

Survey report of Existing Stables

Keepers Lodge

Cilibebyll

Pontardawe

SA8 3JS



Pic 1

This report follows the guidelines set out in BRE Digest 366

Existing structure use and stability

The building current use is as a horse stable block consisting of 5 compartments separated by masonry single leaf wall. The exterior walling is masonry single leaf with piers at each stable door opening. Pic 2



Pic 2

The roof is supported by a timber truss design Pic 3



Pic 3

Each truss is made up of 75mm x 38mm timber and set at 600mm centres.

The existing building has a concrete base foundation seen to be more than 300mm in depth.

There are no signs of subsidence in that all supporting walls are crack free and all openings are square. All heads over openings are in plumb and level. All walls are true with no jointing deterioration. Pic 4,5,6,7

The existing roof covering is in good order and the whole building is watertight where openings have a closure mechanism.

The services existing are both potable water and single-phase electricity.



Pic 4



Pic 5



Pic 6



Pic 7

Proposed use and structural alterations

The proposal is for a change of use to a habitable room/residential

Building regulations will require the following for a change of use to residential

An Automatic Fire Suppression System

Fire strategy , Evac or compartmentation, Fire spread

The Standard Assessment Procedure (SAP) is the methodology used by the government to assess and compare the energy and environmental performance of dwellings. This report will set out the insulation levels and heat source plan for the new use but it can be initially assessed as at least 100mm of solid wall insulation and at least 450 mm of mineral wool insulation in the roof void. All new windows and doors will also have to meet the SAP design but a minimum of double glazing is to be assumed

Acoustic

Ventilation

Damp proofing and Radon membrane install

New fenestration openings to provide structural support to existing wall plate

Proposed design to achieve regularisation

The proposed design is to install an internal timber stud framework. This will create a cavity exterior walling structure, The new inner leaf timber walling will be able to house the required insulation and the cavity created by the spacing of the inner timber stud walling will allow for ventilation creating a point of Interstitial condensation within the air space of the proposed cavity walling

The timber stud work will be tied in to the existing external block walling by means of slip ties although all prepropositional settlement has already occurred thought will be given to the different expansion and contraction rates that occur between the two materials (Wood and Concrete block)

The stud work will provide the ability to support any new structural openings by means of tripple stud uprights and tripple/double head trimmers or even fitch beams for the inner leaf whereas the

outer leaf new openings are all under 2m in width and potentially could support the existing wall plate with concrete lintels sized and designed

The existing floor will be able to support a layer of floor insulation with a screed finish over the existing concrete which will accommodate a Radon barrier and a damp proof membrane that would be wrapped into the new timber stud inner leaf

Roof insulation will/could be achieved by mineral wool such as Rockwool and to a depth of 450mm as per SAP/ Thermal upgrade design.

Insulation upgrades and acoustic internal finishing boards would be built in to achieve any sound requirement to regularise the change of use.

All materials used in the internal fit out will have the correct fire rating both for compartmentation and fire spread.

Means of fire detection and an automatic fire suppression system will be installed internally and a whole new household wiring system fitted to regularised standards.

With these alterations in place the effects of the loads exhibited on the existing building are considered as such

Loading on existing roof - No change

Loading on existing external block walling

Consideration to the mechanism by which the new stud walling is tied into the exterior walling . Where such ties are used they would be of a type that allow for movement between the two different materials

Foundation load

It is observed that the concrete slab foundation is 200mm of poured concrete with a hardcore subbase and damp proof membrane . Although no test has been carried out on the concrete make up It is assumed by size of thickness and consistency through out the structure that the base is able to take the new live load of 1.5knm². Bearing in mind that the new inner stud walling is not in itself load bearing therefore does not impose a new live load on the existing concrete slab

New wind loadings - None

New uplift loadings - Minimal

Conclusion

The existing buildings structure and shape will not be altered and is capable of housing the new design to accommodate the new use.

This report is based on an observational and dimensional survey digitally recorded. No structural calculations have been carried out nor should they be implied. The proposed design would be supervised by an approved licensed inspector and any required structural calculations will be provided by the appointed structural engineer

