PROJECT CHECKLIST

Project:..... §§§§§§§§
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Job Number: ..... §§§§

Date: ..... §§§§§§§§

Checked By:..... §§§§§§§§

TECHNICAL SUPPORT ASSOCIATES

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Issue: 2

Building Services Consulting Engineers
Building Services MEPH Designs
Facilities Management
Property Health & Safety
Record Information

Contents

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Instruction to surveyor: fill/delete as applicable

Item	Element	Sub-Element	Comment
Client Brief	Project brief defined. Client approval. Systems Descriptions Design criteria		
Plantroom Allocations	Boiler plant Chilling plant Air handling plant Sub-station Switchrooms Sprinkler/PH plant Lift motor room Standby generation Heat rejection plant Plant access	Fire rated Noise isolation Standby / resilience Air intakes away from cooling towers, kitchen exhausts 24 hour access Tanks, boosters Overrun/planning Environmental noise Removal/maintenance	
Vertical Risers	Construction: • Metal • Builderswork Public health Electrical Sprinkler/hosereels Dry risers Comms/data Future tenants	Ductwork Take-off connections Checker plate flooring Fire rating Pipework Access Fire Damper Access Elec DB Access Ductwork Access Knock out panels	
Fire Protection	Atria over 18m high Over 10 storeys/30m Over 18m or >9m wide (or as District Surveyor) Either Or Firemans panel Fire alarm panel Staircase smoke vent	Mechanical smoke extract High temperature motors Air inlet provision Drenchers/fire rated glass 2 stage fire alarms Phased evacuation Standby generation/dual supply Sprinklers Firefighting Lift • Lobby drainage • Dry risers Smoke shafts Lobbies: 25% lobby area + 1m² sub-ground Mechanical pressurisation-standby generation/dual supplies Off/extract/auto	
Computer Rooms	Standby facilities Halon protection Pre-action sprinklers UPS system Standby supplies	Water storage/alarm system Battery room vent Split cooling	
Standby Generation	Packaged plant Exhaust riser Oil storage Oil transfer	Structural loadings	
Kitchens	Plant space CH/Freezer condensers Air intakes/discharges Hood interlocked with gas valve	Independent systems Away from others	
Conference	Plant space	Air intakes	

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Item	Element	Sub-Element	Comment
Facilities			
Controls	DDC	BMS facilities Control room	
Plant Rooms	Height maintenance access	Plant removal	
Cooling Towers	Proximity to occupied areas		
Office Areas	2½% openable windows Noise levels Access above ceilings		
Calculations	Boiler load W/ m² Chiller load W/ m² Air changes per hour Electrical load W/ m²		

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ELECTRICAL SURVEY CHECKLIST

Survey		Engineer:	
Survey No./BLG:		Date:	

Instruction to surveyor: fill/delete as applicable

Item	Description	Location	Comment	Answer
Incoming supply	Supply authority			
	Supply voltage			415/420/11KV
	No. of services			1,2,3,4,5,6,…
	Capacity of each service			
	Method of earthing			
	Incoming cable type/size			
	Type of meter			
	Maximum demand reading			
	KW/KVA Sub-station			
Main Low Voltage Switchgear	Type of switchgear			
	Rating			
	Age			0, 5, 10, 20, +
	Labelling			Good/Acc/Poor/None
	Construction and bonding			
	Medical instruction card			
	Rubber mats			
	Warning notices			
	Condition			Good/Acc/Poor
Electrical Distribution	Type of cabling			
	Condition			Good/Acc/Poor
	Rising busbar installation			Yes/No
Distribution Boards	Type of boards			MCB/RCCO
	Circuit protection Isolation			
	Circuit lists			
	Labelling			Good/Acc/Poor/None
	Cable termination			
	Condition			Good/Acc/Poor
General Cabling Arrangements (Final Circuits)	Type of cabling			
	Wiring enclosures			
	Protective Conductor Arrangements			
	Condition			Good/Acc/Poor
General Lighting	Types of Luminaries			Wedge/Parabolic
	Method of Control			
	General condition			Good/Acc/Poor
	Maintenance			Good/Acc/Poor
	Type of Lamp			
	Type of Controllers			
	Approximate Watts/m²			
	Type and Finish of Switches			PVC/Brass/SS/Specials
Emergency Lighting	Type			Self-Contained/Central Battery/Generator
	Type of Luminaries			
	Locations			
	Test facilities/record General condition			Good/Acc/Poor
General Power	Type			Busbar/Trunking/Skirting/Wall
	Finish of Outlets			PVC/Brass/SS/Specials
	Approximate Watts/m² available			
	General condition			Good/Acc/Poor
	Earth loop Impedance/polarity			
Telecom and Data Cabling Facilities	Capacity of Vertical Shafts			
	Method and Capacity of Horizontal Distribution			
	Location of Outlets			

TECHNICAL SUPPORT ASSOCIATES

Item	Description	Location	Comment	Answer
	Type and Finish of Outlets			
	Wiring enclosures/Cable Trays			
Telephone and Exchange Equipment	Location of Main Distribution Frame			
	Capacity of Main Distribution Frame			
	Location of PBX			
	No. of exchange lines and extensions			
	General Condition of Equipment			Good/Acc/Poor
Fire Alarms and Detection	Location of Main Panel			
	Location of Break Glass Call Points			
	Type of Automatic Detectors			
	Location of Automatic Detectors			
	Type of Audible Alarm Sounders			
	Location of Audible Alarm Sounders			
	Type and Condition of Cabling Installation			
	Location and Condition of Batteries/Charger			
	Does source of supply conform to BS 5839?			
	Does installation comply with BS 5839?			
	General condition of installation			Good/Acc/Poor
	Periodic testing/log			
Security Alarms	Location of control panel			
	Types of detectors			
	Location of detectors			
	Types and condition of cabling installation			Good/Acc/Poor
Mechanical Services Plant	Location of control panels			
	Condition of control panels			Good/Acc/Poor
	Termination of cables in control panels			
	Shrouding of live terminals in control panels			
	Type of plant cabling			
	Condition of plant cabling			Good/Acc/Poor
	Presence of local plant			
	isolation/condition			
Standby Generation	Engine type			Diesel/Turbo/Petrol
	No. of machines and rating each			1/2/3/4/5/6
	No. of cylinders each			4/6/8/12/16/24
	Cooling arrangement			Rad Cooler/Water
	Fuel			Diesel/Petrol
	Fuel storage			Hard Crank/Auto/Central Tank/Daily Tank
	Control panel - type			
	Method of interlocking with mains			
	AMF or manual exhaust system			Lagged/ventilated
	Exhaust termination			Roof/Wall/Rainflap
	Exhaust gas treatment			Yes/No
	Acoustic treatment			Yes/No
	Cooling/aspiration air provision			Mech/Natural/Engine Driven
	Type of alternator			
	Instrumentation			Good/Acc/Poor
	Age			0/5/10/20/30/+

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Item	Description	Location	Comment	Answer
	Hours run			
	Anti-vibration mountings			Yes/No
	General condition			Good/Acc/Poor
UPS System	Make			
	Capacity			
	Autonomy (minutes)			5,10,20,30,+
	Condition			Good/Acc/Poor
Equipotential Bonding	Main bonding to gas, water, etc.			
	Supplementary bonding			
	Presence of identification labels			
	Un-bonded extraneous conductive parts			
	Condition			Good/Acc/Poor
Lightning Protection	Type			Roof Network/Radioactive
	Down conductor spacing			Acceptable/Poor
	Joints and test clamps			Good/Acc/Poor
	Earth electrodes			Yes/No
	Bonding to other services and equipment			Yes/No
	General condition			Good/Acc/Poor
	Test record			Yes/No
Miscellaneous	Labelling			
	Record drawings			

TECHNICAL SUPPORT ASSOCIATES

Survey		Engineer:	
Survey No./BLG:		Date:	

Instruction to surveyor: fill/delete as applicable

ITEM	DESCRIPTION	LOCTATION	COMMENT	ANSWER
Sprinklers	Pre 28th edition			Yes/No
	29th edition			Yes/No
	LPC edition			Yes/No
	Installation control valves			
	Wet			Yes/No
	Alternate			Yes/No
	Dry			Yes/No
	Tail end air valve			Yes/No
	Pre-action			Yes/No
	Re cycling pre-action			Yes/No
	Deluge			Yes/No
	Drencher			Yes/No
	Classification			ELH/OH/EHH
	Water supplies			T.M/Boosted
	Tank			Yes/No
	Pumps			Yes/No
	Jockey pump Compressor			Yes/No
	Floor connections			Yes/No
	In-rack sprinklers			Yes/No
	Trace heating			Yes/No
	Sprinkler sensor type			Bulb/Fusible link
	Sprinkler temp			
	Ratings			
	Sprinkler head types			
	Multi jet controls			Yes/No
	Spare			
	Sprinklers/spanner			Yes/No
	Sprinkler guards			Yes/No
	Block plan			Yes/No
	Location plate			Yes/No
	Date of installation			
	Tested			Yes/No
	Installing company			
	Pipework condition			Good/Acc/Poor
	Pipe supports			Good/Acc/Poor
	Alarm motor and gong			Yes/No
	Alarms			Yes/No
Fire Hosereels	Water supplies			T.M/Boosted
	Tank			Yes/No
	Pump			Yes/No
	Pipework condition			Good/Acc/Poor
	Pipework supports			Good/Acc/Poor
	Pipework type			Copper/Galv/Plastic/Black
	Hosereel type			Fixed/Swinging/Concealed
	Operation			Manual/Automatic
	Cabinets			Good/Acc/Poor
	Pull out boxes			Yes/No
	Nozzle type			Jet-Spray/Jet
	Manufacturer			
	Instruction plates			
	Service date			
	Installation date			
	Manufacturer			
	Instruction plates			Yes/No
	Service date			
	Installation date			
Dry Riser	Inlet box			Horizontal/vertical
	Landing valves			Yes/No
	Landing boxes			Locked/Unlocked
	Roof value			Yes/No

TECHNICAL SUPPORT ASSOCIATES

ITEM	DESCRIPTION	LOCTATION	COMMENT	ANSWER
	Pipework condition			Good/Acc/Poor
	Pipework supports			Good/Acc/Poor
	Locks & straps			Yes/No
	Air vent			Yes/No
	Lightning protection			Yes/No
	Earth			Yes/No
	Date of installation			
	Service date			
Wet Riser	Water supplies			T.M/Boosted
	Pumps			Yes/No
	Tank			Yes/No
	Jockey pump			Yes/No
	F.B.Inlet			Yes/No
	Landing valves			Yes/No
	Calibrated			Yes/No
	Surplus flow return			Yes/No
	Pipework			Good/Acc/Poor
	Pipework supports			Good/Acc/Poor
	Alarms			Yes/No
	Date of installation			
Foam	Type			Inlet/self-generating/pumped
	Inlet box			Yes/No
	Pipework			Good/Acc/Poor
	Pipework supports			Good/Acc/Poor
	Tank			Yes/No
	Nozzles			Yes/No
	Concentrate			Yes/No
	Date of installation			
	Alarms			Yes/No
Gas Extinguishant	Type			Module/flooding
	Cylinders			Yes/No
	Capacity			Kg
	Nozzles			Yes/No
	Alarms			Yes/No
	Date of installation			
	System status			Manual/Auto/Off
	Installing company			
Extinguishers	Type			Water/CO2/Foam/Powder/Halon
	CO2			1 Kg/2 Kg/3 Kg/4 Kg/6 Kg/12 Kg
	Powder			3 Kg/6 Kg/9 Kg/12 Kg/50 Kg/75 Kg
	Halon			0.7 Kg/1 Kg/1.5 Kg/2.5 Kg/3.5 Kg/5 Kg/7.5 Kg/10 Kg/12 Kg
	Service date			
	Date of installation			
General	Sand buckets			Yes/No
	Fire blankets			Yes/No
	Fire certificates			Yes/No

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Survey		Engineer:	
Survey No./BLG:		Date:	

Instruction to surveyor: fill/delete as applicable

Item	Description	Lift No:	Lift No:
General	Type	Hydraulic Gear Above Gear Below MLR Platform	Hydraulic Gear Above Gear Below MLR Platform
	Maintenance	Good Acceptable Poor	Good Acceptable Poor
	Use	Passenger Goods	Passenger Goods
	Age	0/5/10/20/+	0/5/10/20/+
	Certification	Yes No	Yes No
	No. of floors served		
	Speed	m/s	m/s
Cars	Car capacity (persons)	8/10/12/14/+	8/10/12/14/+
	Car capacity	Kg	Kg
	Door operation	Side/Centre/Multileaf	Side/Centre/Multileaf
	Finish	Carpet/Timber/Mirror/Metal	Carpet/Timber/Mirror/Metal
	Telephone	Yes/No	Yes/No
	Emergency call	Yes/No	Yes/No
	Ride	Good/ Acceptable/Poor	Good/ Acceptable/Poor
Lift Motor Rooms	Motor drives	AC/DC	AC/DC
	Motor control	Invertor/Geared/PC/AC	Invertor/Geared/PC/AC
	Headroom compliance	Good/Acceptable/Poor	Good/Acceptable/Poor
	Halon protected	Yes/No	Yes/No
	Environmental condition	Ventilation/Heated/Cooled	Ventilation/Heated/Cooled
	Lifting beam	Yes/No	Yes/No
	Smoke shaft vents	Yes/No	Yes/No
	Maintenance access	Good/Acceptable/Poor	Good/Acceptable/Poor
	Plant removal provision	Good/Acceptable/Poor	Good/Acceptable/Poor
	Safety landing	Yes/No	Yes/No
Shafts	Lighting	Yes/No	Yes/No
	Pit Drainage	Yes/No	Yes/No
	Cleanliness	Good/Acceptable/Poor	Good/Acceptable/Poor
Fire Conditions	Lift to Ground	Yes/No	Yes/No
	Doors Open	Yes/No	Yes/No
Wheel Houses	Headroom	Good/Acceptable/Poor	Good/Acceptable/Poor
	Access	Good/Acceptable/Poor	Good/Acceptable/Poor
Comments			

TECHNICAL SUPPORT ASSOCIATES

Survey		Engineer:	
Survey No./BLG:		Date:	

Instruction to surveyor: fill/delete as applicable

ITEM	ELEMENT	SUB-ELEMENT	COMMENT
Incoming services	Gas Water Electricity Drainage	 Sub-station • Vent • Halon	
Statutory Authorities	Fire officer meeting District surveyor meeting Design drawings issued Environmental health	) Confirmed) Concepts Boundary noise	
Risers	Access Air-tight BW shafts	 Pressure test	
Fire Protection	Mechanical pressurisation Fire rated ductwork	• Low leakage seals • Leakage through builders' work • Lift shaft leakage Escape stairs	
Computer Rooms	AC packaged units Halon protection UPS Load tests Floor grilles	Noise levels/fresh air Motor open/closed dampers Halon extract Room leakage test Extract from inverters Heavy loading/floor static	
Standby Generation	Exhaust risers Oil storage Oil transfer	Welded Ventilated Pressure tested Expansion High-temp insulation Discharge Buoyancy (buried tanks) 4hr fire dampers Gearless pumps Fire rate riser Oil dump line	
Kitchens	Hood extracts Supply air Dishwashers Gas shut off valve	Bifaurcated fans >9m/s + hood face velocity Fire rated Cleaning doors Ansul fire protection High volume grilles Easy clean 2-speed Stainless steel ductwork	

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ITEM	ELEMENT	SUB-ELEMENT	COMMENT
Controls	BMS Out of hours Plant interlocks Optimisation/ Compensation Control panels Enthalpy control Frost protection VAV fan speed Smoke detection	Points schedule/graphics Overrun/key-operated Energy monitoring Location/sizes Fresh air control S & E speed control SP sensor location Velocity sensor locations	
Plant Rooms	Safety isolation Plant specification chillers Boilers Plant room ventilation Dosing Floor gulleys Binder points Condensate drains	Gas solenoid valves Kingsway valves 3-way vent cocks Data sheets F-Gas depletion Noise isolation Pumps on return Freon safety lines Buffer tank Boiler room vent Min. flow rate Static head Pumps on flow F&E Gauges Flue dilution	
Gas	Meter room ventilation Pipes in ventilated fire rate riser Solenoid valves		
Pipework Systems	Strainers before pumps Plant isolation Flow-measuring valves Expansion Compensated heating Pressurisation TRVs Condensate	 Large coils only	
Air Systems	Humidification Pumped cooling coils Preheat before filters Filters before heat recovery Motorised dampers Fire dampers Smoke dampers Silencers VCDs Filtration	 Access Motorised Manometers	
Lifts	Lift shaft vent Heated Split cooling Fresh air		

TECHNICAL SUPPORT ASSOCIATES

ITEM	ELEMENT	SUB-ELEMENT	COMMENT
Office Areas	Air distribution Partition-ability Blinds Knock-out panels Tenant risers		
Toilets	Mechanical extract Mechanical supply Lobby inlet		
Calculations	Computer calculations Pump sizing/pressure heads Plant selection calcs Off-coil temperatures		
Cooling Tower	Biocide dosing UV filtration Trace heating Controls Bleed off Immersion heaters Feed tanks		
Dry Coolers	Glycol	Frost protection	
Air cooled chillers and heat pumps	Low ambient kit Noise Anti-vibration Free airflow Trace heating		
Fan coil units	Removable access Condensate pumps Ceiling access damage: • Hinged panels • Metal tiles		
General	O & M Manual Record drawings Insulation schedule Pipe schedule Co-ordination Electrical loads of mechanical plant Ceiling access General specification edit Preliminaries Tender documents	Schedules	

TECHNICAL SUPPORT ASSOCIATES

Survey		Engineer:	
Survey No./BLG:		Date:	

Instruction to surveyor: fill/delete as applicable

ITEM	DESCRIPTION	LOCATION	COMMENT	ANSWER			
Plantroom	Fuel			*Oil*	*Gas*		
	Burners			*Forced*	*Natural*		
	Emergency link			*Yes*	*No*	*N/A*	
	Emergency knock-off			*Yes*	*No*	*N/A*	
	Boilerhouse ventilation			*Natural*	*Forced*		
	Safety notices			*Yes*	*No*	*N/A*	
	Flow measuring valves			*Yes*	*No*	*N/A*	
	Valve labels			*Yes*	*No*	*N/A*	
	Valve charts			*Yes*	*No*	*N/A*	
	Duty-standby pumps			*Yes*	*No*	*N/A*	
	Strainers before pumps			*Yes*	*No*	*N/A*	
	Suitable vibration isolation			*Yes*	*No*	*N/A*	
	Dosing provided			*Manual*	*Auto*		
	Safety valves fitted			*Yes*	*No*	*N/A*	
	Sufficient pipework isolation			*Yes*	*No*	*N/A*	
	Gauges fitted temp/press			*Yes*	*No*	*N/A*	
	Plantroom floor gullies			*Yes*	*No*	*N/A*	
	Earth bonding			*Yes*	*No*	*N/A*	
	Asbestos possibility			*Yes*	*No*	*N/A*	
	Boiler min flow rate OK			*Yes*	*No*	*N/A*	
	Pressurisation units			*Yes*	*No*	*N/A*	
	F & E Tank			*Yes*	*No*	*N/A*	
	Access to plant for maintenance			*Satisfactory*	*Poor*	*Good*	
	Insulation damaged			*Yes*	*No*	*N/A*	
	Hammerclad finish			*Yes*	*No*	*N/A*	
	Insulation identified			*Yes*	*No*	*N/A*	
	Systems fitted with D.O.C.			*Yes*	*No*	*N/A*	
	Systems fitted with air vents			*Yes*	*No*	*N/A*	
	Pipe sleeves fitted			*Yes*	*No*	*N/A*	
Gas	Gas meter room ventilated			*Yes*	*No*	*N/A*	
	Gas pipe ventilated and fire rated			*Yes*	*No*	*N/A*	
Controls	Auto/change over provided			*Yes*	*No*	*N/A*	
	Boiler sequence			*Yes*	*No*	*N/A*	
	Systems on panel identified			*Yes*	*No*	*N/A*	
	Optimiser			*Yes*	*No*	*N/A*	
	BMS			*Yes*	*No*	*N/A*	
	Compensated heating			*Yes*	*No*	*N/A*	
	Frost protection			*Yes*	*No*	*N/A*	
AHUs/Ductwork	Humidification fitted			*Washer*	*Steam*	*Pneumatic*	*No*
	Heater battery			*LPHW*	*Elec*		
	Cooling coil			*CHW*	*DX*	*N/A*	
	Variable speed			*Guide vanes*	*TASC*	*Inverter*	*N/A*
	Filters			*Clean*	*Dirty*	*Bag*	*Panel*
	Preheater before filters			*Elec*	*LPHW*	*No*	
	Motorised dampers			*Manual*	*Auto*	*No*	
	Mixing sections			*Yes*	*No*	*N/A*	

TECHNICAL SUPPORT ASSOCIATES

ITEM	DESCRIPTION	LOCATION	COMMENT	ANSWER			
	Fire dampers fitted			*Yes*	*No*	*N/A*	
	Access to fire dampers			*Good*	*Acceptable*	*Poor*	*N/A*
	Insulation thickness			*Good*	*Acceptable*	*Poor*	*N/A*
Lifts	Lift motor-room ventilated			*Nat*	*Mech*	*No*	*N/A*
	Heated			*Elec*	*LPHW*	*No*	*N/A*
	Comfort cooled			*DX*	*CHW*	*No*	*N/A*
Chillers	Chiller unloading			*Good*	*Acceptable*	*Poor*	*N/A*
	Standby			*Yes*	*No*	*N/A*	
	Refrigeration safety lines			*Yes*	*No*	*N/A*	
Offices	Method of fresh air supply			Natural	Mech	None	
	Air distribution			Good	Acceptable	Poor	
	Partition-ability			Good	Acceptable	Poor	
	Internal blinds/solar protection			Yes	No	N/A	
	Air handling luminaries			*Yes*	*No*	*N/A*	
	Air conditioned			*Yes*	*No*	*N/A*	
	Heating by radiators			*Yes*	*No*	*N/A*	
	Noise levels (acceptable)			*Yes*	*No*	*N/A*	
	Glazing			*Single*	*Double*		
	2½% openable windows			Yes	No	N/A	
	Environmental conditions			Good	Acceptable	Poor	
Toilets	Toilet ventilation			Mech	Natural	None	
	Lobby supply			Mech	Natural	None	
	Cubicle extract			Yes	No	N/A	
	Openable windows			Yes	No	N/A	
Cooling Towers	Legionella Biocide protection (spray coils also)			Manual	Automatic	N/A	
	Auto chemical dosing			*Yes*	*No*	*N/A*	
	Eliminators			*Yes*	*No*	*N/A*	
	Located away from AHU intakes			*Yes*	*No*	*N/A*	
	Located away from windows			*Yes*	*No*	*N/A*	
General	Record drawings on site			*Good*	*Acceptable*	*Poor*	*None*
	Maintenance manuals available			*Good*	*Acceptable*	*Poor*	*None*
	General pipework condition			*Good*	*Acceptable*	*Poor*	*None*
	Trace heating externally			*Yes*	*No*	*N/A*	
	General condition of systems			*Good*	*Acceptable*	*Poor*	
	Age of system			*0*	*5*	*10*	*20+*
	Staircase smoke vent			*Yes*	*No*	*N/A*	
	Fireman's control panel			*Yes*	*No*	*N/A*	

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Survey		Engineer:	
Survey No./BLG:		Date:	

Instruction to surveyor: fill/delete as applicable

Preliminaries / Contract Conditions	*These are normally compiled by the Quality Surveyor. Amend / expand the performance / contract conditions and check to ensure the following are included:*	Design team names, addresses, phone and fax numbers	
		Contract period/start and end dates	
		Fixed price/fluctuating	
		Form of contract	
		Site constraints/noise/hours of work/statutory requirements	
		Design and build/full design	
		Interim payments	
		LAD penalties	
		Retention percentage	
		Defects liability period	
		Visit site	
Description of Building		New build/refurbishment/age	
		Net and gross areas	
		Location	
		No. of storeys	
		Brief description of existing services i.e. AC/Heated Only/System	
General Mechanical Specification	Edit and insert WPP General Mechanical or General Mechanical Performance Specification.		
Particular Mechanical Specification	*Scope of Works This should include descriptions of the following:*	Heating to all areas / LTHW / gas / pressurised system	
		Radiators/Terminal heaters/convectors	
		Location of plantrooms	
		Entrance systems/door heaters	
		Toilet systems	
		AC systems / VAV / FCU / versatemp / induction etc	
		Chiller location/air cooled/cooling towers/biocide treatment	
		Ductwork systems/flat oval / circular / square / risers	
		Controls / field wiring / BMS / override facilities	
		Split systems/Lift motor rooms	
		Noise control and criteria	
		Kitchens/dining rooms	
		Conference rooms	
		Computer rooms	
		Pipework distribution/risers	
		Insulation	
		Incoming services	
		Testing / commissioning / set to work / performance tests	
		Record drawings/maintenance manuals	

Particular Works	This section should describe in detail the particular requirements of the project based on the Scope of Works. It must not include items which are covered by the general	Heating System		
		Boilers	Atmospheric/forced draught/pressure rating/safety valves/ motorised shut off valves/minimum flow rate/draught diverters/integral controls/condensate drains/gauges/oil lines/ BMS monitoring	
		Flues	Supports/draught stabilisers/termination/flue	

TECHNICAL SUPPORT ASSOCIATES

	specification. It should describe where appropriate:		liners/drain	
		Flue Dilution	1% CO/louvres on same face/airflow switch/controls interlocks	
		Radiators/Emitters	Pressure rating/TRVs/painting/brackets and mountings/feet/vents	
		Ventilation	High and low level	
		Pumps	Strainers before/run and standby/gauges/binder points/ flexible connections/AV bases/valving	
		Pressurisation Units	Water content/temperature range/mains connection/overflow/acceptance/air separator	
		Calorifiers	Copper/galvanised steel/pressure rating/gauges	
		Gas	Solenoid valves/heat actuators/incoming main/meters	
		Chilling System		
		Chillers	Type/condenser fin corrosion/flow switches/gauges/integral controls/BMS monitoring/stage delay timers/capacity control - unloading, hot gas bypass, speed control/ Freon type/AV mounts/low ambient kit/heat pump/minimum flow rates/series or parallel connections/refrigerant safety lines/valving/soft start	
		Pumps	Strainers before/run and standby/gauges/binder points/ flexible connections/AV bases/valving	
		Pressurisation Units	Water content/temperature range/mains connection/overflow/acceptance/air separator	
		Buffer Tank	Pressure rating/gauges/valve bypass	
		Pipework Distribution		
		Pipework Schedule	Steel heavy/medium/copper table X/chromium/galv/schedule each system against each type/working pressures	
		General	Painting/describe difficult access/trenches/densowrap	
		Valves	Commissioning/isolating/regulation as per general specification /Taco/special low flow commissioning stations	
		Zoning	N, E, S, W facades	
		Air Distribution		
		Ductwork	Galvanised/pressure rating low, medium, high/schedule each system/flat oval, circular, square/riser access/fire damper access/VCDs/motorised dampers/non return flaps/flexibles <1.5m	
		Grilles/Louvres	Colour/fixings - concealed/fitted by ceiling Contractor, main Contractor or services Contractor	
		Kitchen Extracts	Cleaning doors every 3m	
		Insulation		

TECHNICAL SUPPORT ASSOCIATES

		Schedule each service and area against the required insulation type and thickness, and code as detailed in the general specification		
		Ductwork	Fresh air ductwork/extracts uninsulated/plenum boxes/silencers/flexibles/outside finishes/thickness/finish	
		Pipework	Densofill gaps/trace heating/valve boxes/thickness/finish	
		Plant	Butter tanks, calorifiers, plant room finish	
		Air Handling		
		AHUs	Finish - plasticell, galvanised, weatherproof/construction/ insulation thickness/coil types - copper, copper/aluminium, PVC coated/condensate drains C/W traps/base rails/AV mounts/fan type and speed control/frost coils/motorised dampers/heat recovery	
		Fans	Type/speed/standby/changeover/AV mounts	
		Silencers	Pressure drops/bull nosed/atmospheric side/system side	
		Dampers	VCD's/fire/non-return/ motorised halon/smoke/special access	
		Cooling Towers		
			Type/open evaporative/corrosion protection/pan heaters/ balance pipes/bleed/temperature controls/AV mounts/make up tanks/high efficiency eliminators/trace heating/control dampers/biocide treatment/UVEX treatment	
		Terminals		
		FCUs	Chassis or cabinet/ maintenance access/condensate/condensate pumps/ speed control/control valves/drip tray beneath valves/spigot connection/discharge grille - who fits?/filter/controls - transformer, stat/power supply/special fixings	
		VAV Terminals	Sensor location/velocity or pressure controls/reheaters/minimum pressure requirement/silencers/volume increased during heating mode	
		Reverse Cycle Heat Pumps	Chassis/ maintenance access/condensate/condensate pumps/ speed control/spigot connections/discharge grille - who fits?/ filter/controls/power supply/special fixings	
		Controls		
		Boilers	Step control/packaged/lead-lag/ motorised valve isolation/	

TECHNICAL SUPPORT ASSOCIATES

			interlocks with boiler room ventilation, pumps, pressurisation units, flow switches/time delays/heat dissipation pump overrun	
		Compensation Plant	Outside stat location/solar compensation/zoning	
		Shutdown	Motorised dampers close, valves to 50%	
		Optimisation	Inside and outside stat locations/state which plant is optimised/when does vent plant operate?	
		Frost Protection	Stage 1: Low room temp - pumps run, valves open to coils	
			Stage 2: Immersion sensors- boilers run, airplants on	
		Air Plants	Sequence control/S&E interlocks/free cooling/enthalpy override/velocity sensors (is preforated plant necessary to achieve uniform airflow?)/air temp scheduling	
		Remote Indication	Printer/reception desk/maintenance/override/0-3hr timers	
		Chillers	Packaged/step control/frost protection/lead-lag/interlocks with pumps, pressurisation units, flow switches/crankcase heater supplies/dp switches/time delays/pump overrun/interlock with humidifiers	
		Control Sensors	Within occupied zone	
		Control Panels	Wardrobe/cubicle	
		BMS	Points schedule, monitors, printers, logic diagrams, energy metering (gas/electricity), alarms, modem	
		Plant Rooms		
		Louvres	- who supplies and fits/weather type/finishes/special weatherproofing of AHU's, controls ductwork ·and pipework (if external)	
		Kitchens		
		Pipes and services boxed in cleanable casing/gas solenoid shut off/chef's controls		
		Atria		
		Interlocks with fire alarm system/air inlet and smoke		

TECHNICAL SUPPORT ASSOCIATES

		discharge/failsafe open	
		Testing	
		Pipework 1.5 times working pressure/specify ductwork test pressure/generator flues/flushing and water treatment	
		Commissioning	
		Special sequences/environmental tests/full load tests	
		BWIC	
		Plant bases/flue liners/plant room louvres/principle risers	
		Record Documentation	
		O&Ms/record drawings	
		Design Drawings	
		WPP drawing list	

TECHNICAL SUPPORT ASSOCIATES

Survey		Engineer:	
Survey No./BLG:		Date:	

Instruction to surveyor: fill/delete as applicable

VAV Boxes	Max Vol.	
	Min. Vol.	
	HB Operation and air volume increase/sequencing	
	Temp calibation	
Fire Protection	Smoke damper closure on smoke sensing Firemans extract override,and dampers to open;fans to extract. Plant shut down	
	Smoke bomb test	
	Smoke damper operation	
Frost Protection	Trace heating + immersion heaters	
	Plant on full recirculation	
	Heater batteries full flow to coil	
	Pumps on	
Air Plant	Plant airflows	
	Enthalpy control	
	Min.fresh air/veloicy sensors Boostwarm-up and termination Static pressure control	
	Damper operation	
	Filter manometers	
	Heater battery,cooling coil and damper sequencing	
	Valve operations	
	Off coil temps	
	Fan/damper interlocks	
	Temp.sequencing	
	Variable speed control	
Floors	Control valve operations	
	Solar blinds	
	Grille air flow directions	
	Air movement within space	
	Noise levels	
	Radiator operations	
	Grille commissioning data	
	Fire dampers checked and open	
Heating & Chilled Water Systems	Pump operation	
	Auto-changeover	
	Pressurisation unit operation	
	Temp. control sequencing	
Chiller	Manufacturer's certificate of commissioning	
	Flow temperatures satisfactory	
	Chiller interlocked with flow switches,pumps,press. unit	
	Condenser fan operation (air cooled)	
	Anti-vibration mount operation	
Toilets	S & E Volumes	
	Air movements	
	Toilets operational	
	Hot and cold water supply	
Cooling Towers	Controls sequencing/valve/2 speed/dampers Biocide water treatment auto operation Water bleed - off rate	
	Anti-vibration mount operation	
	Pan water level	
Boilers	Manufacturers certificate of commissioning	
	Step control operation	
	High temp cut out	
	Safety valve operation	
	Gas/oil shut off valve interlocks	

TECHNICAL SUPPORT ASSOCIATES

	High/low flame sequencing	
	Interlocks with pumps, fans, flue dilution	
	Flue draught stabilisation	
Controls	Optimiser operations	
	Plant time control settings	
	Run/trip lights	
	Hand/off/auto operations	
	Overload settings	
	Manufacturers certificate of commissioning	
Fan Coil Units	Valve operation and sequencing	
	Control settings/dead zone/proportional band	
	Fan speeds	
	Accessibility	
	Filters	
	Integral condensate pumps	
	Off coil temps	
Halon Protected Areas	1st knock, vacate, plant off, dampers closed	
	2nd knock, signal to discharge gas	
	Halon extract: fan on/dampers open	
	Normal operation	
	Special user instructions	
	Room leakage test	
Generators	Interlocks with ventilation fans	
	Interlocks with condenser water system	
	Exhaust pressure test certificate	
	Condenser pumps/fans restart on generator start	
Public Health	Booster pump operation	
	Drinking water supplies	
	Tanks full	
	Calorifiers hot	
	Sump pump operation	
	Sewage pumping stations	
Fans	Interlocks with supply/extract	
	2 speed interlocks	
	Timeclocks overrides	
Split Systems	Manufacturers certificate of commissioning	
	Heat pump changeover modes	
	General temp control	
	Condensing unit/evaporator operation	
General	Operation instructions shown to user	
	Operation and maintenance manuals	
	Commissioning data	
	Manufacturers test certificates	
	Record drawings	
	Pressure test certificates	
	Spares	
	Valve labelling	
	Valve chart	

TECHNICAL SUPPORT ASSOCIATES

Survey		Engineer:	
Survey No./BLG:		Date:	

Instruction to surveyor: fill/delete as applicable

ITEM	DESCRIPTION	LOCTATION	COMMENT	ANSWER
Sewerage	Ownership			Public/Private
	Sewer authority			
	Type			Combined/Separate/Partially Separate/None
	Street/road names			
	Sewage treatment			Yes/No
	Soakaways			Yes/No
	Storage/holding system			Yes/No
	Rivers/stream/ditch			
	Sewer/stream/ditch			
	Flooding levels			
Drainage	System			Combined/Separate/Internal/External
	Petrol drainage			Yes/No
	Car park drainage			Yes/No
	Chemical			Yes/No
	Materials			CI/VC/Concrete/UPVC/Other
	Access			Manholes/Chambers/Rodding Eyes
	Petrol-oil interceptor			Yes/No
	Gullies			Yes/No
	Material			Brick/Concrete/Other
	Underground drains condition			Good/Av/Poor
	Suspended drains condition			Good/Av/Poor
	Manholes condition			Good/Av/Poor
Drainage Pumps	Pumps			Electrical/Diesel/Other
	Type/number			Foul water/surface water
	Pump discharge size			mm
	NRV/Valve			Yes/No
	Controls			Auto/Manual
	Locations			
	Condition			Good/Av/Poor
	Alarms			Yes/No
	Type			Audible/Visual
	Age			0/5/10/20/+
Sanitary Plumbing	System			One Pipe/Two Pipe/Single Stack/Modified Single Stack
	Materials			Internal/External
	Soil pipes			CI/CU/PVC/Lead/GMS
	Waste pipes			CI/CU/PVC/Lead/GMS
	Vent pipes			CI/CU/PVC/Lead/GMS
	Branch pipework			CI/CU/PVC/Lead/GMS
	Soil pipes condition			Good/Av/Poor
	Waste pipes condition			Good/Av/Poor
	Vent pipes condition			Good/Av/Poor
	Branch pipework condition			Good/Av/Poor
	Traps condition			Good/Av/Poor
	Soil pipes access			Good/Av/Poor
	Waste pipes access			Good/Av/Poor
	Branch pipework access			Good/Av/Poor
Rainwater installation	Roof finish			Asphalt/Slates-tiles/Sheet Metal/Mineral Felt/CI-Light/CI-BS416
	Pipework			Lead/Copper/PVC/Internal/External
	Outlets			Grated/Shaped/Balloon Guards/Other
	Hopper heads			Yes/No
	Shoes			Yes/No
	Gutters			CI/Steel/PVC/Other
	Condition			Good/Av/Poor
	Access			Good/Av/Poor
Cold Water	Incoming main			

TECHNICAL SUPPORT ASSOCIATES

ITEM	DESCRIPTION	LOCTATION	COMMENT	ANSWER
Services	Water authority			
	Street/road of source			
	Water meter			Yes/No Internal/External
	Water meter-size			mm
	Cold water storage tanks			Pressed Steel/GRP/GMS/Plastic/Others
	Insulated tanks			Yes/No
	Covered tanks			Yes/No
	Sizes			Litres
	Capacities			
	Overflow pipe			Yes/No
	Warning pipe			Yes/No
	Wash out			Yes/No
	Section 30			Yes/No
	Tank room – bunded?			Yes/No
	Tank room – drained?			Yes/No
	Tank room – heated?			Yes/No
	Pipe materials			Cu/Galv/PVC/Other
	Insulated pipework			Yes/No
	Stop valves			Yes/No
	Service valves			Yes/No
	Water saving devices			Yes/No
	DW Tank			Yes/No
	Booster pumps			Yes/No
	Wells - boreholes			Yes/No
Hot Water Services	Calorifiers			CU/Steel
	Insulation			Yes/No
	Heating media			Elec/LPHW/Steam
	Capacities			Litres
	Safety valve			Yes/No
	Bursting disc			Yes/No
	Pressure gauge			Yes/No
	Temperature gauge			Yes/No
	Access hatch			Yes/No
	Flow size			mm
	Return size			mm
	CF size			mm
	Drain size			mm
	OV size			mm
	Circulating pump			Yes/No
	Size			mm
	Location			Flow/Return
	NRV			Yes/No
	Electric water heaters			Yes/No
	Gas water heaters			Yes/No
	Pipe materials			GMS/Steel/Copper/Other
	Insulated pipework			Yes/No
Sanitary Fittings	Materials			Vitreous China/Fireclay/Stainless Steel/Other
	Facilities:			
	Male			Yes/No
	Female			Yes/No
	Disables			Yes/No
	Kitchens			Yes/No
	Cleaners			Yes/No
	Sanitary disposal			Yes/No
	Showers			Yes/No
	Condition			Good/Av/Poor
	Age			0/5/10/15/20/+

TECHNICAL SUPPORT ASSOCIATES