DEVELOPMENT OF THE CLOUD HOUSE AT 20 VICAR'S ROAD: CONSTRUCTION & MATERIALS STATEMENT

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THE CLOUD HOUSE: CONSTRUCTION & MATERIALS STATEMENT

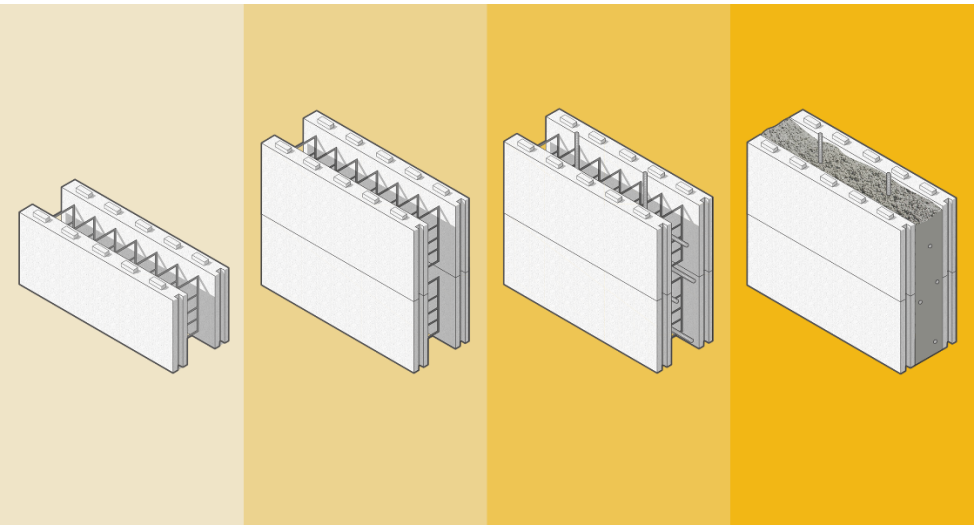
MAIN BUILDING STRUCTURE

The development will be built with a hybrid system, using Insulated Concrete Forms (ICF) for the perimeter walls (likely to be from Nudura) and internal walls based on a light steel frame structure, with non-loadbearing walls made with timber frames.

All internal walls to be clad with plywood and plasterboard, and packed with insulation.

The ICF works like this, with two panels of Expanded Polystyrene (EPS) foam, connected together with a web system made of 100% recycled material.

The forms are stacked then steel reinforced and filled with concrete.



Additional measures will be incorporated within the fabric of the building to provide acoustic insulation. Solutions will include: acoustic absorbent materials; insulation within floors, walls and ceilings to minimise airborne sound; isolation joints within floors, walls and ceilings to reduce impact sound.

RENDER PLAN FOR THE EXTERIOR WALLS & ARCHES

The ICF perimeter walls will be be covered with Sto Armat Classic Plus reinforcing coat, which is 3-4mm thick with mesh embedded in it, then a minimum 2mm Stolit Milano smooth acrylic finishing render. And then two coats of StoColor Dryonic paint will be added for extra durability.

To add extra resilience to the tops of the arches, any render used horizontally (eg on the balustrades) will also incorporate Sto Armour Angle reinforcement at external angles and Sto Glass Fibre reinforcing mesh within the layer of Sto Armat Classic Plus.

The Sto synthetic render system uses the highest quality materials to provide exceptional crack resistance, weather protection and a durable, good-looking render finish.

All three layers (the reinforcing coat, the Milano render and the paint) will be through-coloured, tinted with StoColour 32308, which is a buff colour with pinky tones.

GREEN ROOF PLAN FOR THE GROUND FLOOR OF 20A

The curved roofs at ground floor level will be made with curved glulam joists / ribs spanning between steel beams.

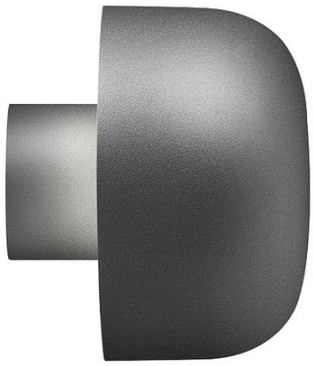
They'll be waterproofed with solvent-free Kemperol 2K-PUR liquid waterproofing (sustainably sourced and inherently root resistant – FLL certified), and then topped with the KemperGro Green Roof system, which is sustainable and renewable. The green roof manages rainwater on its surface with a pattern of holes and waterproof membranes, ensuring that water is both unable to build upon the roof and unable to breach the roof layers.

SPECIFIC MATERIALS & FEATURES TO BE USED ON THE EXTERIOR

WALLS	• High quality Sto render will be used – see render plan above. • The render will have a smooth finish and will be topped with two coats of StoColour Dryonic paint in StoColour 32308, which is a buff colour with pinky tones (colour sample to be submitted). • Please see illustration below. 

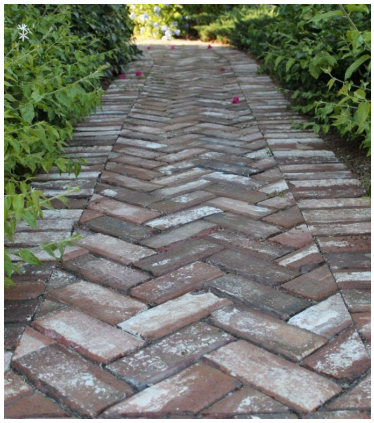
WINDOWS	• All window-frames to be powder-coated aluminium in RAL6027 (colour sample to be submitted). • All windows on the South elevation to have clear glass with neutral solar control coating – 70/35 with 14% external reflection. • All windows on the North and West elevations to have clear glass. • All windows on the East elevation to have frosted glass. • All windows to be double-glazed. • Please see illustration below.  
EXTERIOR DOORS & GATES & JULIET BALCONIES NO 20: • Main exterior gate • Gate to front garden • Front door • Gate to back garden • Three Juliet balconies on South elevation	• Bespoke metal doors and gates all to be made from powder-coated aluminium in RAL6027 (colour sample to be submitted). Please see illustration above.

NO 20A: • Main exterior gate • Front door • Four Juliet balconies on South elevation • One Juliet balcony on North elevation	
FRONT BOUNDARY STRUCTURE	• The front boundary will be marked by bespoke metal storage, housing regular bins, recycling bins, bicycles and air source heat pumps. • The metal will be powder-coated aluminium in RAL6027 (colour sample to be submitted), with black spots painted on, following the pattern on the illustration below. • In the end sections, where the air source heat pumps will sit, the metal will be perforated, with holes the same size as the painted spots (this is to allow the air to circulate freely around the heat pumps) – the structure will appear to be perforated across its full width, but painting the spots is neater, as it won't be possible to see through to the bins. • The storage will be topped with earth and box hedging.  

OUTDOOR DOME LIGHTS (MARKED AS 10 ON DRAWINGS)	• Planning to use high-quality Flos Bellhop outdoor wall lights, painted in the same colour as the render – these lights look like this: 
DOME EXTRACTORS FOR VENTILATION POINTS (MARKED AS 9 ON DRAWINGS)	• Planning to use high-quality stainless-steel dome vents (15cm diameter), painted in the same colour as the render – these vents look like this: 

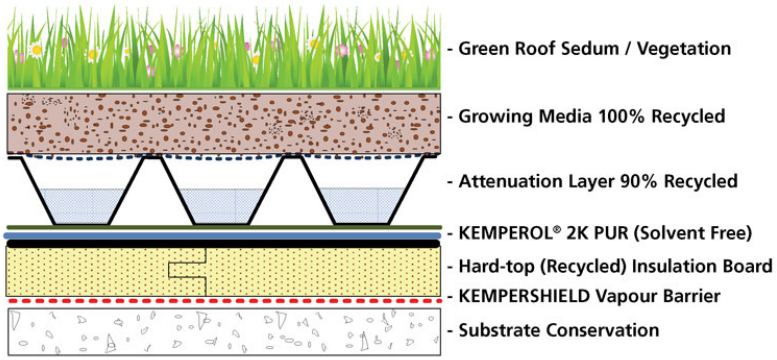
MINI DOME ROOFLIGHTS FOR THE CURVED ROOF OF 20A (MARKED AS 4 ON DRAWINGS)	• Planning to use Fakro flexible light tunnels, topped with 35cm polycarbonate domes: 
PAINTED CONCRETE ROOF TERRACE FLOORS	• Planning to paint exterior concrete floors to replicate these tiles (NB not using the tiles themselves as they are not as robust as painted concrete): 
RECYCLED BRICK POROUS PAVING IN FRONT & BACK GARDENS & IN THE SCHOOL'S ALLEYWAY	• Planning to retrieve bricks from the existing house when it is demolished, and to use them to create smart herringbone paving around the building at ground level. • The paving will be laid without mortar, so it will be porous. • The bricks in the existing house look like this:

- The end result should be something like this:



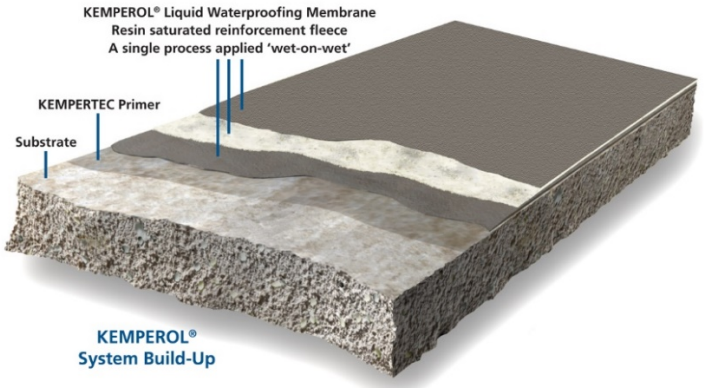
- Please see illustration below.

PERGOLA IN THE ALLEYWAY	• Planning to have a high-quality rounded metal pergola (see illustration) in the alleyway, powder-coated in RAL6027 (colour sample to be submitted):  
RAINWATER TANKS & PLANTERS	• To be made from metal and powder-coated in RAL6027:  • They will look a bit like this planter, which was designed by Peter Morris for a recent café development in Regent's Place, NW1:

	
SEDUM ROOF ON THE CURVED ROOF OF 20A AT GROUND FLOOR LEVEL	• To be made with curved glulam joists / ribs spanning between steel beams, topped with KemperGro Green Roof system – diagram below:  KEMPERGRO® Green Roof System Build Up • The plants will be sedums, like this: 

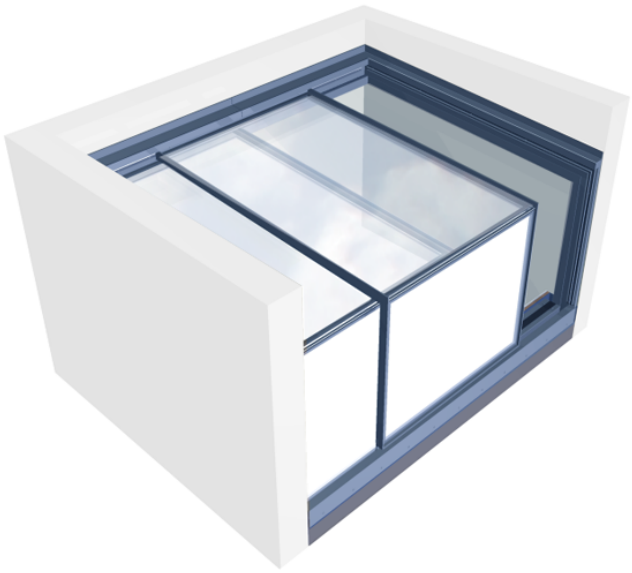
	It will look something like this:  • Please see illustration below: 
CURVED ROOF OF 20A AT THE TOP OF THE BUILDING	• To be made with curved glulam joists / ribs spanning between steel beams, topped with a dark grey Kemper membrane in anthracite colour RAL 7016:  • The look will be something like this:

- This is a diagram of the Kemper structure:



- Please see illustration below:

BOXLIGHT ON ROOF OF NO 20	• This is the sort of boxlight planned for the roof of No 20:

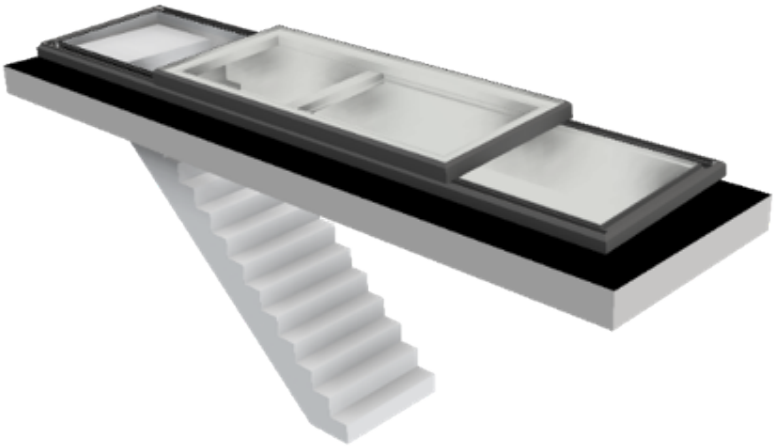


- The boxlight frame will be powder-coated aluminium in RAL6027 (colour sample to be submitted).

- Please see illustration below:

SLIDE OVER FIXED ROOFLIGHT ON ROOF OF 20A

- This is the sort of rooflight planned for the roof of 20A:



- The rooflight frame will be powder-coated aluminium in RAL6027 (colour sample to be submitted).

- Sliding rooflight seen in the illustration below:

SPECIFIC MATERIALS & FEATURES TO BE USED ON THE INTERIOR

INTERNAL BARREL-VAULTED CEILINGS NO 20: • Ceiling of Utility Room • Ceiling of Dressing Room for Bedroom Two • Ceiling of Dressing Room for Bedroom Three NO 20A: • Ceiling of ground floor hallway • Ceiling of Bedroom Two • Ceiling of Bedroom Three	• All barrel-vaulted ceilings to be shaped from plywood.
INTERNAL DOORS	• Almost all will be tall pocket doors, set within arched openings. • Regular doors will only be used where pocket doors can't be fitted.
FLOORS	• All floors / ceilings to be built with Milbank Hollowcore concrete planks (with services running inside):