Scottish Borders COUNCIL

*Regulatory Services*

**TOWN AND COUNTRY PLANNING (SCOTLAND) ACT 1997**

**Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013**

**Application for Planning Permission** **Reference : 17/00479/FUL**

**To : Austin Travel per Aitken Turnbull Architects Ltd 9 Bridge Place Galashiels Scottish Borders TD1 1SN**

With reference to your application validated on **29th March 2017** for planning permission under the Town and Country Planning (Scotland) Act 1997 for the following development :-

**Proposal : Erection of dwellinghouse**

**At : Land North East Of And Incorporating J Rutherford Workshop Rhymers Mill Mill Road Earlston Scottish Borders**

The Scottish Borders Council hereby **refuse** planning permission for the **reason(s) stated on the attached schedule**.

**Dated 8th June 2017**
**Regulatory Services**
**Council Headquarters**
**Newtown St Boswells**
**MELROSE**
**TD6 0SA**

**Signed** .....
**Chief Planning Officer**

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Scottish Borders COUNCIL

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**APPLICATION REFERENCE : 17/00479/FUL**

**Schedule of Plans and Drawings Refused:**

| Plan Ref | Plan Type | Plan Status |
|---|---|---|
| | Location Plan | Refused |
| | Elevations | Refused |

**REASON FOR REFUSAL**

1 The proposal does not comply with Adopted Local Development Plan Policy IS8 and Scottish Planning Policy in that the site is subject to a significant flood risk and the development would be both at significant risk of flooding and would materially increase the probability of flooding elsewhere.

2 The proposal in the positioning of the dwellinghouse and the overall site layout, does not comply with Adopted Local Development Plan Policies PMD2 and PMD5 in that it would not respect the character of the surrounding area and neighbouring built form.

3 The proposal does not comply with Adopted Local Development Plan Policies PMD2 and IS7 in that the access arrangements are unsuitable to serve the development and inadequate provision has been made for the accommodation of the parking of two vehicles within the curtilage of the site, such that there would be adverse impacts upon road safety.

4 The proposal does not comply with Adopted Local Development Plan Policies PMD5 and HD3 in that the operation of the workshop building in such close proximity to the proposed dwellinghouse has potential to have unacceptable impacts upon the residential amenity of the occupants of the proposed dwellinghouse.

**FOR THE INFORMATION OF THE APPLICANT**

If the applicant is aggrieved by the decision of the Planning Authority to refuse planning permission for or approval required by a condition in respect of the proposed development, or to grant permission or approval subject to conditions, the applicant may require the planning authority to review the case under Section 43A of the Town and Country Planning (Scotland) Act 1997 within three months from the date of this notice. The notice of review should be addressed to Corporate Administration, Council Headquarters, Newtown St Boswells, Melrose TD6 OSA.

If permission to develop land is refused or granted subject to conditions, whether by the Planning Authority or by the Scottish Ministers, and the owner of the land claims that the land has become incapable of reasonably beneficial use in its existing state and cannot be rendered capable of reasonably beneficial use by the carrying out of any development which has been or would be permitted, the owner may serve on the Planning Authority a purchase notice requiring the purchase of his interest in the land in accordance with the provisions of Part 5 of the Town and Country Planning (Scotland) Act 1997.

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Aitken Turnbull Architects
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TD1 1SN

For the attention of Alistair Weir

**By e-mail only**

Date: 2nd May 2017

Dear Mr Weir,

**TOWN AND COUNTRY PLANNING (SCOTLAND) ACTS**
**PLANNING APPLICATION: 16/00385/FUL -**
**ERECTION OF DWELLINGHOUSE**
**J RUTHERFORD WORKSHOP AND LAND NORTH EAST OF J RUTHERFORD WORKSHOP, RHYMERS MILL, EARLSTON, SCOTTISH BORDERS**

***Introduction***

Following on from the Terrenus Land & Water Ltd Flood Risk Assessment report, issued for discussion dated 2nd December 2016, discussions were held with SEPA and Scottish Borders Council with respect to the peak flow for the design storm event and in relation to the November 2016 flood event on the Leader Water.

In order to revise the model and eliminate some of the uncertainties associated with modelling process, Terrenus Land & Water Ltd (Terrenus) updated the hydraulic model with additional survey information and calibrated it to the November 2016 event.

This addendum letter report is provided to give confidence to Scottish Borders Council Planning and Roads, Flooding departments that the model is robust and that the best available information has been used to determine the flood risk to the site.

***Site Survey Data***

To eliminate uncertainties in the available data for the hydraulic model, additional survey work was requested by Terrenus and undertaken by Messrs Aitken Turnbull Architects. The additional survey work was carried out to an existing local datum and then converted to Ordnance Survey datum. An updated AutoCAD drawing showing the spot height elevation and location to local grid was supplied to Terrenus on the 27th March 2017.

A conversion factor of 1.93m was applied to all local datum spot heights to correct them to Ordnance Datum. The revised location and amended OD height data is shown on Drawing 1601-205-003, which has been enclosed in the appendix of this letter.

***November 2016 Flood Event***

Discussions with SEPA and Scottish Borders Council highlighted that there have been several large scale flow events recorded on the Leader Water since the original flow estimations were undertaken. The original flow estimations were based primarily on the historic flow data available on-line from the National River Flow Archive (NRFA). Up-to-date data for the Earlston gauging station (Stn. No. 14997) was requested from SEPA, who took over the NRFA gauging stations in 2006. A review of the data provided from SEPA for the gauging station between 2006 and 2016 revealed 11 additional peak flow occurrences. The 2015-2016 water year maximum was recorded on the 22nd November 2016 at 95.12m$^3$/s.

Personnel from Scottish Borders Council attended the area around Rhymers Mill on the 22nd November 2016, immediately following the peak flow event and provided a photographic record of their findings. The photograph included debris build up on the upstream face of Clatteringford Bridge and a trash line on the northern bank of the parkland upstream of the bridge. This photographic evidence was used in conjunction with the additional survey work to determine the peak water level on the ground for the 22nd November event.

***2016 Model Calibration***

Where additional more up-to-date topographic survey information was available, the relevant cross sections were updated. This amended cross sections from Chainage 552 to Chainage 982, including those immediately upstream and downstream of the Clatteringford Bridge and the A68 Road Bridge.

The peak flow data from the SEPA gauging station for the 22nd November 2016 event was applied to the Leader Water as an inflow hydrograph and the model re-run. The results were then compared to the known extent and height of the trash line generated during the November 2016 event.

Spot heights at two key upstream locations were used to calibrate the model. Spot height determination of the points was undertaken using the photographic evidence, as supplied by Scottish Borders Council, and the updated survey information. The first point taken adjacent to the park bench at the intersection between the trash line and the cross section at Chainage 552. The spot height at this location was determined to be at 102m O.D. The second was taken at the intersection between the trash line and the cross section at Chainage 742. The spot height at this location was determined to be at 100.8m O.D.

Initial model results indicated that the peak water levels at the cross sections upstream of Clatteringford Bridge were too low for the known event, therefore blockage scenarios for the bridge were considered and undertaken to constrain the flow through the Clatteringford Bridge. Constraining the flow through a structure by decreasing the available flow width results in increasing upstream water levels. An iterative process was followed until the known trash line generated during the November 2016 event was replicated.

The final iteration of the model required significant blockage of both the left-hand and right-hand arch ways. The cross sectional area of the left-hand archway was reduced from 61.48m$^2$ to 49.83m$^2$, a reduction of around 19%, whilst the cross sectional area of the right-hand archway was reduced from 46.97m$^2$ to 17.08m$^2$, a reduction of around 64%.

Table A, enclosed in the addendum to this letter records the updated model results.

***Conclusions and Recommendations***

The model results for the calibrated event show that the peak water levels at the bridge do not over top the bridge structure and that the backwater effect is limited to within 125m of the bridge itself.

Whilst the pictures provided by Scottish Borders Council, for the 22nd November 2016 event do record debris and blockage of the Clatteringford Bridge the model indicates that significant blockage of both archways occurred, resulting in the observed trash line upstream of the bridge. It is our opinion that the blockage at the Clatteringford Bridge during the 2016 event was exceptional and is not reflective of the normal flow regime of the Leader Water. The severity of the blockage was likely caused by the significant upstream shoaling and vegetation cover around the right hand bridge archway (looking downstream). Scaring within the upstream shoal shows the uprooting of a mature tree, which would have increased blockage at the right hand archway. These factors are the likely cause of the higher than expected upstream water levels for the 2016 peak storm event.

It is recommended that the local authority consider the clearance or management of the upstream shoaling and vegetation at Clatteringford Bridge to ensure optimum performance of the structure and to minimise any increased risk of flooding in and around the village of Earlston.

Under normal condition, without constriction of the Clatteringford Bridge, the 1 in 200 year peak flood water level at Chainage 742 is noted to be at 101.76m O.D., this is not sufficiently high to overtop the Clatteringford Bridge or the access road to Rhymer's Cottage on the upstream northern bank. Consequently, there is no risk of fluvial overtopping from the Clatteringford Bridge for the 1 in 200 year design storm event under normal conditions and the site is therefore not within the functional flood plain of the Leader Water.

The inclusions of the additional updated survey information by Messrs Aitken Turnbull has increased the downstream peak flood water levels at Rhymers Mill, immediately downstream of Clatteringford Bridge. The revised peak water level at Chainage 807 is modelled at 101.25m O.D., which would inundate the ground to the south of the mill building on the northern bank by 0.55m. This would be sufficient to cause inundation of the existing floor level at the mill, which is at 100.70m O.D. and presents a risk of flooding to the adjacent Rhymers Mill House. The additional survey information and re-modelling has increased confidence in the performance of the model at this downstream location.

Whilst the 1 in 200 year event, under normal conditions, does not pose a flood risk to the site, it is prudent to consider blockage of the Clatteringford Bridge as it has occurred in the past. It is in our opinion that the 2016 blockage event was exceptional and does not reflect the typical flow regime of the Leader Water at Clatteringford Bridge. Blockage scenarios for a 20% reduction in the right hand bridge arch, a 10% reduction in both arches and a 20% blockage of both arches were considered. The results of these scenarios are shown on Table A in the Appendix and show that a significant but modest blockage of the Clatteringford Bridge may result in the activation of an overland flood routing pathway from the Rhymer's Cottage access road. The flow pathway would likely convey flood waters east across the road and directly return the flood waters to the Leader Water downstream of the bridge or to flow along the confines of the bridge roadway to the north until the access road into the Austin Travel yard. At this point it would flow generally as sheet flow to the southeast and south back to the Leader Water.

It is known that the historic event, which flooded the site in 1948, was of a magnitude agreed with SEPA to be greater than the 1 in 200 year storm event. It is suspected that historic flooding of the area was most likely due overland flood routing from a breach of the river bank around, Chainage 552. In order to assess the potential flood risk from this source the best available height data for the agricultural land to the north and west of the site was obtained and reviewed.

Aerial Photography Derived 5m Digital Terrain Model (DTM) data was interrogated and spot heights extracted for the area of agricultural land to the north and west of the site, as shown on Figure A. Ground levels at the corner of the field near Chainage 552 are noted to be at 103.13m O.D. The possible activation of an overland flood route pathway from this source does not occur but is albeit marginal for the 1 in 200 year storm event, under normal conditions. The 20% right hand archway blockage and the 10% both archway blockage scenarios increase the peak water level to 103.14m O.D. for. Given the nature of the soils and likely vegetation cover within the agricultural land a 0.01m depth of water is not likely to be sufficient to generate overland flow, therefore, the risk to the site from overland flood routing from this source is considered to be Low.

In conclusion, as the peak flood water levels in and around the site are marginal with respect to the potential for the generation of overland flood routing pathways, any increase in flow or blockage is likely to generate overland flow. The inclusion of a Global Climatic Change (GCC) allowance of 20% to the inflow hydrograph, under normal conditions, increases the peak flood water levels to a point that would activate both the overtopping flood routing pathways noted previously. The results of the 1 in 200year plus 20% event are shown on Table A in the appendix.

In order to successfully develop the site it is recommended that the following requirements are met:

- Dry emergency pedestrian access and egress to the site is established with the higher ground to the east.
- Development profiling of any gardens and soft landscaping areas should be carried out to encourage overland flow pathways away from the proposed development and emergency access and egress routes.
- A flood routing pathway should be established from the road to the south east in line with the local topography, as this will encourage flood routing back towards the Leader Water.
- The proposed final floor level be increased to be at or above 102.1m O.D. thus preserving a freeboard of at least 600mm.

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If you should wish to discuss any of the above, or have any queries, then please do not hesitate to contact me.

Yours Sincerely,

[redacted]

Douglas Aitken
Associate Director
Terrenus Land & Water Ltd