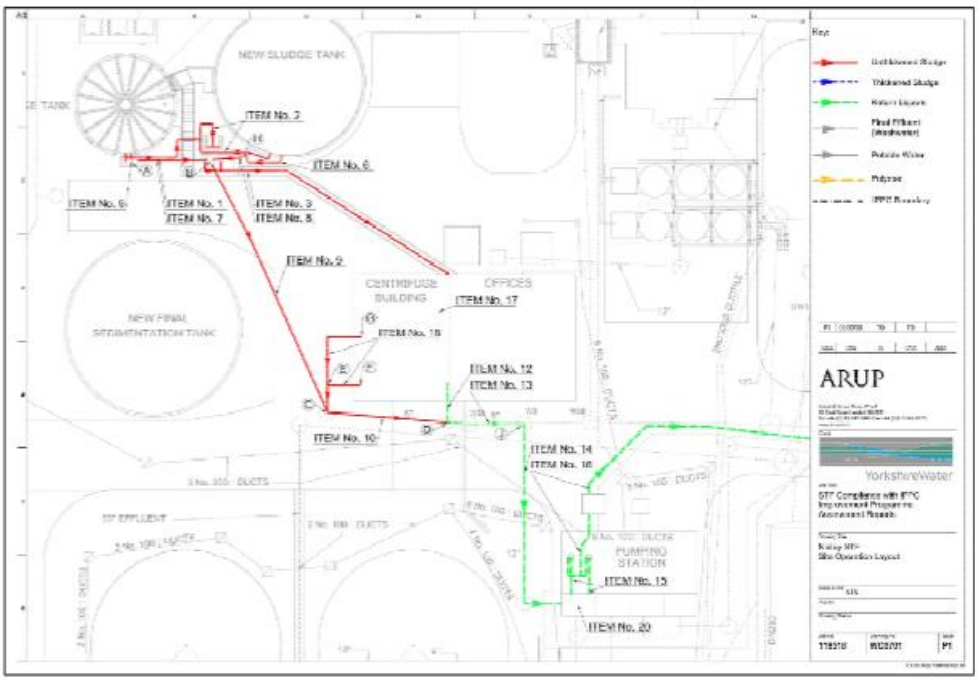
4.1 Testing Requirements

The Neiley IPPC Testing Requirements table lists the assets included within the Neiley STF IPPC permit boundary. The asset detail is from the previous Testing Results Report (Appendix 2) and the testing intervals from the Generic Testing Methodology document.

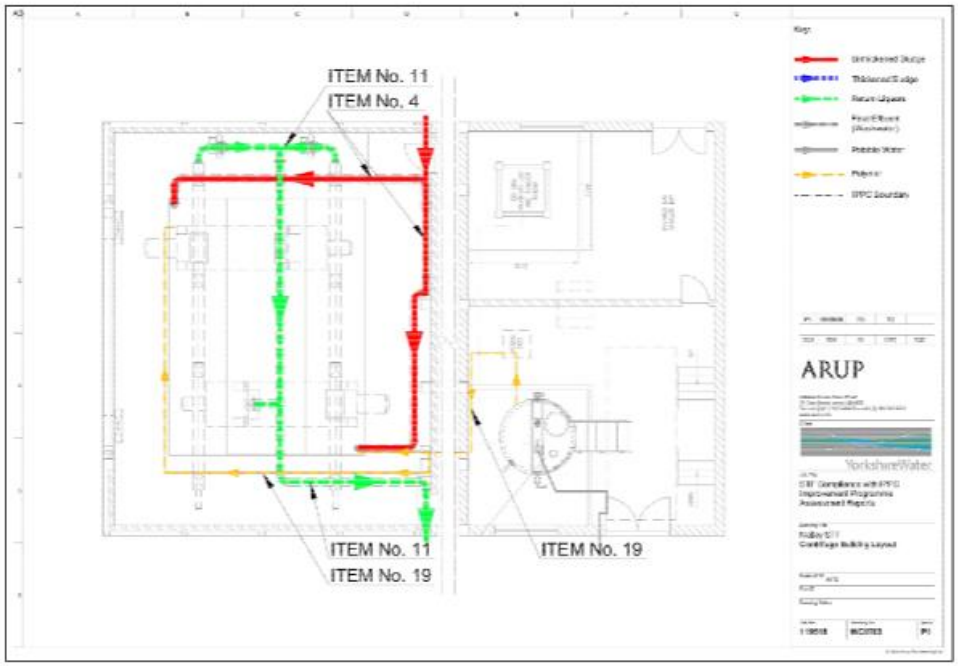
The current condition of the above ground assets and the statement on the testing requirements are the results from the recent site surveys conducted jointly between MGJV and YWS.

The item numbers referred to in the Testing Requirements table correspond to the item numbering shown below on the IPPC Site Operational Limits Layout which was taken from the Ove Arup report.

4.2 Site Operational Layout



Amp 5 IPPC Compliance testing and Inspection



4.3 IPPC Testing Requirements Table

Neiley STF IPPC Testing Requirements

Item No.	Description	Installed	Asset life expiry	Testing interval (yrs.)	Previous test 1st to 3rd December 2008 (Arup)		Date of next test	Current condition, MGJV visual inspection, 15th January 2013	
			(Note 1)	(Note 2)	Result	Condition		Condition	Comment
1	Unthickened sludge pipeline from existing sludge tank to connection with new sludge tank pipework	2007	N/A	N/A	N/A	N/A	N/A	N/A	Asset removed from scope, before start of IPPC Boundary (Arup 2008)
2	Unthickened sludge pipeline from new sludge tank to sludge feed pumps	2007	N/A	N/A	N/A	N/A	N/A	N/A	Asset removed from scope, before start of IPPC Boundary (Arup 2008)
3	Unthickened sludge pipeline from sludge feed pumps into centrifuge building	2007	2067	10	N/A	N/A	November 2018	Good	Double contained pipe, above ground section lagged and trace heated, complies with IPPC design philosophy
4	Unthickened sludge pipeline inside the centrifuge building	2007	2067	10	Passed	Good	November 2018	Good	
5	Overflow from existing sludge tank to point A	2000	N/A	N/A	N/A		N/A	N/A	Asset removed from scope, before start of IPPC Boundary (Arup 2008)
6	Overflow from new sludge tank to point H	2007	N/A	N/A	N/A		N/A	N/A	Asset removed from scope, before start of IPPC Boundary (Arup 2008)
7	Sludge drain pipe from point A to point B	2000	N/A	N/A	N/A		N/A	N/A	Asset removed from scope, before start of IPPC Boundary (Arup 2008)
8	Sludge drain pipe from point H to point B	2007	N/A	N/A	N/A	Tested prior to takeover by YW (2007)	N/A	N/A	Asset removed from scope, before start of IPPC Boundary (Arup 2008)
9	Sludge drain pipe from point B to C	2000	2060	10	Passed	Satisfactory (Note 3)	March 2020	N/A	Below ground asset, not inspected
10	Sludge drain pipe from point B to C	1968	2028	10	Passed	Satisfactory (Note 3)	March 2020	N/A	Below ground asset, not inspected
11	Liquors line inside the centrifuge building	2007	2067	10	Passed	Good	November 2018	Good	Above ground stainless steel pipe within building
12	Liquors line from the centrifuge building to point D	2007	2067	10	Passed	Good	November 2018	Good	Above ground stainless steel pipe within building
13	Sludge/liquors drain pipe from point D to point J	1968	2028	10	Passed	Satisfactory (Note 3)	March 2020	N/A	Below ground asset, not inspected
14	Sludge/liquors drain pipe from point J to the pumping station wet well	1968	2028	10	Passed	Satisfactory (Note 3)	March 2020	N/A	Below ground asset, not inspected
15	Liquors line from the pumping station wet well to the pumps	2000	2067	10	Passed	Good	November 2018	Good	Within dry well

Item No.	Description	Installed	Asset life expiry	Testing interval (yrs.)	Previous test 1st to 3rd December 2008 (Arup)		Date of next test	Current condition, MGJV visual inspection, 15th January 2013	
			(Note 1)	(Note 2)	Result	Condition		Condition	Comment
16	Liquors line from the pumping station pumps to the liquor return point at PST distribution chamber	2010	2070	10	Passed (Note 4)	Satisfactory, but with temporary installation	2020	Good	New pipe installed since last tests as part of IPPC improvement work
17	2 No sludge cake skips	N/A	N/A	N/A	Passed	Good	November 2018	Good	Concrete plinth drainage reported in good condition
18	Drainage pipe from sludge cake skips slab from point G and F to point C	1968	2028	10	Passed	Satisfactory (Note 3)	March 2010	N/A	Below ground asset, not inspected
19	Polymer line inside the centrifuge building from mixing tank to centrifuges	2007	2067	10	Passed	Good	November 2018	Good	25mm PVC pipe
20	Liquor return pumping station wet well	1968	2028	10	Passed	Good	November 2018	N/A	Below ground asset, not inspected

Note 1 Based on theoretical asset life
Note 2 Testing interval recommended in Generic Testing Methodology, Arup 2009
Note 3 Re-tested by Arups in March 2010 after repairs
Note 4 Re-tested by Arups in March 2010 after repairs, subsequently new pipe installed in 2010 by YW to BAT standard

5 Testing and Remedial Recommendations within the IPPC Limit

All of the above ground assets within the IPPC boundary were visually inspected by the MGJV/YWS team during the site inspection visit of 15th January 2013.

All of the above ground assets inspected within the IPPC boundary remain in good operational condition and as such no further testing is required until the recommended re-test date indicated in the table in Section 4.3.

6 Conclusions

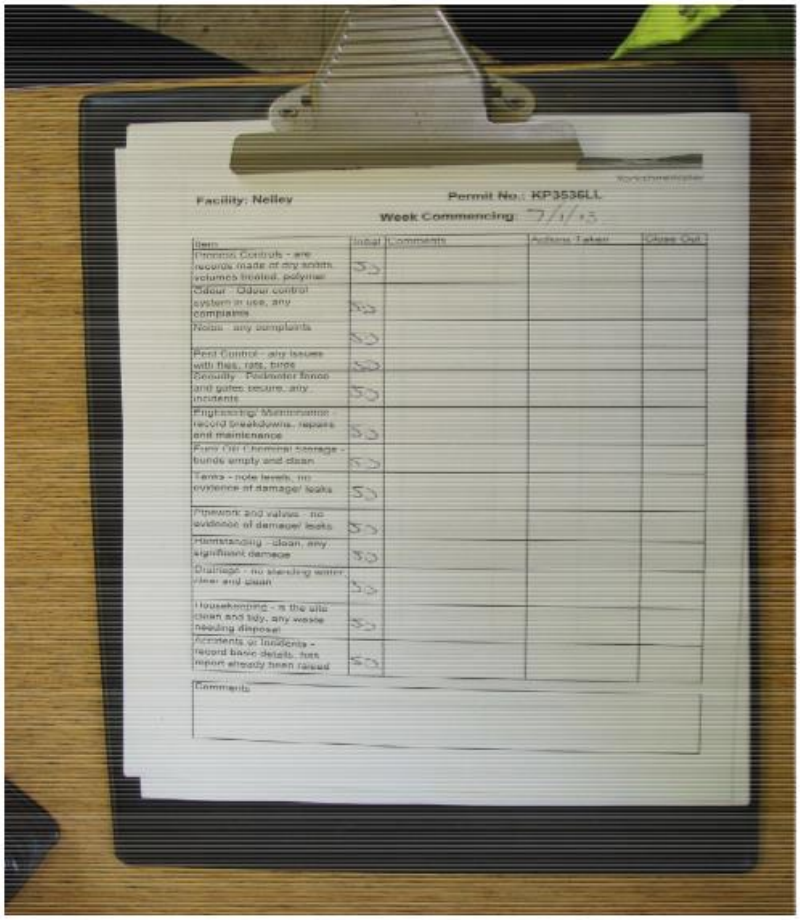
The visual inspection of above ground assets did not reveal any significant defects.

Using the test result information provided in the Ove Arup report dated 22nd April 2010 and the methodology of the generic testing procedure, this report suggests no testing of assets within the IPPC boundary is required until the recommended re-testing date, which in the case of Neiley STF is November 2018.

YW has installed a new liquors return pipe (Item 16) in 2010 to BAT standard and this does not require re-testing until 2020. Furthermore, new concrete pads are currently under construction to improve drainage from the sludge cake skips.

7 Appendices

7.1 APPENDIX 1 – Sample of weekly site inspection records



Facility: Nelley

Permit No.: KP3536LL

Week Commencing: 7/1/13

Item	Initial	Comments	Actions Taken	Close Out
Process Controls - are records made of dry solids volumes treated, polymer	SD			
Odour - Odour control system in use, any complaints	SD			
Noise - any complaints	SD			
Pest Control - any issues with flies, rats, birds	SD			
Security - Perimeter fence and gates secure, any incidents	SD			
Plant/Kit/ Maintenance - record breakdowns, repairs and maintenance	SD			
Fuel Oil/ Chemical Storage - bunds empty and clean	SD			
Tanks - note levels, no evidence of damage/ leaks	SD			
Pipework and valves - no evidence of damage/ leaks	SD			
Hardstanding - clean, any significant damage	SD			
Drainage - no standing water, clear and clean	SD			
Housekeeping - is the site clean and tidy, any waste needing disposal	SD			
Accidents or Incidents - record basic details, has report already been raised	SD			

Comments:

7.2 APPENDIX 2 –Ove Arup Testing Results Report April 2010

Yorkshire Water Services

STF Compliance with IPPC Improvement Programme

Neiley STF Testing Results Reports

Yorkshire Water Services

STF Compliance with IPPC Improvement Programme

Neiley STF Testing Results Reports

April 2010

Job number 125547-00

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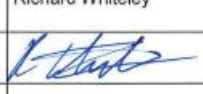
ARUP

Document Verification

Job title	STF Compliance with IPPC Improvement Programme		Job number 125547-00
Document title	Neiley STF Testing Results Reports		File reference
Document ref	125547-00-NE-R-01		

Revision	Date				
Draft 1	29/06/09	Filename	0001Neiley Results Report Draft.doc		
		Description	First draft		
			Prepared by	Checked by	Approved by
		Name	Richard Whiteley	Peter Caldwell	Justin Abbott
		Signature			
Issue	03/07/09	Filename	0002Neiley Results Report Issue Version.doc		
		Description	General amendments for issue version		
			Prepared by	Checked by	Approved by
		Name	Richard Whiteley	Peter Caldwell	Justin Abbott
		Signature			
Issue 2	28/04/10	Filename	0003Neiley Results Report Issue Version 2.doc		
		Description	Updated following completion of remedial works		
			Prepared by	Checked by	Approved by
		Name	Richard Whiteley	Peter Caldwell	Justin Abbott
		Signature		P. Caldwell	
		Filename			
		Description			
			Prepared by	Checked by	Approved by
		Name			
		Signature			

Issue Document Verification with Document ✓

Contents

Appendices

1 Background

Ove Arup and Partners Ltd (Arup) have been appointed by Yorkshire Water Services Ltd (YWS), to carry out an assessment of integrity of assets (tanks, surface pipes, subsurface pipes and sumps) for 12 YWS Sludge Treatment Facilities (STF) that are under IPPC Permit.

The output of the project is to produce reports identifying:

1. The physical condition of each asset
2. Statement on integrity of each asset
3. Recommended inspection programme based on 1 and 2

This report has been produced for the Neiley Sludge Treatment Facility, several drawings showing the assets and site layout are presented in Appendix A.

This report comprises the results from the testing of assets and should be read in conjunction with the method of work report.

2 Statement on report

The report has been prepared by Peter Caldwell BSc(Hons) CEng MICE MCIWEM.

Arup are not able to provide a guarantee on the duration of integrity of assets. An assessment of asset integrity based on asset records, specified design life, inspection and results of testing is provided in section 7.

The year of construction of assets provided in the report has been obtained from the Yorkshire Water Asset Data Base – Electronic Data Management System (EDMS). The accuracy and completeness of these records has not been verified by Arup.

3 Testing procedure

A generic testing methodology for all assets at the sites has been developed based on the Civil Engineering Specification for the Water Industry and the Yorkshire Water Engineering Specification. This has been used as a basis for testing the assets at Neiley STF. The testing of these assets took place over three days between the 1st and 3rd of December 2008. Repairs have been undertaken on assets that failed the testing regime in March 2010.

4 Testing summary

The integrity testing at Neiley SFT was undertaken in accordance with the generic testing methodology document. The asset/item numbering system relates to the process sequence. This sequence also follows the method of work report for Neiley STF. The testing period for this site was three days, with further visits back to site to undertake remedial works on the liquors rising main and drainage pipes.

5 Testing Results

5.1 Unthickened sludge pipework to dewatering plant

Item No. 1 and 2 on drawing No. WC0701. The pipework from the unthickened sludge tanks to the sludge dewatering feed pumps has not been tested as it is located before the start of the IPPC boundary.

Item No. 3 on drawing WC0701. This pipework conveys sludge from the feed pumps to the dewatering equipment. The pipework complies with IPPC design principals as it has double containment. In addition the pipe is of recent construction (2007) and will have been tested prior to be taken over by YWS. Therefore the pipe was not tested.

Item No 4 on drawing WC0703. This item is a continuation of item 3 from the point the pipe emerges above ground. The pipework is above ground and a visual inspection was carried out in accordance with the generic testing methodology whilst the equipment was operational. No evidence of leakage was observed therefore the pipe passed inspection.

Photo showing unthickened sludge pipe item 4

5.2 Sludge tank overflow pipes

Item No 5 and 6 on drawing WC0701. The pipework has not been tested as it is located before the start of the IPPC boundary. However a general observation of the area revealed that there is no evidence of leakage from these two pipes.

5.3 Sludge drainage lines

Item No. 7 and 8 on drawing No. WC0701. The pipework has not been tested as it is located before the start of the IPPC boundary. In addition item 8 is of recent construction (2007) and will have been tested prior to being taken over by YWS.

Item No. 9 on drawing No. WC0701. This section of pipe runs from the unthickened sludge storage tanks point B to the manhole at point C on the drawing. When in use the pipe allows unthickened sludge to be returned into the process via the return liquors wet well. The pipe is a non-pressure pipeline and was therefore inspected by means of a CCTV survey. The first survey undertaken revealed two open joints and one displaced joint. Remedial works were undertaken to repair these defects in March 2010.

A second CCTV was undertaken following the remedial works. The pipe passed this inspection as no Grade 3, 4 or 5 defects were recorded.

A copy of the CCTV survey report can be found in appendix D.

Item No. 10 on drawing No. WC0701. This section of pipe runs from the manhole at point C to the manhole at point D on the drawing. When in use the pipe allows unthickened sludge to be returned into the process via the return liquors wet well. The pipe is a non-pressure pipeline and was therefore inspected by means of a CCTV survey.

The first survey undertaken revealed significant encrustation on the internal surface of the pipe, which made it difficult to confirm the integrity of the pipe.

A second CCTV was undertaken following a thorough cleaning of the pipe using a flail. The pipe passed this inspection as no Grade 3, 4 or 5 defects were recorded.

A copy of the CCTV survey report can be found in appendix D.

5.4 Return liquor line from above ground pipework to return liquors wet well

Item No. 11 on drawing No. WC0703. The pipework drains the liquors from the centrifuge to the external drainage system. The pipe is above ground and has therefore been tested by means of a visual inspection in accordance with the generic testing methodology during operation of the dewatering equipment. There was no evidence of leakage therefore the pipe passed the inspection.

Photo showing liquor pipework leaving the building entering the drainage system

Item No. 12 on drawing No. WC0701. The pipework drains the liquors from the centrifuge to the external drainage system. The pipe is of recent construction (2007) and will have been tested as part of the construction process, therefore the pipe was not tested this time.

Item No. 13 and 14 on drawing No. WC0701. This pipework contains dewatered sludge liquors and unthickened sludges which return to the liquors wet well. The pipes are non-pressure pipes and were therefore tested by means of a CCTV survey. A copy of the report can be found in appendix C.

Item 13 runs from the manhole at point D to the manhole at point J. This pipe passed the inspection as only minor encrustation classed as service defects were recorded and no structural or construction defects were recorded.

Item 14 runs from the manhole at point J to the liquors return wet well. The pipe is a non-pressure pipeline and was therefore inspected by means of a CCTV survey.

The first survey undertaken revealed significant encrustation on the internal surface of the pipe, which made it difficult to confirm the integrity of the pipe.

A second CCTV was undertaken following a thorough cleaning of the pipe using a flail. The pipe passed this inspection as no Grade 3, 4 or 5 defects were recorded.

A copy of the CCTV survey report can be found in appendix D.

5.5 Return liquors suction main from return liquor pumping station wet well to liquor return pumps.

Item No. 15 on drawing No. WC0701. The short section of pipe from the return liquors wet well to the return liquor pumps was visually inspected whilst the system was operational. There was no evidence of any leakage therefore the pipe passed the test.

5.6 Return liquors rising main from liquor return pumping station to liquor return point at PST distribution chamber.

Item No. 16 on drawing no. WC0701 and WC0702. The rising main could not be isolated at the upstream end where it enters the PST distribution chamber so a valve was fitted to the pipe to enable a pressure test to be undertaken. To do this a live installation had to take place by freezing the pipe and fitting the new valve.

Photo showing new valve installation at the upstream end of the rising main

As the pipe is a rising main a pressure test was undertaken on this pipe as described in the generic testing methodology. The pipe failed the pressure test. The results of the test are presented on sheet B2 in appendix B.

After pressurising the pipe to near 3 Bar there was a steady decrease in pressure and a residual pressure of 0.79Bar was reached after a period of 40 minutes.

At a later a date a re-test was attempted on this line by removing a section of pipe in the pumping well to eliminate any old valves that might not be sealing correctly. The test produced similar results to the first attempt.

The existing arrangements have now been replaced with an alternative above ground pipework installation. See section 6 for details.

5.7 Sludge cake skips

Item No. 17 on drawing No. WC0701. The sludge cake skips receive the dewatered sludge, they are changed on a regular basis. The skips on site at the time of inspection were fit for purpose.

5.8 Sludge drainage lines

Item No. 18 on drawing No. WC0701. The drainage pipework was tested as a non-pressure pipe as described in the generic testing methodology. The first survey revealed severe encrustation on the internal surface of the pipe, which meant that the CCTV camera could not travel further than one metre along the pipe.

A second CCTV was undertaken following a thorough cleaning of the pipe using a flail. The pipe passed this inspection as no Grade 3, 4 or 5 defects were recorded.

A copy of the CCTV survey report can be found in appendix D.

5.9 Polymer dosing equipment

Item No 19 on drawing No. WC0703. The polymer dosing equipment is located inside the centrifuge building and is contained in a bunded area. The installation was tested as above ground pipework as described in the generic testing methodology. There was no sign of any leakage on the dosing system. The equipment passed the test.

Photos showing new polymer dosing equipment

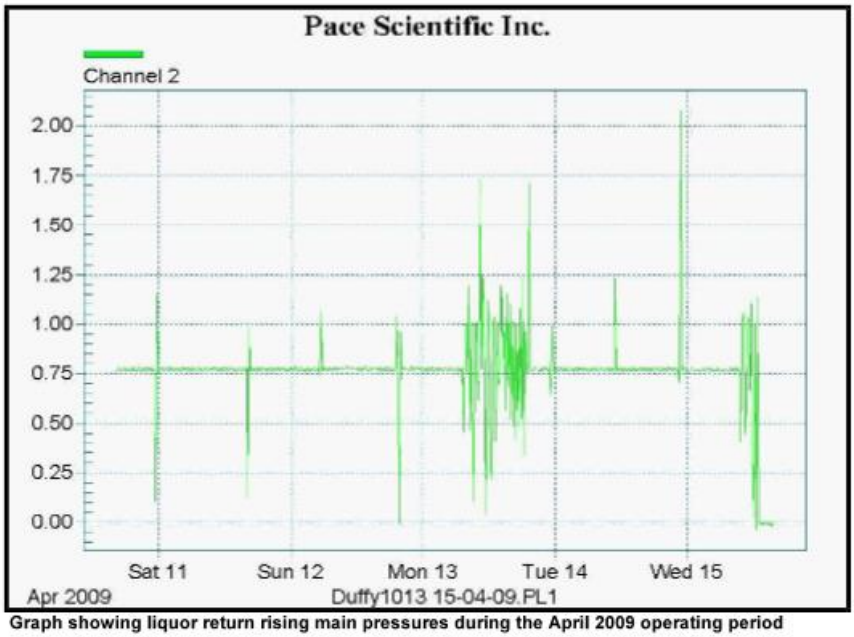
5.10 Liquor return pumping station wet well

Item No. 20 on drawing No. WC0701. The wet well was isolated and cleaned out in preparation for testing. The wet well was filled to the test level and left overnight to allow absorption to occur. A drop test was conducted during which only 1mm of water depth was lost, the results of the test are recorded on sheet B1 in appendix B. The wet well passed the drop test.

Photo showing drop test measurements being taken at the wet well

6 Remedial works

Item No 16 the return liquors rising main failed the first water pressure test at 3 bar. Following this failure the test pressure requirements were questioned as it was believed that the test pressure was too high compared with the working pressure of the pipe. In order to confirm the working pressure of the pipe a pressure recorder was installed for five days, the pressure recorded can be seen in the graph below.



Graph showing liquor return rising main pressures during the April 2009 operating period

The constant pressure reading of 0.75 bar is the residual pressure of the water in the pipe due to the hydrostatic head above the pumps. The troughs that appear on the graph show a vacuum effect when the pumps turn over for the first cycle. This trough is followed by a peak which is the surge of liquor travelling through the pipe. From this graph it has been determined that the working pressure is approximately 1.0 bar.

A second pressure test was then carried out on this pipe at a test pressure of 1.75 bar which exceeds the requirement of BS EN 805 to test pipes to 1.5 times the working pressure. This second pressure test also failed.

Due to the location of the pipe beneath the main site access road and the number of bends in existence, the most economic option is considered to be replacement of the pipeline. A temporary arrangement has been installed on site and is expected to be replaced by a permanent solution at the earliest opportunity.

The temporary solution comprises an above ground pipe and as such can be visually inspected. This pipe has been inspected after installation and no leakage was evident therefore the pipe passed the inspection.

It is recommended that this item be placed in the improvement programme as described in table 7 of section 3.3 of the generic testing methodology document, with a test return period of 1 year.

Photos showing replacement above ground pipework for the liquor rising main

7 Physical condition and statement on integrity of assets

The following table provides an assessment of asset integrity based on asset records, inspection and results of testing.

The design asset lives were obtained from the Yorkshire Water Engineering Specification as follows:

Inter Process Pipe work (sewage) – 60 years

Operational Structures (concrete tanks) – 60 years

Operational Structures (metal tanks) – 30 years

Operational Structures (pumping stations) – 60 years

Process Plant E&M major items (P2 – dosing plant) – 20 years

Physical condition key:

Good – serviceable with little or no sign of deterioration

Satisfactory – serviceable showing signs of deterioration

Poor – remedial works required

Item No.	Asset	Year constructed	Physical condition	Theoretical remaining asset life to asset replacement	Statement on Integrity
1	Unthickened sludge pipeline from existing sludge tank to connection with new sludge tank pipework	2007	N/A		Asset removed from scope as the pipe is before the start of the IPPC boundary.
2	Unthickened sludge pipeline from new sludge tank to sludge feed pumps	2007	N/A		Asset removed from scope as the pipe is before the start of the IPPC boundary.
3	Unthickened sludge pipeline from feed pumps into centrifuge building	2007	N/A		Asset has double containment and complies with IPPC design philosophy.
4	Unthickened sludge pipeline inside the centrifuge building	2007	Good	57 years	Asset integrity test passed. Asset to be retested in accordance with the Generic Testing Methodology return period.
5	Overflow from existing sludge tank to point A	2000	N/A		Asset removed from scope as the pipe is before the start of the IPPC boundary.

6	Overflow from new sludge tank to point H	2007	N/A		Asset removed from scope as the pipe is before the start of the IPPC boundary.
7	Sludge drain pipe from point A to point B	2000	N/A		Asset removed from scope as the pipe is before the start of the IPPC boundary.
8	Sludge drain pipe from point H to point B	2007	N/A		Asset removed from scope as the pipe is before the start of the IPPC boundary.
9	Sludge drain pipe from point B to point C	2000	Satisfactory	50 years	Asset integrity test passed. Asset to be retested in accordance with the Generic Testing Methodology return period.
10	Sludge drain pipe from point C to point D	1968	Satisfactory	18 years	Asset integrity test passed. Asset to be retested in accordance with the Generic Testing Methodology return period.
11	Liquors line inside the centrifuge building	2007	Good	57 years	Asset integrity test passed. Asset to be retested in accordance with the Generic Testing Methodology return period.
12	Liquors line from the centrifuge building to point D	2007	Good	57 years	Asset integrity test not carried out due to recent construction and testing done at handover.
13	Sludge/liquors drain pipe from point D to point J	1968	Satisfactory	18 years	Asset integrity test passed. Asset to be retested in accordance with the Generic Testing Methodology return period.
14	Sludge/liquors drain pipe from point J to the pumping station wet well	1968	Satisfactory	18 years	Asset integrity test passed. Asset to be retested in accordance with the Generic Testing Methodology return period.
15	Liquors line from the pumping station wet well to the pumps	2000	Good	50 years	Asset integrity test passed. Asset to be retested in accordance with the Generic Testing Methodology return period.
16	Liquors line from the pumping station pumps to the liquor return point at PST distribution chamber	~~1968~~ 2009	Satisfactory	Temporary installation in place. To be reviewed as part of the improvement programme.	Asset integrity test passed. Arrangement of alternative above ground pipework to be replaced at the earliest opportunity. A new rising main is required.
17	2 No. Sludge cake skips	N/A	Good	N/A	Asset integrity test passed. Asset to be retested in accordance with the Generic Testing Methodology return period.
18	Drainage pipe from sludge cake skips slab: from point G and F to point C	1968	Satisfactory	18 years	Asset integrity test passed. Asset to be retested in accordance with the Generic Testing Methodology return period.

19	Polymer line inside the centrifuge building from mixing tank to centrifuges	2007	Good	57 years	Asset integrity test passed. Asset to be retested in accordance with the Generic Testing Methodology return period.
20	Liquor return pumping station wet well	1968	Good	18 years	Asset integrity test passed. Asset to be retested in accordance with the Generic Testing Methodology return period.

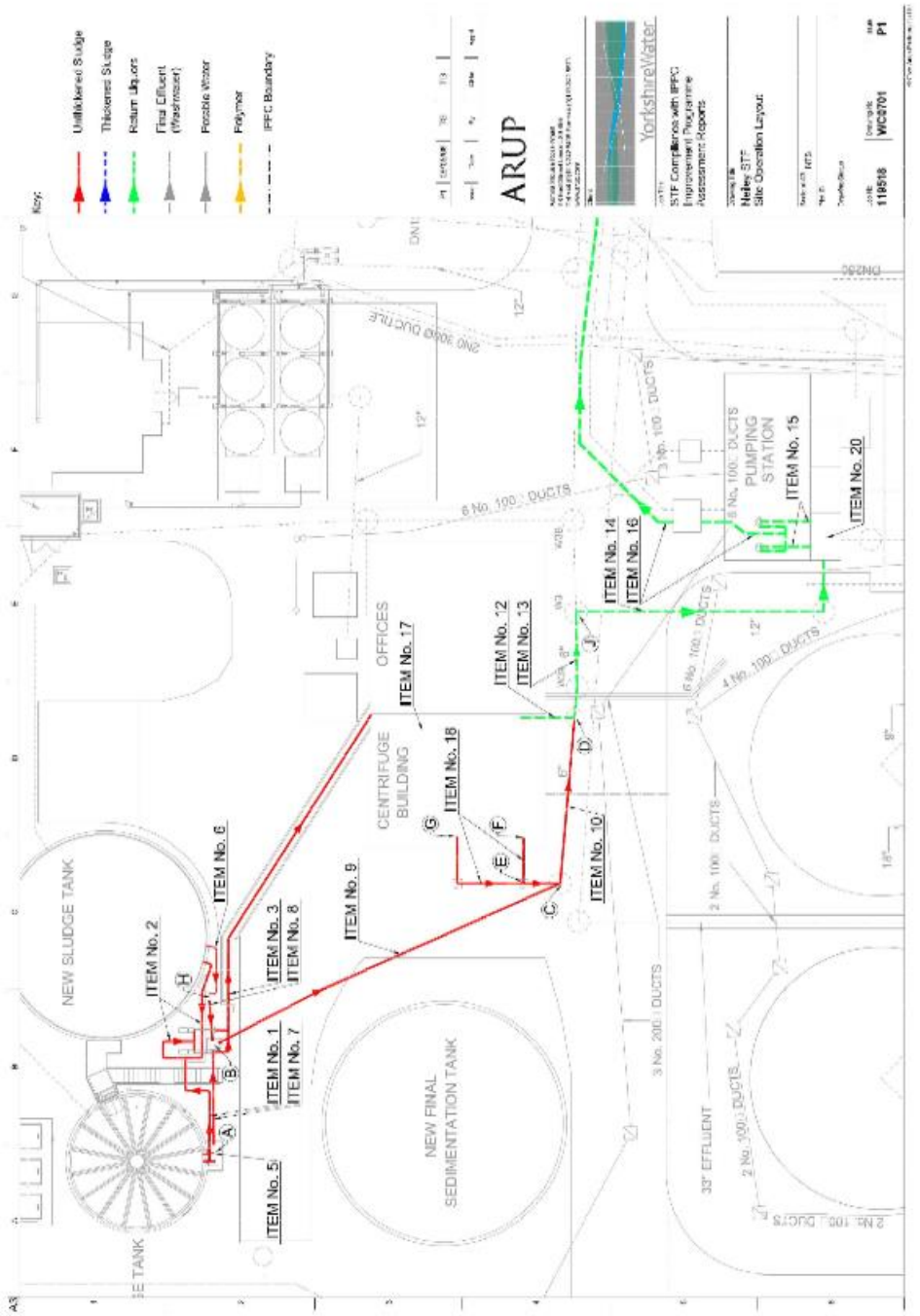
8 Conclusion and recommendation

All assets have passed the integrity testing procedure and are in a good/satisfactory condition. Further monitoring and testing to recommended return periods for testing of assets needs to be undertaken in accordance with the generic testing methodology developed by Arup.

The temporary above ground pipework for the return liquor rising main (item 16) should be replaced at the earliest opportunity as discussed in section 6. It is recommended that this item be placed in the improvement programme as described in table 7 of section 3.3 of the generic testing methodology document, with a test return period of 1 year.

Appendix A

Layout drawings


Key:
Unthickened Sludge
Thickened Sludge
Return Liquors
Final Effluent (Wastewater)
Possible Water
Polymer
IPPC Boundary
ARUP
YorkshireWater
Neiley STF
Site Operation Layout
ITEM No. 1
ITEM No. 2
ITEM No. 3
ITEM No. 5
ITEM No. 6
ITEM No. 7
ITEM No. 8
ITEM No. 9
ITEM No. 10
ITEM No. 12
ITEM No. 13
ITEM No. 14
ITEM No. 15
ITEM No. 16
ITEM No. 17
ITEM No. 18
ITEM No. 20
NEW SLUDGE TANK
NEW FINAL SEDIMENTATION TANK
CENTRIFUGE BUILDING
OFFICES
PUMPING STATION
33" EFFLUENT
6 No. 100 DUCTS
4 No. 100 DUCTS
3 No. 200 DUCTS
2 No. 100 DUCTS


Key:
Unthickened Sludge
Thickened Sludge
Return Liquors
Final Effluent (Washwater)
Potable Water
Polymer
IPPC Boundary
ARUP
YorkshireWater
STF Compliance with IPPC Improvement Programme Assessment Reports
Neiley STF
Return Liquors Main Route
ITEM No. 16
ITEM No. 16
ITEM No. 16
ITEM No. 20


Key
Unthickened Sludge
Thickened Sludge
Return Liquors
Final Effluent (Wastewater)
Potable Water
Polymer
IPPC Boundary
ARUP
YorkshireWater
STF Compliance with IPPC Improvement Programme Assessment Reports
Neiley STF
Centrifuge Building Layout
P1
ITEM No. 19
ITEM No. 11
ITEM No. 4
ITEM No. 11
ITEM No. 19

Appendix B

Testing Record Sheets

B1 Liquor return pumping station wet well

Contract: IPPC Testing		Contract No. 125547		Serial No.
INSPECTION DETAILS				
Drawing reference:	WC0701	Yorkshire water catchment: Huddersfield		
Item number:	Item 20	Name of STW: Neiley		
Description:	~~Air~~ / Drop / ~~Pressure~~ Test of:	Return liquor pumping station wet well		
CHECKSHEET DETAILS				

AIR TEST

Test specification: Duration mins Allowable drop: mm

All equipment available, checked (bungs/tubing/'U' gauge/etc.) and installed ready for test? YES: ☐

Test details: Date: Start time hrs 'U' gauge reading mm
Stop time hrs 'U' gauge reading mm
Recorded drop mm

Test Result: Pass ☐ **Sign off at bottom** Fail ☐ Rectify & retest

Drop Test

Test specification: Duration 30 mins Depth Diameter m
Calculated allowable max. volume of added water litres

All equipment available, checked (bungs/tubing/manometer/etc.), and installed ready for test? YES: ☒

Test details: Date: 03/12/08 Start time 10.20 hrs Water level 300 mm
Stop time 10.50 hrs Water level 301 mm
Volume of water added litres

Test Result: 1mm drop (3mm allowable) Pass ☒ **Sign off at bottom** Fail ☐ Rectify & retest

PRESSURE TEST

Test specification: Duration Pressure bar Pipe Bore mm
Calculated allowable loss (pressure loss or max. volume of added water bar Pipe length m

Perm/temp thrust blocks, restraints and/or backfill in place & checked as appropriate for test pressure YES: ☐
All equipment available, checked, calibrated as required, and installed ready for test? YES: ☐

Test details: Date: Start time Pressure reading Bar
Stop time Pressure reading Bar
Pressure drop or volume of water added to return to initial test pressure Bar

Test Result: Pass ☐ **Sign off at bottom** Fail ☐ Rectify & retest

Test Pass Sign Off	Initials	Date
	R.Ellis	03/12/08

B2 Return liquor rising main

Contract: IPPC Testing		Contract No. 125547		Serial No.
INSPECTION DETAILS				
Drawing reference:	WC0701	Yorkshire water catchment: Huddersfield		
Item number:	Item 15	Name of STW: Neiley		
Description:	Air / Drop / Pressure Test of:	Return liquor rising main to the PST distribution chamber		
CHECKSHEET DETAILS				

AIR TEST

Test specification: Duration mins Allowable drop: mm

All equipment available, checked (bungs/tubing/'U' gauge/etc.) and installed ready for test? YES: ☐

Test details: Date: Start time hrs 'U' gauge reading mm
Stop time hrs 'U' gauge reading mm
Recorded drop mm

Test Result: Pass ☐ **Sign off at bottom** Fail ☐ Rectify & retest

Drop Test

Test specification: Duration mins Depth Diameter m
Calculated allowable max. volume of added water litres

All equipment available, checked (bungs/tubing/manometer/etc.), and installed ready for test? YES: ☒

Test details: Date: 09/12/08 Start time Hrs Water level mm
Stop time Hrs Water level mm
Volume of water added litres

Test Result: Pass ☐ **Sign off at bottom** Fail ☐ Rectify & retest

PRESSURE TEST

Test specification: Duration 60 mins Pressure 3 bar Pipe Bore 200mm
Calculated allowable loss (pressure loss or max. volume of added water 0.2 Pipe length 250 m

Perm/temp thrustblocks, restraints and/or backfill in place & checked as appropriate for test pressure YES: ☒
All equipment available, checked, calibrated as required, and installed ready for test? YES: ☒

Test details: Date: 11/12/08 Start time 14.10 hrs Pressure reading 2.97 bar
Stop time 14.50 hrs Pressure reading 0.79 bar
Pressure drop or volume of water added to return to initial test pressure 2.18 bar

Test Result. 2.18 bar loss (max allowable 0.2 bar) Pass ☐ **Sign off at bottom** Fail ☒ Rectify & retest

Test Pass Sign Off	Initials	Date
		11/12/08

Appendix C

Initial CCTV Report

PETER DUFFY LTD

PETER DUFFY LTD (DRAINS AID)
WAKEFIELD
WEST YORKSHIRE
tel: 0800 018 0123, f ax: 0113265488

Project-information

Project name:	Contract number:	Contact:	Date:
			03.12.2008

Client	**PETER DUFFY LTD**
Contact:	**CHRIS O'HORA**
Position:	**SITE MANAGER**
Road	**PARK VIEW**
Town	**WAKEFIELD**
County	**WEST YORKSHIRE**
Telephone:	**01924 871100**
Fax:	
Mobile:	**07985810043**
E-Mail:	**C.OHORA@peterduffyltd.com**

Site	**PDL3147**
Contact:	
Position:	
Road	**NEILEY STW**
Town	**HONLEY HD9**
County	**WEST YORKSHIRE**
Telephone:	
Fax:	
Mobile:	
E-Mail:	

Contractor	**PETER DUFFY LTD (DRAINS AID)**
Contact:	**DAVE BELL**
Position:	**CONTRACT MANAGER**
Road	**PARK VIEW LOFTHOUSE GATE**
Town	**WAKEFIELD**
County	**WEST YORKSHIRE**
Telephone:	**0800 018 0123**
Fax:	**0113265488**
Mobile:	**********
E-Mail:	**d.bell@drains-aid.com**

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PETER DUFFY LTD

PETER DUFFY LTD (DRAINS AID)
WAKEFIELD
WEST YORKSHIRE
Tel: 0800 018 0125, Fax: 01132654488

Defect Grade Description

Project name:	Contract number:	Contact:	Date: 03.12.2008

1: Occurances without damage: for example, laterals, joints etc.

NO DEFECTS WERE DETECTED.

2: Constructional deficiencies or occurances with insignificant influence to tightness, hydraulic or static pressure of pipe: f.e. wide joints, badly torched intakes, minor deformation of plastic pipes, minor erosions etc.

REHABILITATION CAN BE SCHEDULED LONG-TERM.

3: Constructional deficiencies diminishing static, hydraulic and tightness: f.e. open joints, untorched intakes, cracks, minor drainage obstructions such as calcide build ups, protruding laterals, minor damages to pipe wall, individual root penetrations, corroded pipe walls etc.

REHABILITATION IS NECESSARY MEDIUM-TERM WITHIN 3 TO 5 YEARS.

4: Constructional damages with nonsufficient static safety, hydraulic or tightness: f.e. axial/radial pipebursts, pipe deformations, visually noticeable infiltration/exfiltration, cavities in pipe-wall, severe protruding, laterals severe root penetrations, severe corrosion of pipe wall etc.

REHABILITATION PROCEDURE IS URGENT AND HAS TO BE COMPLETED WITHIN 1 TO 2 YEARS. NECESSITY FOR EMERCENCY OPERATIONS HAS TO BE EXAMINED.

5: Pipe is already or will shortly be impermeable: f.e. collapsed pipe, deeply rooted pipe or other drainage obstructions. Pipe loses water or danger of backwater in basements etc.

REHABILITATION IS URGENT AND SHORT-TERM. IN ORDER TO PREVENT FURTHER DAMAGE, NECESSARY TEMPORARY SPOT REPAIR HAS TO BE CONDUCTED ON EMERGENCY LEVEL.

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PETER DUFFY LTD

PETER DUFFY LTD (DRAINS AID)
WAKEFIELD
WEST YORKSHIRE
Tel: 0800 018 0123 Fax: 01 1926 5488

Inspection report

Date:	Job nr.:	Weather:	Operator:	section number:	PLR:
02.12.2008	PDL3147	SLEET	R BROWN	1	NODE POINTX
Present:	Vehicle:	Camera:	Preset:	Cleaned:	Grade:
	WU51PFY	6 WHEEL 238		NO	

Road:	NEILEY STW	Division:		start MH:	C
Place:	HONLEY	District:		end MH:	NODE POINT
Location:	STW	Tape No.:	01	Total length:	1.1 m

Purpose:	ASSET CONDITION	Size/Shape:	CIRCULAR 150mm
Use:	Other	Material:	Cast iron Pipe length:
Catchment:		Lining:	
		Category:	

Comment: RETURN LIQUORS LINE
Location details:

1:450	position	code	observation	grade
C	0.00	ST	Start of Survey	0
	0.00	MH	Manhole Remark: C	0
	0.00	WL	Water level, 05 % height/diameter	0
	1.10	EH	Encrustation heavy, from 09 to 01 o clock, 70% cross sectional area loss, Remark: RUST	5
	1.10	SA	Survey abandoned, Remark: DUE TO ENCRUSTATION 70%	0

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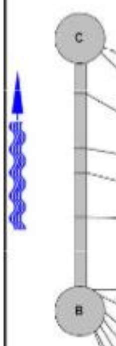
PETER DUFFY LTD

PETER DUFFY LTD (DRAINS AID)
WAKEFIELD
WEST YORKSHIRE
Tel. 0800 019 0120, Fax 01132...

Inspection report

Date:	Job nr:	Weather:	Operator:	section number:	PLR:
02.12.2008	PDL3147	SLEET	R BROWN	2	B X
Present:	Vehicle: WU51PFY	Camera: 6 WHEEL 238	Preset:	Cleaned: NO	Grade:

Road:	NEILEY STW	Division:		start MH:	C
Place:	HONLEY	District:		end MH:	B
Location:	STW	Tape No:	01	Total length:	24.4 m
Purpose:	ASSET CONDITION	Size/Shape:	CIRCULAR 150mm		
Use:	Other	Material:	Plastic/steel composite Pipe length:		
		Lining:			
Catchment:		Category:			
Comment:					
Location details:					



1:450	position	code	observation	grade
	0.00	ST	Start of Survey	0
	0.00	MH	Manhole Remark: C	0
	0.00	WL	Water level, 05 % height/diameter	0
	4.90	OJM	Open joint medium	1
	9.80	WL	Water level, 10 % height/diameter	0
	12.00	WL	Water level, 05 % height/diameter	0
	16.00	WL	Water level, 10 % height/diameter	0
	22.40	JDL	Joint displaced Large	2
	22.40	MC	Sewer Material changes at this point, Reinforced plastic matrix	0
	23.10	OJM	Open joint medium	1
	23.10	MC	Sewer Material changes at this point, Plastic/steel composite	0
	23.50	WL	Water level, 05 % height/diameter	0
	24.40	MH	Manhole Remark: B	0
	24.40	FH	Finish Survey	0

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PETER DUFFY LTD

PETER DUFFY LTD (DRAINS AID)
WAKEFIELD
WEST YORKSHIRE
Tel: 0800 018 0129, Fax: 01132654B8

Inspection report

Date	Job nr	Weather	Operator	section number	PLR
02.12.2008	PDL3147	SLEET	R BROWN	3	C X
Present	Vehicle	Camera	Preset	Cleaned	Grade
	WU61PFY	6 WHEEL 230		NO	

Road:	NEILEY STW	Division:		start MH:	C
Place:	HONLEY	District:		end MH:	D
Location:	STW	Tape No.:	01	Total length:	12 m

Purpose:	ASSET CONDITION	Size/Shape:	CIRCULAR 150mm
Use:	Other	Material:	Cast iron Pipe length:
Catchment:		Lining:	
Comment		Category:	
Location details:			

1:450	position	code	observation	grade
C	0.00	ST	Start of Survey	0
	0.00	MH	Manhole Remark: C	0
	0.00	WL	Water level, 00 % height/diameter	0
	1.10 B1	EM	Encrustation medium, from 12 to 12 o'clock, 10% cross-sectional area loss, Start	4
	2.80 C1	EM	Encrustation medium, from 12 to 12 o'clock, 15% cross-sectional area loss, Changed	4
D	12.00 F1	EM	Encrustation medium, from 12 to 12 o'clock, 15% cross-sectional area loss, Finish	4
	12.00	MH	Manhole Remark: D	0
	12.00	FH	Finish Survey	0

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PETER DUFFY LTD

PETER DUFFY LTD (DRAINS AID)
WAKEFIELD
WEST YORKSHIRE
Tel. 0800 018 0123, Fax. 0113263489

Inspection report

Date:	Job nr:	Weather:	Operator:	section number:	PLR:
02.12.2008	PDL3147	SLEET	R BROWN	4	D X
Presnt:	Vehicle:	Camera:	Preset:	Cleaned:	Grade:
	WU51PFY	6 WHEEL 238		NO	

Road:	NEILEY STW	Division:		start MH:	D
Place:	HONLEY	District:		end MH:	J
Location:	STW	Tape No.:	01	Total length:	7.4 m

Purpose:	ASSET CONDITION	Size/Shape:	CIRCULAR 225mm
Use:	Other	Material:	Cast iron Pipe length:
Catchment:		Lining:	
		Category:	

Comment:

Location details:

1:450	position		code	observation	grade
D	0.00		S1	Start of Survey	0
	0.00		MH	Manhole Remark: D	0
	0.00		WL	Water level, 10 % height/diameter	0
J	1.20	S1	EL	Encrustation light, from 12 to 12 o'clock, Start	2
	7.40	F1	EL	Encrustation light, from 12 to 12 o'clock, Finish	2
	7.40		MH	Manhole Remark: J	0
	7.40		FI	Finish Survey	0

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PETER DUFFY LTD

PETER DUFFY LTD (DRAINS AID)
WAKEFIELD
WEST YORKSHIRE

Inspection report

Date:	Job nr	Weather	Operator	section number	PI R
02.12.2008	PDL3147	SLEET	R BROWN	5	J X
Present:	Vehicle:	Camera:	Preset:	Cleaned:	Grade:
	WU51PFY	6 WHEEL 238		NO	

Road:	NEILEY STW	Division:		start MH:	J
Place:	HONLEY	District:		end MH:	WET WELL
Location:	STW	Tape No.:	01	Total length:	17.5 m

Purpose:	ASSET CONDITION	Size/Shape:	CIRCULAR 300mm
Use:	Other	Material:	Cast Iron Pipe length
Catchment:		Lining:	
		Category:	

Comment:

Location details:

1:450	position		code	observation	grade
J	0.00		ST	Start of Survey	0
	0.00		MH	Manhole Remark: J	0
	0.00		WL	Water level, 10 % height/diameter	0
	1.30	S1	EM	Encrustation medium, from 12 to 12 o'clock, 15% cross-sectional area loss, Start	4
	16.80	F1	EM	Encrustation medium, from 12 to 12 o'clock, 15% cross-sectional area loss, Finish	4
	16.80		MH	Manhole Remark: UNCHARTED	0
	17.50		GO	General Observation, Remark: UNABLE TO PASS THROUGH MH	0
	17.50		SA	Survey abandoned, Remark: DUE TO UNCHARTED MANHOLE	0

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Appendix D

Remedial CCTV Report

PETER DUFFY LIMITED

PETER DUFFY LIMITED (DRAINS AID)
LOFTHOUSE, WAKEFIELD
WEST YORKSHIRE
Tel: 0800 180123 Fax: 0113 2365183

Project-information

Project name:	Contract number:	Contact:	Date:
10157789	SCM	CHRIS O'HORA	01/03/2010

Client	PETER DUFFY LIMITED
Contact:	CHRIS O'HORA
Position:	SITE MANAGER
Road	CONNAUGHT HOUSE, PARK VIEW
Town	WAKEFIELD WF3 3HE
County	WEST YORKSHIRE
Telephone:	
Fax:	
Mobile:	07985 810043
E-Mail:	c.ohora@peterduffyltd.com

Site	10157789 (PDL3147)
Contact:	CHRIS O'HORA
Position:	SITE MANAGER
Road	NEILEY STW
Town	HOLMFIRTH HD9
County	WEST YORKSHIRE
Telephone:	
Fax:	
Mobile:	07985 810043
E-Mail:	c.ohora@peterduffyltd.com

Contractor	PETER DUFFY LIMITED (DRAINS AID)
Contact:	DAVE BELL
Position:	OPERATIONS MANAGER
Road	PARK VIEW
Town	LOFTHOUSE, WAKEFIELD
County	WEST YORKSHIRE
Telephone:	0800 180123
Fax:	0113 2365183
Mobile:	**********
E-Mail:	d.bell@drains-aid.com

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PETER DUFFY LIMITED

PETER DUFFY LIMITED (DRAINS AID)
LOFTHOUSE, WAKEFIELD
WEST YORKSHIRE
Tel: 0800 180123, Fax: 0113 2365183

Defect Grade Description

Project name:	Contract number:	Contact:	Date:
10157789	SCM	CHRIS O'HORA	01/03/2010

1:	Brick: No Structural Defects Pipe: No Structural Defects **Acceptable Structural Condition**
2:	Brick: Minor cracking, Surface mortar loss, Spalling slight, wear slight Pipe: Circumfrential crack, Moderate joint defects, Spalling slight, Wear slight **Minor collapse risk in short term but potential for further deterioration**
3:	Brick: Total mortorloss without other defects, single brick displaced, Deformation up to 5%, Spalling medium, Wear medium Pipe: Fractures with deformation up to 5%, Longitudinal cracking or multipe cracking, Minor loss of level, More severe joint defects, Spalling medium, Wear medium **! Collapse unlikely in near future but future deterioration likely !**
4:	Brick: Total mortorloss with deformation greater than 10%, Deformation up to 10% and fractured, Displaced/hanging brickwork, Small number of missing bricks Pipe: Broken, Deformation up to 10% and broken,, Fractured with deformation 5 - 10%, Multiple fractures, Serious loss of level, spalling large, wear large **!! Collapse likely in foreseeable future !!**
5:	Brick: Already Collapsed, Missing invert, Deformation over 10% and fractured, Displaced/hanging brickwork and deformation over 10%, Extensive missing bricks Pipe: Already collapsed, Deformation over 10% and broken, Extensive areas of fabric missing, Fractured with deformation over 10% **!!! Collapsed or collapse imminent !!!**

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PETER DUFFY LIMITED

PETER DUFFY LIMITED (DRAINS AID)
LOFTHOUSE, WAKEFIELD
WEST YORKSHIRE
Tel: 0800 180123, Fax: 0113 2956183

Inspection report

Date:	Job No:	Weather:	Operator:	section number:	PLR:
01/03/2010	10157789	DRY	MARK SLINN	1	XX03 X
Present:	Vehicle:	Camera:	Preser:	Cleaned:	Grade:
	PF08 HWD	FLEXI ROD		YES	

Road:	NEILEY STW	Division:		start MH:	XX02
Place:	HOLMFIRTH	District:		end MH:	XX03
Location:	STW	Tape No.:		Total length:	2.07 m

Purpose:	ASSET CONDITION	Shape/Size:	CIRCULAR 150mm
Use:	RETURN LIQUORS	Material:	PLASTIC Pipe length:
Catchment:	WEST	Lining:	
		Category:	

Comment: BEFORE LINING

Location details:

1:25	position	code	observation	counter	photo	grade
Depth: 0.38						
XX02	0.00	ST	Start of Survey	00:00:00		(Misc) 0
	0.00	MH	Manhole Remark: XX02	00:00:00		(Constr) 0
	0.00	WL	Water level, 05 % height/diameter	00:00:00		(Serv) 0
	0.62	JDM	Joint displaced, Medium	00:00:00		(Struct) 1
XX03	2.05	MH	Manhole Remark: XX03	00:00:00		(Constr) 0
	2.07	FH	Finish Survey	00:00:00		(Misc) 0

Structural Defects	Constructional Features
Service Defects	Miscellaneous Features

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PETER DUFFY LIMITED

PETER DUFFY LIMITED (DRAINS AID)
LOFTHOUSE, WAKEFIELD
WEST YORKSHIRE
Tel: 0800 180123, Fax: 0113 2365183

Inspection report

Date:	Job N°:	Weather:	Operator:	section number:	PLR:
01/03/2010	10157789	DRY	MARK SLINN	2	XX03 (B) X
Present:	Vehicle: PF08 HWD	Camera: FLEXI ROD	Preset:	Cleaned: YES	Grade:

Road:	NEILEY STW	Division:		start MH:	XX02 (B1)
Place:	HOLMFIRTH	District:		end MH:	XX03 (B)
Location:	STW	Tape No.:		Total length:	2 m
Purpose:	ASSET CONDITION		Shape/Size:	CIRCULAR 150mm	
Use:	RETURN LIQUORS		Material:	PLASTIC Pipe length:	
Catchment:	WEST		Lining:	Resin	
			Category:		

Comment: AFTER LINING

Location details:

1:25	position	code	observation	counter	photo	grade
Depth: 0.38						
XX02 (B1)	0.00	ST	Start of Survey	00:00:00		(Misc) 0
	0.00	MH	Manhole Remark: XX02	00:00:00		(Constr) 0
	0.00	WL	Water level, 05 % height/diameter	00:00:00		(Serv) 0
XX03 (B)	2.00	MH	Manhole Remark: XX03 (B)	00:00:00		(Constr) 0
	2.00	FH	Finish Survey	00:00:00		(Misc) 0

Structural Defects	Constructional Features
Service Defects	Miscellaneous Features

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PETER DUFFY LIMITED

PETER DUFFY LIMITED (DRAINS AID)
LOFTHOUSE, WAKEFIELD
WEST YORKSHIRE
Tel: 0800 180123, Fax: 0113 2305183

Inspection report

Date:	Job N°:	Weather:	Operator:	section number:	PLR:
01/03/2010	10157789	DRY	MARK SLINN	3	DRAIN X
Present:	Vehicle:	Camera:	Preset:	Cleaned:	Grade:
	PF08 HWD	FLEXI ROD		YES	

Road:	NEILEY STW	Division:		start MH:	G
Place:	HOLMFIRTH	District:		end MH:	DRAIN
Location:	STW	Tape No.:		Total length:	6.49 m

Purpose:	ASSET CONDITION	Shape/Size:	CIRCULAR 150mm
Use:	RETURN LIQUORS	Material:	CAST IRON Pipe length:
Catchment:	WEST	Lining:	
		Category:	

Comment:

Location details:

1:50	position	code	observation	counter	photo	grade
Depth: 0.60						
G	0.00	ST	Start of Survey	00:00:00		(Misc) 0
	0.00	MH	Manhole Remark: G	00:00:00		(Constr) 0
	0.00	WL	Water level, 05 % height/diameter	00:00:00		(Serv) 0
DRAIN	6.49	MH	Manhole Remark: DRAIN	00:00:00		(Constr) 0
	6.49	FH	Finish Survey	00:00:00		(Misc) 0

Structural Defects	Constructional Features
Service Defects	Miscellaneous Features

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PETER DUFFY LIMITED

PETER DUFFY LIMITED (DRAINS AID)
LOFTHOUSE, WAKEFIELD
WEST YORKSHIRE
Tel: 0800 180123, Fax: 0113 2365183

Inspection report

Date:	Job N°:	Weather:	Operator:	section number:	PLR:
01/03/2010	10157789	DRY	MARK SLINN	4	G X
Present:	Vehicle:	Camera:	Preset:	Cleaned:	Grade:
	PF08 HWD	FLEXI ROD		YES	

Road:	NEILEY STW	Division:		start MH:	G
Place:	HOLMFIRTH	District:		end MH:	E
Location:	STW	Tape No.:		Total length:	4.12 m

Purpose:	ASSET CONDITION	Shape/Size:	CIRCULAR 150mm
Use:	RETURN LIQUORS	Material:	CAST IRON Pipe length:
Catchment:	WEST	Lining:	
		Category:	

Comment:

Location details:

1:50	position		code	observation	counter	photo	grade
Depth: 0.60							
G	0.00		ST	Start of Survey	00:00:00		(Misc) 0
	0.00		MH	Manhole Remark: G	00:00:00		(Constr) 0
	0.00		WL	Water level, 05 % height/diameter	00:00:00		(Servi) 0
	1.67	S1	EL	Encrustation light, from 10 to 03 o'clock, Start, Remark: PATCHY	00:00:00		(Servi) 2
	2.35		WL	Water level, 25 % height/diameter	00:00:00		(Servi) 0
	2.36		GO	General Observation, Remark: TANKER JETTING	00:00:00		(Misc) 0
	2.42		WL	Water level, 05 % height/diameter	00:00:00		(Servi) 0
E	4.12	F1	EL	Encrustation light, from 10 to 03 o'clock, Finish	00:00:00		(Servi) 2
	4.12		MH	Manhole Remark: E	00:00:00		(Constr) 0
Depth: 1.62							

Structural Defects	Constructional Features
Service Defects	Miscellaneous Features

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PETER DUFFY LIMITED

PETER DUFFY LIMITED (DRAINS AID)
LOFTHOUSE, WAKEFIELD
WEST YORKSHIRE
Tel: 0800 150123, Fax: 0113 2365183

Inspection report

Date:	Job N°:	Weather:	Operator:	section number:	PLR:
01/03/2010	10157789	DRY	MARK SLINN	5	E X
Present:	Vehicle:	Camera:	Preset:	Cleaned:	Grade:
	PF08 HWD	FLEXI ROD		YES	

Road:	NEILEY STW	Division:		start MH:	E
Place:	HOLMFIRTH	District:		end MH:	C
Location:	STW	Tape No.:		Total length:	1.69 m

Purpose:	ASSET CONDITION	Shape/Size:	CIRCULAR 150mm
Use:	RETURN LIQUORS	Material:	CAST IRON Pipe length:
Catchment:	WEST	Lining:	
		Category:	

Comment:

Location details:

1:25	position	code	observation	counter	photo	grade
Depth: 1.62						
E	0.00	ST	Start of Survey	00:00:00		(Misc) 0
	0.00	MH	Manhole Remark: E	00:00:00		(Constr) 0
	0.00	WL	Water level, 05 % height/diameter	00:00:00		(Serv) 0
	0.04 S1	EL	Encrustation light, from 10 to 03 o'clock, Start	00:00:00		(Serv) 2
C	1.69 F1	EL	Encrustation light, from 10 to 03 o'clock, Finish	00:00:00		(Serv) 2
	1.69	MH	Manhole Remark: C	00:00:00		(Constr) 0
	1.69	FH	Finish Survey	00:00:00		(Misc) 0
Depth: 1.63						

Structural Defects	Constructional Features
Service Defects	Miscellaneous Features

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PETER DUFFY LIMITED

PETER DUFFY LIMITED (DRAINS AID)
LOFTHOUSE, WAKEFIELD
WEST YORKSHIRE
Tel: 0800 180123, Fax: 0113 2365183

Inspection report

Date:	Job N°:	Weather:	Operator:	section number:	PLR:
01/03/2010	10157789	DRY	MARK SLINN	6	C X
Present:	Vehicle:	Camera:	Preset:	Cleaned:	Grade:
	PF08 HWD	FLEXI ROD		YES	

Road:	NEILEY STW	Division:		start MH:	C
Place:	HOLMFIRTH	District:		end MH:	D
Location:	STW	Tape No.:		Total length:	11.42 m

Purpose:	ASSET CONDITION	Shape/Size:	CIRCULAR 150mm
Use:	RETURN LIQUORS	Material:	CAST IRON Pipe length:
Catchment:	WEST	Lining:	
		Category:	

Comment:

Location details:

1:100	position		code	observation	counter	photo	grade
Depth: 1.63							
C	0.00		ST	Start of Survey	00:00:00		(Misc) 0
	0.00		MH	Manhole Remark: C	00:00:00		(Constr) 0
	0.00		WL	Water level, 05 % height/diameter	00:00:00		(Serv) 0
	0.49	S1	EL	Encrustation light, from 07 to 05 o'clock, Start, REMARK: PATCHY	00:00:00		(Serv) 2
	7.65		DE	Debris, 05 % cross-sectional area loss	00:00:00		(Serv) 1
D	11.39	F1	EL	Encrustation light, from 07 to 05 o'clock, Finish	00:00:00		(Serv) 2
	11.40		MH	Manhole Remark: D	00:00:00		(Constr) 0
	11.42		FH	Finish Survey	00:00:00		(Misc) 0

Structural Defects	Constructional Features
Service Defects	Miscellaneous Features

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PETER DUFFY LIMITED

PETER DUFFY LIMITED (DRAINS AID)
LOFTHOUSE, WAKEFIELD
WEST YORKSHIRE
Tel: 0800 180123, Fax: 0113 2365133

Inspection report

Date:	Job N°:	Weather:	Operator:	section number:	PLR:
01/03/2010	10157789	DRY	MARK SLINN	7	J X
Present:	Vehicle:	Camera:	Preset:	Cleaned:	Grade:
	PF08 HWD	ROVVER 225		YES	

Road:	NEILEY STW	Division:		start MH:	J
Place:	HOLMFIRTH	District:		end MH:	K
Location:	STW	Tape No.:		Total length:	16.4 m

Purpose:	ASSET CONDITION	Shape/Size:	CIRCULAR 300mm
Use:	RETURN LIQUORS	Material:	CAST IRON Pipe length:
Catchment:	WEST	Lining:	
		Category:	

Comment:
Location details:

1:125	position		code	observation	counter	photo	grade
Depth: 2.80							
J	0.00		ST	Start of Survey	00:00:00		(Misc) 0
	0.00		MH	Manhole Remark: J	00:00:00		(Constr) 0
	0.00		WL	Water level, 05 % height/diameter	00:00:00		(Serv) 0
	0.90	S1	EL	Encrustation light, from 09 to 03 o'clock, Start, Remark: PATCHY	00:00:00		(Serv) 2
	8.35		WL	Water level, 10 % height/diameter	00:00:00		(Serv) 0
	10.75		WL	Water level, 20 % height/diameter	00:00:00		(Serv) 0
	12.34		WL	Water level, 15 % height/diameter	00:00:00		(Serv) 0
	14.16		WL	Water level, 10 % height/diameter	00:00:00		(Serv) 0
	15.14		DE	Debris, 05 % cross-sectional area loss	00:00:00		(Serv) 1
	15.73		WL	Water level, 05 % height/diameter	00:00:00		(Serv) 0
	16.40	F1	EL	Encrustation light, from 09 to 03 o'clock, Finish	00:00:00		(Serv) 2
K	16.40		MH	Manhole Remark: K	00:00:00		(Constr) 0
	16.40		FH	Finish Survey	00:00:00		(Misc) 0
Depth: 3.20							

Structural Defects	Constructional Features
Service Defects	Miscellaneous Features

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PETER DUFFY LIMITED

PETER DUFFY LIMITED (DRAINS AID)
LOFTHOUSE, WAKEFIELD
WEST YORKSHIRE
Tel: 0800 183123, Fax: 0113 2665183

Inspection report

Date:	Job No:	Weather:	Operator:	section number:	PLR:
01/03/2010	10157789	DRY	MARK SLINN	8	K X
Present:	Vehicle:	Camera:	Preset:	Cleaned:	Grade:
	PF08 HWD	ROVVER 225		YES	

Road:	NEILEY STW	Division:		start MH:	K
Place:	HOLMFIRTH	District:		end MH:	WET WELL
Location:	STW	Tape No.:		Total length:	3.72 m

Purpose:	ASSET CONDITION	Shape/Size:	CIRCULAR 300mm
Use:	RETURN LIQUORS	Material:	CAST IRON Pipe length:
Catchment:	WEST	Lining:	
		Category:	

Comment:
Location details:

1:50	position		code	observation	counter	photo	grade
Depth: 3.20							
K	0.00		ST	Start of Survey	00:00:00		(Misc) 0
	0.00		MH	Manhole Remark: K	00:00:00		(Constr) 0
	0.00		WL	Water level, 05 % height/diameter	00:00:00		(Serv) 0
	0.90	S1	EL	Encrustation light, from 08 to 04 o'clock, Start, Remark: PATCHY	00:00:00		(Serv) 2
WET WELL	3.72	F1	EL	Encrustation light, from 08 to 04 o'clock, Finish	00:00:00		(Serv) 2
	3.72		MH	Manhole Remark: WET WELL	00:00:00		(Constr) 0
	3.72		FH	Finish Survey	00:00:00		(Misc) 0

Structural Defects	Constructional Features
Service Defects	Miscellaneous Features

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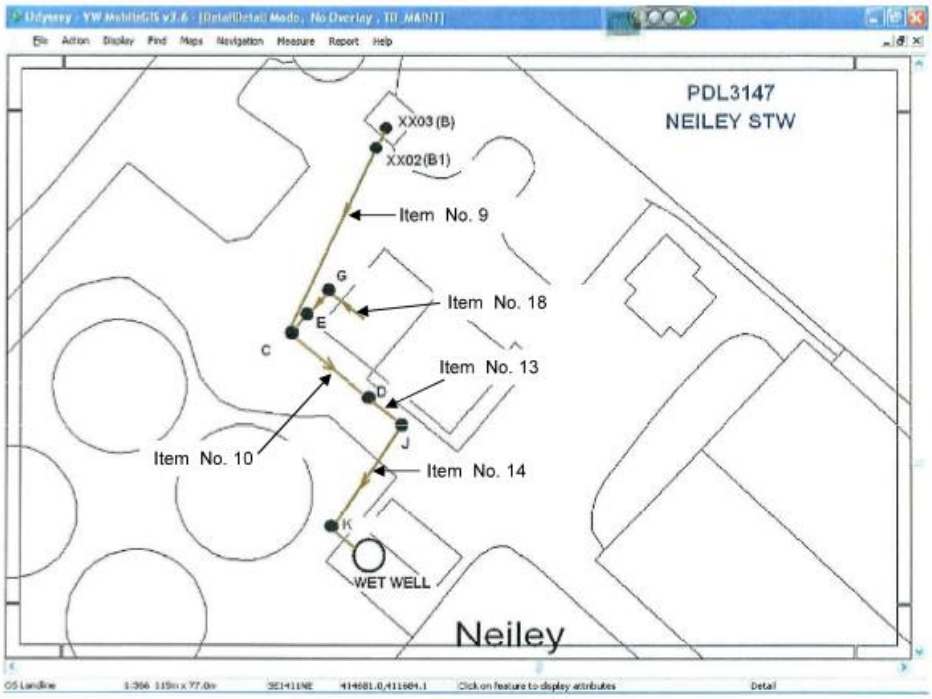
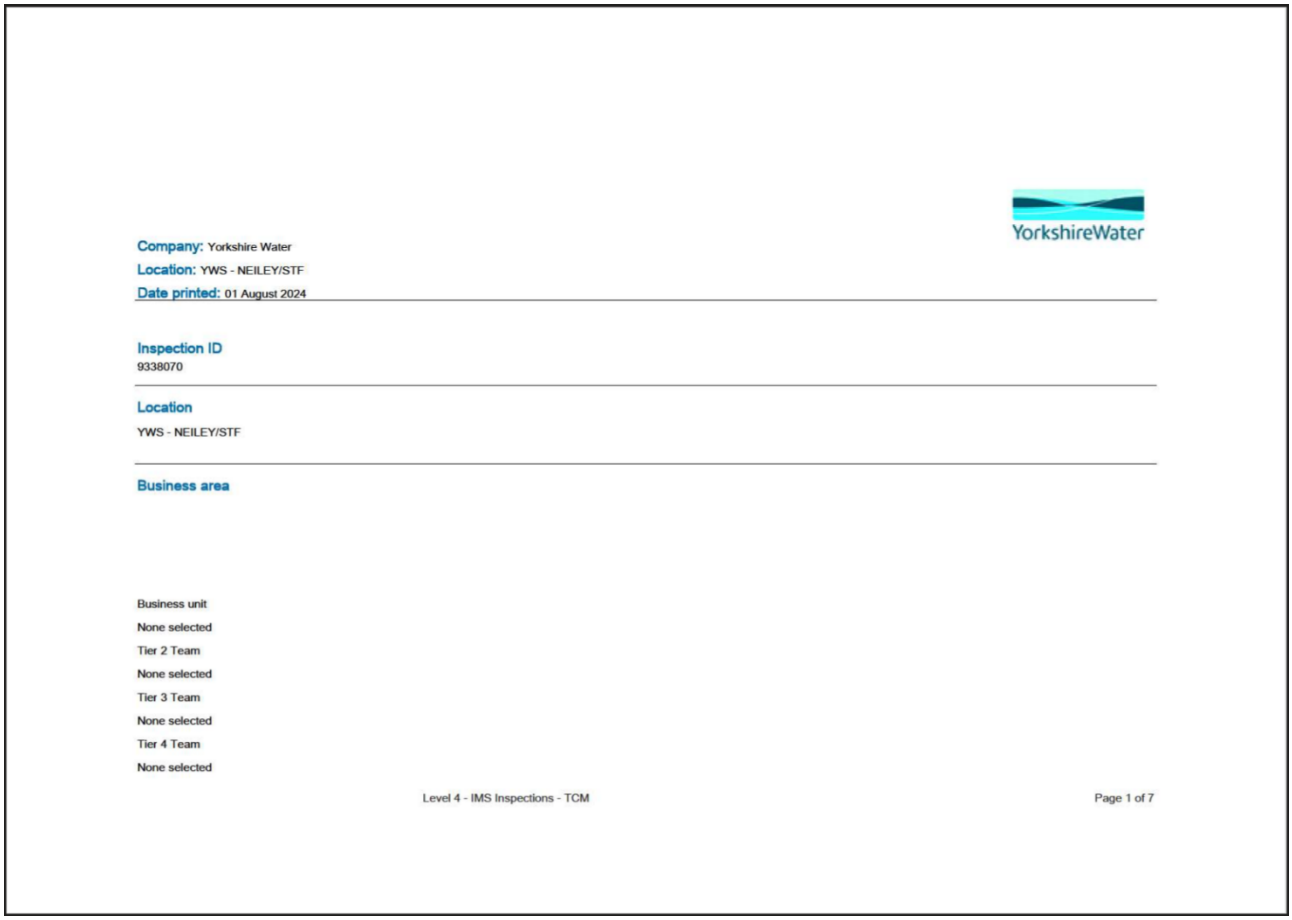

PDL3147
NEILEY STW
XX03 (B)
XX02 (B1)
Item No. 9
G
Item No. 18
E
C
Item No. 13
D
J
Item No. 10
Item No. 14
K
WET WELL
Neiley

Appendix E. YWS IMS Level 4 Inspections



Company: Yorkshire Water
Location: YWS - NEILEY/STF
Date printed: 01 August 2024

Inspection ID
9338070

Location
YWS - NEILEY/STF

Business area

Business unit
None selected
Tier 2 Team
None selected
Tier 3 Team
None selected
Tier 4 Team
None selected

Level 4 - IMS Inspections - TCM

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Tier 5 Team

None selected

Additional location information

Does this inspection involve a contractor?

Does this inspection involve a contractor?	None selected
Please select the contractor	None selected
Additional comments:	

Inspection details

YorkshireWater

Date inspection carried out:	04 July 2024
Time inspection carried out:	12:11

Inspection Team

Inspection team - list those present during the inspection

Lead inspector:	David Shaw
Lead inspector - Employee number:	
Inspector:	None selected
Department / Site representatives:	None selected

Checklist

YorkshireWater

Question	Answer	Actions	Notes
Document/Record Control			
IPPC Documentations - on site and complete ?	4 - Company standard		
Process Controls - are records made of dry solids, volumes treated, polymer used ?	4 - Company standard		
Complaints/Incidents			
Odour - Odour control system in use, any complaints since last visit ?	4 - Company standard		
Odour management plan up to date and in use?	4 - Company standard		
Noise - any complaints since last visit ?	4 - Company standard		
Pest Control - any issues with flies, rats, birds ?	4 - Company standard		
Security - Perimeter fence and gates secure, any incidents ?	4 - Company standard		
Maintenance/House Keeping			
Engineering/ Maintenance - record breakdowns, repairs and maintenance ?	4 - Company standard		
Fuel/ Oil/ Chemical Storage - bunds empty and clean ?	4 - Company standard		
Tanks - note levels, no evidence of damage/ leaks ?	4 - Company standard		
Pipework and valves - no evidence of damage/ leaks ?	4 - Company standard		
Hardstanding - clean, any significant damage ?	3 - Low risk		Action always raised for housekeeping and sludge spill clean, awaiting new hose to be approved and installed. Grounds maintenance is poor but should be addressed by the action

YorkshireWater

			being taken by the company to clear the backlog of work.
Drainage - no standing water, clear and clean ?	4 - Company standard		
Accident/Incident Reporting			
Accidents or Incidents - record basic details, has report already been raised ?	4 - Company standard		
Statutory Testing			
Lifting Equipment - any damage, tag in date	4 - Company standard		
Pressure Vessels - any damage, tag in date	4 - Company standard		
PAT - in date, equipment fit for use. MCC clean.	4 - Company standard		
Scaffold - in use, tag in date	4 - Company standard		
Fire/Gas alarm/Fire exinguisher - available & in date.	4 - Company standard		F\E checked in cent building - next due 09/24

Audit/Inspection statistics

Number of related tasks: 0
Score: 75 out of 95
Percentage score: 78.9%
Percentage complete: 100%

Audit/Inspection group statistics

Section	Score	% Score
Document/Record Control	8 out of 10	80%
Complaints/Incidents	20 out of 25	80%
Maintenance/House Keeping	23 out of 30	76.7%
Accident/Incident Reporting	4 out of 5	80%

YorkshireWater

Statutory Testing	20 out of 25	80%
Total scores	**75 out of 95**	**78.9%**

Summary of findings

Summary of findings / conclusion

Inspection recipients

Please select internal users to receive an email upon submission of this inspection
None selected

Please enter email address of external users to receive an email upon submission of this inspection, separated by a semicolon

Related actions

None

YorkshireWater

Related documents

None uploaded

Name		Job Title		Date		Signature	

YorkshireWater