

Specification of Building Works

For

Radioworld Ltd, 263, Walsall Road, Great Wyrley. Walsall

Project: to demolish the existing retail unit and construct new shop unit with Storage and offices.

This specification to be read in accordance with the following drawings

Architectural drawings

| | | |
|--------|--|--------------------|
| 950 11 | existing floor and roof plan | (planning drawing) |
| 951 11 | existing elevations sheet 1 of 2 | (planning drawing) |
| 952 11 | existing elevations sheet 2 of 2 | (planning drawing) |
| 953 11 | proposed ground floor plan | (planning drawing) |
| 954 11 | proposed first floor plan | (planning drawing) |
| 955 11 | proposed elevations sheet 1 of 2 | (planning drawing) |
| 956 11 | proposed elevations sheet 2 of 2 | (planning drawing) |
| 958 11 | roof plan | (planning drawing) |
| 959 11 | location plan | (planning drawing) |
| 960 11 | site plan | (planning drawing) |
| 963 11 | Ground floor carcass setting out plan sheet 1 of 2 | |
| 964 11 | Ground floor carcass setting out plan sheet 2 of 2 | |
| 965 11 | First floor carcass setting out plan sheet 1 of 2 | |
| 966 11 | First floor carcass setting out plan sheet 2 of 2 | |
| 967 11 | Roof carcass setting out plan | |
| 969 11 | Section a. a. | |
| 970 11 | Section b. b. sheet 1 of 2 | |
| 971 11 | Section b. b sheet 2 of 2 | |
| 972 11 | Layout of toilets | |
| 973 11 | typical construction details sheet 1 of 2 | |
| 974 11 | typical construction details sheet 2 of 2 | |
| 975 11 | windows and door schedule | |
| 976 11 | layout of drainage and incoming services | |

Structural Engineers details

T16039/11/201 Foundation layout and ground floor suspended floor details

T16039/11/301 Rev B Ground floor layout

T16039/11/302 Rev A First floor layout lintels and movement joints

Foundation calculation sheets F1 to F3 incl.

Loadings Calculation sheets 1 to 7 incl.

Floor areas

Ground floor = 223.36sq.m (2404sq. ft.)

First floor = 214.45sq.m (2308sq. ft.)

Revision:

Date written 01.07.12

[illegible]

1.0 Demolition

1.01 The existing single storey retail shop to be demolished to ground level

2.00 Ground Investigation

2.01 Refer to the attached ground investigation report (GIP Ltd Ground investigation and piling ltd)

3.0 Foundations/ floor slab construction

3.01 Mass concrete foundations min depth of 1200mm and 1500mm x varying widths of 450mm, 750mm, 900mm, and 1050mm (refer to the structural engineers detail drawings and calculations.) Top of foundations to be a min of 675mm from FFL

3.02 Horizontal DPC /cavity trays

Visqueen Zedex CPT high performance DPC 140mm wide with min. laps 150mm sealed with an adhesive, bed and joint in a 1:3 cement/sand mortar flush pointed and to be jointed with the **Visqueen 2000 DPM**, The membrane is to be overlapped a min. of 150mm and sealed using **Visqueen** double sided jointing tape, the joint should then be secured using 100mm wide **Visqueen** girth jointing tape which is to be continuous and effectively sealed.

4.00 External Walls Above Ground Level

4.01 348mm cavity wall construction consisting of 103mm **Approved facing brick** – 50mm cavity with 55mm thick Celotex **CW 4000 fire resistant PIR partial fill insulation cavity wall batts** - 140mm **or** similar standard grade solid concrete blockwork to BS 6073 part 1 strength 7.0n/mm and bedded in 1:6 cement/sand, with 25mm dry lined **Gyproc Wallboard TEN** plasterboard on dabs finish.

The **Celotex** cavity wall insulation to be taken down to ground level to prevent cold bridging

4.02 Cavity Ties

To be double triangular type 'C' stainless steel, size 225 x 65 x 4mm (max cavity width = 100mm) with insulation retaining clips and spaced to the requirements of CP 111 at 750mm horizontally and 450mm vertically and 225mm vertically to the reveals of all windows and door openings within a distance of 225mm from the vertical edges of all openings, movement joints and roof verges

4.03 Cavity Closers

Thermabate 100mm green Insulated Cavity Closer to all window and door jambs- consisting of a rigid box section one piece PVC-U extrusion with mortar fins, T flange keys for direct plaster application, projecting fixing flange and fully bonded CFC and HCFC free insulation foam core (BBA Certificate No. 91/2648)

4.04 Expansion joints (brickwork) 12 – 15mm max width at 12000 – 15000mm max centres. The joints to have **ANCON PPS** or similar stainless steel lateral restraint slip ties with debonding sleeves and installed at 450mm centres vertically

4.05 Expansion joints (blockwork) 12 – 15mm max width at 6000mm max centres the joints to have **ANCON PPS** or similar stainless steel lateral restraint slip ties with debonding sleeves and installed at 450mm centres vertically

4.06 Other movement joints- **ANCON PPS** or similar stainless steel lateral restraint slip ties with debonding sleeves and installed at 450mm centres vertically

4.07 **Refer to the structural engineers detail drawing for positions of joints - T/16039/11/302**

5.0 Ground floor slab

4.01 75mm thick cement/and screed on **Visqueen Ecomembrane** DPM on **60mm thick Celotex fast R FF3000** or similar approved floor insulation including 25mm thick edge insulation on **Visqueen Ecomembrane** DPM on a suspended **200mm** thick precast concrete hollow core type floor slab (in accordance with the structural engineers details) Concrete floor slab by specialist. A min of 200mm void between the ground level and underside of floor slab to be maintained.

6.00 First floor

6.01 75mm thick cement/sand screed on **200mm thick** precast concrete floor planks supplied and installed by specialist contractor. **Calculations to be forwarded to building control from the specialist.**

7.0 Suspended ceiling system

7.01 To the shop/retail area, lobby and staircase lobby areas

Suspended lay in grid system with a ceiling module of 600mm x 600mm Suspension system, 15mm exposed grid system comprising 15 x 38mm main runners, spaced at 1200mm centres securely fixed to the structural soffit by approved hangers at 1200mm maximum centres, the last hanger should be not more than 450mm from the adjacent wall and 1200mm and 600mm cross tees locked together to form a 600 x 600mm module.

The tiles to be 600 x 600 x 15mm mineral fibre

Perimeter trim: 19 x 19 perimeter trim fixed to 15 x 38 finished shadow battens.

Ceiling soffit above finished floor level: **2400mm.**

Access: All tiles to be demountable.

7.02 To the male, female, unisex disabled toilets on the ground floor

Suspended lay in grid system with a ceiling module of 600mm x 600mm Suspension system, 15mm exposed grid system comprising 15 x 38mm main runners, spaced at 1200mm centres securely fixed to the structural soffit by approved hangers at 1200mm maximum centres, the last hanger should be not more than 450mm from the adjacent wall and 1200mm and 600mm cross tees locked together to form a 600 x 600mm module.

The tiles to be 600 x 600 x 15mm High density reinforced plasterboard with foil backing.

Perimeter trim: 19 x 19 perimeter trim fixed to 15 x 38 finished shadow battens.

Ceiling soffit above finished floor level: **2400mm.**

Access: All tiles to be demountable.

8.00 Lintels

8.01 Prefabricated galvanised steel lintels to be **CATNIC** size to manufacturer's details and specification. Minimum end bearing to be **150mm**. Cavity trays to be provided over lintels in external walls with weep holes at 450mm cts. Min 2 per lintel. Internal concrete block walls to be precast **Stressline** concrete lintels with a min. end bearing of **150mm**.

Refer to the structural engineer's drawings –**T16039/11/301A and /302**

| | | | |
|------|-----------|----------------------|------------------------------------|
| 8.02 | No | clear opening | type |
| | W1 | 2500 | 152 x 152 x 23kg UC -225mm bearing |
| | W2 | 2500 | 152 x 152 x 23kg UC -225mm bearing |
| | W3 | 1495 | CH90/125 – 150 min bearing |
| | W4 | 2500 | CG90/125 – 150 min bearing |
| | W5 | 2500 | CG90/125 – 150 min bearing |
| | W6 | 1495 | CH90/125 – 150 min bearing |
| | W7 | 1495 | CH90/125 – 150 min bearing |
| | W8 | 1495 | CH90/125 – 150 min bearing |
| | W9 | 1495 | CH90/125 – 150 min bearing |
| | W10 | 1495 | CH90/125 – 150 min bearing |
| | D1 | 1200 | CX90/125 – 225 min bearing |
| | D2 | 2400 | refer to drawing T16039/11/301A |
| | D3 | 1010 | CH90/125 – 150 min bearing |
| | D4 | 1010 | CH90/125 – 150 min bearing |

9.00 Internal Partition Walls

- 9.01 **Ground floor** –210mm and 130mm overall thickness consisting of **Besblock or** similar standard grade solid concrete blockwork to BS 6073 part 1 strength 7.0n/mm and bedded in 1:6 cement/sand, with 15mm plaster and skim finish to both sides.
- 9.01 **First floor** - 130mm overall thickness consisting of **Besblock or** similar standard grade solid concrete blockwork to BS 6073 part 1 strength 3.5n/mm and bedded in 1:6 cement/sand, with 15mm plaster and skim finish to both sides
- 9.03 Metal stud partitioning system (**fire rated 30mins.**) by **British Gypsum Limited**.
Ref: Gypwall Classic partitions
Single row Gypframe 'C' 70mm studs at 600mm centres, and at wall abutments nominal thickness 100mm.
Nominal partition width: 102mm.
Maximum height: 2400mm
Linings: one layer of 15mm gypsum wallboard TEN to each side of framing.
Finishing: Skim coat plaster
Accessories: Beads / stops / fixing straps as recommended by board manufacturer.
Other requirements: control joints in large uninterrupted runs of plasterboard partitioning as recommended by board manufacturer.
Intumescent acoustic sealant to partition junctions.

10.0 Staircase

- 10.01 To be precast concrete supplied and installed by specialist (calculations to be forwarded to building control)
- Finished floor to floor = **2825mm** (to be checked on site)
17 No. Risers of **166.176**
Treads of **280mm**
Pitch = **31 degrees**
Clear headroom 2000mm above the top of the nosings of the treads
Top of handrail measured vertically above the pitch line = **900mm**
Overall width of staircase = **900mm**
Landing Balustrade height = **1100mm**
Underside of staircase to have 15mm Gyproc plasterboard and skim finish
- 10.02 Staircase balustrade and handrails to be polyester powder coated steel with laminated glass infill panels, all by specialist contractor.

11.00 Curtain walling/Windows

To be designed, supplied and installed by specialist.

Supporting structure: steel frame.

Type: Stick system of thermally broken mullions and transoms, drained and ventilated and pressure equalized design.

To include all products, fixings and interfaces necessary to complete the fabrication and installation. Performance criteria to comply with Design/Performance

Material: Aluminium

Finish: Polyester powder coating

Colour/ texture: **White RAL 9010, semi-matt 60/40%.**

Minimum film thickness: 60 to 100 microns, average film thickness to be to 80 microns.

External cover cap:

Material: Aluminium

Finish: Polyester powder coating as Z31.

Colour/ texture: White RAL 9010, semi-matt 60/40%.

Minimum film thickness: 60 to 100 microns, average film thickness to be to 80 microns.

Glazing: Insulating glass units in toughened glass to all units, (16mm argon filled) by Pilkington Group Limited, Inner pane: 8.8mm thick, 4mm Pilkington K glass (toughened) /interlayer/4mm clear float (toughened).

Outer pane: 6mm Pilkington Anti-Sun Green (Toughened).

Manifestation to glazing: Two rows of 50mm dia. circular applied transfers at 100mm centre's, one row at a height between 850 to 1100mm from FFL, the second row at a height between 1400 to 1600mm from FFL

12.0 Doors

12.01 **Doors D7, D8, D9 (ground floor) doors D15, D17 to D20 incl. (first floor)** to be **FD30S** fire doors complete with all intumescent smoke stop seals and fire signage,

Door/screen D16 (first floor) to be **FD30S** fire doors complete with all intumescent smoke stop seals and fire signage,

Glazing details: Clear fire-resisting glazing - Pilkington 15/18 Pyrostop on hardwood setting blocks with 12 x 3mm thick Firestrip 30 glazing seal.

Doors D6, D14 to be **FD60S** fire doors complete with all intumescent smoke stop seals and fire signage,

D4 fire exit - doorset hinged steel – Ground floor

Door leaf: Single leafed constructed from 1.2 mm thick zinc coated steel sheets folded to form a 45 mm thick panel. The vertical edges to be reinforced with horizontal channels welded to the inside of the sheets to close off the top and bottom of the leaf. The panels to be infilled with an insulation core to achieve a min. u-value of 2.2W/m²K with reinforcing pads fitted within the leaf to accept hardware fixings.

Finish as delivered: Pre-finished in polyester powder coating,

colour white RAL 9010.

Ironmongery: Panic hardware tested to BS EN1125: 1997; door stays - 'Push Bar to Open' signage.

D2 electrically operated insulated roller shutter with manual override.

12.02 All fire doors within the building must have the required furniture and signage

- 12.03 All windows and external door frames to be sealed with a polysulphide or silicone mastic sealant.

13.0 Cavity barriers

- 13.01 The top of all cavity wall construction to be closed with blockwork

14.0 Roof

- 14.01 Approved Concrete roofing tiles on 38mm x 25mm thick timber battens on **Tyvek Supro** or similar membrane onto prefabricated timber trusses (type A and Type B as drawing 967 11) manufactured and installed to BS 5268 Part 3 1998 at max 600mm cts. (all in accordance with the manufacturers details and calculations) Trusses to be fixed to the 100 x 75mm thick wallplate with galvanised steel truss clips.

Wallplate to be secured with 30 x 5mm thick galvanised steel restraint straps at max 1200 cts. and taken down the face of the concrete blockwork min 600mm and screw fixed.

- 14.02 Stability bracing and wind bracing for the trusses to BS5268 part B 1985 and as specifically in accordance with the manufacturers recommendations.
- 14.03 Insulation at roof ceiling level with a min. of 300mm thick mineral wool insulation quilt in two layers –150mm thick layer laid between the ceiling ties and 150mm thick layer laid over the ceiling ties with a 12.7mm thick **Gyproc Wallboard 'Duplex'** plasterboard and skim finish.
- 14.04 Within the roof trusses there will be a **Glidevale LA-1 or LA-2** push or hinged down version loft access trap insulated and sealed located over the first floor landing.

15.00 External Canopy

- 15.01 The entrance canopy to be fabricated in stainless steel with laminated glass panels and with planer or similar type fixings all designed by specialist. The canopy support system to be bolted to the 120 x 60 x 5mm RH sections built into the inner leaf of the external wall and bolted back to the concrete first floor slab (refer to the structural engineers details)

16.00 Rainwater system

- 16.01 Gutters to be 112mm half round with 63mm dia. Downpipes all in PVCU all to BS 4514 1983

17.0 Internal drainage

- 17.01 Wash hand basin wastes to be 35mm dia. UPVC with 75mm deep seal traps
WC. Wastes to be 100mm dia. 'P' trap into a 100mm dia. S&VP to be connected to a ridge tile ventilator
Sink wastes to be 42mm dia UPVC with 75mm deep seal traps
- 17.02 Document 'M' package for the unisex disabled toilet to the ground floor
Manufacturer: Armitage Shanks,
Product reference: Doc M Standard Concealed pack including 'Ventura' floor mounted wc and hand rinse basin, single lever action mixer, TMV3 thermostatic valve, white handrails and ancillary items (cistern, etc) by Armitage Shanks. Ref; S6878.
Type approval certificate: Submit.

18.00 Plumbing

- 18.01 Insulation to be provided to all pipe work in accordance with the approved document 2000

19.0 Central Heating

- 19.01 Gas fired wall mounted condensing boiler with heating controls, room thermostat and thermostatic valves to all the radiators. **Installation and specification to be provided by specialist**

20.0 Ventilation

- 20.01 Electrical extract fans to provide a min.15 l/s to the female, male and unisex disabled toilets with a 15 minute over run controlled by the light switch with adjustable timer and isolator switch.

Ducts to be provided within the wall or roof to discharge directly to the external air through roof ventilator or wall grille

All internal doors to have min.10mm undercut under the door

21.0 Electrical installation

- 21.01 Installation to be in accordance with the 17th edition of IEE
- 21.02 energy efficient light fittings having a luminous efficiency achieving greater than 45 lumens max. Per circuit watt.
- 21.03 All electrical work is required to meet the requirements of Part P electrical safety and is to be designed, **drawings, specification and installation by specialist**
- 21.04 emergency lighting to be installed
- 21.05 Layout of power and lighting specification and drawings to be by specialist

22.0 Smoke/Fire alarm detection system

- 22.01 fire alarm- to include for fire alarm break glass points and a fire alarm panel and the detection system to be designed, installed and maintained in accordance with BS 5839 -1; 2004 and to be interlinked for the whole building

Fire alarm design drawings and specification to be by specialist

23.0 Air conditioning

- 23.01 **design drawings, specification and installation to be by specialist**

24.00 Drainage

- 24.01 All drain pipes for foul and surface water to comply with BS 65, BS 4660 and BS 5481 Foul drainage to be constructed in 100mm dia. 'Supersleve' and connected into the main drainage
- 24.02 All drains passing under the building to be flexible jointed and encased in 150mm thick concrete where the top of the pipe is within 300mm of the underside of the concrete floor slab.
- 24.03 Inspection chambers to be 450mm dia. PVC or 1250 x 750mm constructed in 215mm thick class b semi-engineering brickwork with a 100mm thick concrete base and cap slab

24.04 External manhole covers and frames to be double sealed and lockable.

24.05 Rainwater to discharge into back inlet gully and into 100mm dia. 'Supersleve' and taken into soakaway min size 1500 x 1500 x 1000mm deep and 5000mm min from the building and 2.5m from a boundary – The percolation test to be based on the BRE Digest 365 soakaway design – results to be passed to the building control officer.

25.0 Energy Assessment Performance

25.01 Carbon emission calculations for regulation Part L compliance by **specialist consultant**

26.00 Thermal Transmittance Values

| | | | |
|-------|---|---|-------|
| 26.01 | Outer and inner surface resistance | = | .18 |
| | 103mm Facing brickwork | = | . |
| | 50mm cavity | = | .18 |
| | 55mm Celotex partial fill insulation boards | = | 2.50 |
| | 140mm concrete blockwork | = | |
| | 15mm plaster and skim finish | = | .08 |
| | | | ----- |

'U' Value + 0.

26.02 Roof (main) construction

| | | |
|---|---|-------|
| Outer and inner surface resistance | = | .18 |
| Roofing tiles | = | .024 |
| Roofing felt | = | .016 |
| Air space | = | .18 |
| 300mm Rockwool mineral fibre insulation quilt | = | 8.10 |
| 15mm Gyproc plasterboard and skim finish | = | .43 |
| | | ----- |

'U' Value + 0.12

8.93

26.03 Floor construction

Outer and inner surface resistance
Floor screed
60mm Celotex fast R-FF3000 insulation board
Concrete floor slab
P/a ratio = .95

'U' value = .20