

## **GENERAL NOTES**

### A. Do not scale from this drawing.

- B. Contractor to make safe and strip out all existing redundant electrical services and equipment which remain. C. Contractor shall install the Electrical Services fully in accordance with BS7671
- and the Building regulations. All works must be carried out in accordance with CDM 2015 COP. - see project significant hazards for identified significant risks before commencing
- E. The final position of equipment are approximate and must be checked with the latest Architects layout - if in any doubt ask.
- The Contractor shall be responsible for coordinating the works in accordance with the main program.
- G. All builders work shall be carried out by the Main Contractor.
- H. The Contractor shall be responsible for supplying and installing all secondary "steelwork" if indicated or not as necessary.
- All wall and floor penetrations are to be sleeved, fire stopped as required, and complete with wall or floor plates. The Contractor shall (prior to practical completion) provide as installed
- drawings in AutoCAD 2006 or later, and provide detailed O&M manuals complete with all required certification.

## ELECTRICAL NOTES

- MK Masterseal Plus IP 66 RCD protected socket mounted 500mm AFFL. Switched fused connection mounted above bench height serving an unswitched single socket at low level for a supply to a below worktop domestic dish washer, the fused connection unit to be engraved Dish Washer.
- Switched fused connection mounted above bench height serving an unswitched single socket at low level for a supply to a below worktop domestic washer, the fused connection unit to be engraved Washer. Switched fused connection mounted above bench height serving an
- unswitched single socket at low level for a supply to a below worktop domestic tumble dryer, the fused connection unit to be engraved Tumble Switched fused connection located in a suitable location within the loft to feed
- client supplied multiswitch satellite amplifier unit or for future connection. Switched fused connection located in a suitable location within the loft to feed
- client digital multiswitch or for future connection. 45A DP cooker control switch feeding a low level cooker connection outlet for final connection of an electric cooker.
- Unswitched fuse connection unit to supply Intruder Alarm panel. Broadband/fibre optic connection point, final location to be agreed.
- 10. Three (3) pole fan isolator switch at high level engraved Extract Fan, Fan control is via integral humidity stat provided and is fitted with a run on timer
- thus a permanent live is required. Fan installed by the Mechanical Contractor Three (3) Pole fan isolator switch and installed at high level engraved Extract Fan. The fan is operated from the lighting switch in the room and is fitted with a run on timer thus a permanent live is required Fan installed by the Mechanical Contractor.

IMPORTANT CDM / H & S NOTE THE DESIGNERS WOULD DRAW THE READERS ATTENTION TO KEY RESIDUAL HEALTH AND SAFETY RISKS THAT HAVE NOT BEEN ELIMINATED FROM THE DESIGNS SHOWN ON THE DRAWINGS BY THE DESIGN PROCESS. THESE RISKS ARE IDENTIFIED BELOW

- Co-ordination of M&E services with all other trades Provision for future maintenance
- Site access/egress for deliveries etc. Working at height
- Asbestos

ANY CONSTRUCTION PERSONNEL INCLUDING OPERATIVES INTENDING TO CONSTRUCT THE DESIGNS SHOWN ON THIS DRAWING SHOULD ENSURE THAT THEY HAVE BEEN REGULARLY AND THOUROUGHLY BRIEFED BY THE PRINCIPAL CONTRACTOR ON ALL HEALTH AND SAFETY MATTERS AND HAVE SIGHT OF:

(1) THE FULL DESIGNERS AND CONTRACTORS RISK ASSESSMENTS AND RISK REGISTERS.

(2) THE DEVELOPED CONSTRUCTION HEALTH AND SAFETY PLAN (3) THE CONTRACTORS CONSTRUCTION METHOD STATEMENTS.

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SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	LIGHTING		LIGHTING
<ul> <li></li> </ul>	ONE WAY 10A LIGHT SWITCH	À	MK 1190 WHI 10 - 13W LOW ENERGY LAMP HOLDER AND CEILING ROSE.
<b>~</b>	TWO WAY / INTERMEDIATE 10A LIGHT SWITCH	B	MK 1190 WHI 10 - 13W LOW ENERGY BATTERN LAMP HOLDER
3P 🥌	3 POLE FAN ISOLATION SWITCH	$(\hat{j})$	INTERNAL LIGHTING POINT LUMINAIRE PROVIDED BY OTHERS
2	CORDED PULL SWITCH	(W)	EXTERNAL LIGHTING POINT LUMINAIRE PROVIDED BY OTHERS AND C/W COMBINED PIR/PHOTOCELL SENSOR
PC	PHOTO-ELECTRIC CELL IP65		45W APOLLO LIGHTING POLYLED IP65 LINEAR LED
Pir ☐ <del>∧</del>	PASSIVE INFRA-RED MOVEMENT DETECTOR	<b></b> Zp	45W APOLLO LIGHTING POLYLED IP65 LINEAR LED WITH INTEGRAL PIR
			15W SHAVER LIGHT WITH SHAVER SOCKET MK OR SIMILAR APPROVED



PC to control south facade lights with manual on/off over-ride from dining room within.

To PC control circuit to control to — facade lights with manual on/off override from dining room within.

BBREVIATIONS

DREVIATIONS	
AB	ACCESSORY ABOVE BENCH
CL	CLEANERS SOCKET
CU	CONSUMER UNIT
DP	DOUBLE POLE
DA	DISABLED ALARM
FAP	FIRE ALARM PANEL
FC	FAN COIL UNIT
FL	FLOOR LIGHT
HD	HANDDRIER
LL	ACCESSORY AT LOW LEVEL
RHL	RISE TO HIGH LEVEL
RDB	RISE TO DISTRIBUTION BOARD
DDB	DROP TO DISTRIBUTION BOARD
RTF	RISE THROUGH FLOOR

<u>GENI</u> A Dr	ERAL NO	TES			
B. Co	o not scale from ontractor to mak nd equipment wh	this drawing. e safe and stri nich remain.	p out all existing	redundant ele	ectrical services
C. Co ar	ontractor shall in nd the Building n	nstall the Electr egulations.	ical Services fully	y in accordan	ce with BS7671
D. Al	oject significant	hazards for ide	entified significan	t risks before	commencing
E. Th th∉ F. Th	e inal position e latest Archited ne Contractor sh	or equipment a ts layout - if in nall be respons	ane approximate a any doubt ask. ible for coordinat	and must be o ing the works	спескеd with s in
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ەە <u>EL</u> EC	mplete with all r TRICAL N	required certific	cation.		
1. Fii	nal luminaire fitt	ings and switch	ning configuration	n to be confirr	med by client
2. Ki 3. Ce	tchen and Utility ellar area not sh	own, allow for	onfirmed. the supply and ir	nstallation of 4	4 Type Z fitting
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## MECHANICAL LEGEND

# Pipe at Low Level — — — — Pipe Below Floor $\bowtie$ **™** H → OPS Pump c/w Diff Sensor (HM) BMS MID Class 2 Heat Meter

— · — · — · — Pipe at High Level Pipe in Ceiling Void Isolation Valve Commissioning Set Y Type Inline Strainer Quick Fill Loop Glanded Drain Cock Non Return Valve Auto Air Vent Safety Relief Valve & Tundish

to BEMS

Two Port Valve

### NOTES

- 1. Do not scale from this drawing.
- 2. Drawings must be read in conjunction with the Mechanical Services Specification. 3. All works must be carried out in accordance with CDM 2015 COP. - see
- project significant hazards for identified significant risks before commencing works. 4. The final position of equipment are approximate and must be checked with
- the latest Architects layout if in any doubt ask. 5. The Contractor shall be responsible for coordinating the works in
- accordance with the main program. 6. All builders work shall be carried out by the Main Contractor.
- 7. The M&E sub-contractor shall be responsible for supplying and installing all
- secondary "steelwork" if indicated or not as necessary. 8. The M&E sub-contractor shall be responsible for co-ordination of their works with all other trades.
- 9. All water outlets and pipe sizes have been calculated to BS6700 and comply with the latest Building Regulations. Care must be taken on selection of appliances and taps to ensure flow rates do not exceed design.
- 10. All wall and floor penetrations are to be sleeved, fire stopped as required, and complete with wall or floor plates. 11. All insulation to comply fully with current water bylaws, requirements of BS
- 6700 and local water authorities. 12. All fittings, plant and equipment to be installed, regulated and tested in
- accordance with the manufacturers printed instructions. 13. All pipework, fittings and equipment to be installed to provide systems free of
- air locks, water hammer or leaks. 14. Stopcocks to be BS1010 gate valves to BS5154. Check valves to BS6282 :
- Part 1 with test cock to BS2879, drain valves to BS2879. 15. All valves to be fully accessible and be provided with identification labels. 16. All commissioning sets to have full shut off facility for isolation purposes.
- 17. Drain valves and air vents to be provided at all low & high points in all systems respectively.
- 18. All pipework exposed at high level, roof void, service ducts, boxings and enclosures to be fully insulated with rigid mineral sections having class 'O' foil finish in compliance with BS 5422 insulation thickness as follows : Pipework up to 32mm - 25mm thick
- Pipework 40mm and above 32mm thick 19. The complete domestic services shall be flushed and sterilised in accordance
- with the specification. 20. All final pipework drop positions to be agreed with the architect.
- 21. All final pipework connections to wash hand basins and sink units shall be 15mm unless otherwise indicated. Each termination to be valved.
- 22. Circulating returns shall be installed such that the maximum dead leg from each outlet is no more than 1.5m
- 23. Identification of pipework shall be in accordance with BS 1710. 24. Thermostatic mixing valves (TMV's) to be provided to the each basin to TMV3
- scheme set to 42°C and verified. 24. Thermostatic mixing valves (TMV's) to be provided to the each sink to TMV3 scheme set to 55°C and verified.
- 25. The Contractor shall (prior to practical completion) provide as installed drawings in AutoCAD 2006 or later, and provide detailed O&M manuals complete with all required certification.

IMPORTANT CDM / H & S NOTE THE DESIGNERS WOULD DRAW THE READERS ATTENTION TO KEY RESIDUAL HEALTH AND SAFETY RISKS THAT HAVE NOT BEEN ELIMINATED FROM THE DESIGNS SHOWN ON THE DRAWINGS BY THE DESIGN

- PROCESS. THESE RISKS ARE IDENTIFIED BELOW
- Co-ordination of M&E services with all other trades Provision for future maintenance
- Site access/egress for deliveries etc. Working at height
- Asbestos

Scale

Drg No

1:50 @ A1

2016 433 KC MEC 020 M01

ANY CONSTRUCTION PERSONNEL INCLUDING OPERATIVES INTENDING TO CONSTRUCT THE DESIGNS SHOWN ON THIS DRAWING SHOULD ENSURE THAT THEY HAVE BEEN REGULARLY AND THOUROUGHLY BRIEFED BY THE PRINCIPAL CONTRACTOR ON ALL HEALTH AND SAFETY MATTERS AND

HAVE SIGHT OF: (1) THE FULL DESIGNERS AND CONTRACTORS RISK ASSESSMENTS AND RISK REGISTERS.

(2) THE DEVELOPED CONSTRUCTION HEALTH AND SAFETY PLAN (3) THE CONTRACTORS CONSTRUCTION METHOD STATEMENTS.

Designed	SA	Drawn	SA	Approved	SA
Date	31/06/16	Date	31/06/16	Date	31/06/16
Rev	Description				
T01	TENDER				
		Ashbur 84 Grar Darli DL1	n House nge Road ngton 5NP	RS	
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<sup>Date</sup> 10 JUNE 2016

T01





### RADIATOR SCHEDULE Manufacturer; Stelrad COMPACT K3 & COMPACT

<u>REF</u>	LOCATION	MODEL	REQUIRED	<u>OUTPUT</u>	FLOW (Kg/s)	<u>BAL' P (KPa)</u>	HEIGHT	LEN'TH	DEF
KEEPERS (	COTTAGE						•		
C1/01	BEDROOM 1	K2 600 X 1200	2.00kW	2.07KW	0.040	15.97	600	1200	13
C1/02	BEDROOM 2	K1 600 X 1200	1.20kW	1.17KW	0.020	15.97	600	1200	9
C1/03	BATHROOM	K1 700 X 600	0.54KW	0.67KW	0.001	15.00	700	600	9

NOTES

• Prior to order the Contractor SHALL check the dimensions and final locations (with the client) for each radiator position shown. • Output based on -4°C Ext and 22°C Int with output from manufacturers tables design temperatures 82°CF/71°CR.

• 15mm BOE connections.

• All radiators shall be manufactured by Stelrad selected from the Compact Range. Factory standard white finish.

- Each radiator shall be complete with Herz Valves (Herzcules) Herz TS 98 V 7264 V TRV with 9230 59 HEAD sensor set to position •\_(22°C) and shall be located on
- the flow connection RHS with LSV RL1 3724 to the return. The flow rate through the TRV body shall be pre-set to the flow rates indicated.

### EXTRACT FAN SYSTEM EQUIPMENT SCHEDULE Manufacturer; Nuaire Ltd or Equal and Approved

<u>REF</u>	LOCATION	MODEL	<u>L/S</u>	ΔΡ	<u>SFP</u>	WATTS	WIDTH	DEPTH	HEIGHT	IP rating
EF1	CLOAKS WC	Genie-DC-S12	6	40	2.67	12V/16	173	55	200	-
EF2	KITCHEN	Slimaire NA150HT	60	25	2.30	230V/26	200	22	200	-
EF3	UTILITY	Slimaire NA150HT	60	25	2.30	230V/26	200	22	200	-
EF4	MAIN BATHROOM	Genie-DC-S12	15	40	2.67	12V/16	173	55	200	-

NOTES

 All fans to be RECESSED with ancillary external wall (recess kit) and wall duct and louvre mounted to fan. • EF1 & EF4 connected to local lighting circuit with ELV 230V/12V transformer (over entrance door adjacent to to double pole switch installed to

• All radiators and valves shall be installed FULLY in accordance with the manufacturers instructions.

manufacturer's installation instructions. Timer set to 25mins.

• EF2 & EF3 with integral humidistat via local power supply and double pole isolator with ancillary external wall (recess kit) and wall duct and louvre mounted to fan.

Standard internal finish.

DEPTH	<u>CON'S</u>
135	15BOE
93	15BOE
93	15BOE

MECHANICAL	LEGEND
	Pipe at Low Level
	Pipe Below Floor
_ · _ · _ · _	Pipe at High Level
	Pipe in Ceiling Void
$\bowtie$	Isolation Valve
<b>K</b> ₩	Commissioning Set
	Y Type Inline Strainer
	Quick Fill Loop
→€	Glanded Drain Cock
	Non Return Valve
X	Auto Air Vent
	Safety Relief Valve & Tundish
	Pump c/w Diff Sensor
HM BMS	MID Class 2 Heat Meter to BEMS
₽	Two Port Valve
$\otimes$	Flexible Coupling
TP	Temp or Press Gauge
W	Water Treatment Unit
×	Commissioning Set
Γ.	Y Type Inline Strainer
Τ	Thermostat
S	Sensor
С	Controller
	Extract Fan

## NOTES

- Do not scale from this drawing. Drawings must be read in conjunction with the Mechanical Services Specification. All works must be carried out in accordance with CDM 2007 COP. - see project significant hazards for identified significant risks before commencing works. The final position of equipment are approximate and must be checked with the latest Architects layout - if in any doubt ask. The Contractor shall be responsible for coordinating the works in accordance with the main program.
- All builders work shall be carried out by the Main Contractor. The M&E sub-contractor shall be responsible for supplying and installing all secondary "steelwork" if indicated or not as necessary.
- The M&E sub-contractor shall be responsible for co-ordination of their works with all other trades.
- The heating design is based upon the temperatures identified, thus 20°C throughout to all rooms except bathrooms which shall be 22°C. 10. The roof spaces to be insulated to current Building Regulation standards. 11. The timber floor areas on the GF to be insulated with 200mm Rockwool
- Thermal Insulation Roll suspended between joists with stapled netting for support. 12. All existing windows and doors to be draught proofed.
- 13. All new windows to comply with current Building Regulation standards. 14. All wall and floor penetrations are to be sleeved, fire stopped as required, and complete with wall or floor plates. 15. All insulation to comply fully with current water bylaws, requirements of BS
- 6700 and local water authorities. 16. All fittings, plant and equipment to be installed, regulated and tested in
- accordance with the manufacturers printed instructions. . All pipework, fittings and equipment to be installed to provide systems free of
- air locks, water hammer or leaks. Stopcocks to be BS1010 gate valves to BS5154. Check valves to BS6282 : Part 1 with test cock to BS2879, drain valves to BS2879.
- 19. All terminal connections to appliances to be fitted with independent ballofix valves.
- 20. All valves to be fully accessible and be provided with identification labels. 21. All commissioning sets to have full shut off facility for isolation purposes. 22. Drain valves and air vents to be provided at all low & high points in all
- systems respectively. 23. All pipework exposed at high level, roof void, service ducts, boxings and enclosures to be fully insulated with rigid mineral sections having class 'O' foil
- finish in compliance with BS 5422 insulation thickness as follows : Pipework up to 32mm - 25mm thick Pipework 40mm and above - 32mm thick
- 24. The heating system shall be flushed twice and after pressure testing filled with glycol anti-freeze fluid to the manufacturers concentration. 25. All final pipework drop positions to be agreed with the architect.
- 26. Identification of pipework shall be in accordance with BS 1710. 27. The Contractor shall (prior to practical completion) provide as installed drawings in AutoCAD 2006 or later, and provide detailed O&M manuals complete with all required certification.

## IMPORTANT CDM / H & S NOTE THE DESIGNERS WOULD DRAW THE READERS ATTENTION TO KEY

RESIDUAL HEALTH AND SAFETY RISKS THAT HAVE NOT BEEN ELIMINATED FROM THE DESIGNS SHOWN ON THE DRAWINGS BY THE DESIGN PROCESS. THESE RISKS ARE IDENTIFIED BELOW

- Co-ordination of M&E services with all other trades Provision for future maintenance
- Site access/egress for deliveries etc. Working at height

ANY CONSTRUCTION PERSONNEL INCLUDING OPERATIVES INTENDING TO CONSTRUCT THE DESIGNS SHOWN ON THIS DRAWING SHOULD ENSURE THAT THEY HAVE BEEN REGULARLY AND THOUROUGHLY BRIEFED BY THE PRINCIPAL CONTRACTOR ON ALL HEALTH AND SAFETY MATTERS AND HAVE SIGHT OF:

- (1) THE FULL DESIGNERS AND CONTRACTORS RISK ASSESSMENTS AND RISK REGISTERS. (2) THE DEVELOPED CONSTRUCTION HEALTH AND SAFETY PLAN
- (3) THE CONTRACTORS CONSTRUCTION METHOD STATEMENTS.

Designed	SA	Drawn	SA	Approved	SA
Date	31/06/16	Date	31/06/16	Date	31/06/16
Rev	Description				
T01	TENDER				
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™ K PRC	MECH. EEPER OPOSED	ANICAL S COT <sup>-</sup> ) HTG 8	- SERV TAGE G & VNT S	ICES 6F & F 6ERVI0	F CES
Scale	1:50 @	) A1	Date 10	JUNE	2016
Drg No	2016 433	3 KC ME	EC 030	M01	Rev T01



## **GENERAL NOTES**

- A. Do not scale from this drawing.
- B. Contractor to make safe and strip out all existing redundant electrical services and equipment which remain. C. Contractor shall install the Electrical Services fully in accordance with BS7671
- and the Building regulations. All works must be carried out in accordance with CDM 2015 COP. see project significant hazards for identified significant risks before commencing
- The final position of equipment are approximate and must be checked with the latest Architects layout - if in any doubt ask.
- The Contractor shall be responsible for coordinating the works in accordance with the main program.
- All builders work shall be carried out by the Main Contractor. The Contractor shall be responsible for supplying and installing all
- secondary "steelwork" if indicated or not as necessary. All wall and floor penetrations are to be sleeved, fire stopped as required, and
- complete with wall or floor plates. The Contractor shall (prior to practical completion) provide as installed drawings in AutoCAD 2006 or later, and provide detailed O&M manuals
- complete with all required certification. ELECTRICAL NOTES

- MK Masterseal Plus IP 66 RCD protected socket mounted 500mm AFFL. Switched fused connection mounted above bench height serving an unswitched single socket at low level for a supply to a below worktop domestic dish washer, the fused connection unit to be engraved Dish Washer.
- Switched fused connection mounted above bench height serving an unswitched single socket at low level for a supply to a below worktop domestic washer, the fused connection unit to be engraved Washer. Switched fused connection mounted above bench height serving an
- unswitched single socket at low level for a supply to a below worktop domestic tumble dryer, the fused connection unit to be engraved Tumble Switched fused connection located in a suitable location within the loft to feed
- client supplied multiswitch satellite amplifier unit or for future connection. Switched fused connection located in a suitable location within the loft to feed client digital multiswitch or for future connection.
- 45A DP cooker control switch feeding a low level cooker connection outlet for final connection of an electric cooker.
- Unswitched fuse connection unit to supply Intruder Alarm panel. Broadband/fibre optic connection point, final location to be agreed.
- 10. Three (3) pole fan isolator switch at high level engraved Extract Fan, Fan control is via integral humidity stat provided and is fitted with a run on timer thus a permanent live is required. Fan installed by the Mechanical Contractor Three (3) Pole fan isolator switch and installed at high level engraved Extract Fan. The fan is operated from the lighting switch in the room and is fitted with a run on timer thus a permanent live is required Fan installed by the
- Mechanical Contractor. 12. Switched fused connection at HL in garage for future electric doors.

## IMPORTANT CDM / H & S NOTE THE DESIGNERS WOULD DRAW THE READERS ATTENTION TO KEY

RESIDUAL HEALTH AND SAFETY RISKS THAT HAVE NOT BEEN ELIMINATED FROM THE DESIGNS SHOWN ON THE DRAWINGS BY THE DESIGN PROCESS. THESE RISKS ARE IDENTIFIED BELOW

- Co-ordination of M&E services with all other trades
- Provision for future maintenance • Site access/egress for deliveries etc.
- Working at height
- Asbestos
- ANY CONSTRUCTION PERSONNEL INCLUDING OPERATIVES INTENDING TO

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Designed	SA	Drawn	SA	Approved	SA	
Date	31/06/16	Date	31/06/16	Date	31/06/16	
Rev	Description					
T01	TENDER					
P		Ashbur 84 Grar Darl	The House Road ington	RS		
Status		TEN	DER			
Client SA	NDEF	RSON	WEAT	THER	ALL	
Project	Project PARK HALL AISLABY, N YORKS YO21 1SW					
Title ELECTRICAL SERVICES MAIN HOUSE GROUND FLOOR PROPOSED PWR & DATA SERVICES						
Scale	1:50 @	) A1	<sup>Date</sup> 10	JUNE	2016	
Drg No	016 433	3 MH LE	EC 010	E01	<sup>Rev</sup> T01	



1BOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SMALL POWER		SMALL POWER
Ч	SINGLE 13A UNSWITCHED SOCKET OUTLET	<b>W</b> 13A	MK MASTERSEAL SOCKET WITH RCD
2	TWIN 13A UNSWITCHED SOCKET OUTLET	0	CABLE OUTLET PLATE
<u> </u>	SINGLE 13A SWITCHED SOCKET OUTLET	S	SHAVER SOCKET OUTLET 230 & 110 C/W DOUBLE WOUND TRANSFORMER
2	TWIN 13A SWITCHED SOCKET OUTLET	00	COOKER CONTROL UNIT (13A SOCKET INTEGRAL)
	UNSWITCHED FUSED CONNECTION UNIT	Hu	HUMIDITY STAT
•	SWITCHED FUSED CONNECTION UNIT	×	EXTRACT FAN
0 DP	20A DOUBLE POLE SWITCH FOR OVEN	K IN	TV OUTLET AND AERIAL ARRAY
DA P	20A DOUBLE POLE IP 56 ROTARY ISOLATOR	BB	BROADBAND CONNECTION POINT

		GENERAL NOTES         A. Do not scale from this drawing.         B. Contractor to make safe and strip out all existing redundant electrical services and equipment which remain
		<ul> <li>C. Contractor shall install the Electrical Services fully in accordance with BS7671 and the Building regulations.</li> <li>D. All works must be carried out in accordance with CDM 2015 COP see project significant hazards for identified significant risks before commencing works.</li> <li>E. The final position of equipment are approximate and must be checked with the latest Architects layout - if in any doubt ask.</li> <li>F. The Contractor shall be responsible for coordinating the works in accordance with the main program.</li> <li>G. All builders work shall be carried out by the Main Contractor.</li> <li>H. The Contractor shall be responsible for supplying and installing all secondary "steelwork" if indicated or not as necessary.</li> <li>I. All wall and floor penetrations are to be sleeved, fire stopped as required, and complete with wall or floor plates.</li> <li>J. The Contractor shall (prior to practical completion) provide as installed drawings in AutoCAD 2006 or later, and provide detailed O&amp;M manuals complete with all required certification.</li> <li>ELECTRICAL NOTES</li> <li>1. MK Masterseal Plus IP 66 RCD protected socket mounted 500mm AFFL.</li> <li>2. Switched fused connection mounted above bench height serving an unswitched single socket at low level for a supply to a below worktop domestic dish washer, the fused connection unit to be engraved Dish Washer.</li> </ul>
		<ol> <li>Switched fused connection mounted above bench height serving an unswitched single socket at low level for a supply to a below worktop domestic washer, the fused connection unit to be engraved Washer.</li> <li>Switched fused connection mounted above bench height serving an unswitched single socket at low level for a supply to a below worktop domestic tumble dryer, the fused connection unit to be engraved Tumble Dryer.</li> <li>Switched fused connection located in a suitable location within the loft to feed client supplied multiswitch satellite amplifier unit or for future connection.</li> <li>Switched fused connection located in a suitable location within the loft to feed client digital multiswitch or for future connection.</li> <li>Switched fuse connection located in a suitable location within the loft to feed client digital multiswitch or for future connection.</li> <li>Switched fuse connection located in a suitable location within the loft to feed client digital multiswitch or for future connection.</li> <li>45A DP cooker control switch feeding a low level cooker connection outlet for final connection of an electric cooker.</li> <li>Unswitched fuse connection unit to supply Intruder Alarm panel.</li> <li>Broadband/fibre optic connection point, final location to be agreed.</li> <li>Three (3) pole fan isolator switch at high level engraved Extract Fan, Fan control is via integral humidity stat provided and is fitted with a run on timer thus a permanent live is required. Fan installed by the Mechanical Contractor.</li> <li>Three (3) Pole fan isolator switch and installed at high level engraved Extract Fan. The fan is operated from the lighting switch in the room and is fitted with a run on timer thus a permanent live is required Fan installed by the Mechanical Contractor.</li> </ol>
	EX DNO service supply cable at below ground extends to main road EX DNO service supply cable at HL drops to below ground.	
2/02	See note 11.	IMPORTANT CDM / H & S NOTE         THE DESIGNERS WOULD DRAW THE READERS ATTENTION TO KEY         RESIDUAL HEALTH AND SAFETY RISKS THAT HAVE NOT BEEN ELIMINATED         FROM THE DESIGNS SHOWN ON THE DRAWINGS BY THE DESIGN         PROCESS. THESE RISKS ARE IDENTIFIED BELOW         • Co-ordination of M&E services with all other trades         • Provision for future maintenance         • Site access/egress for deliveries etc.         • Working at height         • Asbestos
1	Bathroom 10 m <sup>2</sup>	<ul> <li>ANY CONSTRUCTION PERSONNEL INCLUDING OPERATIVES INTENDING TO CONSTRUCT THE DESIGNS SHOWN ON THIS DRAWING SHOULD ENSURE THAT THEY HAVE BEEN REGULARLY AND THOUROUGHLY BRIEFED BY THE PRINCIPAL CONTRACTOR ON ALL HEALTH AND SAFETY MATTERS AND HAVE SIGHT OF:</li> <li>(1) THE FULL DESIGNERS AND CONTRACTORS RISK ASSESSMENTS AND RISK REGISTERS.</li> <li>(2) THE DEVELOPED CONSTRUCTION HEALTH AND SAFETY PLAN</li> <li>(3) THE CONTRACTORS CONSTRUCTION METHOD STATEMENTS.</li> </ul>
		Designed     SA     Drawn     SA     Approved     SA       Date     31/06/16     Date     31/06/16     Date     31/06/16       Rev     Description     TENDER     TENDER     Tender
	DESCRIPTION         FIRE         MAINS/BATTERY OPERATED SMOKE         DETECTOR	Porsec consulting engineers Ashburn House 84 Grange Road Darlington
	MAINS/BATTERY OPERATED CARBON MONOXIDE DETECTOR DATA	
	CAT 6 DOUBLE DATA OUTLET	
	WIRED TELEPHONE CONNECTION POINT WIRELESS NETWORK HUB	Project PARK HALL AISLABY, N YORKS
		Title ELECTRICAL SERVICES MAIN HOUSE FIRST FLOOR PROPOSED PWR & DATA SERVICES
		1:50 @ A1 10 JUNE 2016

2016 433 LEC 010 E02

T01



SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	LIGHTING		LIGHTING
•	ONE WAY 10A LIGHT SWITCH	(À)	MK 1190 WHI 10 - 13W LOW ENERGY LAMP HOLDER AND CEILING ROSE.
* ×	TWO WAY / INTERMEDIATE 10A LIGHT SWITCH	B	MK 1190 WHI 10 - 13W LOW ENERGY BATTERN LAMP HOLDER
3P 🥌	3 POLE FAN ISOLATION SWITCH	(?) 	INTERNAL LIGHTING POINT LUMINAIRE PROVIDED BY OTHERS
-1	CORDED PULL SWITCH	<u>(W)</u>	EXTERNAL LIGHTING POINT LUMINAIRE PROVIDED BY OTHERS AND C/W COMBINED PIR/PHOTOCELL SENSOR
	PHOTO-ELECTRIC CELL IP65	2	45W APOLLO LIGHTING POLYLED IP65 LINEAR LED
		<b>2</b> 9	45W APOLLO LIGHTING POLYLED IP65 LINEAR LED WITH INTEGRAL PIR
		<b>M</b>	15W SHAVER LIGHT WITH SHAVER SOCKET MK OR SIMILAR APPROVED



1BOL	DESCRIPTION	SYMBOL	DESCRIPTION
	LIGHTING		LIGHTING
•	ONE WAY 10A LIGHT SWITCH	À	MK 1190 WHI 10 - 13W LOW ENERGY LAMP HOLDER AND CEILING ROSE.
x <mark>_</mark> ×	TWO WAY / INTERMEDIATE 10A LIGHT SWITCH	B	MK 1190 WHI 10 - 13W LOW ENERGY BATTERN LAMP HOLDER
<b>`</b>	3 POLE FAN ISOLATION SWITCH	$\hat{\underline{i}}$	INTERNAL LIGHTING POINT LUMINAIRE PROVIDED BY OTHERS
<sup>2</sup>	CORDED PULL SWITCH	$\widehat{\underline{i}}$	EXTERNAL LIGHTING POINT LUMINAIRE PROVIDED BY OTHERS AND C/W COMBINED PIR/PHOTOCELL SENSOR
	PASSIVE INFRA-RED MOVEMENT DETECTOR		45W APOLLO LIGHTING POLYLED IP65 LINEAR LED
		ζρ	45W APOLLO LIGHTING POLYLED IP65 LINEAR LED WITH INTEGRAL PIR
			15W SHAVER LIGHT WITH SHAVER SOCKET MK OR SIMILAR APPROVED





## NOTES

1.	Do not scale from this drawing.
2.	Drawings must be read in conjunction with the Mechanical Services Specification.
3.	All works must be carried out in accordance with CDM 2015 COP see project significant hazards for identified significant risks before commencing works
4.	The final position of equipment are approximate and must be checked with the latest Architects layout - if in any doubt ask.
5.	The Contractor shall be responsible for coordinating the works in accordance with the main program
6.	All builders work shall be carried out by the Main Contractor.
7.	The M&E sub-contractor shall be responsible for supplying and installing all secondary "steelwork" if indicated or not as necessary.
8.	The M&E sub-contractor shall be responsible for co-ordination of their works with all other trades.
9.	All water outlets and pipe sizes have been calculated to BS6700 and comply with the latest Building Regulations. Care must be taken on selection of appliances and taps to ensure flow rates do not exceed design.
10.	All wall and floor penetrations are to be sleeved, fire stopped as required, an complete with wall or floor plates.
11.	All insulation to comply fully with current water bylaws, requirements of BS 6700 and local water authorities.
12.	All fittings, plant and equipment to be installed, regulated and tested in accordance with the manufacturers printed instructions.
13.	All pipework, fittings and equipment to be installed to provide systems free of air locks, water hammer or leaks.
14.	Stopcocks to be BS1010 gate valves to BS5154. Check valves to BS6282 : Part 1 with test cock to BS2879, drain valves to BS2879.
15.	All valves to be fully accessible and be provided with identification labels.
16.	All commissioning sets to have full shut off facility for isolation purposes.
17.	Drain valves and air vents to be provided at all low & high points in all systems respectively.
18.	All pipework exposed at high level, roof void, service ducts, boxings and enclosures to be fully insulated with rigid mineral sections having class 'O' foi finish in compliance with BS 5422 insulation thickness as follows : Pipework up to 32mm - 25mm thick Pipework 40mm and above - 32mm thick
19.	The complete domestic services shall be flushed and sterilised in accordance with the specification.
20.	All final pipework drop positions to be agreed with the architect.
21.	All final pipework connections to wash hand basins and sink units shall be
	15mm unless otherwise indicated. Each termination to be valved.
22.	Circulating returns shall be installed such that the maximum dead leg from each outlet is no more than 1.5m
23.	Identification of pipework shall be in accordance with BS 1710.
24.	Thermostatic mixing valves (TMV's) to be provided to the each basin to TMV scheme set to 42°C and verified.
24.	Thermostatic mixing valves (TMV's) to be provided to the each sink to TMV3 scheme set to 55°C and verified.
25.	The Contractor shall (prior to practical completion) provide as installed drawings in AutoCAD 2006 or later, and provide detailed O&M manuals complete with all required certification.

IMPORTANT CDM / H & S NOTE THE DESIGNERS WOULD DRAW THE READERS ATTENTION TO KEY RESIDUAL HEALTH AND SAFETY RISKS THAT HAVE NOT BEEN ELIMINATED FROM THE DESIGNS SHOWN ON THE DRAWINGS BY THE DESIGN PROCESS. THESE RISKS ARE IDENTIFIED BELOW

- Co-ordination of M&E services with all other trades
- Provision for future maintenance
  Site access/egress for deliveries etc.
- Working at height
- Asbestos

ANY CONSTRUCTION PERSONNEL INCLUDING OPERATIVES INTENDING TO CONSTRUCT THE DESIGNS SHOWN ON THIS DRAWING SHOULD ENSURE THAT THEY HAVE BEEN REGULARLY AND THOUROUGHLY BRIEFED BY THE PRINCIPAL CONTRACTOR ON ALL HEALTH AND SAFETY MATTERS AND HAVE SIGHT OF:

- (1) THE FULL DESIGNERS AND CONTRACTORS RISK ASSESSMENTS AND RISK REGISTERS. (2) THE DEVELOPED CONSTRUCTION HEALTH AND SAFETY PLAN
- (3) THE CONTRACTORS CONSTRUCTION METHOD STATEMENTS.

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Designed	SA	Drawn	SA	Approved	SA	
Date	31/06/16 Description	Date	31/06/16	Date	31/06/16	
T01	TENDER					
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P	<b>O</b> Sultin	NG ENO Ashbur 84 Grar Darl DL1	The House Road ington	ERS		
Status		TEN	DER			
Client						
SA	ANDEF	RSON	WEAT	THER	ALL	
Project	AIS	PARK LABY, YO21	HALL N YO 1SW	RKS		
MECHANICAL SERVICES MAIN HOUSE GROUND FLOOR PROPOSED DOMESTIC SERVICES						
Scale	1:50 @	) A1	Date 10	JUNE	2016	
Drg No	016 433	8 MH ME	EC 020	M01	<sup>Rev</sup> T01	



MECHANICAL	LEGEND
	Pipe at Low Level
	Pipe Below Floor
· · ·	Pipe at High Level
	Pipe in Ceiling Void
$\bowtie$	Isolation Valve
<b>K</b> ₩	Commissioning Set
$\vdash \!$	Y Type Inline Strainer
	Quick Fill Loop
	Glanded Drain Cock
	Non Return Valve
X	Auto Air Vent
	Safety Relief Valve & Tundi
	Pump c/w Diff Sensor
HM BMS	MID Class 2 Heat Meter to BEMS
	Two Port Valve
$\otimes$	Flexible Coupling
TP	Temp or Press Gauge
W	Water Treatment Unit
	Commissioning Set
$\vdash \!$	Y Type Inline Strainer
Τ	Thermostat
S	Sensor

## NOTES

- Do not scale from this drawing. Drawings must be read in conjunction with the Mechanical Services
- Specification. All works must be carried out in accordance with CDM 2015 COP. - see project significant hazards for identified significant risks before commencing
- The final position of equipment are approximate and must be checked with the latest Architects layout - if in any doubt ask.
- The Contractor shall be responsible for coordinating the works in accordance with the main program.
- All builders work shall be carried out by the Main Contractor.
- The M&E sub-contractor shall be responsible for supplying and installing all secondary "steelwork" if indicated or not as necessary. 8. The M&E sub-contractor shall be responsible for co-ordination of their works
- with all other trades. All water outlets and pipe sizes have been calculated to BS6700 and comply with the latest Building Regulations. Care must be taken on selection of
- appliances and taps to ensure flow rates do not exceed design 10. All wall and floor penetrations are to be sleeved, fire stopped as required, and complete with wall or floor plates.
- 11. All insulation to comply fully with current water bylaws, requirements of BS 6700 and local water authorities. 12. All fittings, plant and equipment to be installed, regulated and tested in
- accordance with the manufacturers printed instructions. 13. All pipework, fittings and equipment to be installed to provide systems free of air locks, water hammer or leaks.
- Stopcocks to be BS1010 gate valves to BS5154. Check valves to BS6282 : Part 1 with test cock to BS2879, drain valves to BS2879.
- 15. All valves to be fully accessible and be provided with identification labels. 16. All commissioning sets to have full shut off facility for isolation purposes. 17. Drain valves and air vents to be provided at all low & high points in all
- systems respectively. All pipework exposed at high level, roof void, service ducts, boxings and enclosures to be fully insulated with rigid mineral sections having class 'O' foil finish in compliance with BS 5422 insulation thickness as follows :
- Pipework up to 32mm 25mm thick Pipework 40mm and above - 32mm thick 19. The complete domestic services shall be flushed and sterilised in accordance
- with the specification. 20. All final pipework drop positions to be agreed with the architect.
- 21. All final pipework connections to wash hand basins and sink units shall be 15mm unless otherwise indicated. Each termination to be valved. 22. Circulating returns shall be installed such that the maximum dead leg from each outlet is no more than 1.5m
- 23. Identification of pipework shall be in accordance with BS 1710. 24. Thermostatic mixing valves (TMV's) to be provided to the each basin to TMV3
- scheme set to 42°C and verified. 24. Thermostatic mixing valves (TMV's) to be provided to the each sink to TMV3 scheme set to 55°C and verified.
- 25. The Contractor shall (prior to practical completion) provide as installed drawings in AutoCAD 2006 or later, and provide detailed O&M manuals complete with all required certification.

## IMPORTANT CDM / H & S NOTE THE DESIGNERS WOULD DRAW THE READERS ATTENTION TO KEY

RESIDUAL HEALTH AND SAFETY RISKS THAT HAVE NOT BEEN ELIMINATED FROM THE DESIGNS SHOWN ON THE DRAWINGS BY THE DESIGN PROCESS. THESE RISKS ARE IDENTIFIED BELOW

- Co-ordination of M&E services with all other trades
- Provision for future maintenance
- Site access/egress for deliveries etc. Working at height
- Asbestos
- ANY CONSTRUCTION PERSONNEL INCLUDING OPERATIVES INTENDING TO CONSTRUCT THE DESIGNS SHOWN ON THIS DRAWING SHOULD ENSURE THAT THEY HAVE BEEN REGULARLY AND THOUROUGHLY BRIEFED BY THE
- PRINCIPAL CONTRACTOR ON ALL HEALTH AND SAFETY MATTERS AND HAVE SIGHT OF: (1) THE FULL DESIGNERS AND CONTRACTORS RISK ASSESSMENTS AND **RISK REGISTERS.**
- (2) THE DEVELOPED CONSTRUCTION HEALTH AND SAFETY PLAN (3) THE CONTRACTORS CONSTRUCTION METHOD STATEMENTS.

Designed	SA	Drawn	SA	Approved	SA
Date	31/06/16	Date	31/06/16	Date	31/06/16
Rev	Description				
T01	TENDER				
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		PARK	HALL	-	
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Title					
	MECH		SERV/	ICES	
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20	016 433	6 MH ME	EC 020	M02	T01



<u>REF</u>	LOCATION	MODEL	REQUIRED	<u>OUTPUT</u>	<u> FLOW (Kg/s)</u>	<u>BAL' P (KPa)</u>	HEIGHT	LEN'TH	D
MAIN HOUS	SE .								
H1/14	DRAWING	K3 600 X 1400	3.18kW	3.56KW	0.080	15.97	600	1400	
H1/15	DINING	K3 600 X 1400	2.85kW	3.56KW	0.080	15.97	600	1400	
H1/16	MAIN HALL	K3 700 X 500	1.50KW	1.52KW	0.034	23.45	700	500	
H1/17	KITCHEN	K3 700 X 1400	3.79KW	4.05KW	0.090	21.44	700	1400	
H1/18	CLOAKS WC	K1 450 X 700	0.55KW	0.56KW	0.013	23.24	450	700	
H1/19	CLOAKS	K1 450 X 700	0.55KW	0.56KW	0.013	23.57	450	700	
H1/20	CELLAR HALL	K3 600 X 400	0.90KW	1.06KW	0.024	22.42	450	700	
H1/21	LIBRARY	K3 700 X 500	1.27KW	1.57KW	0.033	26.39	700	500	
H1/22	STUDY	K3 700 X 800	1.99KW	2.32KW	0.051	28.37	700	800	
H1/23	ORANGERY	UFH (MGC1)	3.69KW	3.69KW	0.081	35.00			

DEE		MODEL					UEIGUT		DE
	LUCATION		REQUIRED	001901	<u>FLOW (Rg/S)</u>	DAL F (NFA)			
EAST WING	i								
H2/27	TOILET	K1 450 X 500	0.34kW	0.40KW	0.010	7.48	450	500	U,
H2/28	STORE	K3 600 X 400	0.91KW	1.07KW	0.024	5.55	600	400	1
H2/29	HALL (COAL)	K3 500 X 600	1.26KW	1.38KW	0.031	4.89	500	600	1
H2/30	UTILITY	K3 500 X 1000	1.94KW	2.30KW	0.052	0.00	500	1000	1
H2/31	HALL (ENT)	K2 700 X 600	1.11KW	1.32KW	0.030	1.31	700	600	1

• Prior to order the Contractor SHALL check the dimensions and final locations (with the client) for each radiator position shown.

• All radiators shall be manufactured by Stelrad selected from the Compact (K3) Range. Factory standard white finish.

• Each radiator shall be complete with Herz Valves (Herzcules) Her Z TS 98 V 7264 V TRV with 9230 59 HEAD sensor set to position • (22°C) and shall be located on

	Utility 17 m²	Ti C	10Ø BSEN1057 R220 line (laid to fall) from location with valve v
Hall 5 m <sup>2</sup> 150 F&R D H2 31	FA. H2 30	EF 3	Gar

### AN STSTEIN EQUIPINENT SCHEDULE Manufacturer; Nuaire Ltd or Equal and Approved

<u>REF</u>	LOCATION	MODEL	<u>L/S</u>	<u>ΔP</u>	<u>SFP</u>
EF1	CLOAKS WC	Genie-DC-S12	6	40	2.67
EF2	KITCHEN	Slimaire NA150HT	60	25	2.30
EF3	UTILITY	Slimaire NA150HT	60	25	2.30
EF4	GARDEN STORE	Genie-DC-S12	6	40	2.67
EF5	STORE WC	Genie-DC-S12	6	40	2.67
NOTES					

• All fans to be RECESSED with ancillary external wall (recess kit) and wall duct and louvre mounted to fan.

• EF1, EF4 & EF5 connected to local lighting circuit with ELV 230V/12V transformer (over entrance door adjacent to to double pole switch installed to

manufacturer's installation instructions. Timer set to 25mins. • EF2 & EF3 with integral humidistat via local power supply and double pole isolator with ancillary external wall (recess kit) and wall duct and louvre mounted

H2

Manufacturer; Allied Iron Foundries Ltd (assumed)

<u>REF</u>	LOCATION	MODEL	OUTPUT	<b>HEIGHT</b>	LEN'TH	<u>DEPTH</u>	CON'S
MAIN HOUS	E						
EX/R1	LIBRARY	4 Column 10 sect	1.28KW	30"	20"	5"	1"BOE
EX/R2	ORANGERY	4 Column 10 sect	1.28KW	30"	20"	5"	1"BOE
EX/R3	MAIN HALL	4 Column 15 sect	1.49KW	24"	30"	5"	1"BOE
EX/R4	DINING ROOM	4 Column 12 sect	1.55KW	30"	24"	5"	1"BOE

• Prior to order of the NEW Radiators the Contractor SHALL carefully remove each existing CI column radiator, flush, clean, pressure test (to 3.0Bar) and carefully soda blast each unit. Each radiator on successful test shall be resprayed 2 coats primer, 2 coats undercoat and 2 coats finish to the CLIENTS specification.

• On completion the Contractor shall agree the final locations of the reused units with the CLIENT and offset the heat losses in the NEW radiator schedule accordingly. Any revised heat loss recalculation in this respect to be covered by the Engineering Consultant to the CLIENTS cost.

• Output based on manufacturers tables design temperatures 82°CF/71°CR.

• 15mm TBOE connections bushed down from 1" BSP.

• Each radiator shall be complete with Herz Valves (Herzcules) Her Z TS 98 V 7264 V TRV with 9230 59 HEAD sensor set to position •\_(22°C) and shall be located on the flow connection RHS with LSV RL1 3724 to the return. The flow rate through the TRV body shall be pre-set to the flow rates indicated.

• All valves shall be installed FULLY in accordance with the manufacturers instructions.



## NOTES

- Do not scale from this drawing. Drawings must be read in conjunction with the Mechanical Services
- All works must be carried out in accordance with CDM 2007 COP. see project significant hazards for identified significant risks before commencing
- The final position of equipment are approximate and must be checked with the latest Architects layout - if in any doubt ask.
- The Contractor shall be responsible for coordinating the works in accordance with the main program.
- All builders work shall be carried out by the Main Contractor.
- The M&E sub-contractor shall be responsible for supplying and installing all secondary "steelwork" if indicated or not as necessary. The M&E sub-contractor shall be responsible for co-ordination of their works
- The heating design is based upon the temperatures identified, thus 20°C
- throughout to all rooms except bathrooms which shall be 22°C. 0. The roof spaces to be insulated to current Building Regulation standards. 11. The timber floor areas on the GF to be insulated with 200mm Rockwool Thermal Insulation Roll suspended between joists with stapled netting for
- 12. All existing windows and doors to be draught proofed. 13. All new windows to comply with current Building Regulation standards.
- 14. All wall and floor penetrations are to be sleeved, fire stopped as required, and complete with wall or floor plates. 15. All insulation to comply fully with current water bylaws, requirements of BS
- 6700 and local water authorities. 16. All fittings, plant and equipment to be installed, regulated and tested in
- accordance with the manufacturers printed instructions. All pipework, fittings and equipment to be installed to provide systems free of
- air locks, water hammer or leaks. Stopcocks to be BS1010 gate valves to BS5154. Check valves to BS6282 : Part 1 with test cock to BS2879, drain valves to BS2879.
- 19. All terminal connections to appliances to be fitted with independent ballofix 20. All valves to be fully accessible and be provided with identification labels.
- 21. All commissioning sets to have full shut off facility for isolation purposes. 22. Drain valves and air vents to be provided at all low & high points in all
- 23. All pipework exposed at high level, roof void, service ducts, boxings and enclosures to be fully insulated with rigid mineral sections having class 'O' foil finish in compliance with BS 5422 insulation thickness as follows : Pipework up to 32mm - 25mm thick
- Pipework 40mm and above 32mm thick 24. The heating system shall be flushed twice and after pressure testing filled with glycol anti-freeze fluid to the manufacturers concentration.
- 25. All final pipework drop positions to be agreed with the architect. 26. Identification of pipework shall be in accordance with BS 1710. 27. The Contractor shall (prior to practical completion) provide as installed drawings in AutoCAD 2006 or later, and provide detailed O&M manuals

RESIDUAL HEALTH AND SAFETY RISKS THAT HAVE NOT BEEN ELIMINATED FROM THE DESIGNS SHOWN ON THE DRAWINGS BY THE DESIGN

- PROCESS. THESE RISKS ARE IDENTIFIED BELOW
- Co-ordination of M&E services with all other trades Provision for future maintenance
- Site access/egress for deliveries etc.

ANY CONSTRUCTION PERSONNEL INCLUDING OPERATIVES INTENDING TO CONSTRUCT THE DESIGNS SHOWN ON THIS DRAWING SHOULD ENSURE THAT THEY HAVE BEEN REGULARLY AND THOUROUGHLY BRIEFED BY THE PRINCIPAL CONTRACTOR ON ALL HEALTH AND SAFETY MATTERS AND

- (1) THE FULL DESIGNERS AND CONTRACTORS RISK ASSESSMENTS AND (2) THE DEVELOPED CONSTRUCTION HEALTH AND SAFETY PLAN
- (3) THE CONTRACTORS CONSTRUCTION METHOD STATEMENTS.

Designed	SA	Drawn	SA	Approved	SA
Date	31/06/16	Date	31/06/16	Date	31/06/16
Rev	Description				
T01	TENDER				
P		NG ENO Ashbur 84 Grar Darl	GINEE on House nge Road ington	ERS	
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Client					
SA	ANDEF	RSON	WEAT	[HER/	<b>\LL</b>
Project					
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	MECH		SFRV	ICES	
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IM/		JSE GR	COND	FLUUF	K
PRC	POSED	) HTG 8	VNT S	SERVIC	ES
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2016 433 MH MEC 030 M01 T01



<u>REF</u>	LOCATION	MODEL	REQUIRED	<u>OUTPUT</u>	FLOW (Kg/s)	BAL' P (KPa)	HEIGHT	LEN'TH	DE
MAIN HOUS	SE			•					
H1/01	MASTER BED	K3 700 X 500	1.32kW	1.51KW	0.034	8.03	700	500	1
H1/02	MASTER BED	K3 700 X 500	1.32kW	1.51KW	0.034	8.03	700	500	1
H1/03	MASTER BED ENS'TE	K1 700 X 400	0.47KW	0.47KW	0.011	8.84	700	400	1
H1/04	BED 2	K3 600 X 500	1.24KW	1.34KW	0.030	12.20	600	500	1
H1/05	BED 2	K3 600 X 500	1.24KW	1.34KW	0.030	11.24	600	500	1
H1/06	LANDING	K3 500 X 1400	2.92KW	3.22KW	0.071	12.55	500	1400	1
H1/07	BED 3	K2 300 X 2000	2.09KW	2.19KW	0.049	11.24	300	2000	1
H1/08	MASTER BATH	K3 700 X 600	1.49KW	1.73KW	0.039	14.29	700	600	1
H1/09	LOUNGE	K3 600 X 800	1.82KW	2.14KW	0.047	17.86	600	800	1
H1/10	BED 4 ENS'TE	K1 600 X 400	0.37KW	0.42KW	0.009	17.86	600	400	
H1/11	BED 4	K2 600 X 1000	1.68KW	1.94KW	0.043	19.55	600	1000	1
H1/12	BATHROOM	K2 700 X 500	1.08KW	1.09KW	0.025	11.59	700	500	1
H1/13	CUPBOARD	K1 450 X 600	0.43KW	0.51KW	0.012	11.93	450	600	

<u>REF</u>	LOCATION	MODEL	REQUIRED	<u>OUTPUT</u>	FLOW (Kg/s)	BAL' P (KPa)	HEIGHT	LEN'TH	DEPTH	CON'S
EAST WING	i									
H2/24	BATHROOM	K3 500 X 800	1.65kW	1.74KW	0.039	4.07	500	800	180	15BOE
H2/25	BEDROOM	K3 500 X 800	1.72KW	1.84KW	0.041	1.84	500	800	180	15BOE
H2/26	LOUNGE	K3 500 X 900	1.84KW	1.97KW	0.044	1.52	500	900	180	15BOE

REF	LOCATION	MODEL	<u>L/S</u>	ΔΡ	<u>SFP</u>	WATTS	WIDTH	DEPTH	HEIGHT	IP rating
EF6	BED 4 Ensuite	Genie-DC-S12	15	40	2.67	12V/16	173	55	200	-
EF7	MAIN BATHROOM	Genie-DC-S12	15	40	2.67	12V/16	173	55	200	-
EF8	BATHROOM 1	Genie-DC-S12	15	40	2.67	12V/16	173	55	200	-
EF9	MASTER Ensuite	Genie-DC-S12	15	40	2.67	12V/16	173	55	200	-
EF10	BATHROOM 2	Genie-DC-S12	15	40	2.67	12V/16	173	55	200	-
NOTES										

<u>REF</u>	LOCATION	MODEL	<u>OUTPUT</u>	HEIGHT	LEN'TH	<u>DEPTH</u>	CON'S
MAIN HOUS	E						
EX/R5	LANDING	4 Column 15 sect	1.49KW	24"	30"	5"	1"BOE
EX/R6	MASTER BED	4 Column 15 sect	1.49KW	24"	30"	5"	1"BOE
EX/R7	BEDROOM 2	4 Column 15 sect	1.49KW	24"	30"	5"	1"BOE
EX/R8	LUNGE/SOFA	4 Column 10 sect	1.28KW	30"	20"	5"	1"BOE
NOTEO							

PTH	CON'S	
80	15BOE	
0	15BOE	
0	15BOE	
25	15BOE	
0	15BOE	
80	15BOE	
4	15BOE	
25	15BOE	
25	15BOE	
4	15BOE	

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	MI to Tw Fle Te Wi Cc Y
	MII to Tw Fle Te Wi Cc Y Th Se Cc Ex



## NOTES

- Do not scale from this drawing. Drawings must be read in conjunction with the Mechanical Services
- Specification. All works must be carried out in accordance with CDM 2007 COP. - see project significant hazards for identified significant risks before commencing
- The final position of equipment are approximate and must be checked with the latest Architects layout - if in any doubt ask.
- The Contractor shall be responsible for coordinating the works in
- accordance with the main program. All builders work shall be carried out by the Main Contractor.
- The M&E sub-contractor shall be responsible for supplying and installing all secondary "steelwork" if indicated or not as necessary. The M&E sub-contractor shall be responsible for co-ordination of their works
- with all other trades. The heating design is based upon the temperatures identified, thus 20°C
- throughout to all rooms except bathrooms which shall be 22°C. 10. The roof spaces to be insulated to current Building Regulation standards. 11. The timber floor areas on the GF to be insulated with 200mm Rockwool Thermal Insulation Roll suspended between joists with stapled netting for
- support. 12. All existing windows and doors to be draught proofed. 13. All new windows to comply with current Building Regulation standards.
- 14. All wall and floor penetrations are to be sleeved, fire stopped as required, and complete with wall or floor plates. 15. All insulation to comply fully with current water bylaws, requirements of BS
- 6700 and local water authorities. 16. All fittings, plant and equipment to be installed, regulated and tested in
- accordance with the manufacturers printed instructions.
- All pipework, fittings and equipment to be installed to provide systems free of air locks, water hammer or leaks. Stopcocks to be BS1010 gate valves to BS5154. Check valves to BS6282 : Part 1 with test cock to BS2879, drain valves to BS2879.
- 19. All terminal connections to appliances to be fitted with independent ballofix valves.
- 20. All valves to be fully accessible and be provided with identification labels. 21. All commissioning sets to have full shut off facility for isolation purposes.
- 22. Drain valves and air vents to be provided at all low & high points in all systems respectively.
- 23. All pipework exposed at high level, roof void, service ducts, boxings and enclosures to be fully insulated with rigid mineral sections having class 'O' foil finish in compliance with BS 5422 insulation thickness as follows : Pipework up to 32mm - 25mm thick
- Pipework 40mm and above 32mm thick 24. The heating system shall be flushed twice and after pressure testing filled with glycol anti-freeze fluid to the manufacturers concentration.
- 25. All final pipework drop positions to be agreed with the architect. 26. Identification of pipework shall be in accordance with BS 1710. 27. The Contractor shall (prior to practical completion) provide as installed drawings in AutoCAD 2006 or later, and provide detailed O&M manuals complete with all required certification.

## IMPORTANT CDM / H & S NOTE THE DESIGNERS WOULD DRAW THE READERS ATTENTION TO KEY

RESIDUAL HEALTH AND SAFETY RISKS THAT HAVE NOT BEEN ELIMINATED FROM THE DESIGNS SHOWN ON THE DRAWINGS BY THE DESIGN PROCESS. THESE RISKS ARE IDENTIFIED BELOW

- Co-ordination of M&E services with all other trades Provision for future maintenance
- Site access/egress for deliveries etc. Working at height

ANY CONSTRUCTION PERSONNEL INCLUDING OPERATIVES INTENDING TO CONSTRUCT THE DESIGNS SHOWN ON THIS DRAWING SHOULD ENSURE THAT THEY HAVE BEEN REGULARLY AND THOUROUGHLY BRIEFED BY THE PRINCIPAL CONTRACTOR ON ALL HEALTH AND SAFETY MATTERS AND HAVE SIGHT OF:

- (1) THE FULL DESIGNERS AND CONTRACTORS RISK ASSESSMENTS AND RISK REGISTERS. (2) THE DEVELOPED CONSTRUCTION HEALTH AND SAFETY PLAN
- (3) THE CONTRACTORS CONSTRUCTION METHOD STATEMENTS.

Designed	SA	Drawn	SA	Approved	SA
Date	31/06/16	Date	31/06/16	Date	31/06/16
Rev	Description				
T01	TENDER				
P		NG ENO Ashbur 84 Grar Darl	GINEE GINEE nge Road ington	RS	
Status		TEN	DER		
Client	ANDEF	RSON	WEAT	THER	ALL
Project	AIS	PARK LABY, YO21	HALL N YO 1SW	RKS	
Title PRC	MECH MAIN HO POSED	ANICAL OUSE F ) HTG 8	SERV IRST F VNT S	ICES LOOR SERVIO	CES
Scale	1:50 @	) A1	Date 10	JUNE	2016
Drg No	016 433	MH ME	EC 030	M02	Rev T01