Project No: 0554

NEW COMMUNITY HUB
ST. TUDY PLAYING FIELD
REDVALE ROAD
ST. TUDY
CORNWALL
PL30 3PX

CONSTRUCTION REQUIREMENTS:

CONSTRUCTION NOTES TO BE READ IN CONJUNCTION WITH THE ARCHITECTS GENERAL ARRANGEMENT DRAWINGS, FIRE SERVICE COMMENTS AND THE SBEM REPORT

FOUNDATIONS:
To all external walls provide 650/750mm wide x 300mm deep GEN 3 concrete strip foundations. To load-bearing internal walls provide 450mm wide x 300mm deep concrete strip or trench fill foundations. Foundation depth to be taken onto firm substrate which is to be approved by the local authority building control surveyor. Where foundations are stepped they are to be formed in accordance with Approved document A diagram 21.

DRAIN AND FOUNDATION PROTECTION:
Where necessary, line trench walls using Root barrier polypropylene material to protect against penetration from tree roots.

WALLS BELOW DPC:
Walls to be constructed off concrete foundations up to DPC/finished floor level using 140mm thick dense concrete blockwork. Wall to be finished (if required) with a suitable plinth render between the ground level and DPC, render to be applied strictly in accordance with manufacturer's instructions and specification. Where drains or services pass through walls provide precast concrete lintels to each leaf to ensure a minimum of 50mm clearance to pipe sides.

DAMP PROOF COURSES:
Use pitch polymer high performance or similar to comply with BS6398. Horizontal DPC to block wall to be a minimum of 150mm above finished ground level. Horizontal DPC to be bedded and lapped and sealed to gas resistant DPM.

GROUND BEARING FLOOR SLAB:
65mm thick sand/cement screed or 50mm thick liquid screed (with embedded underfloor heating pipework if required) on minimum 500 gauge vapour control layer on minimum 150mm Xtratherm/Unilin XT/PR-UF insulation laid over 150mm thick RC25/30 A142 mesh reinforced concrete floor slab. Slab laid over a gas resistant damp proof membrane (lapped and sealed to a cavity tray at perimeter) on 25mm thick sharp sand blinding on minimum 150mm thick well compacted hardcore. Provide 30mm thick insulation to floor perimeter. Floor U-value is 0.11 W/m2k

RADON SUMPS:
Provide 600 x 600 x 300mm deep radon sumps constructed using paving slab laid on loose laid bricks with 100mm dia. perforated pipes to each foundation bay with a sealed 100mm dia. pipe taken to external air and screw capped as indicated.

MASONRY CAVITY EXTERNAL WALL – TIMBER CLADDING FINISH:
To comprise timber vertical cladding on 25 x 50mm treated softwood battens and counter battens (top face of counter battens sloped to direct water to cavity). Provide min. 10mm wide insect mesh protected ventilation slot at top and bottom of cladding. All on 100mm dense concrete block outer leaf, 150mm cavity with 100mm Xtratherm/Unilin XO/CW T+G insulation fixed against 100mm dense concrete block inner leaf by proprietary insulation stainless steel wall ties. Provide stainless steel wall ties 450mm vertically, 750mm horizontally and 225mm each side of openings. Provide exposure zone 4 checked rebates or finned cavity closers to all door and window jambs (in accordance with approved document C of the building regulations) along with a DPC tray beneath all sills. Provide insulated galvanised steel lintels over openings where indicated all fixed in full accordance with

manufacturer's instructions with DPC cavity tray over if required. Allow for filling cavities to within 225mm of DPC with a weak mix concrete from foundations. Close cavities at head with Rockwool stop sock or 10mm Masterboard. At DPC level provide a cavity tray to the perimeter to prevent the ingress of radon gas. Internal wall lining to be plasterboard on dabs with skim coat finish with continuous top and bottom ribbons of adhesive. Provide minimum 10mm wide vertical movement joints in outer leaf of cavity wall at maximum 9m centres. Wall U-value is 0.18 W/m2k.
Where indicated on drawings boarding is to receive fire retardant treatment that provides Class 0 protection to BS 476 Parts 6 and 7. Wall U-value is 0.18 W/m2k.

LINTELS:
New lintels in loadbearing walls to be precast concrete or metal Catnic CG as specified on drawings. Cavity trays to be provided over lintels as necessary.

MASONRY INTERNAL LOADBEARING PARTITIONS:
To consist of 100mm 7N/mm2 dense concrete blockwork incorporating DPC built off new concrete foundations as described elsewhere. Wall lining to be 12.5mm plasterboard on dabs with skim coat finish with continuous top and bottom ribbons of adhesive.

WOODWORK GENERALLY:
All timber to be double vacuum impregnated with Class C8 organic preservative. Any timber cut or drilled after treatment to have all newly exposed surfaces liberally daubed with Class C8 organic preservative. All concealed construction timber to comply with BS4978 and to be of species group 2 and grade C16 and stamped thus. All exposed timber to be as above but Grade C24 with PSE finish. All exposed joinery to be secret nailed wherever possible. Any fixings exposed externally to be stainless steel unless otherwise specified.

INSPECTION CHAMBERS:
To be 300/450mm dia. pre-formed uPVC manhole bases and chambers on 150mm concrete pad foundations with galvanised steel cover and frame. Any manholes located in vehicular areas are to be fitted with heavy duty covers.

PROFILED METAL PITCHED ROOF (TRUSSED RAFTERS):
Fix profiled metal roof sheeting (including all trims and flashings) at pitch indicated on drawings over 50 x 50mm treated timber battens (at centres to suit sheeting) over air open and vapour permeable roofing membrane with minimum 150mm head laps and 150mm side laps. Roofing membrane to be lapped over proprietary PVC underlay support tray at eaves. All on approved trussed rafters, to be designed and manufactured by a specialist contractor and fixed in full accordance with their instructions and to comply with BS EN 1313-1. Provide 100 x 25mm longitudinal and diagonal wind bracing fixed to underside of rafters and at ceiling level to abut external wall all in accordance with BS5268. Trusses to bear on 50 x 100mm pressure impregnated wall plates strapped to the top of the inner leaf using 5 x 30mm galvanised mild steel straps at 1500mm centres. Fix 5 x 30mm galvanised mild steel lateral restraint ties at 1500mm centres engaging a minimum of 3no trusses and build into external wall and turned down within cavity 100mm. Where indicated lay 400mm total of Rockwool Roll insulation (Thermal conductivity 0.044W/mK) or similar approved between and over areas of flat ceiling. Screw fix 12.5mm plasterboard with skim finish to underside of ceiling joists to form flat ceilings. Roof U -Value is 0.11 w/m2k.

INSPECTION CHAMBERS:
To be 300/450mm dia. pre-formed uPVC manhole bases and chambers on 150mm concrete pad foundations with galvanised steel cover and frame. Any manholes located in driveway are to be fitted with heavy duty covers. Maximum depth of manholes to be 1000mm.

SURFACE WATER DRAINAGE:
Provide metal box gutters to eaves and matching 100mm dia. rainwater downpipes - all to flow over roddable rainwater gullies and to discharge into below ground surface water drainage system as indicated on drawings. Below ground surface water pipes to have a minimum fall of 1 in 100 on a 9mm granular bed with 150mm granular surround, with drains being provided with 100mm thick (1:2:4 mix) reinforced concrete cover where they have less than 450mm cover. Provide ACO or similar profile channel against external walls wherever the ground to DPC clearance is less than 150mm and at level door thresholds. Surface water drains that run beneath the proposed access/parking area are to be laid at a minimum depth of 900mm or are to be protected by a 100mm thick reinforced concrete

slab with a minimum 300mm bearing onto original ground and compressible material, all as indicated on diagrams 11 and 12 of Approved Document H1. All new surface water is to discharge to new soakaway where indicated on the site layout plan. Soakaway is to be located a minimum of 5m from any building or structure and is to be designed/sized to suit the results of a site investigation percolation test.

FOUL WATER DRAINAGE:
Lay 100mm dia. flexible jointed pipes and fittings laid to a minimum fall of 1 in 40 on 9mm granular bed with 150mm granular surrounded all to comply with BS8301. Where drains have less than 450mm cover, provide 100mm thick (1:2:4 mix) reinforced concrete cover to prevent crushing. Provide pre-stressed concrete lintels where drains pass through walls with minimum 50mm clearance around pipe. Mask around all pipe entries against vermin. Provide 100mm dia. trapped wastes to WC along with a 50mm dia. waste from shower, 38mm dia. from bath and kitchen sink and 32mm dia. from wash hand basins, all to flow into soil and vent pipes/stub stacks as indicated on drawings. All wastes to have 75mm deep seal traps with cleaning access at bends and junctions. Refer to floor plans and site layout for the drainage layout. Where the distance from the edge of the foundation to the drainage trench is less than 1m allow for concrete fill in trench around the pipe up to underside of adjacent foundation. Whole new foul water drainage system to discharge to existing package sewage treatment plant system as indicated on site layout plan. Foul water drains that run beneath the access/parking area are to be laid at a minimum depth of 900mm or are to be protected by a 100mm thick reinforced concrete slab with a minimum 300mm bearing onto original ground and compressible material, all as indicated on diagrams 11 and 12 of Approved Document H1.

ACCESS REQUIREMENTS AND PART M:
Disabled parking spaces are to be provided where indicated on site plan.
The access pathway to the main entrance is to have a surface width of at least 1.8m with a gradient along its length no steeper than 1:60 and a cross-fall gradient no steeper than 1:40. Its surface is to be firm, durable and slip resistant, with undulations not exceeding 3mm under a 1m straight edge for formless materials. The difference in level at joints between paving units is to be no greater than 5mm, with joints filled flush or, if recessed, no deeper than 5mm and no wider than 10mm or, if unfilled, no wider than 5mm. The route to the principal entrance (or alternative accessible entrance) is to be clearly identified and well lit.
Provide a minimum 1500x1500mm level landing in front of principle entrance. Door threshold to be mobility type with maximum height of 15mm above adjacent levels. Manifestation of doors and glazed screens to take the form of permanent broken or solid lines, patterns or company logo at 900mm and 1500mm above FFL.
Internal doors and frames are to contrast visually with surrounding walls, electrical front plates are to contrast visually with their backgrounds and door furniture is to contrast visually with the door leaf.
Internal doors annotated FD30S to provide minimum 30 minute fire protection in terms of integrity when tested to BS 476-22:1987 and to be fitted with flexible edge smoke seals (restrictive smoke leakage @ ambient temps.) and self-closing device where denoted SC are to be operable using 20N max. force. Additionally provide automatic closer overhead (20N max. force). All doors fitted with vision panels to have fire resisting glass 30min. integrity to BS 476:pt.22 between critical zone 500mm-1500mm from FFL.
Internal doors to have minimum clear opening width of at least 800mm. All switches and socket outlets are fixed between 450 and 1200mm above finished floor level.
An emergency alarm system is to installed in the disabled WC compartment with visual and audible indicators located in the Reception area. Fire Alarm system is to be designed to emit both visual and audible signals to warn occupants with hearing or visual impairment.

DRIVEWAY/PARKING AREA:
Tarmac Ultidrive Porous permeable tarmacadam finish (6mm thick) over permeable sub-base aggregate. All designed by specialist to suit the results of a ground investigation and to be installed in accordance with manufacturers guidance and recommendations by an approved contractor.

AIDS TO COMMUNICATION:
Provide ‘hearing enhancement system’ to all rooms designed for meetings. Induction loop or infrared hearing enhancement system (where employed) to be indicated by standard symbol. Artificial lighting to be designed compatible with other electric and/or radio frequency installations.

ELECTRICAL INSTALLATION:
Whole electrical installation to be carried out following BS 7671: 2001 by an approved electrical contractor. All cables to be concealed behind wall/ceiling finishes where possible. Concealed cabling to be restricted to run either vertically or horizontally in zones illustrated in BS 7671: 2001 Regulation 522-06-06. An Electrical Installation Certificate is to be issued as required by Part 7 of BS 7671: 2001. Light switches and switched socket outlets to be mounted between 450-1200mm above finished floor level to satisfy Part M1 Section 8.
Provide energy efficient LED internal light fittings and lamps throughout. Light fittings including lamp, control gear and diffuser/shade etc, to be only capable of taking lamps having a luminous efficacy of 126 lumens per circuit-Watt or better. Lighting scheme to include occupancy and daylight controls. Energy efficient external security lighting to be provided where required with a maximum wattage of 150w and are to be fitted with movement detecting shut-off devices (PIR) and daylight cut-off devices. External lighting should be designed to only accommodate compact fluorescent (CFL) luminaries or strip lights and to be switchable from inside the building.
Any new consumer unit is to be mounted at a height such that switches are located between 1350-1450mm above finished floor level.

ELECTRIC VEHICLE CHARGING POINTS:
EV charging points are to be provided where indicated on the site layout drawing.

IN BUILDING PHYSICAL INFRASTRUCTURE:
In accordance with Approved Document R the building is to be provided with a network termination point in a suitable location for each separate building user. Suitable ducting/trays shall be provided from each network termination point to a common access point located on an external wall. The design of the in-building physical infrastructure is to take account of satellite and wireless technologies where evidence exists that the required network speeds would be met.

VENTILATION:
Whole ventilation system is to be designed to comply with Approved Document F2 by a Specialist and installed/commissioned by a suitably qualified Contractor. Whole ventilation system is to be designed in accordance with the guidance set out in CIBSE Guide A. The whole ventilation system should be inspected and commissioned on completion with a certificate made available to the site inspector.

WINDOWS:
Aluminium windows with matching cills. Where glazing occurs 800 and 1500mm above finished floor level for windows and doors respectively provide safety glass in accordance with BS 6206. All windows to achieve a U-value of 1.40 w/m2k or better.

DOORS:
All external doors to be aluminium and to have an area-weighted average U-value of 1.4W/m2k min. Door D01, D02 D03 and D04 thresholds are to be level access with maximum upstand of 15mm. Internal doors annotated FD30S to provide minimum 30 minute fire protection in terms of integrity when tested to BS 476-22:1987 and to be fitted with flexible edge smoke seals (restrictive smoke leakage @ ambient temps.) and self-closing device where denoted SC are to be operable using 20N max. force. Additionally provide automatic closer overhead (20N max. force). All doors fitted with vision panels to have fire resisting glass 30min. integrity to BS 476:pt.22 between critical zone 500mm-1500mm from FFL. Manifestation of glazed screens to take the form of permanent broken or solid lines, patterns or logo at 1500mm above FFL. Doors to inner rooms annotated (VP) on the drawings are to have a suitable vision panel of at least 0.1 sqm surface area in accordance with paragraph 3.10 of approved document B1.

SOLAR PV PANELS:
30kWp solar PV panel installation to be fitted on south elevation where indicated on drawings.

<u>FIRE PRECAUTIONS:</u>

FIRE DETECTION AND WARNING:
The fire warning system should be commissioned by a competent person, e.g. having membership of NICEIC (National Inspection Council for Electrical Installation Contracting); or BAFE approved (British Approvals for Fire Equipment); or equivalent.

The fire warning and detection system should conform to BS5839-1 2017 and meet a Category L1 standard.

MEANS OF ESCAPE:
All final exit doors/windows shall be fitted with simple fastenings to enable them to be easily opened from the inside without the use of a key or code, i.e. push bar to open or thumb turns. Provide an assembly point externally in a location agreed with the Fire Officer.
All doors fitted with emergency exit devices (horizontal push bars or push pads) should have the method of operation clearly indicated and provided with a sign conforming to the Health and Safety (Safety, Signs and Signals) Regulations 1996.
The 'Responsible Person' should incorporate arrangements for the safe evacuation of persons with mobility difficulties or sensory impairments, into the fire evacuation procedures for the premises. Reference should be made to 'Means of Escape for Disabled People' a supplementary guide to the Fire Safety Risk Assessment series available for free download at https://www.gov.uk/workplace-fire-safety-your-responsibilities that provides additional information on accessibility and means of escape for disabled people. Specialist advice on this matter can also be sought from the Disability Rights Commission http://www.drc-gb.org.
Ensure that Fire Safety Signage in accordance with the Health and Safety (Safety Signs and Signals) Regulations 1996 or BS 5499 Part 1, 2002 is provided throughout the premises. Fire exit signage to be located in positions agreed with Local Fire Safety Officer.
Fire Action Notices should be provided in prominent positions throughout the premises to advise persons of the procedure to adopt in the event of fire.

ESCAPE LIGHTING:
Provide emergency lighting to all internal and external escape routes as specified in BS 5266 Part 1, 2011. All external routes of exit from the building should be provided with both primary and emergency escape lighting. Primary lighting to such routes should be controlled by operating switches adjacent to the exit points and indicated 'FIRE ESCAPE LIGHTING' in white letters on a green background.
The emergency escape lighting system (as extended / modified) should be installed and commissioned by a competent person, e.g. having membership of a professional organisation such as NICEIC (National Inspection Council for Electrical Installation Contracting) or ECA (Electrical Contractors Association) or equivalent.

FIREFIGHTING EQUIPMENT:
Provide suitable and sufficient fire extinguishers to cover the premises as detailed in BS5306 Part 8, Portable fire extinguishers should conform to BS 5423: or BS EN3 specification for Portable Fire Extinguishers, and be installed and maintained as outlined in British Standard 5306: Parts 3 and 8: Code of Practice for Selection Installation and Maintenance of Portable Fire Extinguishers.
Schemes for ensuring conformity with these standards have been produced by BAFE (British Approvals for Fire Equipment Council) and conforming equipment and services are recognised by that organisation's mark of approval.

FIRE ROUTINE, STAFF TRAINING & MAINTENANCE:
All relevant persons who work in the premises should be given instruction and training in what to do in case of fire. Records of all training, testing and maintenance of equipment should be kept and be available for inspection. The escape lighting, fire warning system and firefighting equipment should all be maintained and tested to the relevant British standard and the results of such tests recorded. It is recommended that a maintenance contract be taken out with a qualified contractor in order to ensure the fire safety systems are being regularly serviced.

MANAGEMENT – REGULATION 38:
Under Regulation 38 of the Building Regulations and the Building Approved Inspectors (etc) Regulations 2010, it is a requirement to supply information relating to the design and construction of the building or extension and the services, fittings and equipment provided in or in connection with the building, which will assist the responsible person to operate and maintain the building with reasonable safety. Such information should be kept and incorporated with the Fire Risk Assessment (where appropriate) and be available to the Inspecting Officer when the premises are subjected to a Fire Safety Audit under the Regulatory Reform (Fire Safety) Order 2005.
The testing and maintenance of any emergency lighting system, fire alarm system, firefighting equipment, fire exit and fire resisting doors shall be undertaken in accordance with the relevant British

Standards. It is best practice for the above tests and examinations to be recorded.

HEATING AND HOT WATER SYSTEM:
The heating and hot water shall be provided by a ground source heat pump supplying an underfloor heating system all as designed and specified by the Services Engineer. Notices to be displayed showing performance ratings in accordance with approved document J. Heating system to be installed in full accordance with manufacturers recommendations with all necessary thermostats, time controls and clearly labelled instruction procedures. Please read the SBEM report for full details on heating system and U - Values. Installer details are to be provided at completion if an unvented hot water storage cylinder is to be installed. All pipes connected to any hot water storage cylinder (including the vent pipe) are to be insulated for at least 1m from the point of connection to the cylinder in accordance with Approved Document G3. Heating and hot water systems should be inspected and commissioned on completion with certificate made available to the site inspector.

INSULANT GWP:
All insulation products incorporated into the building shall have a global warming potential (GWP) of less than 5. (and a ODP of zero) in the following areas, roof (including loft access), walls (internal and external, including doors, lintel and all acoustic insulation), floors, Hot water cylinder and pipe insulation.

CONTINUITY OF INSULATION:
Where present insulation should be installed tight to the structure, without air gaps between insulation panels and at edges.
To ground floors minimum 30mm thick insulation is to be provided to the perimeter of the floor as shown on drawings.
Wall insulation should be fitted without any air gaps and tight to the structure, cavity closers, lintels and cavity trays. Mortar snots should be removed to ensure a tight fit with the structure and cavities cleared of all debris. Where fire-stopping socks are required, these should fully fill the areas where they are fitted, including at the heads of cavities. For recessed meter boxes on the cold side of the construction, insulation should be installed behind the enclosure. For incoming services, insulation should fit tightly around ducts, pipes, etc.
Both windows and doors are to be installed so that there is a 50mm overlap between the inner face of the frame and the inner face of the outer leaf of the wall. Insulated cavity closers are to be installed and perimeter insulation is to be fitted at the threshold of doors.
Tolerance around a window or door unit and the surrounding opening should be minimal and be in accordance with BS 8213-4**.**
Roof insulation should be installed tight to the structure, without air gaps, and should extend to the wall insulation. For roofs insulated at ceiling level boarded areas should be provided above the insulation to give access for maintenance.

BREL: PART L AND SAP 10:
The BREL report provided by the SAP assessor will specify the insulation products to be used in construction, no substitutions will be allowed unless the BREL report is recreated by the SAP assessor.

PHOTOGRAPHIC EVIDENCE:
Photographs of the thermal junctions must be taken by a responsible person before elements are concealed by subsequent work. Photographs of the details should be taken in line with the guidance in Appendix B of Part L and provided to the Building Inspector and SAP assessor as proof that the junction has been constructed in line with the relevant drawing/detail.

COLD WATER SUPPLY:
Water supply to be wholesome (or softened wholesome where applicable i.e. NOT drinking water), of sufficient pressure and flow rate to operate sanitary appliances, supply is reliable (without misuse, undue consumption or contamination). Water to be supplied by either: 1.1 Statutory Water Undertaker or licensed water supplier complying with the requirements of the Water Supply Regulations 1999. Or 1.2 Other source that complies with Private Water Supplies regulations 2009. Provide wholesome water to any place where drinking water is drawn off or food prep. area (kitchen), wholesome (or softened wholesome) water to all washbasins, fixed baths or showers.

WATER EFFICIENCY:
Allow for installing 6/4 litre dual flush WC OR 4.5 litres single flush WC, taps to wash hand basin with a flow rate no greater than 6 litres/min, kitchen taps with a flow rate no higher than 8 litres/min.

PRESSURE TESTING:
Air pressure testing shall be carried out to confirm the value stated within the SBEM report is achieved.