2.2.7 Building Log Book

P23-026

Panattoni Aylesford Unit 2 Base Build

Building Logbook | November 2024

winvic

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1. Updates and Annual Reviews

The log book should be reviewed annually as part of the organisation's quality assurance system and an entry should be made for each review. Where the log book has been updated then the changed pages should be recorded.

Review date	Description of annual logbook review and updates made	Pages updated or added	Facilities manager's Signature	Date
	Document handed over			

1. Purpose and Responsibilities

Purpose of a building log book

This log book is an easily accessible focal point of current information for all those working in the building. It has four main functions:

- **Summary of the building:** it is a summary of all the key information about the building, including the original design, commissioning and handover details, and information on its management and performance. In being a summary, it does not wholly duplicate or replace the O&M manuals. The log book is necessary for compliance with Building Regulations Part L2.
- **Key reference point:** it is the single document in which key building energy information is logged. It may be regarded as the hub document linking many other relevant documents. The log book should provide key references to the detail held in less accessible O&M manuals, BMS manuals and commissioning records. It should therefore be kept in a readily accessible (designated) position in the main building operations room and should not be removed without the approval of the facilities manager.
- **Source of information/training:** it provides a key source of information for anyone involved in the daily management or operation of the building and to anyone carrying out work on the building and its services. It is relevant to new staff and external contractors/consultants and may play a role in staff training and induction.
- **Dynamic document:** it is a place to log changes to the building and its operation. It is also used to log building energy performance and continual fine-tuning commissioning. It is essential that it is kept up-to-date. Alterations should only be made with the approval of the facilities manager and should be signed and dated by that person.

Further guidance on using building log books is given in Action Energy Good Practice Guide GPG 348: *Building log books — a user's guide*, available from www.actionenergy.org.uk

This building logbook was prepared by:

Winvic Construction Ltd
Brampton House
Moulton Park
Northampton
NN3 6PZ

Dated: November 24

Facilities manager responsible for logbook: Signed:…….

Contact No:……..

Signed:…… Date:…….

Key responsibilities of facilities manager:

— To ensure that the logbook is correct and up-to-date at building handover and when passing it on to a successor
— To ensure that the logbook is kept up to date on an ongoing basis including any changes to the building fabric, services, operation or management
— To ensure that building maintenance and energy performance are logged
— To ensure that all those working in the building are made aware of the information contained in the logbook
— To ensure that the logbook is always kept in its designated location.

2. Links to Other Key Documents

Document	Location
Emergency Procedures	Section 1 of Mechanical Guidance Notes
Health and Safety	Health & Safety Guidance Notes
Schedule of Hazards Associated with Materials Used	
Record Drawings	Winvic Design Manager
Equipment Logbooks (e.g., Boiler log book)	With Equipment
Testing & commissioning certificates & reports	Section 2 of Mechanical Guidance Notes
Plant & Equipment data	Section 4 of mechanical Guidance Notes

3. Main Contacts

Emergency Contact Name 1	
Emergency Contact Name 2	
Electricity Emergency Contact	0800 40 40 90
Gas Emergency Contact	0800 111 999
Water Emergency Contact	0333 000 0001
Lead Designer Contact Name	Jonathon Hillen (SGP)
Building Services Design Contact Name	M:Oliver Pinnick - 01773 715234
Principle Contractor	Winvic Construction
Mechanical Services Installer	Salamanda Building Services Ltd - 01773 715234
Commissioning Managers Name	Steve McLaughlin (WCL)
Electrical Services Installer	Walter Miles Electrical - 0116 287 2400
Planning Supervisor Name	Max Fillingham (WCL)
O&M and Logbook Author Name	
Mechanical & Electrical Consultant	MBA - 01908 320099
Facilities Management Contractor Name	
Maintenance Contractor Name	

4. Commissioning, Handover and Compliance

Commissioning overview

CIBSE Commissioning Code	Followed? (Yes/No)	Certificate included in appendix? (Yes/No)
Code M: Commissioning Management	Yes	No Section 2 of Mechanical Guidance Notes
Code A: Air Distribution Systems	N/A	
Code C: Automatic Controls	Yes	No Section 2 of Mechanical Guidance Notes
Code L: Lighting	Yes	
Code R: Refrigeration	N/A	
Code W: Water Distribution Systems	Yes	No Section 2 of Mechanical Guidance Notes

Commissioning results

Commissioning period **24.10.22 to 28.10.22** **Signed:**	**1. Were the system and its controls installed as shown in the design drawings? (Yes/No)**	**2. Did operation meet the design specifications in all the required modes? (Yes/No)**	**3. Did the system operate efficiently in all modes? (Yes/No)**	**Comments/problems?** Where the answer is NO, indicate any commissioning problems or significant changes that have been made to the designs during (or as a result of) installation/commissioning, or any value engineering exercises, including any significant commissioning failures and remedial work that took place.
Water Chlorination Certificate	YES	YES	YES	
External Services Test Sheet	YES	YES	YES	
Leak detection commissioning cert	YES	YES	YES	

Air infiltration

A building air pressure test was carried out on the 13th of November 2024 and showed a measured air permeability of in the following areas -

Area 1 Freezer	0.07 m3.h.m2 @ 50pa
Area 2 Chiller	0.55 m3.h.m2 @ 50pa per hr including Goods Out / Goods In
Area 3 Ambient	0.83 m3.h.m2 @ 50pa

which was within the specified target refer to building manuals for full rest report.

Handover

Handover took place on: **/**/**

End of defects liability period: **/**/**

The handover procedure was managed by: (Project Manager)

The documents handed over are listed in section 3 – Key Documents

5. Overall Building Design

General description of building

The following mechanical services have been provided -

- External mains cold water distribution pipework & entry location within the offices
- The chlorination of MCWS, Hydrant ring main and sprinkler tank
- Gas pipe capped at both ends for future use

The following Electrical services have been provided –

- HV Cable from Utility boundary switchgear to client HV switchgear
- HV ring main around the site
- 2x 2000KVA HV/LV transformer c/w close coupled RMU
- 3x 15000KVA HV/LV transformer c/w close coupled RMU
- LV tails from transformer to main LV panel
- Main LV panel boards
- Installation of local DB's for external lighting
- Installation of DB's for local lighting and power
- local DB's for car park EVC Points
- Installation of dock door busbar and isolators
- Main office lift supply
- External lighting, including roof access gantry lights
- Installation of EVC points to car park
- Feeder Pillar/supplies for HGV charge Points
- Petrol Interceptor power supplies
- Power supply for external pumps

Benefits and limitations of the design

Key ‘dos and don’ts’

Do:

1. Monitor heating, cooling and ventilation to ensure good operation
2. Be aware of all risks
3. Monitor energy usage within the building, this will enable the facilities manager to adjust timed starts/holiday periods etc to avoid excessive energy waste.
4. Follow the manuals regarding regular maintenance
5. Consult the relevant person for advice and instruction if required
6. Employ specialists to service and maintain major plant items and systems including AC systems and controls, this will ensure their continued efficiency and use.
7. Consult with control specialist to request further training and demonstrations, if necessary, this will ensure that the building management system is operating to its best with regards to the specific building.

Don’t:

1. Operate the plant 24 hours/day, seven days a week unless occupancy hours dictate this
2. Overheat the building
3. Leave heat generating equipment/machines left on unnecessarily and have energy saving features enabled as this will prevent your space from overheating and save energy
4. Open windows if cooling system operational.
5. Adjust set points or control logic from that set up without prior consultation with consultants or energy manager.

6. Summary of Areas and Occupancy

Occupancy and activities

The total number of occupants in the building is…… (Based on core hours of use)

Main occupied areas	Weekday hours	Saturday hours	Sunday hours	Total hours/week	Flextime (Yes/No?)	Late working sometimes (Yes/No?)	No. of occupants
Office Block							

Insert a summary of the main activities in each different zone of the building. Insert a summary of the likely occupancy patterns including numbers of people and occupancy periods.

Floor areas

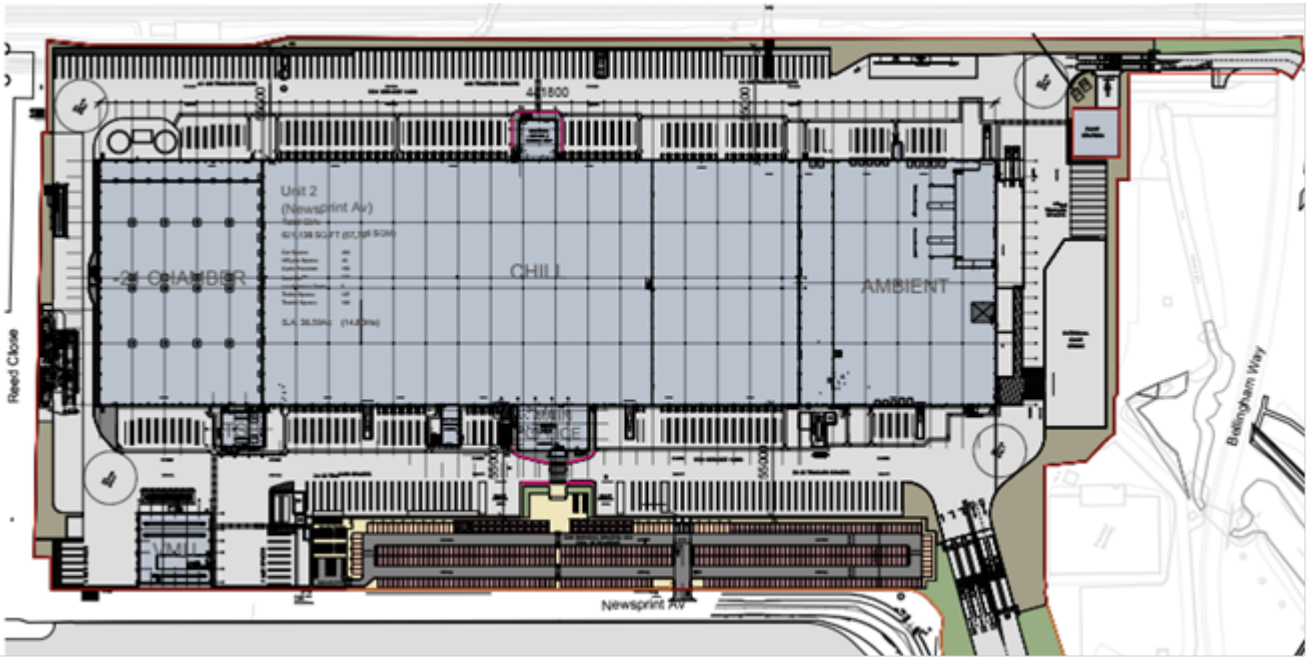
The total floor area is m^2 (based on gross floor area)

	% Of total area by servicing system						Total %	Total area (m^2)
Area type	Untreated	Naturally ventilated	Mechanically ventilated	Heating Only	Heating & Cooling	Heated & Ventilated		
Total (%)								
Total area (m^2)								

Tenancies
Not applicable

Separately managed and special areas
Not applicable

Floor plans


Unit 2
(Newsprint Av)
-2° CHAMBER
CHILL
AMBIENT
Reed Close
Bellingham Way
Newsprint Av

7. Summary of Main Building Services Plant

The main energy using plant (above 5Kw) installed at the site at handover is the

Main plant items are shown below. The operation & maintenance manuals provide further detail.

Main plant	Location	Input (kW)	Output (kW
Not Applicable			

SYSTEMS:

Mechanical Services

Drawings:

Description	Drg No:
Mechanical External Services Layout	P23026-SBS-EX-XX-DR-M-0001

DOMESTIC MAINS COLD WATER SERVICES

A new MDPE water main has been installed to the site from the service road to the site boundary. This main terminates with water meter and isolating valve provided by the water authority on the boundary.

From the outlet of the meter MDPE barrier pipework is installed to all the incoming locations around the building (as shown on drawing number **P23026-SBS-EX-XX-DR-M-0001**. All pipework being laid below 750mm from the finished ground level and surrounded by sand for protection. At the points of entry to the buildings, a stopcock, double check valve and draincock has been fitted with a pulsed output water meter linked to the leak detection panel.

SPRINKLER INFILL MAIN

A new 180mm MDPE barrier pipe water main is installed below ground from the main connection point location as indicated on the site plans and terminated with 1No blanked flange for future connection to the sprinkler tanks. All pipework is installed below 750mm from the finished ground level and surrounded by sand for protection.

CAPPED SPRINKLER MANIFOLD MAIN

A new 355mm HPPE pipe water main is installed below ground around the building as shown on drawing number **P23026-SBS-EX-XX-DR-M-0001.** The feeds terminate externally and are left capped for future connection to the sprinkler manifolds.

FIRE HYDRANT

A new 180mm MDPE Fire Hydrant main has been installed below ground from the main connection point location as indicated on the site plans around the perimeter of the building to 14no hydrant points terminated with a hydrant valve as located on drawing no **P23026-SBS-EX-XX-DR-M-0001**.

NATURAL GAS INSTALLATION

Within the base build works a new low-pressure (30mbar) gas supply has been installed and capped off for future use under the gas meter kiosk position. MDPE pipework is extended to the building entry location where it adapts to steel below ground and rises above ground then enters the building. Inside the building the incoming gas has been fitted with a purge valve and capped for future use. Drawing Number **P23026-SBS-EX-XX-DR-M-0001**

RAINWATER HARVESTING SYSTEM

A rainwater harvesting scheme is to be provided to the future main office sanitary appliances. The general principle is that rainwater is collected at warehouse roof level and connected via the syphonic downpipes to the inlet of a **40,000 litre** underground rainwater storage tank provided with vortex filter to remove larger heavier particles within the rainwater disposal system.

The filtered water discharges from the filter into the storage area of the tank through an inlet calmer. Any rainwater discharged into the tank whilst full will be diverted to drain from a tank connection.

The pump chamber of the tank is fitted with a 600mm diameter access turret and the filter with a 750mm diameter access turret and standard duty cover for on-going maintenance and inspection.

SYSTEMS:

Electrical Services

Description	Drg No:
TX1 & 2 LV Schematic	P23026-WME-XX-ZZ-DR-E-0002
TX3 LV Schematic	P23026-WME-XX-ZZ-DR-E-0003
TX4 LV Schematic	P23026-WME-XX-ZZ-DR-E-0004
TX5 LV Schematic	P23026-WME-XX-ZZ-DR-E-0005
Warehouse Lighting Layout	P23026-WME-62-00-DR-E-0100
Warehouse Small Power	P23026-WME-62-00-DR-E-0200
Warehouse Containment	P23026-WME-62-00-DR-E-0400
TSB Containment Route	P23026-WME-62-00-DR-E-0401
External Lighting Layout	P23026-WME-EX-00-DR-E-0500
Extenal Lighting Lux Plot	P23026-WME-EX-00-DR-E-0501
External Duct Layout	P23026-WME-EX-00-DR-E-0502
Extenal Duct Setting Out	P23026-WME-EX-00-DR-E-0503
Extenal Lighting Elevations E/W	P23026-WME-EX-00-DR-E-0504
Extenal Lighting Elevations N/S	P23026-WME-EX-00-DR-E-0505
Warehouse Roof Access Lighting	P23026-WME-EX-00-DR-E-0506
TX1&2 Plinth Layout	P23026-WME-XX-XX-DR-E-0510
TX3 Plinth Layout	P23026-WME-XX-XX-DR-E-0511
TX4 Plinth Layout	P23026-WME-XX-XX-DR-E-0512
TX5 Plinth Layout	P23026-WME-XX-XX-DR-E-0513
HV Switchgear Base Detail	P23026-WME-XX-XX-DR-E-0514
Generator 1&2 Duct Details	P23026-WME-XX-XX-DR-E-0515
Base Detail for PV HV Switchgear	P23026-WME-XX-XX-DR-E-0517
TSB Building DB1&2 B/W	P23026-WME-XX-XX-DR-E-0518
Distribution Board Setting Out	P23026-WME-XX-XX-DR-E-0519
EVC Duct Layout	P23026-WME-XX-XX-DR-E-0520
TX4&5 LV Panel GRP Kiosk	P23026-WME-XX-XX-DR-E-0521
HGV Point Ducts	P23026-WME-XX-XX-DR-E-0522
TX1&2 Generator Earth Con	P23026-WME-EX-00-DR-E-0700
TX3 Generator Earth Con	P23026-WME-EX-00-DR-E-0701

Incoming Supply

The source for the supply to the site is a HV utility RMU (Ring Main Unit) at the site boundary. Client owned HV switchgear is located adjacent to the Utility RMU. From the client owned switchgear a HV ring main is routed around the site within a common services trench, The HV cables are terminated at each transformer at a close coupled ring main unit. There is an open point in the HV ring at TX1.

From the LV side of each transformer the following cables are installed for supply to the LV panels.

TX1 to DB1 – 4 x 1c 630mm Per Phase & Neutral + 300mm CPC on ladder (TSB Building)
TX2 to DB2 – 4 x 1c 630mm Per Phase & Neutral + 300mm CPC in ducts (TSB Building)
TX3 to DB1 – 4 x 1c 5000mm Per Phase & Neutral + 300mm CPC in ducts (RSU Building)
TX4 to DB1 – 4 x 1c 5000mm Per Phase & Neutral + 300mm CPC in ducts (Service Yard)
TX5 to DB1 – 4 x 1c 5000mm Per Phase & Neutral + 300mm CPC in ducts (Car Park)

ONLY PERSONS WITH THE NECESSARY COMPETANCE AND QUALIFICATIONS SHOULD CARRY OUT ANY SWITCHING OR WORKS ON THE SITE HV/LV SYSTEM.

Main Switchgear and sub-distribution

The main LV panels are located as follows:

DB1&2 – 1st Floor TSB Building
DB3 – Within Ambient Warehouse GL U/46-47
DB4 – Service Yard GRP adjacent TX4
DB5 – Car Park GRP adjacent TX5

The panels are floor mounted with a main switch to isolate the electrical supply to all the outgoings ways. REF protection is provided at each panel.

The main LV panels are electrically rated to suit the expected fault levels and load of the supply. and have surge protection units fitted to prevent/reduce potential surge damage caused by lightning protection. The panels are floor mounted Form 4 type 6, with outgoing MCCB/ACB ways to suit the anticipated electrical loads. Metering is provided by Schneider IFM/IFE and EIFE modules connected to a Schneider PAS600T meter server.

All outgoing ways are top exit and a 25% spare capacity has been provided for future use.

XLPE/SWA/LSZH sub-main cables have been taken from the panel and secured to cable tray to feed and sub-distribution boards office and the dock door busbar.

All outgoing ways have engraved labels to suit the designated circuit.

ONLY PERSONS WITH THE NECESSARY COMPETANCE SHOULD OPERATE LV MCCB'S/ACB's or MCB's. NEVER CLOSE AN MCCB/ACB OR MCB ON LOAD.

LV distribution

Distribution boards are installed within the warehouse for external lighting supplies. Dedicated distribution boards have been installed adjacent to the main LV panels for local general lighting and small power.

Warehouse Power

Each level access and service door has an electrical supply which is terminated into an isolator to allow the door manufacture to connect their control panel. From the isolator a flexible cable within galvanised conduit is connected at high level. Supplies to the door bus bars are taken from the nearest main LV panel.

Containment

Within the building there is a variety of containment used. Within the +1 chilled and ambient areas cable tray has been installed around the perimeter of the warehouse for the XLPE/SWA/LSZH cable supplies to the door dock busbar, external lighting distribution boards and lighting circuits. Due to the low temperature within the freezer area (-210C) cable basket has been installed to support the cables.

Emergency Lighting

Emergency exit lighting has been installed at perimeter exit doors only within the warehouse to meet the requirements of BS5266-1 with emergency pack integral to the necessary fittings. Emergency fittings are indicated with a green LED indicator to show both power is present and that the batteries are charging.

The emergency lighting is controlled via the Thorlux smartscan control system

DO NOT CONTINUEALLY CHARGE AND DISCHARGE THE EMERGENCY LIGHT FITTINGS AS THIS WILL SHORTERN AND POSSIBLY DAMAGE THE BATTERIES WITHIN.

External Lighting

The external lighting provides lighting to the Service Yard, Car park, access roads, site entrances, service yards and building perimeter.

The lighting scheme utilises LED lamps and control gear mounted in the light fittings which are either column or directly mounted to the building.

Column mounted lighting
A mixture of 10 metre, 8 metre,6 metre and 4 metre columns have been installed to provide the necessary lighting to the services yard, car park and access roads. Fittings are installed on top of the columns with flexible cables passing through the column to the base where they are terminated into fused cut out.

The electrical supply to the columns passes from the building and into underground ducts, under the roads and surface yard and into the base of the columns.

Build mount lighting.
Lighting has also been mounted to the building to provide lighting to the road ways and services yards. Due to the white wall finish of the external cladding the fittings are fixed to purlins using “free issue” screws provided by the cladding installer, ISD. Please refer to the external lighting drawings for specific details of the fixing method. The electrical supply to the fittings is installed on cable tray/basket around the perimeter of the warehouse. Within the +1 chilled and ambient areas the external lighting cables terminate into fused spurs located internally allowing a flexible cable to pass through the cladding and into the light fitting. Due to the low temperature within the freezer area (-210C) the external lighting cables are passed through the cladding and terminate into “masterseal” fused spurs located externally.

External lighting is provided to the roof access gantries. Lighting is a mixture of linear IP rated fittings and bulkheads. Fittings are mounted either to the underside of the gantry or mounted to the building.

External lighting control
Dedicated distribution boards have been installed to provide power to the external lighting and small power items. All fittings are switched with control via Thorlux smartscan control system. The smartscan system wirelessly links luminaires into a Gateway which collects and transmits their energy performance data and complete operational information. The data from all SmartScan luminaires, is transmitted to the SmartScan Website for viewing using tablets, smartphones, laptops and computers. The SmartScan Gateway has a 230V mains supply to operate as all communication is via a secure MQTT GSM connection. See manufactures literature for further information

Lightning Protection

A Lightning Protection System has been installed to meet the requirements of the specification and BS EN 62305 to the warehouse and office building. Rods are positioned at no more than 16mtrs around the perimeter with tapes connected onto the main steels.

Electric Vehicle Charging

A number of Electric Vehicle Charge (EVC) stations have been provided in the main and disabled bay car park. There are, 21 x single phase dual output 7kw bollards and 1 x single phase single output 7kw bollards. All EVC points are fed from distribution boards located within DB5 mani LV panel GRP.

Ducting has been installed for the addition of future EV chargers, locations for which are detailed on as fitted drawings.

Feeder Pillars are provided at three locations for HGV charge points. At each Feeder pillar location there is an MCCB boards which feeds final circuit distribution boards, all within a GRP enclosure. Ducting has been installed from each GRP to a HGV charge point location.

A power supply has been provided for the “Kempower” HGV charger located near to TX4.

External Power Supplies

A power supply has been installed for the Willow Pumps pumping station. The supply is provided via ducts from a dedicated MCCB in TX4.

Supplies to the petrol interceptors are provided from local distribution boards.

Testing and Commissioning

Electrical services test certification and commissioning has been carried in accordance with the NICEIC regulations.

Specialist’s installations and testing not covered by the Regulations for Electrical Installations has been tested to the relevant British Standards or Code of Practice

8. Occupant Information

Your working environment

In order to achieve a good working environment, it is important that you understand how to control the building services in your space.

Heating: N/A

Cooling: N/A

Ventilation: N/A

Simple energy 'dos and don'ts'

- Avoid blocking electric panel heaters or ventilation grilles with furniture and books as this will result in a lack of heating/ventilation.
- Set thermostats to the required temperature then leave them alone. Do not use them as ON/OFF switches.
- Do not overheat your space as these increases running costs and causes extra emissions of CO_2 into the external atmosphere, contributing to global warming.
- Only switch the lights ON as and when necessary as they result in significant emissions of CO_2 into the external atmosphere, contributing to global warming.
- Shut windows at night for security purposes and to prevent heat loss that could make your space cold when you come in the next day.
- Switch off all manually controlled fans and equipment when not in use; designate a person to ensure this is carried out.
- Ensure that P.C.'s, printers etc. are not left on unnecessarily and have energy saving features enabled as this will prevent your space from overheating and save energy, thereby reducing CO_2 emissions to the external atmosphere.

9. Metering, Monitoring and Targeting Strategy

Metering schedule

The following provides a list of meters and design estimates of the likely end use consumptions. See Action Energy General Information Leaflet GIL 65: *Metering energy use in new non-domestic buildings,* for an example, including how to arrive at a good metering schedule. A copy is provided on the CD-ROM associated with CIBSE TM31 and printed copies are available from (www.actionenergy.org.uk). CIBSE TM22 also provides a means of assessing energy use in buildings.

Total estimated incoming fuel			Electricity: kHz/yr. Other: Litres					
Energy			**Meters**		**Method**		**Meter location**	
Type of incoming energy	Main end-use	Estimated end-use consumption (kHz/yr.)	Meter no./code	End use/ area/system/ circuit or tenancy to be measured	Measurement method and calculation where appropriate	Estimated consumption through each meter (kHz/yr.)	List of meters	Location
Water	Incoming		Boundary water meter	All areas	Direct			Boundary
Water	Main Office		Main office water meter	Main Office	Direct			Main office warehouse
Electric								
Electric								
Electric								

10. Building Performance Records

(Not more than three pages)

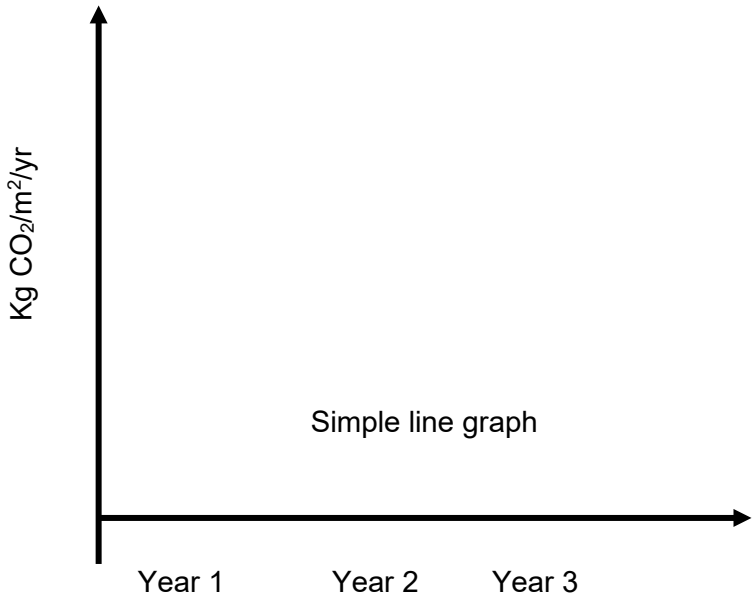
Overall annual energy performance

Summary of overall annual electricity, fossil fuel consumption and CO_2 against simple benchmarks. Examples of these calculations and tables are shown in Good Practice Guide GPG 348: *Building logbooks – a user's guide*. A copy is included on the CD-ROM associated with CIBSE TM31; printed copies are available from (www.energyaction.org.uk).

Building energy performance for period from *[date]* to *[date]* **Based on a treated floor area of *4027* m²**							
Fuel	**Quantity**	**(A)** (kW·h)	**(B)** **CO_2 ratio**	**(C)** (Kg CO_2)	**(D)** **Actual** (Kg CO_2/m^2)	**(E)** **Design estimates** (Kg CO_2/m^2)	**(F)** **Good practice benchmark** (Kg CO_2/m^2)
Gas							
Electricity							
TOTAL							

Ensure that actual consumption figures do not include estimated bills and ensure they relate to a full exact 12-month period. (If not then record actual and adjust by number of days missing/extra). Use the total gross floor area shown in section 5. Multiply column (A) by column (B) to get (C) then divide by treated total building floor area to get (D) for comparison with benchmarks in columns (E) and (F). One overall performance indicator can be established by totalling column (D). Avoid adding column (A) as the fuels have different costs and CO_2 factors.

Historical Building Performance Graph



CIBSE TM22: *Energy assessment and reporting methodology* provides software to help assess building energy performance using either a simple or a detailed approach. This includes benchmarks for a variety of buildings. A wider range of benchmarks is available in the series of Energy Consumption Guides produced by Action Energy

(www.actionenergy.org.uk), e.g. ECG19: *Energy use in offices*, and CIBSE Guide F: *Energy efficiency in buildings*

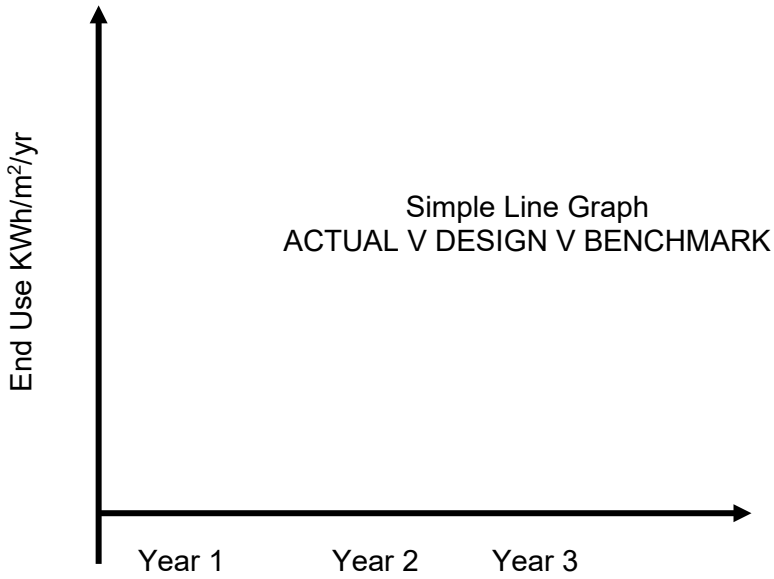
Energy end use comparison

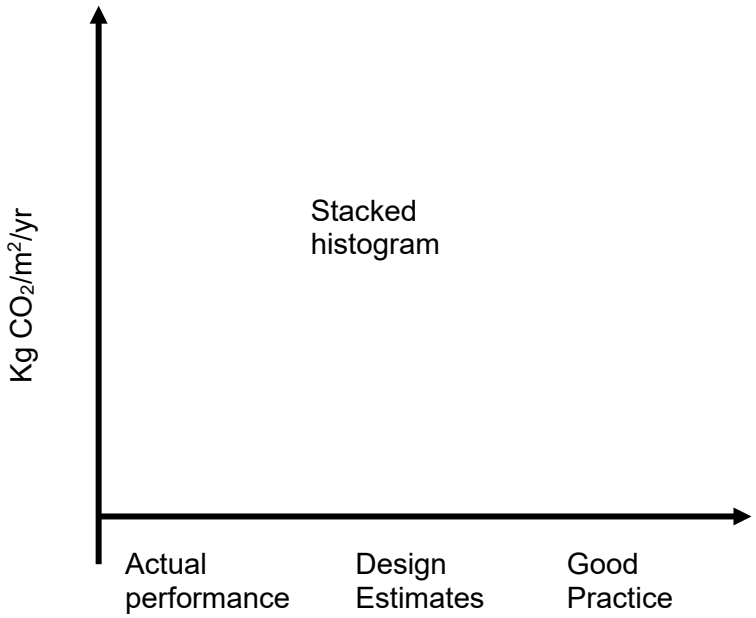
Annual summary of actual metered consumption per square metre and the design team's estimates versus benchmarks broken down by main end-uses. Examples of these calculations and tables are shown in Good Practice Guide GPG 348: *Building logbooks – a user's guide*. A copy is included on the CD-ROM associated with CIBSE TM31; printed copies are available from (www.energyaction.org.uk).

Building energy performance for period from *[date]* to *[date]* **Based on a treated floor area of *38015* m²**					
Fuel type	**Main end use**	**Actual** Metered incoming consumption ((Kw·h)/yr)	**Actual** Sub-metered main end use energy consumption ((Kw·h/m²)/yr)	**Design estimates** Main end use energy consumption (Kw·h/yr	**Good practice benchmark** Main end use energy consumption ((Kw·h/yr)
Electricity	Incoming				
	Lighting				
	Machines				
	General Power				
	Pumps & Fans				
	AC Heat & Cool				

Keep the fuels separate as they have different costs and CO_2 emissions

Historical Graph of End-Use Performance





References

a. *Energy efficiency in offices* Energy Consumption Guide ECG19 (Action Energy) (2000) (www.actionenergy.org.uk)

(2) *Energy Assessment and Reporting Methodology – Office Assessment Method* CIBSE TM22 (London: Chartered Institution of Building Services Engineers) (2003)

(3) *Building logbooks — a user's guide* GPG 348 (Action Energy) (2000) (www.actionenergy.org.uk)

11. System of Maintenance

Emergency maintenance action

Emergency Contact No. 1 **Emergency Contact No. 2**

Maintenance overview

The building is managed by a specialist maintenance contractor and they are responsible in ensuring the correct periodic and preventative maintenance regimes are followed to ensure correct plant and system operation.

Maintenance review

Review period …… **Signed:** ……	**1. Are you reasonably satisfied with the maintenance on this system? (Yes/No)**	**2. Is this system capable of working in all the required modes? (Yes/No)**	**3. If not, is this due to poor maintenance? (Yes/No)**	**Comments/problems?** e.g. maintenance not carried out (give reason) Indicate any major changes to the general arrangement for maintenance including any changes in maintenance regimes or contracts
Water Leak Detection System				
Gas Installation				
Electrical Installation				
Fire Alarm				
Emergency Lighting				
Disabled Refuge				
Assisted Toilet Alarm				
EV Chargers				
Lightning Protection				
Lift				

Maintenance/plant failures

Facilities manager to insert a summary of any major plant failures and how these relate to the maintenance regimes or contracts. This should describe what happened, when, why and what action was taken to overcome the problem.

12. Major Alterations

Any major alterations made to the building, its services, its operation or management should be logged below, e.g. boiler replacement, BMS upgrade, changes in use, new management regime etc. Each change should be signed and dated by the facilities manager alongside the other page numbers of the logbook that have been updated/added to reflect the alteration.

Description of alteration	Other logbook pages updated or added	Signed	Date

13. Results of In-use Investigations

Defects liability work

Facilities manager to insert a summary of any major remedial work in the period between practical completion (handover) and the end of the defect's liability period

Post occupancy evaluations

Facilities manager to insert a summary of any post occupancy evaluations, e.g. investigations of energy performance and/or occupant satisfaction.

Surveys

Facilities manager to insert a summary of results from any maintenance, condition or energy surveys.

Appendix: Relevant Compliance and Test Certificates

This appendix should act as a focal point to hold copies of all relevant key certificates/test reports etc, including: **Air test to shell and core.**

Please refer to mechanical and electrical operation and maintenance manuals Section 6 for all relevant commissioning and test results applicable to the main contract.

Pre-Lodgement of Air Permeability Test

NOT FOR COMPLIANCE

STROMA BUILT ENVIRONMENT

ATTMA The Air Tightness Testing & Measurement Association

UCRN: 11590087

Test Undertaken By	Tim Sullivan of STROMA Built Environment Ltd

Registered Company Details	
STROMA Built Environment Ltd	
Address:	Unit 6 Silkwood Business Park Fryers Way Wakefield WF5 9TJ
Telephone:	08456 212222
Email:	Mick.Smith@Stroma.com

Registered Tester Details					
Technician:	Tim Sullivan				
Registration No:	1230				
Qualification:	1 ✓	2 ✓	3	PH	EA
For clarification on technician qualifications please visit: https://www.bcta.group/attma/members/					

Building Details							
Building identifier:	**Ambient (SHELL AND CORE)**						
Site address:	Panattoni Park - Aylesford - Unit 1 & 2, Bellingham Way, Ayelsford, Kent, ME20 7DL						
Type:	Non-Dwelling		**Description:**	Warehouse			
Construction:	Steel Frame		**Warm roof:**	Yes			
Size:	**Footprint (m²)**	**Envelope (m²)**	**Volume (m³)**	**Storey**			
	10611.2	25024.7	89939.9	1			
Ventilation:	None						
Primary heating:	None		**Air conditioning:**	None			
Mastic sealing:	External Walls Only (exc. sanitary ware)						

Test Details	12/11/2024		
Report reference:	PRO-073257 AAC T1		
Retest:	No	**Build progress:**	Pre-Test
Data acquisition:	Manual	**Test type:**	Whole Building
Temporary sealing:	Temporary seals on external doors/frames? (Yes), Temporary seals on loading bay doors? (Yes)		

Deviations from Test Standard	
Deviations:	Temporary sealed components / building preparations are not all in accordance with the recommendations of ATTMA TSL2:SHELL AND CORE TEST (Yes), 2 X SHUTTER DOORS NOT YET FITTED TEMP SEALED (Yes), 2 X PERSONNEL DOORS NOT YET FITTED, TEMP SEALED (Yes)
Notifications:	

Test Results — Pass ✓

Target:	**<= 3.00**	$m^3.h^{-1}.m^{-2}@50Pa$
Air Flow Coefficient (C_{env}):	**2,508.193**	$m^3.h^{-1}.Pa^n$
Air Leakage at 50 Pa (Q_{50}):	**20882.71**	$m^3.h^{-1}$
Air Flow Exponent (n):	**0.54**	
Coefficient of Determination (r^2):	**0.994**	

Air Permeability: **0.83** $m^3.h^{-1}.m^{-2}@50Pa$

This is to certify that the above name building has been tested by a registered provider in accordance with ATTMA TSL1, TSL2 or TSL3, subject to the above statements regarding temporary sealing and deviations from these test standards.

This certificate is a short form report. If a full compliant report is required please contact the company that issued the certificate. Enquiries about this certificate should be made to: Scheme Manager, ATTMA, Unit 3, Tannery Road, Loudwater, Buckinghamshire, HP13 7EQ or visit www.bcta.group/attma/ or email admin@bcta.group.

TM88-SF5Q-84XZ

BCTA

ATTMA is part of the Building Compliance Testers Association (BCTA). The BCTA is a trade association for companies that conduct on-site testing and operate within controlled, audited schemes.

Enquiries should be made to: BCTA, Unit 3, Tannery Road, Loudwater, Buckinghamshire, HP13 7EQ or visit www.bcta.group or email admin@bcta.group.

Pre-Lodgement of Air Permeability Test

NOT FOR COMPLIANCE

STROMA BUILT ENVIRONMENT

ATTMA The Air Tightness Testing & Measurement Association

UCRN: 11590088

Test Undertaken By	Tim Sullivan of STROMA Built Environment Ltd

Registered Company Details	
STROMA Built Environment Ltd	
Address:	Unit 6 Silkwood Business Park Fryers Way Wakefield WF5 9TJ
Telephone:	08456 212222
Email:	Mick.Smith@Stroma.com

Registered Tester Details					
Technician:	Tim Sullivan				
Registration No:	1230				
Qualification:	**1**	**2**	**3**	**PH**	**EA**
	✓	✓			
For clarification on technician qualifications please visit: https://www.bcta.group/attma/members/					

Building Details				
Building identifier:	**Chiller (SHELL & CORE)**			
Site address:	Panattoni Park - Aylesford - Unit 1 & 2, Bellingham Way, Ayelsford, Kent, ME20 7DL			
Type:	Non-Dwelling	**Description:**	Warehouse	
Construction:	Steel Frame	**Warm roof:**	Yes	
Size:	**Footprint (m^2)**	**Envelope (m^2)**	**Volume (m^3)**	**Storey**
	33056.4	73345.2	290143.2	2
Ventilation:	None			
Primary heating:	None	**Air conditioning:**	None	
Mastic sealing:	External Walls Only (exc. sanitary ware)			

Test Details			12/11/2024
Report reference:	PRO-073257 CC T1		
Retest:	No	**Build progress:**	Pre-Test
Data acquisition:	Manual	**Test type:**	Whole Building
Temporary sealing:	Temporary seals on external doors/frames? (Yes), Temporary seals on loading bay doors? (Yes)		

Deviations from Test Standard	
Deviations:	Temporary sealed components / building preparations are not all in accordance with the recommendations of ATTMA TSL2:SHELL AND CORE TEST (Yes), 6 X SHUTTER DOORS NOT YET FITTED TEMP SEALED (Yes), 6 X PERSONNEL DOORS NOT YET FITTED, TEMP SEALED (Yes)
Notifications:	

Test Results

Pass ✓

Target:	**<= 1.00**	$m^3.h^{-1}.m^{-2}$@50Pa
Air Flow Coefficient (C_{env}):	**4,857.435**	$m^3.h^{-1}.Pa^n$
Air Leakage at 50 Pa (Q_{50}):	**40124.37**	$m^3.h^{-1}$
Air Flow Exponent (n):	**0.53**	
Coefficient of Determination (r^2):	**0.981**	

Air Permeability: **0.55** $m^3.h^{-1}.m^{-2}$@50Pa

This is to certify that the above name building has been tested by a registered provider in accordance with ATTMA TSL1, TSL2 or TSL3, subject to the above statements regarding temporary sealing and deviations from these test standards.

This certificate is a short form report. If a full compliant report is required please contact the company that issued the certificate. Enquiries about this certificate should be made to: Scheme Manager, ATTMA, Unit 3, Tannery Road, Loudwater, Buckinghamshire, HP13 7EQ or visit www.bcta.group/attma/ or email admin@bcta.group.

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Pre-Lodgement of Air Permeability Test

NOT FOR COMPLIANCE

STROMA BUILT ENVIRONMENT

ATTMA The Air Tightness Testing & Measurement Association

UCRN: 11590108

Test Undertaken By	Steven Chinery of STROMA Built Environment Ltd

Registered Company Details	
STROMA Built Environment Ltd	
Address:	Unit 6 Silkwood Business Park Fryers Way Wakefield WF5 9TJ
Telephone:	08456 212222
Email:	Mick.Smith@Stroma.com

Registered Tester Details					
Technician:	Steven Chinery				
Registration No:	0441				
Qualification:	**1**	**2**	**3**	**PH**	**EA**
	✓	✓		✓	

For clarification on technician qualifications please visit:
https://www.bcta.group/attma/members/

Building Details				
Building identifier:	**Freezer Only excluding Chilled & Ambient (Shell Stage Test)**			
Site address:	Panattoni Park - Aylesford - Unit 1 & 2, Bellingham Way, Ayelsford, Kent, ME20 7DL			
Type:	Non-Dwelling	**Description:**	Warehouse	
Construction:	Steel Frame	**Warm roof:**	Yes	
Size:	**Footprint (m^2)**	**Envelope (m^2)**	**Volume (m^3)**	**Storey**
	9676.4	25903.7	161707	2
Ventilation:	None			
Primary heating:	None	**Air conditioning:**	None	
Mastic sealing:	None			

Test Details			12/11/2024
Report reference:	PRO-073257 FOECAST T1		
Retest:	No	**Build progress:**	Pre-Test
Data acquisition:	Manual	**Test type:**	Zone Test
Temporary sealing:	Temporary seals on loading bay doors? (Yes)		

Deviations from Test Standard	
Deviations:	The ATTMA requirements for 'Zone/Sample' testing recommends at least 20% of the exterior building envelope area to be tested, and be representative of all the envelope construction methods, with the zone target leakage rate required to be improved upon by 10% upon the whole building target permeability.17 external roller panel doors and 1x high internal roller door temporarily sealed (not part of base build handover). Tested as a shell prior to fitout - the Energy Assessor / Architect / Client should call for a final...
Notifications:	

Test Results

Pass ✓

Target:	**<= 0.23**	$m^3.h^{-1}.m^{-2}$@50Pa
Air Flow Coefficient (C_{env}):	**51.550**	$m^3.h^{-1}.Pa^n$
Air Leakage at 50 Pa (Q_{50}):	**1856.6**	$m^3.h^{-1}$
Air Flow Exponent (n):	**0.92**	
Coefficient of Determination (r^2):	**0.997**	

Air Permeability: **0.07** $m^3.h^{-1}.m^{-2}$@50Pa

This is to certify that the above name building has been tested by a registered provider in accordance with ATTMA TSL1, TSL2 or TSL3, subject to the above statements regarding temporary sealing and deviations from these test standards.

This certificate is a short form report. If a full compliant report is required please contact the company that issued the certificate. Enquiries about this certificate should be made to: Scheme Manager, ATTMA, Unit 3, Tannery Road, Loudwater, Buckinghamshire, HP13 7EQ or visit www.bcta.group/attma/ or email admin@bcta.group.

JKPW-W597-HM67

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Unit 2 Basebuild Aylesford

Client Witness | November 2024

winvic

winvic.co.uk

Document Details

Project Ref	P23-026
Revision	01
Written by	Steve Mclaughlin
Reviewed by	
Date	05-11-2024

Revision No	Description	Date
01	Doc created	05-11-23

Contents

1. **Witness Matrix Overview**
2. **Witness Agenda sheets**

2.1 External Carpark / Yard and Warehouse Emergency Lighting
2.2 Electrical Installation
2.3 Mechanical Installation
2.4 Dock levellers
2.5 Foul Pumps
2.6 Storm Pumps

winvic

1.0 Witness Matrix Timetable Overview

Systems/Action	DATE	TIME	DURATION
Meet Winvic Site Offices	**TBC**	**10.00 am**	
Carpark and yard lighting			
Emergency lighting			
Electrical Installation inc Incoming and external			
Mechanical Installation incoming water			
Docks			
Foul and storm pumps			
Review and sign off			
Witness completed			

2.1

System: **Carpark/Yard**
Client: **PANATTONI**
Venue: **Unit 2 Aylesford**
Date: **As per schedule in section 1**

Description	Witnessed	Comments
Function and operation of emergency and exit lighting.		
Put warehouse EML into emergency mode and review after 1 hour.		
Override timeclocks to carpark / yard lighting and review lux levels		

System: **Carpark / Yard & Emergency Lighting System**
Client: **PANATTONI**
Venue: **Unit 2 Aylesford**
Date: **As per schedule in section 1**

Witness	Name Block Capitals	Signature	Date
WME			
Witnessed By Winvic Representative			
Representative (1) in Attendance			
Representative (2) in Attendance			
Representative (3)in Attendance			
Representative(4) in Attendance			
Representative(5) in Attendance			
Comments			

2.2

System: **Electrical System Base build**
Client: **PANATTONI**
Venue: **Unit 2 Aylesford**
Date: **As per schedule in section 1**

Description	Witnessed	Comments
ELECTRICAL POWER		
Walk the site to show HV to LV distribution.		
Function and position of main incoming supply switch and main switchboards		
Position of sub distribution boards		

System: **Electrical System**
Client: **PANATTONI**
Venue: **Unit 2 Aylesford**
Date: **As per schedule in section 1**

Witness	Name Block Capitals	Signature	Date
WME			
Witnessed By Winvic Representative			
Representative (1) in Attendance			
Representative (2) in Attendance			
Representative (3)in Attendance			
Representative(4) in Attendance			
Representative(5) in Attendance			
Emergency Call Out Number			
Comments			

2.3

System: **Mechanical Base build**
Client: **PANATTONI**
Venue: **Unit 2 Aylesford**
Date: **As per schedule in section 1**

GENERALLY		
Identification of main items of plant as follows:		
Location of incoming Gas meter and methods of isolation		
Mains Cold water Isolation points Location of water meter		

System: **Mechanical**
Client: **PANATTONI**
Venue: **Unit 2 Aylesford**
Date: **As per schedule in section 1**

Person in Training	Name Block Capitals	Signature	Date
Training Provider:			
Salamanda			
Witnessed By Winvic Representative			
Representative (1) in Attendance			
Representative (2) in Attendance			
Representative (3)in Attendance			
Representative(4) in Attendance			
Representative(5) in Attendance			
Emergency Call Out Number			
Comments			

2.4
System: Docks
Client: PANATTONI
Venue: Unit 2 Aylesford
Date: As per schedule in section 1

Description	Witnessed	Comments
Overview of system and its capabilities		
Introduction to control & Operation		
Viewing of Functionality		

System: **Dock Levellers**
Client: **PANATTONI**
Venue: **Unit 2 Aylesford**
Date: **As per schedule in section 1**

Witness	Name Block Capitals	Signature	Date
Training Provider:			
Hormann			
Witnessed By Winvic Representative			
Representative (1) in Attendance			
Representative (2) in Attendance			
Representative (3)in Attendance			
Representative(4) in Attendance			
Representative(5) in Attendance			
Comments			

2.5
System: Foul Pumps
Client: PANATTONI
Venue: Unit 2 Aylesford
Date: As per schedule in section 1

Description	Witnessed	Comments
Overview of system and its capabilities		
Introduction to control & Operation		
Viewing of Functionality		

System: **Foul Pumps**
Client: **PANATTONI**
Venue: **Unit 2 Aylesford**
Date: **As per schedule in section 1**

Person in Training	Name Block Capitals	Signature	Date
Training Provider:			
Training Witnessed By Winvic Representative			
Representative (1) in Attendance			
Representative (2) in Attendance			
Representative (3)in Attendance			
Representative(4) in Attendance			
Representative(5) in Attendance			
Comments			

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2.6
System: Storm Pumps
Client: PANATTONI
Venue: Unit 2 Aylesford
Date: As per schedule in section 1

Description	Witnessed	Comments
Overview of system and its capabilities		
Introduction to control & Operation		
Viewing of Functionality		

System: **Storm Pumps**
Client: **PANATTONI**
Venue: **Unit 2 Aylesford**
Date: **As per schedule in section 1**

Witness	Name Block Capitals	Signature	Date
Training Provider:			
Training Witnessed By Winvic Representative			
Representative (1) in Attendance			
Representative (2) in Attendance			
Representative (3)in Attendance			
Representative(4) in Attendance			
Representative(5) in Attendance			
Comments			