



Essex Police, Fire and Crime Commissioner Fire and Rescue Authority

Decision Report

Report reference number: 007-22

Government security classification: Official-Sensitive (Commercial)

Title of report: Breathing Apparatus Training Refurbishment Projects Phases 1 and 2

Area of county / stakeholders affected: Service wide

Report by: Director of Corporate Services / Head of Property Services

Date of report: 16 February 2022

Enquiries to: Karl Edwards, Director of Corporate Services

1. Purpose of the report

In 2019, through engagement with ECFRS, it was identified that a number of breathing apparatus (BA) chambers required investment to refurbish and modernise our BA training facilities. The last set of BA chamber upgrades was undertaken in 2010 and, through repeated use, have reached the lifespan of degradation. Equally the upgrading and refurbishment works will allow for all chambers to be brought up to the same standards and therefore the same quality and BA training techniques can be delivered in all BA Chambers across the county (further details of these benefits are provided in section 3 of this decision report).

Designs were agreed with key stakeholders, specified, and tendered through the Essex County Council contractor framework. This report contains the tender analyses for phases 1 and 2 out of a three-phase works plan for consideration and agreement.

2. Recommendations

█ That the PFCCFRA considers the content of this report and its appendices, █
█

█ The tender analysis for BA works phase 1 is noted at Appendix 1 and authority given to release the construction contract to █

The tender analysis for BA works phase 2 is noted at Appendix 2 and authority given to release the construction contract to [REDACTED]

4. To approve the total expenditure of £961,671.90 against the awarding of contracts for the completion of both Phase 1 and Phase 2 BA Chamber works. *Phase 3 is not included and will be subject to further approval on completion of the tender outcome.

3. Benefits of the proposal

All of the BA chamber upgrades are designed around the need to provide realistic training that supports the requirements of National Occupational Guidance (NOG) and therefore National Occupational Standards.

The main focus of these upgrades is to improve the ability to develop our operational crews in the following areas:

1. Core BA skills
2. The use of thermal imaging technology
3. Tactical ventilation using positive pressure (PPV)
4. The smoke blocker curtain

Most chambers have not had any significant change to their layout since their construction leading to crew familiarity. The proposal will improve competency in the use of thermal imaging technology for search capabilities by replacing previously fitted mesh caged internal walls with robust modern construction materials that would reflect what crews would encounter operationally which give completely different thermal signatures. Changing the internal wall configurations and construction from cages to solid features will also enable crews to practice positive pressure ventilation tactics. Introducing background heating to the chambers will significantly aid the use of the thermal imaging camera that struggles to operate in cold conditions where all surfaces are of an equal temperature and therefore not teaching crews how to read the camera correctly.

Changing certain door sets from single solid to stable type doors will give the opportunity to practice positive pressure ventilation tactics in chambers with a restricted number of inlets / outlets. Changing certain door types and direction of openings will also allow better use of internal space and support the training of the new smoke blocker curtain.

Extended works on key chambers:

Upgrading the following chambers will give flexibility in contingency planning to release Orsett Training Centre (OTC) for the sole purpose of delivering 'Maintenance of Competency' (D&A live fire) if / when Wethersfield Training Centre (WTC) is re-located.

Chelmsford

As one of the main BA training venues for the service, Chelmsford requires upgrades to maintain the ability to provide suitable and sufficient training that is realistic and challenging. Upgrades to the tunnel system will enable us to deliver training on sewer incidents as required under NOG at a second training venue (currently only OTC has this capability), giving flexibility to deliver training at multiple venues, especially as OTC's live fire training requirement is increasing year on year making it more challenging to schedule other courses.

A new swing wall will create the ability to compartmentalise the ground floor area so there is improved diversity of training such as PPV and thermal imaging technology.

Harlow / Clacton

Extended upgrades to Harlow and Clacton are based upon the following criteria:

- Strategic locations within Essex in relation to the existing main BA training facilities
- Existing design
- Support facilities such as access to classrooms etc.
- Option to utilise as another training delivery centre if additional capacity was required due to the increase in courses being required each year or another main venue came offline.

Failure to implement upgrades could result in the following:

- Non-compliance with NOG training in relation to realistic conditions.
- Restrictions in the ability of crews to meet increased demand for competency via PDR-Pro in certain risk critical elements.
- Not enough venues with capacity to meet the requirements of competency for the service.
- Failure in business continuity if the main BA training venues come offline.

4. Background and proposal

Through decision 001/20, the PFCCFRA agreed to enact the recommendation of the Strategic Board meeting on 28 January 2020 by:

- a) Investing a total of £1,993,240 to refurbish our BA facilities and provide a fit for purpose Safe Working at Heights rig (please note this paper does not include information concerning the Working at Heights rig and is specific to BA Chambers only).
- b) Approving the use of £1,993,240 from the capital budget for an 18-month period commencing in April 2020.

Work was undertaken to meet with all parties, design updated facilities, specify and tender works to complete the requirements.

Three phases were identified to meet with the requirements of the Essex Construction Framework provided through Essex County Council. ECFRS has utilised the Essex Construction Framework as the route to tender as this framework has already vetted the contractors on the basis of cost, quality and health and safety. [REDACTED]

[REDACTED] Once Essex County Council has issued the tender, ECFRS undertakes the tender return evaluation through to award.

The three phases are as follows:

Phase 1 – Grays, Southend, South Woodham Ferrers and Chelmsford.

Phase 2 – Brentwood, Braintree.

Phase 3 – Clacton, Harlow, and Saffron Walden.

Phase 3 contains all the station BA chambers that require planning permission to undertake works and have been programmed for later in the year to allow for the planning processes to complete.

ECFRS originally appointed an external consultant to deliver specifically on this aspect of BA chamber refurbishment and upgrade works. Due to ongoing issues with the consultant the

original tender process was delayed, which resulted in ECFRS not evaluating and awarding when the original tender process took place. This led to a further delay in re-tendering for the project during the pandemic and has resulted in increased pricing when framework contractors have had to re-price within a construction industry environment of increased material costs.

The Training Department, using the national training standards, has identified improvements required to the BA chambers across Essex to assist local and group activities. BA training is a core skill requiring regular and repeated exercises to ensure appropriate standards are achieved.

Usually, BA chambers are simple brick-built constructions of varying sizes with integrated mechanical and electrical systems to recreate dark, smoky, heated environments.

As indicated above, the works have been split into areas to suit the Essex County Council Contractor framework as follows:

Phase 1	Phase 2	Phase 3 (not included in this report)
Grays	Braintree	Clacton
Southend	Brentwood	Harlow
Chelmsford		Saffron Waldon
South Woodham Ferrers		
To be completed mid-June 2022, subject to Training planning	To be completed mid-June 2022, subject to Training planning	To be completed mid-November 2022, subject to Training planning

Phases 1 and 2 are internal and external refurbishments including:

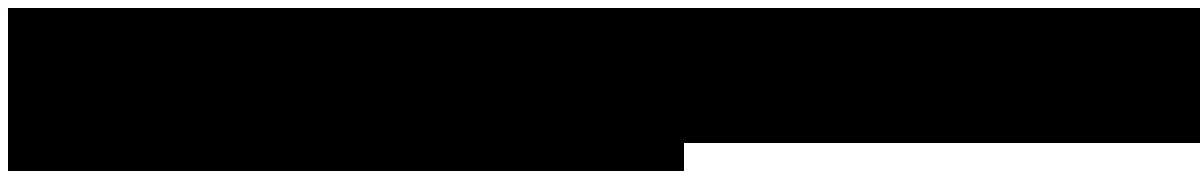
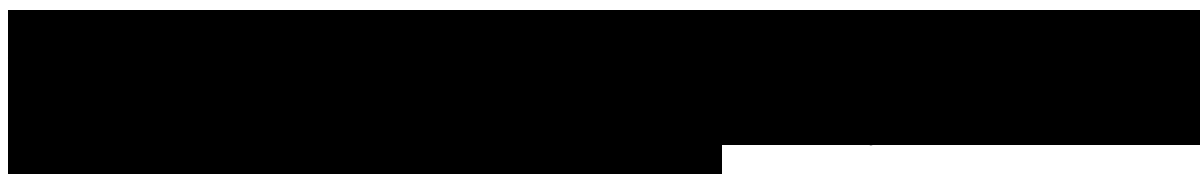
- Complete strip out
- New windows and doors
- New flat roof coverings
- Pitched roof repairs
- New handrails to staircase and roof
- New internal walls and doors
- New smoke systems and new enclosures where required
- New heaters
- Repairs to tunnels where present
- M&E works including lighting, ventilation, and controls
- New soffits, fascias and rainwater goods
- New basement sump pumps where required

Phase 1 original tender and updated tender figures:

Contractor	Adjusted Tender Sum £	Confirmed Tender Sum (November 2021) £	Difference £
	£585,364.26	£648,047.00	£62,682.74
	£645,607.61	£681,415.90	£35,808.29
	£822,006.76	£859,438.75	£37,431.99

Phase 2 original tender and updated tender figures:

Contractor	Adjusted Tender Sum £	Confirmed Tender Sum (November 2021) £	Difference £
	£244,138.38	£272,397.00	£28,258.62
	£260,618.02	£280,256.00	£19,637.98
	£355,845.73	£366,812.73	£10,967.00



5. Alternative options considered and rejected

Do nothing / decline

Most BA chambers have not been renovated since 2008 or earlier.

Realistic and updated training operations may not be available.

Competency levels may fall below acceptable levels

The funding will not be required from reserves.

Approve

The full tender process has now been completed and we are in a position to authorise the construction contracts. Phases 1 and 2 of the building works, due to take 3.5 months, will be able to progress.

The station BA chambers in scope will be fully modernised and enable more realistic training scenarios for operational firefighters, maintaining and raising competency levels for times when BA is required on the fireground.

6. Strategic priorities

FIRE AND RESCUE PLAN PRIORITIES	
Prevention, Protection and Response	Enabling the BA Chambers to be re-furbished and upgraded will allow ECFRS to ensure it is delivering against the Operational Training Strategy, which enables all firefighters to be trained to the highest standards. BA training is one of the most risk critical training activities that requires BA assessment on a quarterly basis.
Improve Safety on our Roads	Not applicable to this workstream
Help the Vulnerable to Stay Safe	Those most vulnerable within our communities are more likely to require rescue or be exposed to a fire related incident. It is imperative that our firefighters are trained to the highest standard to ensure effective rescue can be achieved. One of these essential training activities is that of BA training. This enables a firefighter to quickly access a hazardous environment to perform search and rescue of those at risk.
Promote a Positive Culture in our Workplace	Ensuring that our BA Chambers are all brought up to the same standards across the county will allow all firefighters to receive the same level of training, closest to their station ground and enable greater opportunities for training within a live fire scenario / environment. These works clearly demonstrate the commitment to ensuring that that our training facilities are maintained to the highest standard and provides a positive working environment for all frontline firefighters.
Develop and Broaden the Roles and Range of Activities undertaken by the Service	Enables ECFRS to practice utilisation of positive pressure ventilation (PPV) which cannot currently be exercised.
Be Transparent, Open and Accessible	The delivery of this project conforms to the legislative requirements of procurement and an open and transparent tender process has been adopted through the use of a vetted construction framework.
Collaborate with our Partners	Having a modern and up to date set of training BA chambers will allow ECFRS to engage with partner agencies offering joint training opportunities. For example, joint training with other fire and rescue services and joint training with the East of England Ambulance Hazardous Area Response Team (HART).
Make Best Use of Our Resources	The refurbished and upgraded BA Chambers will allow for best use of resources as firefighters will be able to access parity of BA training close to their station ground and avoid out of area travel, making them more accessible and available to respond across a range of activities.

7. Operational implications

ECFRS has a duty to protect the health, safety and welfare of our employees and other people who might be affected by our business. We must do whatever is reasonably practicable to achieve this; this includes training. Failure to deliver the facilities in support of the training strategy would have implications for the health and safety of our operational staff and place the service at risk should an injury or death occur.

The Training Department has been fully consulted and engaged in the design process and timetable for all three phases of the planned BA works.

The Training Strategy outlines the future expectations for training facilities. Given the critical nature of Breathing Apparatus training it is unlikely that these will change.

8. Financial implications

The following funds have been allocated within the capital budget. Once agreed, further analysis will be required to ascertain the spends for capital years 2021/22 and 2022/23.

Phase 1 - Chelmsford, Greys, Southend, South Woodham Ferrers	504,000
Phase 2 - Braintree, Brentwood	233,000
Phase 3 - Harlow, Saffron Waldon and Clacton	500,000
Witham TC Working at Height	70,000
Wethersfield TC room / Pilot scheme Grays	130,006
Consultancy	8,682
	1,445,688

Phase 3 works are still in the design stage and have not yet been tendered. Capital allocation will be updated post further information regarding proposed cost and timeline in terms of delivery against the required specification.

9. Legal implications

The construction contracts for phases 1 and 2 are standard Joint Contracts Tribunal (JCT) minor works contracts. Given the contract values, the contracts will be by agreement and not sealed with the official order forming the authorisation.



With lower construction costs, smaller groupings, and minimised specialist materials the standard JCT contract will cover any material increases during the course of the construction.

10. Staffing implications

Operational Training is a standard agenda item at each of our JNCCs with representative bodies. These forums, together with the Learning and Development Steering Group and the Advisory Group, are our key engagement mechanisms.

The work required to refurbish and upgrade the BA chambers across Essex has been closely scheduled in partnership with the training department to ensure that close planning of BA activities can continue to be achieved. In order to maintain this schedule, ECFRS needs to award the contract to the successful contractor by 21st February, which will provide enough notice to commence works and deliver each of the phases within the agreed timeframe allowing BA Training to continue with this year's training plan.

11. Equality and Diversity implications

We have considered whether individuals with protected characteristics will be disadvantaged as a consequence of the actions being taken. Due regard has also been given to whether there is impact on each of the following protected groups as defined within the Equality Act 2010, with none being identified:

Race	N	Religion or belief	N
Sex	N	Gender reassignment	N
Age	N	Pregnancy & maternity	N
Disability	N	Marriage and Civil Partnership	N
Sexual orientation	N		

12. Risks

The decision to invest in the BA training facilities is directly linked to strategic risk **SRR150020**:

'The Service does not provide training to ensure that staff have the skills required to provide an effective operational response to the Essex public and ensure the safety of operational staff in line with the Health & Safety at Work Act, the Service does not provide training to ensure that all employees have the skills to carry out their roles.'

This risk is cross referenced to strategic risk SRR150014 –

'There is a risk that through action or non-actions by the Service, there is a fatality of a member of staff or the public'

The Operational Training Strategy and the investment in training facilities will ensure that these strategic risks are appropriately managed.

13. Governance Boards

The tender was let for the refurbishment and upgrading of BA chambers post the approval of decision report 001/20, through which the PFCCFRA agreed to enact the recommendation of the Strategic Board meeting on 28 January 2020.

This decision report was discussed at an extraordinary meeting of the Strategic Board on 17 February 2022.

14. Background papers and appendices

Background papers

Decision report 001/20: Operational Training – Investment in Training Facilities

Appendices

Appendix 1 – Tender Analysis Phase 1

Appendix 2 – Tender Analysis Phase 2

Decision Process (007-22)

Step 1A - Chief Fire Officer Comments

(The Chief Fire Officer is asked in their capacity as the Head of Paid Service to comment on the proposal.)

.....

.....I support this recommendation.....



Sign: Date:.....16/2/22.....

Step 1B – Consultation with representative bodies

(The Chief Fire Officer is to set out the consultation that has been undertaken with the representative bodies)

Representative bodies have been advised of the upgrade/refurbishment works and where required Health & Safety officials will be included during the works and equally on completion of the works. This will be governed through the ECFRS Health and Safety Board.

Step 2 - Statutory Officer Review

The report will be reviewed by the Essex Police, Fire and Crime Commissioner Fire and Rescue Authority’s (“the Commissioner’s”) Monitoring Officer and Chief Finance Officer prior to review and sign off by the Commissioner or their Deputy.

Monitoring Officer

Sign: 

Print: P. Brent-Isherwood

Date: 16 February 2022

Chief Finance Officer

Sign: 

Print:Neil Cross.....

Date: 16/2/22

Step 3 - Publication

Is the report for publication? **YES**

If 'NO', please give reasons for non-publication (Where relevant, cite the security classification of the document(s). State 'none' if applicable)

Official-Sensitive (Commercial)

If the report is not for publication, the Monitoring Officer will decide if and how the public can be informed of the decision.

Step 4 - Redaction

If the report is for publication, is redaction required:

- 1 **Of Decision Sheet** **YES**
- 2 **Of Appendix** **NOT FOR PUBLICATION**

If 'YES', please provide details of required redaction:

The report contains commercially sensitive information

Date redaction carried out: 18-02-2022

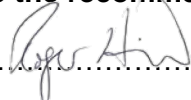
If redaction is required, the Chief Finance Officer or the Monitoring Officer are to sign off that redaction has been completed.

Sign:  Print: Neil Cross

Date signed: 21.09.2022

Step 5 - Decision by the Police, Fire and Crime Commissioner or Deputy Police, Fire and Crime Commissioner

I agree the recommendations to this report:

Sign:  (PFCC)

Print: Roger Hirst Date signed: 23 February 2022