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TIPPERARY TOWN COURTHOUSE & BRIDEWELL

RE-DEVELOPMENT PROJECT - PHASE 1

MECHANICAL SERVICES INSTALLATION

CCT-JVT-PH1-XX-XX-SH-M-0001 SCHEDULE

Decription	Status	Rev	Date	Prepared By:	Checked By:
PRE-TENDER	P7	0	30.10.2026	L. STEWART	Z. SANDOROVA

JVT 1948-2023 CELEBRATING 75 YEARS

Directors: J. Lee, S. Walsh, R. Burke, C. Saul, A. Clifford, C. Kelly, D. Conaty
Associate Directors: M. Downey, D. Dowling, E. MacEntee, L. Watson
J.V. Tierney & Company (2002) Limited Trading as J.V. Tierney & Co. Registration No. 422555
Registered Office: 5 Clarinda Park North, Dun Laoghaire, Co. Dublin, A96 W6N1.

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MEMBER OF ACEI

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Air Source Heat Pumps		
		ASHP-01
Model		MAX 10035 HT / HK 3F N
Manufacturer		Adapt
Location		Ground Floor - Outdoor Area
Refrigerant		R290
Primary Inlet Temperature	°C	47
Primary Outlet Temperature	°C	55
Heating Capacity	kW	32
Input Power	kW	11.4
Input Current	A	
COP (at 7 °C)		2.82
SCOP (at 35 °C)		4.36
Dimensions (LxWxH)	mm	1050 x 675 x 1400
Weight	kg	500

Notes

ASHP to be Adapt or equal approved

Air Source Heat Pump to be tested and certified to EN16147 (for DHW) and EN 14825:2013 (for space heating)

Sound pressure of ASHP to be up to 21 dB(A) at 10m

Air Source Heat Pumps to be connected to BMS

Air Source Heat Pumps to be complete with cduty/stand by circulating pumps, temperature and pressure gauges, by specialist

ASHP to be mounted on a big foot support system supplied by the mechanical contractor

Cold Water Storage Tank						
Unit Ref	Area Served	Nominal Size (LxWxH)	Nominal Capacity	Actual Capacity	Location	Type
		(mm)	(litres)	(litres)		
CWT-01	Courthouse Building	1500 x 1500 x 500	1,125	1,125	Courthouse Attic Level	Sectional c/w External Ball Valve Housing
CWT-02	Bridewell Buildings	1500 x 1000 x 1000	1,500	975	Bridewelll Attic Level	Sectional
Mains Water Break Tank						
Unit Ref	Area Served	Nominal Size (LxWxH)	Nominal Capacity	Pump Duty	Location	Type
		(mm)	(litres)	(L/s @ kPa)		
MWBT-01	Courthouse Building	650 x 400 x 800	32	0.35 @ 405	Courthouse Attic Level	Wall Mounted Cat 5 Break Tank c/w Integrated Booster Pump
MWBT-02	Bridewell Buildings	650 x 400 x 800	32	0.35 @ 400	Bridewelll Attic Level	Wall Mounted Cat 5 Break Tank c/w Integrated Booster Pump

Notes:

Tanks Dimensions to be checked on site prior to ordering, base of Tanks to be fully supported in use

Cold water tanks to be Format 30 type tank

Access and connections to tanks to be as detailed on drawings.

Cold water tanks to be complete with drip tray and overflow

Actual capacity refers to usable water capacity

Dosing Pots		
		DP-01
System		LPHW
Description		Multi-Purpose Dosing Pot, De-Aerator, and Side-Stream Filter
Location/ Construction		Outdoor Plant Area
Max working pressure	bar	7
Working Temperature	°C	5-95
Flow Rate	L/min	≤60
Dosing Capacity	L	10
Dimensions	mm (HxW/∅)	940x890mm
Power Supply		230-1N-50
Power Consumption	W	75
Weight	Kg	34

Pressurisation Units		
		PU-01
System		LPHW
Location		Outdoor Plant Area
Pump Qty.		2
Arrangement		Duty/Standby
Max System Temperature	°C	85
Max Fill Pressure	bar	5
Break Tank Capacity	L	20
Power Supply		230-1N-50
Power Consumption	kW	0.9
Dimensions	mm (DxWxH)	332 x 470 x 832
Weight	kg	56.5

Pump Schedule						
Pump Ref.	**Description**	**Flow Rate**	**Required Pump Pressure**	**Phase**	**Type**	**Location**
		l/s	kPa			
Water Services						
CWBP-01	CWS Booster Pump (3 pump set)	0.70	370.0	3-Phase	Duty/Stand by /Assist	Sub-Stair Plant Space
LPHW Services						
P-01	LPHW UFH Circuit	1.02	33.0	Single Phase	Twin Head/Variable Speed	Outdoor Plant Area
P-02	LPHW CH Rad Circuit	0.35	30.0	Single Phase	Twin Head/Variable Speed	Outdoor Plant Area

Notes:

Pumps to be manufactured by Grundfos, Willo or approved equivalent

Provide BMS points as noted on controls drawings.

Refer to specification for detailed pump specification.

The contractor shall provide materials submission for review prior to purchase and installation, as defined in the specification.

Pump pressures to be confirmed by contractor prior to materials submission based on actual system pressure drops.

Pumps to be selected in mid range of pump curve

Pumps to be c/w fully variable automatic speed control, BMS monitoring & pressure transducers

Radiator Schedule								
Ref	**Location**	**Location Ref.**	**Type**	**L**	**H**	**D**	**Output**	**Conns.**
				mm	mm	mm	(dt26.5)(Watts)	mm
Courthouse - Ground Floor								
R-C001	Entrance Lobby C00.02	C00.02	Multicolumn	1222	1000	136	1398	2670
R-C002	Room C00.07	C00.07	Multicolumn	1038	500	136	1461	2670
R-C003	Room C00.07	C00.07	Multicolumn	1038	500	136	1461	2670
R-C004	Room C00.08	C00.08	Multicolumn	1406	500	136	1255	2670
Courthouse - First Floor								
R-C101	WC C01.01	C01.01	Multicolumn	1360	600	136	985	2670
R-C102	Classroom C01.03	C01.03	Multicolumn	900	600	136	645	2670
R-C103	Classroom C01.03	C01.03	Multicolumn	900	600	136	645	2670
R-C104	Classroom C01.03	C01.03	Multicolumn	900	600	136	645	2670
R-C105	Classroom C01.05	C01.05	Multicolumn	900	600	136	645	2670
R-C106	Classroom C01.05	C01.05	Multicolumn	900	600	136	645	2670
R-C107	Classroom C01.05	C01.05	Multicolumn	900	600	136	645	2670

Notes

LPHW Radiators to be Charleston or equal approved

LPHW Radiators to be fitted with LST covers.

Electric Radiators to be Alura or equal approved

All radiator outputs based on 26.5$^{o}\Delta t$

Radiators to be selected for 50°C flow and 45°C return LPHW temperature and 21°C internal temperature

Contractor shall confirm spec and model of radiators to Engineers prior to ordering.

Contractor shall be entirely responsible for the height of all radiators and should any radiator project above the window sill it/they shall be replaced by lower and longer and no additional expense.

Supplier to measure on site with Contractor prior to ordering.

All LPHW radiators to be supplied complete with TRV's, locks & valves.

Brass valve fittings and pipe sleeves to be included for each multicolumn radiator and approved by Architect

Radiator Schedule								
Ref	Location	Location Ref.	Type	L	H	D	Output	Conns.
				mm	mm	mm	(dt26.5)(Watts)	mm
Bridewell - Ground Floor (1B)								
R-B009	Classroom B00.03	B00.03	Electric Alura	577	575	105	1000	-
R-B010	Classroom B00.03	B00.03	Electric Alura	577	575	105	1000	-
R-B011	Classroom B00.03	B00.03	Electric Alura	577	575	105	1000	-
R-B012	Staircore B00.04	B00.04	Electric Alura	577	575	105	1000	-
R-B013	WC B00.05	B00.05	Electric Alura	777	575	105	1250	-
Bridewell - First Floor (1B)								
R-B108	Classroom B01.03	B01.03	Electric Alura	577	575	105	1000	-
R-B109	Classroom B01.03	B01.03	Electric Alura	577	575	105	1000	-
R-B110	Classroom B01.03	B01.03	Electric Alura	577	575	105	1000	-
R-B111	WC B01.05	B01.05	Electric Alura	777	575	105	1250	-

Extract Fans						
Serving Location	**Qty**	**Ref No.**	**Duty (L/s)**	**ESP (Pa)**	**Control**	**Type**
Shower Room C00.00 & Enlarged Cubicle C00.10	1	EF-C01	50	180	PIR sensor & over run timer BMS facility - fault	In-line duct mounted Extract Fan
WC C00.04 & 05	1	EF-C02	50	120	2No. PIR sensor & over run timer BMS facility - fault	In-line duct mounted Extract Fan
KITCHENETTE	1	EF-C03	80	100	PIR sensor & over run timer	Wall mounted Extract Fan
COMMS ROOM	1	EF-C04	50	180	PIR sensor & over run timer BMS facility - fault	In-line duct mounted Extract Fan
WC C01.01	1	EF-C11	50	70	PIR sensor & over run timer BMS facility - fault	In-line duct mounted Extract Fan
WC B00.05 & WC B01.05	1	EF-B11	15	120	2No. PIR sensor & over run timer BMS facility - fault	In-line duct mounted Extract Fan

Notes:

All extract fans shall be internally acoustically lined. Unit shall conform with EU Eup/ErP 2017 directive efficiencies and be complete with EC motors.

It is the responsibility of the Contractor to ensure all mechanical equipment fits in its intended position.

SFP must be <0.3 W/l/s as per Part L 2022

40dBA Maximum Internal Noise

Fans to be c/w back draft damper

Fans to be controlled via presense detector, non-wall mounted fans to be interlinked to BMS for fault indication.

Water Filter Units						
Type	**Location**	**Capacity (L)**	**Power Rating (kW)**	**Dimensions (LxDxH mm)**	**Empty Weight (kg)**	**Qty**
Undersink Storage Type	Kitchenette C00.001	5.0	2.0	240x240x285	4.5	1 No.
Undersink Storage Type	WC C00.04	5.0	2.0	240x240x285	4.5	1 No.
Undersink Storage Type	WC C00.05	5.0	2.0	240x240x285	4.5	1 No.
Undersink Storage Type	Relaxation/Treatment Room C00.06	5.0	2.0	240x240x285	4.5	1 No.
Undersink Storage Type	WC C00.10	5.0	2.0	240x240x285	4.5	1 No.
Undersink Storage Type	WC C01.01	5.0	2.0	240x240x285	4.5	1 No.
Undersink Storage Type	WC B00.05	5.0	2.0	240x240x285	4.5	1 No.
Undersink Storage Type	WC B01.05	5.0	2.0	240x240x285	4.5	1 No.

Notes:

Extract Air Grilles				
Location	**Type**	**Qty**	**Ref**	**Max Duty (m^3/s)**
WC C00.04	Air valve Ø160	1	EG-C01	0.030
WC C00.05	Air valve Ø160	1	EG-C02	0.030
Shower Room C00.09	Air valve Ø160	1	EG-C03	0.060
Enlarged Cublicle C00.10	Air valve Ø160	1	EG-C04	0.030
Comms Room	Air valve Ø160	1	EG-C05	0.060
WC C01.01	Air valve Ø160	1	EG-C11	0.060
WC B00.05	Air valve Ø160	1	EG-B01	0.030
WC C01.05	Air valve Ø160	1	EG-B11	0.060

Notes:

Noise rating shall not exceed 35 dB(A)

Air valves shall be provided with all necessary ancillaries to allow for manufacturers recommended installation.

Valves to be c/w balancing devices with adjustable perforated disc, locking nut and removable for cleaning

External Louvre				
Ref	**Location**	**Free Area**	**Dimensions**	**Qty**
EL-C01	WC C00.04 & 05 Extract	Louvre 50% free area	200x200mm	1 No.
EL-C02	Kitchenette Extract	Louvre 50% free area	200x200mm	1 No.

Notes:
All louvres to be compliant with acoustic requirements included in architects specification
Exact shape and specification of louvres to be approved by architect

Mains Water Meters					
Tag	**System(s)**	**Type**	**Pipe Size (mmØ)**	**Location**	**Flow Rate**
MWM-01	Mains Water Supply	Pulse	42	MWS Entry In Courthouse Building	0.70
MWM-02	Mains Water Supply	Pulse	35	MWS Entry In Bridewell Building	0.50
Cold Water Meters					
CWM-01	Cold Water Supply	Pulse	35	CWS Tank in Courthouse Attic	0.65
CWM-02	Cold Water Supply	Pulse	35	CWS Tank in Bridewell Attic	0.45
Heat Meters					
HM-01	LPHW Supply	Pulse	40	Outdoor Plant Area	0.95
HM-02	LPHW Supply	Pulse	25	Outdoor Plant Area	0.35

Notes:

Meter sizes to be approved by engineer prior to ordering
All meters to be as outlined and detailed in the mechanical specification document.
All meters to be selected based on flow rates, pressure, line size etc.
All meters to be Itron Woltex/Aquadis WE/AQ or equal and approved.
All meters to be installed according to manufacturer's recommendations to ensure accurate measurement.
Water meters to be complete with two wire pulse unit for volume reading on BMS. Pulse signal to be a maximum of one pulse to one litre of flow.
Water meter to be selected to achieve leak detection and threshold monitoring through the BMS to acquire BREEAM credit.
Heat meters to be complete with CF51 calculator with meter for volume / energy reading to be displayed and connected to the BMS system.
Heat meter to be selected to achieve monitoring through the BMS to acquire BREEAM credit.

Radiator Schedule			
Location	Location Ref.	Type	Qty
Courthouse - Ground Floor			
Kitchenette C00.01	C00.01	2 kg CO2	1
Kitchenette C00.01	C00.01	1.2 x 1.2 m Fire Blanket	1
Entrance Lobby C00.02	C00.02	2 kg CO2	1
Entrance Lobby C00.02	C00.02	6 Litre Water Hydrospray	1
Main Deskwork Room C00.03	C00.03	2 kg CO2	3
Main Deskwork Room C00.03	C00.03	6 Litre Water Hydrospray	3
Room C00.07	C00.07	2 kg CO2	1
Room C00.07	C00.07	6 Litre Water Hydrospray	1
Room C00.08	C00.08	2 kg CO2	1
Room C00.08	C00.08	6 Litre Water Hydrospray	1
External Plantroom	-	5 kg CO2	1
External Plantroom	-	6 kg Dry Powder Extinguisher	1
Courthouse - First Floor			
Balcony	-	2 kg CO2	3
Balcony	-	6 Litre Water Hydrospray	3

Radiator Schedule			
Location	Location Ref.	Type	Qty
Bridewell - Ground Floor			
Staircore B00.04	B00.04	2 kg CO2	1
Staircore B00.04	B00.04	6 Litre Water Hydrospray	1
Bridewell - First Floor			
Landing B01.04	B01.04	2 kg CO2	1
Landing B01.04	B01.04	6 Litre Water Hydrospray	1