Classification: Public

Key Decision: No

Gravesham Borough Council

Report to:	Housing Committee
Date:	6 June 2022
Reporting officer:	Nicole Arthur (Service Manager, Housing Operations) Bal Chattha (Compliance & Projects Manager)
Subject:	Carl Ekman House Compliance & Improvement Works

Purpose and summary of report:

To update Housing Committee on the substantial Compliance, Health & Safety, Energy Sustainability and Improvement works carried out at Carl Ekman House and works planned for 2022/2023.

Recommendations:

1. Note the information provided in this report.

Key Implications:	
Item	**Implications**
Legal	**The Building Safety Bill** introduces new requirements for building owners and landlords to assess and manage building safety risks in high-rise residential buildings. **The Regulatory Reform (Fire Safety) Order 2005** makes it a legal requirement for the landlord to manage the general fire safety within the non-domestic parts of the premises. **Smoke and Carbon Monoxide Alarm Regulations 2015.** Amendments to the current regulations will require Social Housing Landlords to also comply with the requirements. **The Landlord and Tenant Act (1985)** makes it clear landlords are responsible for the maintenance and repair of their housing stock, ensuring they provide good quality housing fit for habitation
Finance and Value for Money	All works to Carl Ekman house, both prior and in the current year, have/will be met from approved existing budget within the HRA Capital Programme. Proposed future improvements set out in this report, including renewable heating sources, communal flooring and entrance works, will be considered as part of the development of the overall

	annual capital programme for the HRA for 2023/24 and subject to the annual budget setting process. All contracts procured in line with GBC policy through frameworks the aggregated buying power via Public Sector Frameworks has delivered competitive pricing and value for money.
Corporate Plan	**People:** Protected Environment - enforce high regulatory requirements and carbon neutral borough. Quality Living - safeguard residents and putting our customers first. **Place:** Connected Community - improve resident well-being **Progress:** Entrepreneurial Authority - deliver a more resilient, creative and cost effective council
Climate Change	The project contributes to the Council's Climate Change Strategy by: (a) Reducing carbon emissions of our housing stock by installing Solar PV and Ground Source Heat Pumps. (b) Providing warmer energy efficient homes for our tenants by improving insulation to the fabric of the building. (c) Reducing energy consumption and fuel bills for the Council by installing Solar PV and battery storage to power communal electrics. (d) Providing charging points for electric vehicles.

1. Introduction

1.1 Carl Ekman House is a fourteen storey high-rise residential block located in Tooley Street, Northfleet. Named after Carl Daniel Ekman, a Swedish chemical engineer and a proprietor of a local paper mill. Constructed in 1969 and standing at 40m high, it is home to fifty-one Gravesham Borough Council tenants and one leaseholder.

1.2 It is the tallest GBC residential building within the borough at fourteen floors and was defined as a higher risk residential building (HRRB) by the 'Building a Safer Future' final report, an independent review of Building Regulations and Fire Safety, commissioned by government. The draft Building Safety Bill further clarifies HRRB as residential buildings of at least 18 metres or have at least 7 storeys.

1.3 The Building Safety Bill introduces new requirements for building owners and landlords to assess and manage building safety risks in high-rise residential buildings. The Bill sets out that reasonable measures must be taken to manage the risk of the spread of fire and structural failure, to prevent their occurrence and limit the impact should an incident occur.

1.4 Besides meeting regulatory requirements and safety of tenants much of the work will prolong the life of the building and reduce future maintenance. In addition, delivering energy efficiency measures such as renewable heating and solar PV will contribute to the Council's Climate Change Strategy, thus reducing carbon emissions, lowering energy consumption and fuel bills for our tenants and us as the landlord.

2. Background: Non-Compliance & Disrepair Identified at Carl Ekman House

2.1 In September 2020 a report was produced for Management Team and Cabinet informing them of the current position in relation to fire and smoke detection within the Council's housing stock and to seek approval to upgrade the level of detection as recommended in the current British Standards 5839-6:2019.

2.2 In January 2021 a report was produced for Management Team and Cabinet informing them of the recommendations and guidance following MHCLG's 'Advice for Building Owners' and seek approval to procure and award a contract to install compliant flat entrance fire doors where required within its housing stock. This included a requirement at Carl Ekman House.

2.3 In July 2021 a report was produced for Management Team and Cabinet informing them on the degrading condition of the 60 year old water main, soil, vent (SVP) and rain water pipework (RWDP) to all four corners of the building, and seek approval to vire an extra £159,000 from other capital budgets to help fund the replacement.

2.4 The existing fire sprinkler system installed in 2014 and in compliance with BS 9251:2005 was directly connected to the now degrading water main and iron sediment present in the pipework had the potential to impede the performance of the sprinklers in a fire activation.

2.5 The latest structural report on Carl Ekman House identified a safety risk to balconies and our residents. The concrete balconies to each flat had gaps exceeding 100mm between the vertical and horizontal steel railings as part of the original design and the report recommended these be reduced to meet current Building Regulations.

2.6 In October 2019 the Grenfell Tower Inquiry Phase 1 report was published, and contained recommendations that all high-rise residential buildings (both those already in existence and those built in the future) be equipped with the means for fire and rescue services to send an evacuation signal to the whole, or a selected part of the building, by means of sounders or similar devices.

2.7 The Phase 1 report also recommended all high-rise buildings floor numbers are clearly marked on each landing within the stairways and prominent in all lobbies to be both visible in normal conditions and in low lighting or smoky conditions.

2.8 External consultants were engaged to carry out condition reports on all our passenger lifts within the Council's residential blocks, as part of our compliance audit checks. This included both lifts at Carl Ekman House which were found to be "showing their age" and had reached the end of their serviceable life, with an increased likelihood of deterioration and mechanical failure.

2.9 The existing flat roof covering to Carl Ekman House was installed in 1999 with a life span of 20-25 years. A recent survey report in 2021 showed the roof covering was failing and deteriorating rapidly, with core samples taken found to be saturated. Inaction would result in water ingress and damage to the concrete slab and to the immediate flats below. There was also very little insulation under the roof covering, approximately only 30mm in depth and not adequate to mitigate heat loss form the flats below.

3. Compliance, Health & Safety Works

3.1 **Public Health Works** (Appendix 2, 3.1)

3.1.1 Works to replace the water main risers, SVP and RWDP to all four corners of Carl Ekman House were completed in March 2022. This project has been extremely difficult, complex to plan and implement, while working on a live system and without decanting residents. Works have been completed floor by floor, ensuring all bathroom facilities were back in operation at the end of each working day.

3.1.2 The original water main risers directly fed the kitchens, boilers, fire sprinkler system with two large GRP storage tanks located on the roof of the buildings. The storage tanks delivered the water by gravity feed to the bathrooms on each floor.

3.1.3 The new system installed which delivers water by direct mains pressure to all outlets within each flat, has removed the need for roof storage tanks, reducing the risk of Legionella bacteria forming and minimising future maintenance costs. The booster pumps were also upgraded with an uninterruptable battery power supply (UPS) installed, which means in the event of a power cut the water supply to flats will be maintained. Prior to these works, any power cut meant that residents were without drinking water.

3.1.4 The existing water main was replaced with 210m of a new click-weld installation product called Mecflow. This provided extra benefits over the old steel water main such as; low noise transmission, chemical resistant, anti-microbial protection and faster installation. 320m of SVP and RWDP was removed and replaced with 97% recycled cast iron material.

3.2 **Fire Sprinkler System Upgrade** (Appendix 2, 3.2)

3.2.1 The upgrade of the water mains provided us the opportunity to upgrade the existing fire sprinkler system to the latest BS 9251:2021. The old system was fed from the old degrading water main and storage tank located in the basement. The new system has been installed complete with its own independent water supply and storage tank, tandem pumps and an uninterruptable battery power supply (UPS), which in the event of a fire and power cut, the system will still activate. Prior to these works, any power cut meant that that sprinklers wouldn't have worked in the event of a fire.

3.3 **Fire & Smoke Detection Upgrade**

3.3.1 The existing fire detection within the flats consisted of a single smoke detector within the hallway, category LD3, as required under the old version of the British Standard 5839-6:2013. Although a heat detector linked to the communal fire alarm system is also located within the flat, this forms part of the communal fire alarm system for the building.

3.3.2 Whilst this level of domestic fire protection already complied with the latest amendments to the Smoke and Carbon Monoxide Alarm Regulations 2015, which the Housing Minister, Eddie Hughes MP, announced in November 2021. The amendments include rented properties in the Social Housing sector will now also need to comply with the regulations, which previously only applied to private rented properties.

3.3.3 However, as mentioned in 2.1, we are implementing a fire detection upgrade programme to all our housing stock to meet a higher category of protection as recommended in the latest version of the British Standard 5839-6:2019. This level of fire detection provides a higher protection than the amendments to the Smoke and Carbon Monoxide Regulations 2015.

3.3.4 As a requirement of the fire sprinkler upgrade, Carl Ekman House has now been upgraded to the highest level of protection, LD1, which incorporates smoke detectors in all rooms in which a fire might start (other than toilets and bathrooms) and a heat detector in the kitchen.

3.4 **Evacuation Alert Control & Indicating Equipment (EACIE) (**Appendix 2, 3.4)

3.4.1 The sprinkler and fire detection upgrade has provided us the opportunity to install the EACIE system and reduce the inconvenience to residents if we were to install the equipment at a later date. The system, recommended by the Grenfell Tower Inquiry Phase 1 report, has been installed in liaison with Kent Fire & Rescue Service (KFRS) to current British Standards.

3.4.2 The EACIE is operated by the fire service via a control panel located on the ground floor. It allows them to trigger a sound and visual alarm device within each flat and evacuate specific floors, allowing KFRS to control evacuation within the building. The Grenfell tragedy proved the ‘stay-put’ policy on its own was a contributory factor in the disaster because of the lack of fire-rated compartmentation within the building.

3.5 **Wayfinding Signage**

3.5.1 Wayfinding signage for the use by the fire service has been installed in Carl Ekman House and in our other high-rise buildings; The Hive, Chantry Court, Gravesham Court and Homemead. These meet the new amendments to the Building Regulations, originally proposed for new developments, but recommended they be applied to existing buildings by the Grenfell Tower Inquiry Phase 1 report.

3.5.2 The new signage conforms to the recommended typeface, wording and photo luminescent lettering, which can be easily legible in low level lighting conditions or when illuminated with a torch.

3.6 **Flat Entrance Fire Door Replacement Programme** (Appendix 2, 3.6)

3.6.1 The Regulatory Reform (Fire Safety) Order 2005 makes it a legal requirement to ensure that fire resisting doors and escape doors are correctly installed and adequately maintained in order for them to be fit for purpose. Flat entrance doors are an essential feature of compartmentation and in order to comply with the ‘Order’ and the latest British Standards we started the replacement programme at Carl Ekman House, replacing the flat entrance doors to all the flats as part of a five year programme.

3.6.2 The new doors are equipped with data pin identification which can be read by a mobile device linked to a web based platform, which allows us to digitally record installation certification, component parts, maintenance records for a fully comprehensive ‘Golden Thread’ of information, enabling us to manage compliance throughout the life of each fire door.

3.6.3 As part of the above works, a fire door safety consultant has also surveyed the communal fire doors including doors to meter cupboards, dry risers, cross-corridor and external exits to identify all remedial works required to

ensure they continue to be effective, as originally designed and installed, in the event of a fire.

3.7 **Balcony Safety Guards** (Appendix 2, 3.7)

3.7.1 To improve the safety of all 52 concrete balconies and comply with current Building Regulations, works are underway to install steel mesh to all three sides of each balcony and eliminate the gaps between the metal railings, which were in excess of 100mm. This will provide a safer balcony for our residents to enjoy and mitigate the danger of items falling on to persons below.

3.8 **Safety Inspection Day**

3.8.1 Our High risk residential buildings (HRRBs) and Independent Living Buildings require various safety inspections to ensure the equipment installed is serviced and maintained on a regular basis. Annual inspections and servicing include; gas safety, fire sprinkler and detection, fire doors and warden call. Other regular inspections may include; electrical testing, asbestos surveys and offering property maintenance checks.

3.8.2 Our tenants would normally have to be available at different times of the year to ensure these inspections are carried out. To reduce the inconvenience to our tenants, reduce non-access and provide a more efficient and joined-up service, we now carry out all these inspections over a one/two day period within the same week.

3.9 **Passenger Lifts Replacement** (Appendix 2, 3.8)

3.9.1 Works to replace both passenger lifts at Carl Ekman started in May 2021 with Lift 1 completed in August and put into service. A two week period was allowed to ensure Lift 1 had no teething problems before works started on Lift 2. All works were eventually completed in December 2021.

3.9.2 The old geared traction lifts were replaced with new modern gearless versions which can travel at a faster speed, are more energy efficient, quieter and smoother operation. They will be easier to maintain, increase reliability and provide a cleaner, more welcoming experience for our residents and visitors.

3.9.3 A part of the refurbishment of the lifts we have also installed the latest lift cloud-based remote monitoring equipment. This allows us to give tenants a more efficient response to lift status and breakdowns. Rather than relying on residents or caretakers reporting of lift failure to us, our servicing contractor and our Compliance team know instantly via email. The lift can be viewed live via CCTV and controlled remotely via the web-based portal. This can reduce multiple visits by engineers as faults can be identified via the equipment and issues resolved faster. This same equipment is also been rolled out to other lifts in our high-rise buildings.

3.10 **CCTV**

3.10.1 To tackle anti-social behaviour and help reduce vandalism, closed circuit television (CCTV) has been installed within the lifts as mentioned above, but also on every landing outside the lifts and on each landing of the rear stairwell. Having cameras will provide residents with added security and will offer assistance to the Police in helping tackle criminal activity.

4. Energy Sustainability & Improvement Works

4.1 **Window Replacement Programme** (Appendix 3, 4.1)

4.1.1 In 2019 as part of the Planned Works programme, existing windows in poor condition to flats and communal areas were replaced with A-rated double glazed windows, reducing our rising maintenance costs and providing a warmer home for our residents. This was the prelude to further improvement works as detailed in this report.

4.2 **Communal Lighting Upgrade**

4.2.1 Also in 2019, as part of the Planned Works programme, communal lighting was upgraded to new smart LED fittings. These provide 50% less energy consumption, last 4x longer than traditional lighting fixtures, therefore reducing future maintenance costs and lowering carbon emissions. The brighter whiter light has also enhanced the ambience, security and safety for our residents.

4.3 **Bathroom Refurbishment Programme** (Appendix 3, 4.3)

4.3.1 The intrusive nature of the previously mentioned Public Health and Fire Sprinkler Works, led to considerable disruption to the bathrooms within each flat. This included removing duct panels, tiling, baths, toilet pans, heating pipes and disturbing decorations. Therefore it was decided to incorporate these properties within the Bathroom Replacement Programme for 2021/22 carried out by the in-house DSO Building Management workforce.

4.3.2 The new bathrooms allows future access to the ducts without disturbing decorations and works include replacing the whole bathroom suite, modern waterproof wall panels, new floor covering and decorations.

4.4 **Communal Floor Covering** (Appendix 3, 4.4)

4.4.1 The existing communal floor covering to each floor and entrance is showing considerable wear and tear and in some parts damaged beyond repair due to the extensive work undertaken within the building. It is proposed to replace the flooring throughout the building once all the other works have been completed. The new material will be robust, fire resistant, fast curing resin screed. It comes with a 10 year guarantee and is also used on the London Underground. Proposed works are due to commence 2023/24.

4.5 **Flat Roof Replacement** (Appendix 3, 4.5)

4.5.1 Works to replace the flat roof at Carl Ekman House have commenced and are due to finish by April 2022. The specification provided by Bauder, a leading specialist in manufacturing flat roof waterproofing systems, includes a layer of 120mm rigid polyisocyanurate (PIR) insulation. This will raise the U-value, reduce heat loss and improve the Energy Performance Certificate (EPC) ratings of the flats on the top floor.

4.6 **Photovoltaic (PV) Panels** (Appendix 3, 4.6)

4.6.1 As part of Gravesham Borough Council's action plan to reduce carbon emissions, the Energy & Sustainability team are carrying out feasibility studies across our residential blocks to determine if they are suitable for

installation of PV panels. These would provide renewable power for the communal electrics, lighting and passenger lifts.

4.6.2 Carl Ekman has been identified as having a suitable roof to accommodate PV panels, once the new roof covering and insulation works have finished. Structural surveys, wind load calculations and a full PV system design with storage batteries has also been completed. Works to install PV panels commenced in early May and are now well underway.

4.6.3 The sixty panel PV system will provide 24kWp and produce 19,200 kWh annually. Battery storage of 23.2kW will allow generated electricity to be used to power the building after dusk and reduce the reliance on the grid. It is expected to reduce carbon emissions by 8,323kg / year and 62.6% of the electric consumed by the building will be powered by the PV system.

4.6.4 The installation of the PV and battery system will also generate electricity to power two Electric Vehicle (EV) charging points located in the adjoining car park.

4.7 **Renewable Heating** (Appendix 3, 4.7)

4.7.1 As part of Gravesham Borough Council's action plan to reduce carbon emissions, the Energy & Sustainability team are carrying out feasibility studies across our High-Rise and Independent Living residential buildings to determine if they are suitable for the installation of Ground Source Heat Pumps (GSHP).

4.7.2 Carl Ekman has been identified as suitable future project for GSHP, potentially for 2023. The GSHP will replace the current reliance on gas heating with 72% of the boilers over 12 years old and approaching the end of their serviceable life. Moving to the renewable energy will reduce carbon emissions, lower fuel bills for our residents and improving EPC ratings.

4.8 **New Play Park** (Appendix 3, 4.8)

4.8.1 The council carried out a consultation in January 2022 with all residents of the Shepherd Street estate informing them of the intention to replace the dated playground that is currently sited at the rear of Carl Ekman House. It was also proposed to move the existing small playground to a larger, more central area in Shepherd Street.

4.8.2 The results following the consultation were:

- 83% of the residents that responded to the consultation supported the move of the play area.
- 66% of the residents did not use the current play area.
- Most of the residents are very supportive of the new play area with feedback such as; "it will be bigger and everyone can see their children safely" and "everyone in the area will be able to use it".

4.8.3 Following a competitive tender process, the council had appointed a successful contractor to deliver the new playground. The work has now been completed and was officially opened by the Mayor of Gravesham on Friday 13 May.

4.9 **New Proposed Front Entrance** (Appendix 3, 4.9)

4.9.1 We are currently reviewing options to improve the front entrance to Carl Ekman House. The existing entrance is both uninviting and confined for residents and visitors alike. One option is to bring the front entrance out in line with the front of the building to create a modern frontage which provides space and light for a welcoming area and a more inviting experience for all.

4.9.2 When undertaking Fire Risk Assessments, buggies, bikes and mobility scooters are regularly highlighted as potential fire risk hazards when residents use the communal areas outside their flats for storage and damage fire doors when transported through the building. The new entrance will further integrate access to secure ground floor storage for these items.

4.9.3 At this stage we have only instructed a consultant to draft an artist's impression of the new entrance, free of charge, which are available to view in appendix 2.

4.10 **Summary and Conclusion**

4.10.1 The extensive works carried out and proposed at Carl Ekman House bring together improvements to the building safety, public health, maintenance, energy performance and resident wellbeing. Combining these works has provided efficiency savings to the Council and will reduce future upheaval and disruption to our residents within the block.

5. Appendices

5.1 The following documents are to be published with the report: Appendix 2 and Appendix 3

6. Background Documents

6.1 There are no background documents.

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Secondary Implications	
Risk Assessment	The new Building Safety Regulator will enforce a new, more stringent regulatory regime for high-rise residential and other in-scope buildings. It is therefore imperative that our high-rise buildings are up the latest fire and building safety standards.
Data Protection Impact Assessment	*A data protection impact assessment (DPIA) should be carried out at the start of any major project involving the use of personal data or if you are making a significant change to an existing process.*
	a. Does the project/change being recommended through this paper involve the processing of personal data or special category data or criminal offence data? A definition of each type of data can be found on the Information Commissioner's Office website via the above links. No
	b. If yes to question a, have you completed and attached a DPIA including Data Protection Officer advice? not applicable
	c. If no to question b, please seek advice from your nominated DPIA assessor or the Information Governance Team at gdpr@medway.gov.uk. not applicable
Equality Impact Assessment	a. Does the decision being made or recommended through this paper have potential to cause adverse impact or discriminate against different groups in the community? If yes, please explain answer. No
	b. Does the decision being made or recommended through this paper make a positive contribution to promoting equality? If yes, please explain answer. No
	In submitting this report, the Chief Officer doing so is confirming that they have given due regard to the equality impacts of the decision being considered, as noted in the table above
Crime and Disorder	CCTV - Having cameras will provide residents with added security and will offer assistance to the Police in helping tackle criminal activity.
Digital and website implications	None
Safeguarding children and vulnerable adults	Following GBC's Safeguarding Policy "Protecting children and vulnerable adults"