

ANDOVER ESTATE

November 2015

UPDATE REPORT ON THE DAMPNESS / CONDENSATION WORKS PILOT WORKS.

Recommendations on the way forward to the rest of the similar
type units



Figure 1 Balconies above bedroom and hallway and pitched roof above the living room to the ground floor flat entrance. Elevation of a typical four storey block with individual garages behind.

1 ANDOVER ESTATE

The pilot works concentrated on some of the ground floor units to Todds Walk which are considered the worst effected flat units, being those with condensation and dampness within the ground floor units to the four storey blocks which have individual garages. The pilot works were completed in December 2014.

These one bedroom units particularly suffer because:

- a) The garages are unheated, they have poor levels of insulation and the wall dividing them with the flat behind is a solid masonry wall. Condensation occurs to the various flat cupboard walls and bathroom adjacent to the garages.
- b) Windows are only located to only one elevation of these units resulting in the absence of cross flow of ventilation from front to back.
- c) Mechanical ventilation ducts to the internal bathroom originally discharged through the rear garage and are inefficient, ineffective mainly caused by the inordinately long route that the ducts cover.
- d) Condensation and its effects occurs to and is most prevalent underneath the front first floor flat balcony roof and double pitched roof areas to the habitable bedroom, living room and hallway of these flats. This is where cold bridging is noticeable and where insulation was found to be minimal. In many instances the external balcony insulation has either decayed, broken down or it has been removed and where it is present, it does not cover the full balcony surface area.
- e) Various building external defects that require addressing to the masonry, roof coverings, gutters, pointing, flashings and finished external ground levels compromising the Damp Proof Course.



Figure 2 Typical four storey block- with individual garages at ground floor level. These back directly onto the ground floor one bedroom flat units.

2 UPDATE REVIEW OF THE PILOT WORKS

The “Pilot” phase was carried out to attempt to resolve the known condensation and dampness problems and also uncover and identify and highlight any other problems or areas that could be developed further, improved upon and subsequently resolved. A period of monitoring would take place and changes ascertained that needed to be implemented. Therefore following on from the initial pilot works we have re- looked at various areas and matters that we will be doing differently now and report on our findings to date. It was recognised at the review stage that the pilot did not go far enough.

Most of the pilot flats have been re-visited during the interim at some stage which has assisted in helping us to compile this report. We have also had the experience of working with our voids team on an empty property at number 2, Todds Walk. The existing defects period for our pilot scheme ends in December and it is our intention

to re-visit all flat units when this expires with the contractor to check further on the works completed and also pick up any defects found.

We have re-assessed and re-evaluated the areas of risk, the processes, the design, and the various products, with a view to achieve the best solutions for the benefit of any proposed future works. Furthermore we have also identified issues with the existing heating and cold water supply systems which are now proposed to be renewed.

We are not aware of instances of mould growth that has re-occurred to areas that were insulated but we now recognise that we did not go far enough

In one instance mould growth had returned within the living room to a wall area where we had not insulated in spite of them being cavity walls and insulation provided between the cavity walls in recent years to this same wall.

This is then complicated by the fact that the living room door was not present, the bedroom and more importantly the bathroom doors did not close fully. The bathroom mechanical fan was also switched off. There was not mould growth present to any of the other rooms of this flat

It is clear that the pilot has given us a greater understanding of the various issues involved.

- a) The council have a delivery plan to address these issues correctly starting with the External and communal cyclical repair works which will pick up on the considerable areas of external repairs, defects and improvements necessary to the fabric of the building. These include defects to the main roof, balcony roof coverings all to be renewed, lower roof slopes Roof works: renewal of type of felt and battens, expansion joints, windows, doors, rainwater pipes, gutters, overflows, above ground drainage, concrete/ masonry cracks/ repairs, re-pointing, re-rendering. These elements will be fully tackled importantly first to prevent dampness to the structure which could contribute to and exacerbate any condensation issues.
- b) The proposed Decent Home Bathrooms, WCs, and kitchens that were missed from last time, works programme is to be incorporated with the proposed condensation and dampness remedy works and these are proposed to be completed together within each flat at the same time.
- c) Further to this we are working co-operatively with our new build team and we are mindful of the various initial feasibility options being considered and the impact and consequences of how this will fit in with the above mentioned proposed measures and vice versa.

3 DESIGN CHANGES/ IMPROVEMENTS REQUIRED GOING FORWARD

We have now re-assessed what is considered necessary and completed the following pre works processes:

- External and internal surveys have been undertaken now to the whole building envelope to address various defects/weaknesses/ faults i.e. general repairs, masonry, defects, roofing defects, plumbing leaks,.
- We have thoroughly reviewed the design of the proposed condensation/dampness works to take into account all possible potential areas of cold bridging for the various types of properties together with LBI Building control and the leading trade suppliers/ manufacturers.
- The working drawings have been revised to meet the improved design amendments. The existing plans now show changes to meet with the revised specifications.

Thermal insulation:

Whilst there is now a noticeable change to the insulation levels within all the properties where works were carried out on the pilot, there are still various further measures required that are necessary to be undertaken to improve the building performance and living conditions within. Some areas to the walls are vulnerable with the potential for condensation and mould growth to migrate to those previously un-insulated areas.

Internally: to improve the thermal performance of the flat units, changes have been made to the insulation materials provided their specification and their fixing methods. The proposal in order to minimise resident disruption and timescale is now to use a universal system within each room and area within the flat rather than the various types used on the pilot. The insulation material will be fixed direct to backing surfaces without the use of battens which will save considerable time and cost.

The insulation will now be fitted to the garage side to the rear wall of the bathroom, bedroom and the kitchen. Some enforcement may be required where access to garages is not forthcoming.

All of the exposed external living room, bedroom and hallway wall surfaces will now be insulated as opposed to the partial wall works to just the drop down concrete beams as was carried out within the pilot and will also include insulation to windows and front entrance/garden door reveals.

Externally: Insulation will now be fitted to the sloping living room roof void from the outside in lieu of internally to the living room ceiling thus reducing resident disruption and disturbance to the internal 'Artex' finishes to ceilings which contain an element of asbestos. A further consequence of will be a reduced overall cost. The detail to the balcony skirting will be amended to also include insulation on all up-stands.

Ventilation:

Required to improve air circulation and remove excess moisture produced.

Internally: The Mechanical Ventilation to the kitchens and bathrooms has been reviewed and further changes have been made to the product, its mode of ducting and its route to improve performance. Having worked closely with the industry manufacturers we have now specified a mechanical fan that is a reasonable cost to supply and fix, runs 24 hours continuously in an extremely quiet fashion and is cheap to run using minimal electricity.

Permanent ventilation is also to be provided to ventilate the garden doors which are not currently ventilated.

Externally: Additional air vents are to be provided to the lower level sloping roof voids.

Heating System:

We have since the pilot commissioned a report from our mechanical engineers which recommended that the heating system radiators and pipe work which are original and date back to the 1978 are overdue for replacement it was found to be in poor condition with some radiators showing signs of leaks.

The living room radiators are fed from buried 15mm copper pipework within the concrete floor screed to both the hallway and living room that has no corrosion/mechanical protection.

The proposed works to affected properties will require the removal of the radiators/pipework to allow the installation of thermal insulation of the walls to reduce heat loss, condensation and maintain a stable temperature within the property; it was recommended by our engineers that at this stage the heating system is replaced in its entirety and the new radiators are positioned on internal un-insulated walls where possible and with new surface run pipework.

The majority of the boilers in the ground floor properties were replaced around 2004-2006 with Ideal boilers which are now having performance problems. Although these are under 15 years old we have been advised to replace them at this stage as they are reaching near the end of their economical service life.

These works were not done to the pilot flats but are now being proposed for flats of this type going forward.

Water Storage Systems:

The hot and cold water Elson storage tanks are now over 30 years old, they have inadequate insulation and in most cases the lids are unsealed with open tops causing condensation within the compartment/property (the units do not comply with part L of the current Building Regulations).

The pipework within the cupboards containing the tanks is also un-insulated and there are signs of heavy condensation due to lack of insulation and defective ball valves. The recommendation received in a report from our mechanical engineers is to replace the Elson tanks with a fully insulated cylinder, an insulated plastic cold water storage tank at high level including controls and wiring upgrade. This was also not done to the pilot flats but is being proposed for flats of this type going forward.

4 FURTHER PROPOSALS FOR UPCOMING WORKS

Access for the external works, type and operations have been fully reviewed with scaffolding design, mode of operation and the cost valued engineered.

There has been recognition that any existing mould growth present within the flats including other rooms and cupboards that are not being worked on i.e. kitchens, this will need to be addressed straight away and fully removed and that these areas are treated from the outset.

Electrical/Carpentry works:

Plugs, switches, light fittings, doors frames, architraves, skirting's and window reveals/trims have all been taken into consideration as part of the design and will require altering. There is also a requirement to reduce some areas of the ground levels externally to the living room extension.

Timescale:

The programme together with phasing has been prepared to deliver the works earliest to the worst affected blocks first with this order being kept as we move around the estate. We are also endeavouring to reduce to the minimum the overall timescale of works taken to complete the works within each type of flat. The areas to be worked on and detailing have increased significantly particularly in relation to the insulation, carpentry decoration and heating/water services works which will increase the timescale.

Delivery:

It needs to be clearly explained to the residents that high levels of labour will be working within their flats at a simultaneous and considerable disruption to the residents. Equally the contractor needs to provide sufficient technically skilled labour resources, manage the scheme well from start to finish and be flexible and responsive in approach in view of varying residential requirements. The resident liaison team was very good on the pilot and a similar standard will be required going forward.

Welfare: The client and contractor are to make further provision for protection, providing storage and the security of resident's goods/furniture and safely moving these items particularly where they are excessive or bulky. Working in occupation is

very difficult; we may need to ensure residents have a room free at all times for the contractors to work in thus working on a single room at a time to various flat together before sequencing with another room afterwards in the same fashion. Cardboard storage boxes were provided on the pilot and this aspect worked well and the practice continued on the rest of the scheme. We did not put furniture into storage which we may have to in some cases now.

Resident profiling:

The importance of early resident profiling and pre-surveys of residents' needs and requirements in advanced will speed up the future works particularly if residents have any Occupational Therapy (OT) or environmental requirements i.e. adapted bathrooms or special needs. The good news is that the OT preliminary identification process for the estate has already taken place as part of our surveys. There is a need to ensure that all properties with multiple occupancy are highlighted as there is generally more furniture in these. Environmental matters and response times to dealing with these matters are also going to be addressed in advance of works.

Respite: The use of alternative temporary respite facilities for some residents during the daytime is still considered desirable for the success of the scheme and at present this remains currently unresolved although various options are being considered. a number of properties on the estate have elderly residents, babies and young children. It was mentioned in the pilot review that works ideally in certain circumstances should not take place after 4:00 pm to allow for a good daily clean and for children returning home from school.

Consultation:

The processes have been reviewed and the plan is to keep all residents and interested parties regularly updated and informed by various measures throughout the scheme.

Cost:

The intention is for the Term Contractor to manage the contract with the works being let out to a specialist contractor under a competitive tendered basis cost per unit will be higher than pilot due to the increased level of works.

Scaffold:

The scaffold access design method has been re-evaluated to reduce cost and prevent un-necessary delay.

Risk:

We have undertaken a risk analysis for both risk avoidance and management including for contingencies and are currently in the process of compiling a risk register.

5 CONCLUSION

Following on from the Pilot we have re-visited flats, consulted further and importantly listened to our residents and their representatives including Councillors, contractors, industry experts, specialist, manufacturers, suppliers, Building Control Officers, internal departments including the new build team, our day to day repairs contractor, Health and Safety officers and other interested parties.

The cyclical works will deal with properties which are suffering with condensation being indirectly contributed to from various external repair sources and defects leading to leaks and damp penetration which would undoubtedly contribute significantly to the condensation problems within the properties.

The levels of moisture content in the air within the flats will reduce significantly with the proposed improved mechanical and passive ventilation provision.

The heating system is being renewed which will make the flats more economical to heat and much warmer.

Improvements to the thermal performance of the building enclosure will eradicate cold bridging and also reduce the amount of heat loss to the outside which will in turn help maintain the internal surface temperature. However it should be acknowledged that we are working to the constraints of an existing building design/building materials used, and this will not perform to the higher standards and requirements of a new build. We are governed by restrictions on ceiling heights, door thresholds and exposed concrete balconies.

Education on how to avoid condensation should be provided to residents Lifestyle is a major consideration and factor in the success of the scheme. The remedying of external defects, additional provision of thermal insulated exposed walls and ceilings, improved heating, mechanical/passive ventilation and water storage coupled with the previously installed double glazing and cavity wall insulation will not solve condensation problems if the flat units are not heated and ventilated in a reasonable manner. Sound household management is considered paramount. Fuel poverty remains a concern if the heating provision is not used. Any overcrowding of units could also tilt the balance.

To assist in this area the Council is in the process of producing new advisory advice in the form of a leaflet on this whole area. Further to this the residents should be advised on how to best operate and manage the heating and ventilation within their flat units.

We see that the whole package of measures proposed is massive opportunity to improve the current living conditions of the residents and make a difference to welfare. We would be strongly relying on the performance of a reliable contractor to deliver the scheme

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Senior Project Manager/Surveyor

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