

**Carbon Dioxide affecting Residential Properties  
Newbyres Avenue, Gorebridge****Report by Kenneth Lawrie, Chief Executive****1 Purpose of Report**

To provide an update to Cabinet with regards to the ongoing investigation into recent carbon dioxide gas emissions affecting residential properties in an area of Newbyres Avenue, Gorebridge.

**2 Background**

- 2.1 The Newbyres Avenue development, constructed for the Melville Housing Association in 2008, comprises 32 residential properties, with addresses on Newbyres Avenue, Burnside Road and Barleyknowe Crescent, Gorebridge.

The properties are a mixture of semi detached and terraced houses, and four-in-a-block with ground and first floor flats. Twenty eight of the properties are owned by the Melville Housing Association with four flats in one block predominantly in private ownership.

- 2.2 The development is located in an area of historic mining. Site investigations undertaken by consultants engaged by the developer and submitted to Midlothian Council as part of the development process prior to new build housing construction concluded that gas protection measures were not required.
- 2.3 Members will clearly recall the previous incident relating to carbon dioxide emissions affecting council homes in Newbyres Crescent, Gorebridge which resulted in all properties on that development being demolished.

**3 Investigation of the Incident**

- 3.1 In September 2016, following representation from occupiers of two properties, that formed part of a terrace of four houses within the development, the Council commenced an investigation and identified the presence of elevated levels of carbon dioxide in enclosed areas of some houses. The areas particularly affected were the service entry points for utilities, including electricity, gas and water.

NHS Lothian were informed and an Incident Management Team (IMT) was convened, chaired by a Consultant in Public Health Medicine, at NHS Lothian. This Team includes representatives from a number of organisations including NHS Lothian, Midlothian Council, Health Protection Scotland and Scottish Environment Protection Agency (SEPA), with other relevant agencies and organisations such as Melville Housing and The Coal Authority invited to attend as necessary. The IMT continues to actively investigate the situation.

- 3.2 A review of historic records indicates that the houses are built in close proximity to an abandoned coal mine. Radiocarbon dating of the carbon

dioxide gaining access to some of the properties has confirmed the gas to be from the historic coal mine workings situated below the site.

- 3.3 Melville Housing Association has engaged external consultants to investigate how best for them to discharge their responsibilities as a housing provider and registered social landlord. This includes conducting monitoring for the presence of carbon dioxide across the development. The programme of monitoring is nearing completion. Where continuous monitoring has identified elevated levels of carbon dioxide in enclosed spaces, the Council has assisted Melville Housing in sourcing, setting and installing suitable carbon dioxide alarms in the affected properties. This type of alarm has been installed by the Council in the private sector property which demonstrated elevated levels.

The alarms are designed to detect elevated levels of carbon dioxide in the living areas of the property. They are set to alarm at a precautionary level to alert residents of the need to ventilate the property and to report the alarm activation to Melville Housing, or, in the case of private sector properties, to Environmental Health. Residents have been provided with information on what action to take and whom to contact in the event of the alarm sounding.

- 3.4 Decisions are taken on a case by case basis regards continued occupation of the properties taking into account the level of CO<sub>2</sub>, the level of ventilation and the ability to maintain a satisfactory internal level of comfort. Following installation of the monitors and alarms, one terrace of four houses was found to have elevated levels of carbon dioxide at the point of utility entry and difficulty maintaining satisfactory levels of ventilation and comfort. The tenants of these properties have been permanently re-housed by Melville Housing.

## **4 Monitoring results**

- 4.1 The programme of monitoring in ground floor properties is nearing completion. There have been access issues with a small number of properties to allow installation / collection of the monitors and these addresses are being followed up. To date the monitoring confirms that there are eleven properties across the development experiencing elevated levels of carbon dioxide in enclosed internal spaces.
- 4.2 As carbon dioxide gas is heavier than air, on entering buildings it will accumulate at a low level within the building. It is therefore anticipated that upper flats will not be directly affected by accumulations of carbon dioxide arising from underground gas.
- 4.3 Where any Midlothian resident contacts the Council with concerns regarding carbon dioxide, Environmental Health will undertake initial monitoring and gas screening. To date we have received a small number of calls from properties outwith the identified development with no significant levels of carbon dioxide identified.

## **5. Action to minimise the impact of the incident on the health of residents**

### **5.1 Care for People**

- 5.1.1 Midlothian Council has convened a Newbyres Avenue Care for People Group and utilising the expertise of that Group and the Joint Health Improvement Partnership will work with Melville Housing, the Health Board and the local population to address short and longer term housing and care needs.
- 5.1.2 The Group was established to ensure that the wellbeing issues for people affected are considered and any issues that arise are dealt with in an appropriate and timely manner. The group consists of representation from both Adult and Children's Social Work, Health, Housing, Environmental Health, Contingency Planning and Melville Housing. The group is chaired by the Chief Social Work Officer, oversight is provided by the wider Care for People Group. Meetings have occurred on a monthly basis with agreement that if anything should develop outwith these dates then an emergency meeting will be called.
- 5.1.3 It is clear from the monitoring conducted to date that elevated levels of carbon dioxide are being identified in enclosed spaces within properties across the development. Action will be required to address the potential exposure of the residents to carbon dioxide and this action may require a temporary or permanent relocation of residents. Any such action should enable children to attend school and other residents who require care or support from their landlord or where appropriate, the Council, to do so from a suitable, alternative domestic environment.
- 5.1.4 The wider Care for People Group is established to comply with the responsibilities of the Council under the Civil Contingencies Act, specifically the supporting Scottish Government guidance, "Preparing Scotland, Care of People Affected by Emergencies". This multi-agency group includes representatives from NHS Lothian, Police Scotland, utilities, voluntary sector and faith groups.
- 5.1.5 The role of the Joint Health Improvement Partnership is set out in the Midlothian Single Plan and work in this area reflects the priority on collaborative working in support of neighbourhoods and communities.

## **5.2 Wider implications**

- 5.2.1 In light of this event, the Building Standards service have implemented measures deemed appropriate to secure the health and safety of potential home owners and occupiers of residential properties in the Gorebridge area.
- 5.2.2 Development within the Gorebridge area which is within an agreed geographical area, plan attached, Appendix 1, will require to adhere to the following interim policy;
- a) Within the designated geographical area, new applications for building warrant are required to provide gas protection measures which meet a minimum 'characteristic situation 2 level' with the provision of a gas membrane and ventilation layer, even where the applicant has undertaken ground investigations which have shown no indication of likely gas migration.
  - b) For developments with a building warrant but are yet to start or whose development is unfinished within the Gorebridge designated geographical area, the Council now recommends that gas protection measures which meet a minimum 'characteristic situation 2 level' are provided with the provision of a gas membrane and ventilation layer.
- 5.2.3 Developers of all proposed properties, which fall out with the geographical area of Gorebridge, will continue to be asked to take cognisance of

Midlothian's prevalent mining history. Where required, applications will undergo the established peer review processes in accordance with guidance including that relating to contaminated land, relative to the building regulations.

### 5.3 **Potential remediation**

The IMT continue to investigate the matter and Melville Housing are seeking to identify possible solutions in their role as housing provider and social landlord. Whilst monitoring has been undertaken to identify the impact on the private sector properties, neither Melville Housing nor the Local Authority have responsibility for carrying out any remediation works which may be required to the private properties on the development. Private Sector residents are advised to seek independent legal advice and guidance and to contact their insurance company to discuss the situation.

## 6 **Report Implications**

### 6.1 **Resource**

The majority of properties on the development (28) are owned by Melville Housing and occupied by their tenants with four being in the private sector, including at least two of which have shared equity with Scottish Government via the Homestake funding scheme.

In supporting Melville Housing and the residents Midlothian Council may be required to assist in the following ways;

- If there are further properties in the development from which Melville Housing tenants require to be re-homed to protect their health, Melville Housing may seek mutual aid from the Council with regards to temporary (or permanent) re-housing.
- In terms of private sector properties if a property becomes uninhabitable due to elevated levels of carbon dioxide and the owner's insurance company cannot assist, the Council will provide emergency accommodation through any eligibility in our statutory homelessness provisions.
- Although no decision has been taken regards the future of the development it is clear that, as a minimum, some remediation works will be required in relation to the affected properties. This may cause some disruption to the residents who may require to be provided with temporary housing to allow the identified works to be completed. In this event Melville Housing may seek assistance from Midlothian Council.
- Significant Environmental Health resource has been diverted to the furtherance of this investigation.
- Significant NHS Public Health resource has been diverted to the investigation of this incident and to working with partners to consider future prevention and mitigation.

### 6.2 **Risk**

An internal cross service group of Council officers, chaired by myself, meets regularly, to monitor the situation and identifies actions required to minimise risks.

### 6.3 **Single Midlothian Plan and Business Transformation**

Themes addressed in this report:

- x ☐ Community safety
- x ☐ Adult health, care and housing
- ☐ Getting it right for every Midlothian child
- ☐ Improving opportunities in Midlothian
- x ☐ Sustainable growth
- ☐ Business transformation and Best Value
- ☐ None of the above

#### 6.4 **Key Priorities within the Single Midlothian Plan**

Community Safety: People feel safe in their neighbourhood and home.

#### 6.5 **Impact on Performance and Outcomes**

The resources necessary to support the ongoing investigation and to deliver a long term solution that protects the health of the population may have an adverse impact on the Council's performance/outcomes.

#### 6.6 **Adopting a Preventative Approach**

The outcome of this incident may influence local and national policy particularly in relation to the future development of brownfield sites.

#### 6.7 **Involving Communities and Other Stakeholders**

This is being addressed initially through the work of the Care for People Group supported by members of the Joint Health Improvement Partnership as outlined above. Residents on the site are being kept informed of the findings of the monitoring during home visits and telephone communication from Council Officers or Melville Housing Officers.

The IMT continues to investigate the matter and oversees decisions and actions taken to protect public health. A site visit was undertaken by members of the IMT on 26<sup>th</sup> January 2017. NHS Lothian continue to review activities to safeguard people in their homes.

#### 6.8 **Ensuring Equalities**

An EqIA is not required as this report does not propose a new policy, procedure or service.

The Care for People Group will assist in the delivery of a long term solution supporting prioritisation on individual need.

#### 6.9 **Supporting Sustainable Development**

The outcome of this incident will influence local policy particularly with regards to the future development of brownfield sites in seeking to ensure that any future developments at Gorebridge, and potentially the wider Midlothian area, are not adversely affected by underground gases.

#### 6.10 **IT Issues**

There are no identified IT implications arising from this report.

## **7 Summary**

The Melville Housing development built at Newbyres Avenue, Gorebridge in 2008, encompassing 28 housing association and 4 private sector properties, has been identified as being affected by elevated levels of carbon dioxide from an adjacent abandoned coal mine seeping into some of the properties. An Incident Management Team has been established and continues to investigate the situation with a view to protecting the health of the residents. Midlothian Council continues to contribute to the investigation and a Care for People Group has been established. Residents have been decanted from four properties and others have had alarms installed to allow them to manage their properties through increasing ventilation.

## **8 Recommendations**

Members are recommended to:

- i) note the current situation in relation to a carbon dioxide incident at Newbyres Avenue Gorebridge;
- ii) note the ongoing actions being taken by the Incident Management Team, the Newbyres Care for People Group, and other actions being taken by the Council to investigate, monitor and address matters; and
- iii) instruct the Chief Executive to report further to Cabinet on this matter, as necessary.

**Date 23 February 2017**

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