



Essex County Fire and Rescue Service Sprinkler Funding Report

2013-2017

Fire Engineering and Enforcement Department

Table of Contents

Funding for Sprinklers from 2013	2
Introduction	2
Completed or In Progress Projects	3
Parkside Tower (£50,000).....	3
Mornington House (£50,000)	4
Brooke House (£65,000)	5
Bockingham Green (£10,000)	6
5 Hostel Units – South Essex Homes Ltd (£90,000).....	7
Enoch House – Retirement/sheltered housing - Colchester Borough Homes (£50,000).....	10
Alms Houses - Courtauld Homes of Rest (£14,244.00)	11
Pending Bids or Future Projects.....	12
Felmores Estate – Basildon Borough Council (£70,000).....	12
The Robert Henry Falkner Alms Houses (£ TBC).....	13
University of Essex – Residential Tower Blocks (£TBC)	14
Thurrock Council – Residential Tower Blocks (£TBC)	15
5 Hostel Units – South Essex Homes Ltd (£TBC).....	16
Feedback.....	17
Activation	17
Conclusion.....	17
Appendix A.....	18

Table of Figures

Figure 1 - Parkside Tower, Chelmsford	3
Figure 2 - A Typical Flat at Parkside Tower Post Sprinkler Installation	3
Figure 3 - Mornington House, Southend	4
Figure 4 - Brooke House, Basildon	5
Figure 5 - Bockingham Green Basildon	6
Figure 6 -208 – 210 Southchurch Road – Mixed Use - 5 larger Flats + 11 Rooms	7
Figure 7 - 214 Southchurch Road – Mixed Use – 7 STD Flats	8
Figure 8 - 216 Southchurch Road – Family/Children Unit - 4 Flats + 16 Rooms	8
Figure 9 - 228 Southchurch Road – High Risk Unit – 8 Flats	9
Figure 10 - 94 – 98 Southchurch Avenue – Mixed Use – 17 Flats.....	9
Figure 11 – Enoch House.....	10
Figure 12 – Example of common areas.....	10
Figure 13 – Felmores, Basildon	12
Figure 14 – The Courtauld Homes of Rest	11
Figure 15 – The Robert Henry Falkner Alms Houses.....	13
Figure 16 – North Towers University of Essex	16

Funding for Sprinklers from 2013

Introduction

At the Essex Fire Authority Meeting held on the 4th September 2013, the Fire Authority members approved a proposal (EFA/080/13) to set up a fund to support the retro fitting of sprinklers in high risk premises within Essex. The fund agreed was £250K per year for three years.

To promote the use of sprinklers within the County ECFRS hosted two events, the first being at Spains Hall on the 22nd April 2013 and the second Being at the Colchester Council Housing Department on the 29th October 2013. The events included presentations to explain how the systems work, dispelling the myths and a live fire sprinkler demonstration comparing a fire in a compartment with sprinklers and one without. Since those events, members of the Technical Fire Safety Team have attended numerous events and meetings both with building owners/ managers and also residents in order to educate them in relation to sprinklers, the installation process and the operation of the systems along with the enhancement of the residents and firefighter safety. The Officers have also worked with architects and building control officers/ approved inspectors to increase awareness on the significant benefits of including the systems at the design stage in other premises such schools and universities, hospitals.

An in-depth list of all charities which provide sleeping accommodation has been researched and details over 130 charitable organisations. A letter has been sent to each organisation explaining the scheme and a copy of ECFRS Sprinkler leaflet explain how the systems work and dispelling the myths. To date this has resulted in 3 further applications and a number of enquires.

Once the three-year initiative reached its end a decision is due to be made on future funding for this initiative, until this time the initiative continues on a case-to-case basis.

The following report details completed ongoing and proposed projects within Essex

Completed or In Progress Projects

Parkside Tower (£50,000)

The first project completed was Parkside Tower in Chelmsford, run by the Chelmer Housing Partnership, with the cheque being presented on the 12th May 2014.

The building is a 15 storey tower block containing 53 flats with a number of vulnerable residents. The total cost of the project was £187K, but this included other works to the flats such as replacement lighting etc. The ECFRS made a contribution to the project of £50K.



Figure 1 - Parkside Tower, Chelmsford



Figure 2 - A Typical Flat at Parkside Tower Post Sprinkler Installation

Mornington House (£50,000)

The following project completed on the 11th December 2014 was Mornington House, Southend. Mornington House is a four storey building containing 52 flats with a number of residents being classified as vulnerable. The building was initially constructed in 1928 and has been remodelled several times throughout its life, the remodelling has led to the creation of cavities and voids within the premises, which present a hazard to fire-fighters and did so on the 26th July 2007 when a fire broke out in a flat. The fire entered the cavity and spread undetected breaking out at roof level and affecting the flats it passed.

The cost of the sprinkler installation at Mornington House has been £118K and ECFRS has made a contribution to this of £50K



Figure 3 - Mornington House, Southend

Brooke House (£65,000)

Two bids were initially received from Basildon Borough Council, the first one being for Brooke House, an iconic listed building in the heart of Basildon Town Centre. It is a 1960's built tower block containing 84 flats. Some of the flats contain persons considered vulnerable and due to the building's height a fire will pose significant risk to fire-fighters.

The estimated cost of installation is £150K and ECFRS has agreed to pay £50K towards the cost of the project upon completion. An additional bid has been received from Swan Housing who own 10 flats within this property, for which it has been agreed to award an additional £15,000. The project was completion January 2017 and £65K presented by ECFRS.

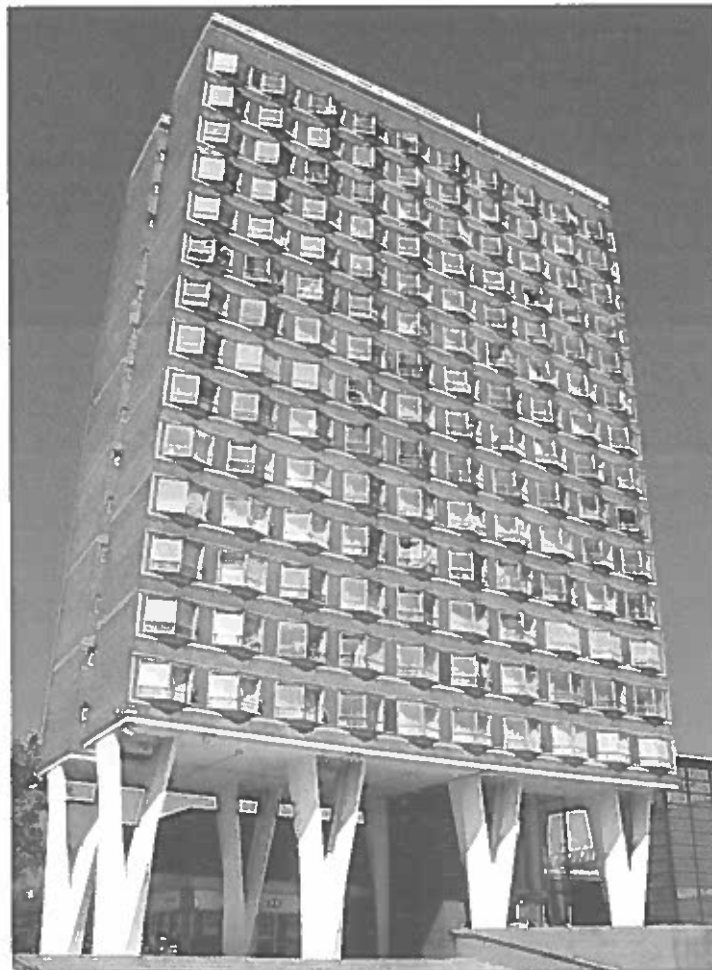


Figure 4 - Brooke House, Basildon

Bockingham Green (£10,000)

A second bid was received from Basildon Borough Council for Flats 6-11 and No.23 (a townhouse) Bockingham Green, Basildon. The 7 properties are located on the Felmores Estate in Basildon and were constructed in 1977 using timber framed construction and the properties were clad with timber weatherboarding.

The Estate has been subject of a number of serious fires in recent years, indeed the fitment of a suppression system in these properties is intended to be carried out as part of their refurbishment following a fire in Flat No.6 that spread and severely affected the surrounding properties.

Following the fire in August 2013, ECFRS carried out an investigation and produced a report on the fire. The report contained a number of recommendations that included consideration be given to fitting a suppression system to the properties.

Due to the nature of the construction and missing cavity barriers etc. fires starting within and on the exterior of the properties have spread quickly behind the cladding affecting multiple homes and causing significant danger to both the occupants and fire-fighters attending incidents.

The estimated cost of the project is £20k and ECFRS has made a contribution to this of £10K.



Figure 5 - Bockingham Green Basildon

5 Hostel Units – South Essex Homes Ltd (£90,000)

Application consists of 5 separate units owned by Southend Borough Council and run by South Essex Homes (SEH). They act as refuges for the homeless who are accommodated for a maximum of 6 months or until housed.

The units are made up of Flats which include a bathroom/wc or Rooms which have shared bathrooms/wc. all have their own kitchen area.

Each unit is a converted Victorian house (as pictured) with a shared lounge area, laundry room and corridors/stairs, the lounges are equipped with kitchen facilities, Computer, TV, sofa and armchairs. The laundry room has washer and dryer.

Unit 3 is for families with children, at the time of visit there was a single mother with 13 children and another with 10 children along with other smaller family groups.

Unit 4 is for what are classed as high risk individuals, these are people with mental worries, alcohol or drug related conditions etc.

The remaining units are single or couple occupancy classed as mixed use.

The estimated cost of installation is £250K and ECFRS has paid £90K towards the cost of the project.

Unit 1



Figure 6 -208 – 210 Southchurch Road – Mixed Use - 5 larger Flats + 11 Rooms

Unit 2



Figure 7 - 214 Southchurch Road – Mixed Use – 7 STD Flats

Unit 3



Figure 8 - 216 Southchurch Road – Family/Children Unit - 4 Flats + 16 Rooms

Unit 4



Figure 9 - 228 Southchurch Road – High Risk Unit – 8 Flats

Unit 5



Figure 10 - 94 – 98 Southchurch Avenue – Mixed Use – 17 Flats

Enoch House – Retirement/sheltered housing - Colchester Borough Homes (£50,000)

Enoch House is located on the Greenstead Housing estate. The scheme is made up of studio, one and two bedroom flats built in 1967 and refurbished in 1998. The properties are located in a two storey building with a lift between floors.

There are 36 units/flats housing between 36 -50 elderly residence many relying on wheelchairs and/or mobility scooters to get about. Each flat is made up of a separate bedroom(s), Kitchen, Lounge and bathroom.

Common/shared areas consist of corridors, stairways, lounges, kitchens, laundry, hairdressers, mobility scooter store/charging area and refuge stores.

The estimated cost of installation is £150K and ECFRS has paid £50K towards the cost of the project in August 2017.



Figure 11 – Enoch House



Figure 12 – Example of common areas

Alms Houses - Courtauld Homes of Rest (£14,244.00)

Courtauld Homes of Rest, a charity owning 20 properties (Alms Houses) built in 1923 to house the elderly of Halstead. Today it provides both single and couples in their later years of life with safe accommodation, many residents being in their 90's +.

The project estimated costs at £30K and start work mid-2016 completing early 2017.



Figure 13 – The Courtauld Homes of Rest

Pending Bids or Future Projects

Felmores Estate – Basildon Borough Council (£70.000)

Felmores Area is made up of 7 Estates, Bockingham Green, Winstree, Littlebury Green, Loxford, Bartlow End, Delvins and Malyons. Basildon Borough Council have applied to fit suppression to all properties on each Estate for the same reasons as detailed by the Bocking Green application previously.

The estimated cost of installation is £350K and ECFRS has agreed to pay £70K towards the cost of the project upon completion with the view of paying £10,000 per Estate as they are completed.



Figure 14 – Felmores, Basildon

The Robert Henry Falkner Alms Houses (£ TBC)

2 properties in Woodham Walter charity owned Alms Houses built to house the elderly, it provides single or couples in their later years of life with safe accommodation.



Figure 15 – The Robert Henry Falkner Alms Houses

University of Essex – Residential Tower Blocks (ETBC)

The University own 6 tower blocks each made up of flats to accommodate 14 to 16 students with central shared kitchen/dining area, bedrooms located on either side, shared showers and toilets on each side of the flat, two lifts in each building and an emergency staircase. There are some smaller flats at either the top or the bottom of each tower, each accommodating between three and seven students and there are some self-contained apartments.

Bertrand Russell Tower – 16 floors

William Morris Tower – 15 floors

Rayleigh Tower – 14 floors

Tawney Tower - 14 floors

Eddington Tower - 14 floors

Keynes Tower - 14 floors

The retro fit of suppression plans to be completed in phase's one tower at a time, Phases 1 is Bertrand Russell Tower, the highest, and a funding application has been received.

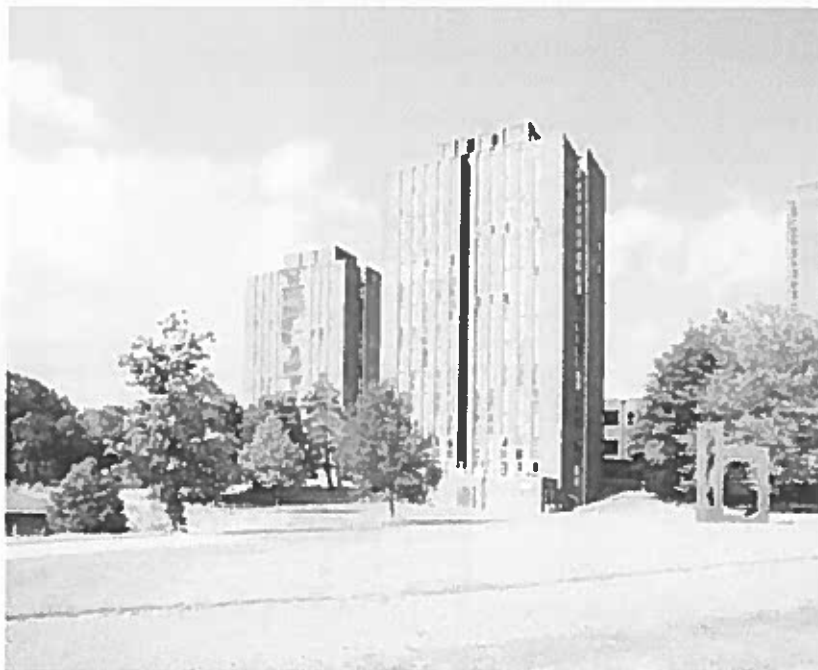


Figure 16- North Towers

Thurrock Council – Residential Tower Blocks (£TBC)

Thurrock Council own 15 Tower Blocks (3x16 floors, 6x15 floors, 3x14 floors, 3x12 floors)

1. Arthur Toft House, New Road, Grays, RM17 6PR
2. Bevan House, Laird Avenue, Grays, RM16 2NS
3. Brisbane House, Leicester Road, Tilbury, RM18 7SR
4. Butler House, Argent Street, Grays, RM17 6LS
5. Duvall House, Argent Street, Grays, RM17 6LP
6. Freemantle House, Leicester Road, Tilbury, RM18 7SS
7. George Crooks House, New Road, Grays, RM17 6PS
8. George Tilbury House, Godman Road, Chadwell St Mary, RM16 4TF
9. Gooderham House, Godman Road, Chadwell St Mary, RM16 4TW
10. Greenwood House, Argent Street, Grays, RM17 6LR
11. Keir Hardie House, Milford Road, Grays, RM16 2QP
12. Lionel Oxley House, New Road, Grays, RM17 6PP
13. Morrison House, Jesmond Road, Grays, RM16 2NR
14. Poole House, Godman Road, Chadwell St Mary, RM16 4TQ
15. Tasmania House, Leicester Road, Tilbury, RM18 7SP



Figure 17-Thurrock Tower Blocks

Thurrock Council have submitted 15 separate application forms each requesting funding.

5 Hostel Units – South Essex Homes Ltd (ETBC)

ECFRS have received five funding applications from South Essex Homes; all properties are in the Southend on Sea area and have homeless vulnerable residence with limited life skills and numerous social problems that range from being subject to physical abuse to alcohol addiction and drug abuse. In addition, some residents have mental challenges leading to their struggle to undertake everyday tasks.

Essex County Fire and Rescue Service have joint funded five similar properties with South Essex Homes contributing a total of £90,000; the new application will result in all South Essex Homes properties (of this occupancy group) being fully protected by Sprinkler systems.



Figure 18-Chaucer House, 2 Storey housing 45-75 persons



Figure 19-Trinity, 3 Storey, 25-40 persons/Valkyrie, 3 Storey, 14-25 persons



Figure 20-Valkyrie, 3 Storey, 20-35 persons/Chancellor, 3 storey, 25-40 persons

Feedback

There has been nothing other than positive feedback from applicants and residents. Comments that have stood out are compliments about the Sprinkler Installation Companies who work closely with the residence to minimise inconvenience.

The other areas of comment are regards the finished results and appearance which are to a high standard.

Residence have commented as to how much safer they feel within their own home and that they feel valued by their community.

There has been one reported activation and no problems with any system fitted in Essex to date.

Activation

Within a year of installation, Parkside Tower had a Sprinkler activation following a kitchen fire caused by an unattended chip pan. One Sprinkler head activated containing the fire; full details are in appendix A.

Conclusion

The sprinkler funding scheme has been a great success, ECFRS paid out or pledged £160K of its £250K budget for 2014/15 and has bids being processed for up to a further £98K, meaning that the first year's budget was oversubscribed; this has carried on through the following years.

The sprinkler funding currently pledged will mean that ECFRS will have assisted in the provision of sprinkler systems in over 600 premises that are home to vulnerable persons and/or in premises that constitute significant risk to fire-fighters.

Appendix A

Sprinkler Save – Parkside Tower Chelmsford

At approximately 20:10 hours on Sunday 27th March 2016 a kitchen fire occurred on the 13th floor of a 15 storey tower block in Chelmsford, Essex. The fire involved cooking oil within a chip pan which had ignited.

At the time of the fire, the occupier of the flat had gone into her bedroom to make a phone call leaving the pan unattended. She was alerted to the fire by a smoke detector actuating and left the flat.

The premises were fitted with a sprinkler system and the side-wall head nearest to the cooker reached its activation temperature and activated. The fire was controlled by the single sprinkler head and no other sprinklers in the flat or building operated as a result of the fire.

Fire damage is reported to have been confined to the kitchen itself (5m²) consisting mainly of smoke damage. No injuries are reported to have occurred.

The 53 flat building was the first to be awarded funding from the ECFRS in May 2014. The total cost of the project was £170,000. ECFRS contributed £50,000, the maximum amount allowable for a single project under the scheme.



Photograph 1 - Parkside Tower, Chelmsford

Below are links to the ECFRS and Chelmer Housing Partnership websites where the fire is reported:

http://www.essex-fire.gov.uk/news/Sprinkler_stops_flat_fire/

<https://www.chp.org.uk/news-and-events/sprinkler-system-douses-flat-fire-1009>

Unfortunately, no photographs were taken of the flat a Parkside Tower following the fire, however the photographs below clearly show the difference in levels of damage following a sprinkler suppressed chip pan fire and an unsuppressed chip pan fire.



Photograph 2 - Supressed Chip Pan Fire in a Flat (sprinkler head circled)



Photograph 3 - Unsupressed Chip Pan Fire in a Flat

The costs of flat fires are hard to quantify as some fires will never develop beyond the incipient stage whilst others if unsuppressed will progress to flash over and full development, possibly spreading beyond the flat of origin to affect escape routes and other flats. Costs that need to be considered are not only those to restore the flat and affected areas but also the cost of re-housing residents (both those directly affected in the flat of origin and those others where their dwelling has also been impacted by the fire and has become uninhabitable), loss of rent, increased insurance premiums etc.

These costs can add up significantly, as is highlighted in the case study from the tragic fire at Waddell Court, Glasgow from the BAFSA Report 'Safer High Rise Living – The Callow Mount Sprinkler Retrofit Project' below.

<http://www.bafsa.org.uk/pdfs/publications/1/00000111.pdf>

'At 0256hr on 16 December 2011 a fire occurred on the fifth floor of a block in Waddell Court. Tragically, one male resident died and two others needed hospital treatment. In the immediate aftermath only 18 of the 77 residents were able to return to their home.

While some of those that were rehoused were able to return within a few weeks of the fire, 10 tenants were in temporary housing for 10 weeks, 6 for 6 months, and the remaining 3 for 11 months.

Excluding the degree of tenants' personal property losses (which are often uninsured), Glasgow Housing Association report the total cost of the fire, rehousing, repair and refurbishment work, loss of rent and other costs to be £2.6 million. This unplanned expenditure will have to be found from within existing budgets. Such a sum could have paid for the installation of sprinkler systems in over 2,500 flats (based on the Sheffield pilot project outcome costs).

In addition, the inclusion of sprinklers in the original refurbishment programme would have only increased the total cost by approximately 2 % per block (£80k) but the subsequent fire aftermath cost 30 times that amount.'

A final consideration is that the various reports concentrate on the danger to the residents of the flats, however from bitter experience the UK Fire & Rescue Services are well aware of the dangers of fighting fires in high rise premises. The sprinklers at Parkside Tower in Chelmsford operated as designed protecting the lives of the resident of the affected flat, the residents of the affected floor and adjacent floors and the firefighters deployed to deal with the incident.

