

**Drainage.**

**Connections and Discharges.**

There are existing drainage connections for foul and surface water. These are to be surveyed recorded and investigated for suitable reuse with the approval of Building Control and the service provider (United Utilities). Where existing drains/sewers pass under the area of new construction, the drains should be excavated for inspection in the presence of Building Control to establish if they are fit for the purpose, should the drains be suitable, they are to be surrounded with a 150 mm diameter concrete sleeve with Flexcell expansion joints at every pipe junction. Where these drains are sewers under the control of the utility services provider (United Utilities Limited) The employer is to enter into a Building over agreement with the service provider and meet their specification for building over the sewer.

**General Drainage Specification:**

All new drains will be designed to comply with BS EN 752. New soil and surface water drainage: Hepworth Superseal or similar spun clay 100/150/225 mm. diameter pipes with u.p.v.c. flexible sealed collars laid in clean square cut trenches at a gradient of not less than 1:60 falls. Carefully back fill trenches with layered back fill strictly in accordance with the manufacturer's instructions. All fittings including manholes, inspection chambers, and back inlet gullies etc. to be from the same range and supplier. Set all preformed gullies and chambers on 150 mm. concrete bases and surround with 150 mm. sleeves. Fit gullies with plastic or galvanized grills. Fit manholes and inspection chambers with steel rims and covers, as supplied by the manufacturer set in mortar surrounds. Set manhole covers onto preformed r.c.c. covers where manholes internal size is greater than 450 mm. x 600 mm. which is the minimum acceptable internal dimension for a 900 mm. deep manhole. Where new drains pass under the area of new construction the drains are to be surrounded to a minimum 150 mm concrete sleeve with Flexcell expansion joints at every pipe junction. Where drains are less than 1500 mm deep in traffic areas surround pipes in 150 mm concrete sleeve with Flexcell joints at each pipe joint or as otherwise recommended by the pipe manufacturers.

**All drain lines are diagrammatic, and the final layout should be agreed on site with the Building Control Department.**

**Foul Drainage**

New toilet shower and handbasin to modified foul drains new connections to back inlet trapped gullies to new access chambers to existing sewer.

**Surface Water Drainage**

Connect rainwater to soakaway. Carry out ground percolation test and construct soakaway as advised in the British Research Establishment BRE 365 Digest, where there is unsatisfactory percolation connect to existing drains/sewers.

**Foundations:**

Take new foundations down to base of masonry wall and form key or undercut to prevent disproportional settlement.

**New wall connections:**

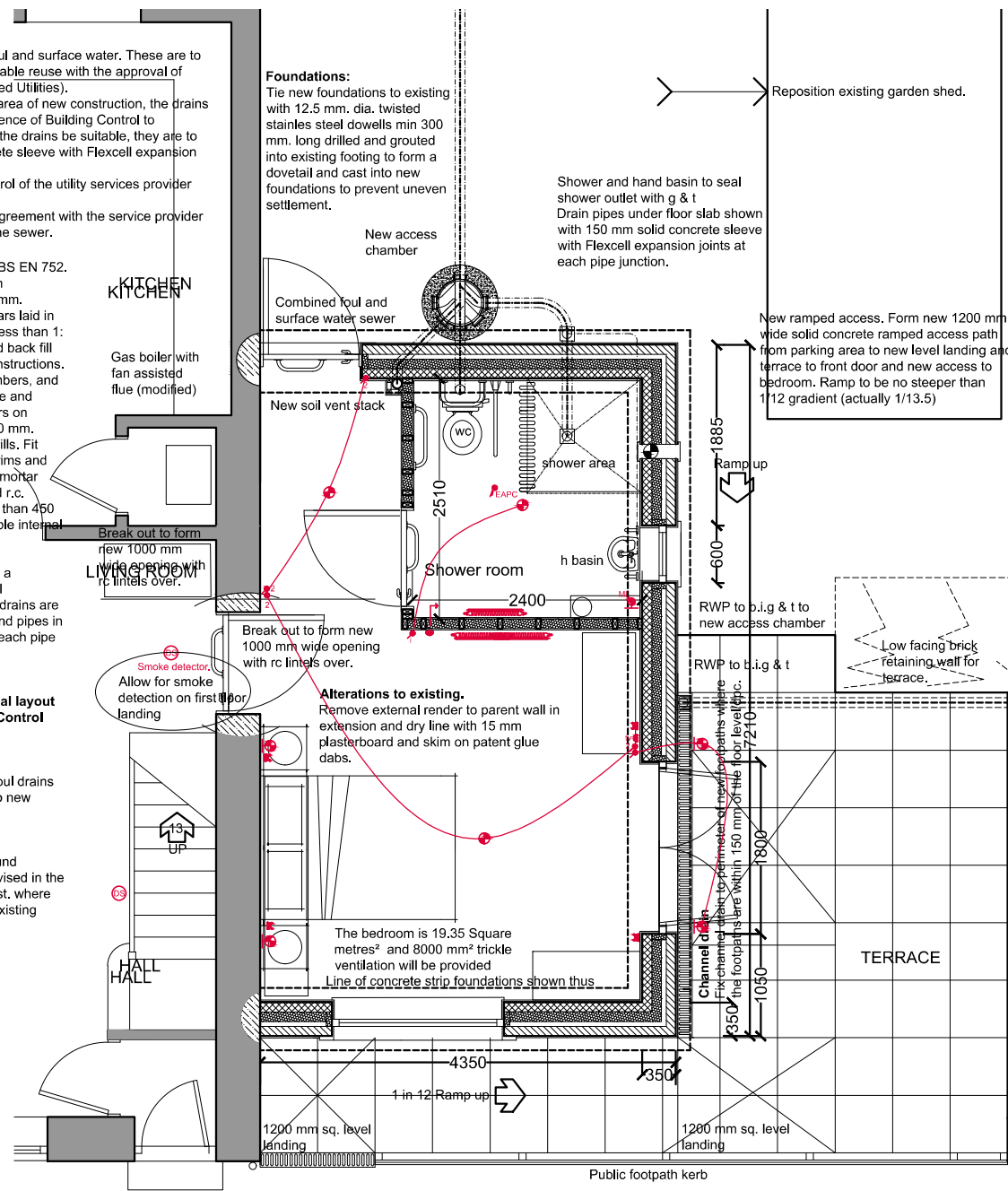
Tie all new walls to existing with stainless steel wall connectors bolted to parent wall and tied into new wall with integral stainless steel ties built into coursing of blockwork.

**Foundations:**  
Tie new foundations to existing with 12.5 mm. dia. twisted stainless steel dowells min 300 mm. long drilled and grouted into existing footing to form a dovetail and cast into new foundations to prevent uneven settlement.

Shower and hand basin to seal shower outlet with g & t Drain pipes under floor slab shown with 150 mm solid concrete sleeve with Flexcell expansion joints at each pipe junction.

Reposition existing garden shed.

New ramped access. Form new 1200 mm wide solid concrete ramped access path from parking area to new level landing and terrace to front door and new access to bedroom. Ramp to be no steeper than 1:12 gradient (actually 1/13.5)



**Ground Conditions**

No ground condition or survey has been carried out. The site will be reduced to formation level for full inspection of the existing terrain by Building Control to confirm the site conditions and designed foundations are suitable.

**Services.** Existing Gas and Electric and Water services are to be isolated from the mains entry points prior to the works commencement. Where the mains entry points are to be modified this should be carried out strictly to the design and specification of the service provider by an approved contractor.

**Foundations**  
FOUNDATIONS MAY BE RECONSIDERED WITH BUILDING CONTROL DEPENDANT ON SITE SPECIFIC GROUND CONDITIONS.

**Site Enablement**  
Reduce ground levels in area of works and set aside material excavated for reuse, landscaping the garden and drive. Remove from site any unused materials Where drains and underground service are uncovered, they should be checked and recorded.

**New extension.**  
Foundation trenches to be excavated to suit dimensions indicated and taken down to virgin ground for inspection by Local Authority Building Control officer. Depth may vary according to site conditions and site contours, but the top of concrete must be minimum 450 mm. below the finished ground level. Strip foundations to be generally 650 mm. wide x 225 mm. min. deep to external cavity walls and 450 mm. x 225 mm. min. for 100 mm. load bearing internal walls or with minimum 150 mm. toe where wall thickness may vary. Form all steps in level of foundations in vertical increments of 225 mm. to suit block coursing, and with min 300 mm horizontal overlaps.

**Concrete**  
Concrete to be premixed C20P as described in tables 1 and 2 of BS EN 206:2013 + A1:2016 maximum size aggregate to be 20 mm. All concrete shall be distributed and placed in position as quickly as practicable by a method which precludes contamination, segregation or loss of materials, compaction shall be complete before the initial set commences. Partial set concrete shall not be reworked or used. All concreting shall be continuous to completion or to an approved construction joint. During the first seven days the concrete shall be protected by whatever means to prevent over rapid drying. Steps in the foundations are overlap by twice the height of the step or by 300 mm. whichever is the greater and should not be of greater height than the thickness of the foundation. In general steps should be in increments of 225 mm. to suit block coursing.

Tie new foundation horizontally to existing foundations, by inserting 3 no. 9 mm. twisted mild steel bars in a dovetail pattern into the face of the existing strip foundations and install new concrete foundations to fully surround steel connections, to form a horizontal tie between the two foundations, to prevent uneven settlement.

**New cavity wall below DPC generally.**  
350 mm, thick cavity walls consisting of 100 mm. thick solid concrete block with 150 mm wide cavity back filled with concrete to ground level max 225 mm below damp proof course and 100 mm. solid concrete block inner leaf. Cavity wall ties to be Ancon ST1 Type-1 Tie to PD 6697 (Masonry Heavy Duty) or similar specifically designed for 150 mm. horizontally to form a diamond pattern. Fix additional wall ties every course at all corners and jambs. Between ground level and floor level, fix bituthene Hyload DPCs continuous across the cavity to both inner and outer leaves of walls and integrated with the Gas and Damp proof floor membrane at min of 150 mm. above ground level.

**New concrete floors.**  
U Value 0.17 W/M<sup>2</sup>K. Allow for flooring finish thickness on minimum 50 mm. sand cement screed with A146 anti crack mesh on vapour barrier on minimum 100 mm. Kingspan floor insulation on 1200 gauge Visqueen damp proof membrane on proprietary "beam and pot" Thos Armstrong Ltd. or similar suspended reinforced concrete floor system. Fix expansion joints/crack inducer to top screed where spans exceed 4200 mm and at pinch points. Fix minimum 25 mm. thick insulation and expansion strip to perimeter of all slabs. Visqueen Damp Proof Membrane is to overlap D.P.C. in inner leaf of external walls.

**Radon Gas Protection.**  
**Initial Radon Gas report suggests 1 to 3 % risk of radon gas.** Where a radon gas report or survey is carried out and there is a risk, replace the damp proof course specified with a radon gas barrier. The barrier is to be designed to meet the level of risk reported. The Radon gas barrier is to be continuous throughout the building ground floor and extended outwards across the external wall cavities to prevent gas entering into the cavity walls. Depending on the level of risk notified a system of gas sumps and ventilation may be required. Top hat seals should be used around any pipes or ducts penetrating the radon gas barrier. All measures are to be installed to the manufacturers recommendation and specification and to the minimum of standards. Satisfies NHBC Standards 2008. Meets BRE Radon requirements. Manufactured to BS EN ISO 9001:2008. Complies with Building Regulation 2000 Approved Documents C1 & C2. Meets all relevant British Standards

SCALE BAR 1/200 ORIGINAL DRAWING SIZE A3	0,0	2,0	4,0	6,0	8,0	10,0	12,0	14,0	16,0	18,0	20,0 metres	80,0 metres	70,0	60,0	50,0	40,0	20,0	10,0	0,0	SCALE BAR 1/500	
SCALE BAR 1/100	0,0	1,0	2,0	3,0	4,0	5,0	6,0	7,0	8,0	9,0	10,0 metres	400,0 metres	350,0	300,0	250,0	200,0	150,0	100,0	50,0	0,0	SCALE BAR 1/2500
SCALE BAR 1/50	0,0	1,0	2,0	3,0	4,0	5,0 metres															

19 PARKSIDE CLEATOR MOOR CUMBRIA  
CA25 5HF FOR MR AND MRS G AND S  
RUDD

GROUND FLOOR PLAN SUB  
STRUCTURE AND DRAINS

REV A amended to remove  
on site parking

Scale: 1/50 @ A3  
Date: OCT 2023  
DWG No. 19/0393/03

REV A  
31 JAN 2024

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