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Title	Colchester Local Full Fibre Network Fund – Implementation 2019-21
Wards Affected	All

1.   Executive Summary

1.1   In 2017 the Cabinet adopted the Digital Strategy 2017-22. The main aim of the strategy was to make the Borough the best connected in the East of England by 2022

1.2   Work to date has seen the introduction of Ultrafast internet to the town centre and businesses across the borough

1.3   The Department for Culture, Media, Sport and Digital (DCMS) in January 2019 confirmed to Colchester Amphora Trading Ltd (further, CATL) that it had been successful in bidding on behalf of CBC for £3.45m under the Government's Local Full Fibre Network Fund (LFFN), to finance the build of three major fibre infrastructure projects to improve Colchester's digital connectivity. This deployment will form the major part of the implementation of the Council's Digital Strategy 2017-22.

1.4   There are a number of "gateways" to pass through before final sign off from DCMS and these are currently being worked through by the project team

1.5   This report sets out the scope of works to be undertaken and the capital required to forward fund the works that will all be reclaimed from DCMS

2.   Recommended Decision

2.1   To agree to the deployment proposals as described below.

2.2   To agree to provide £3.45m in forward funding for the project implementation, which will be reclaimed from DCMS in full.

2.3   To delegate the award of contract to contractors for the design and deployments works to the Strategic Director Policy and Place in consultation with the Portfolio Holder for Resources

3.   Reason for Recommended Decision

3.1   The opportunities presented to the Council and the Borough by the DCMS funding are unique and are unlikely to be repeated. They represent an opportunity to make a very significant improvement to the Borough's infrastructure that will have a positive benefit for residents, business, the Council and its businesses, for many years to come.

3.2   The project team has confirmed that the major telecoms operators (BT, Virginmedia, as well as the newer builders of fibre networks, including CityFibre) have no plans to deploy fibre at scale in urban Colchester. However, the creation of a market-disruptive infrastructure is likely to accelerate such plans and will have a beneficial effect on competition, customer choice and the Borough's overall economic position. Suffolk, Chelmsford and Norwich have impending large-scale fibre deployment plans and it is essential that Colchester does not fall behind them in the creation of this infrastructure.

4.   Alternative Options

4.1   CATL has engaged over the past two years with the major telecoms operators, including the builders of urban fibre optic networks, such as City Fibre, Hyperoptic and Gigaclear. Colchester does not offer the scale required for their deployments, although Gigaclear will be working to deliver ultrafast connectivity in the rural parts and is already connecting a small number of customers in them. This means the only viable solution is for the borough to take the lead in deploying the infrastructure

4.2   Broadband provision in Colchester remains poor, although it has improved since 2015, when a benchmarking study by the Centre for Cities scored Colchester 57th of the largest 65 towns and cities in the UK for broadband speeds. Nonetheless, with the likely deployment of fibre networks in the neighbouring towns in the coming years, it is essential that Colchester maintains its 3-year lead in the deployment of this type of infrastructure. Fewer than 1% of connections in Colchester are "pure-fibre" capable of delivering gigabit speeds; this compares with 8% across the UK (the level in Chelmsford and Norwich is near-zero). The LFFN project will facilitate up to 20,000 connections within the first five years, some 25% of all addressable buildings (business and residential).
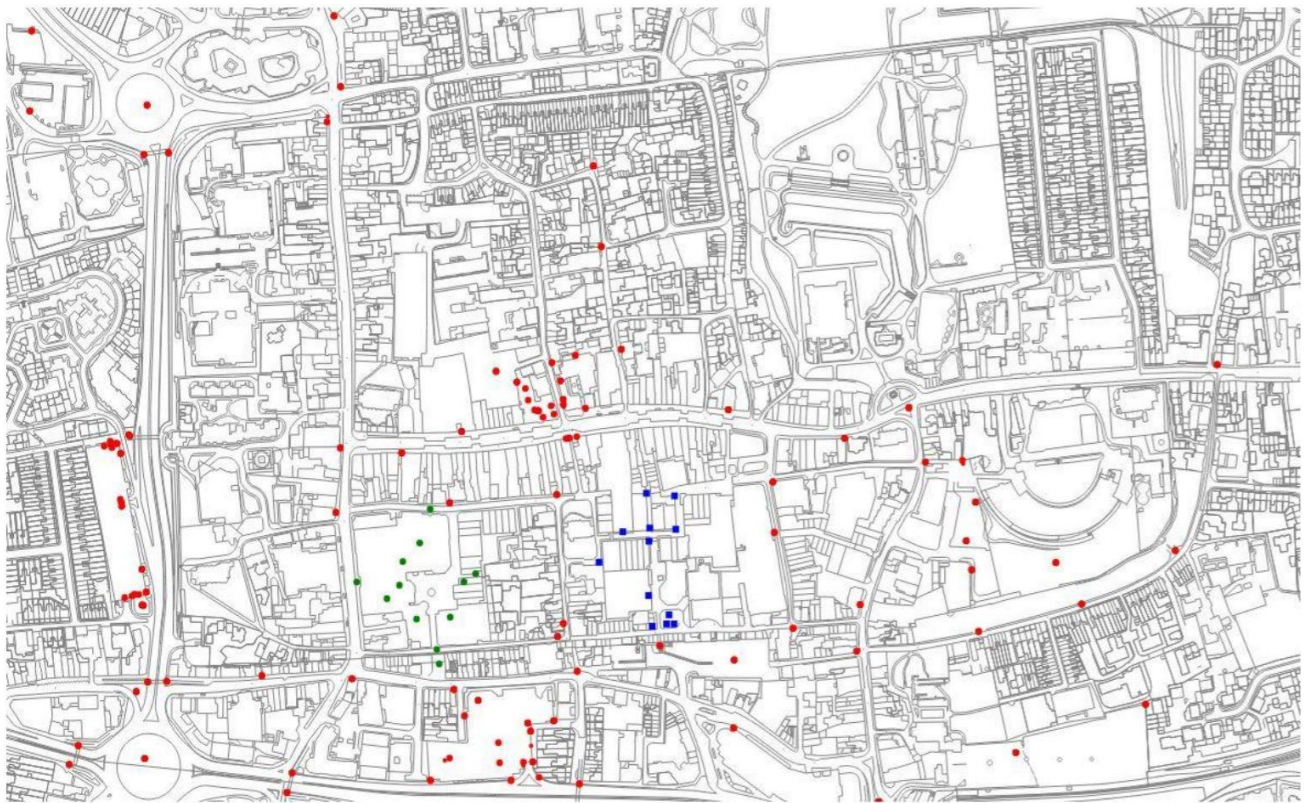
5. Background Information

5.1 **The technical proposals – what will be deployed**

There are three parts to the project. These are to be tendered as separate lots:

1. **Town Centre:** The existing town centre fibre network will be greatly expanded to include another 125 access points to which customers can be connected. This will be achieved by converting all the existing CCTV cameras into multi-purposed distribution nodes, capable of providing ultrafast broadband, digital CCTV and future radio deployments, including 5G transmitters.

The critical outcomes of this part of works will be making the connection of new customers far quicker, cheaper and easier than is currently the case; and providing the primary infrastructure for the separate, future modernisation of the CCTV system.

The area to benefit from this upgrade is indicated in the diagram below. The red dots indicate CBC-owned infrastructure; blue are connection points across Lion Walk and green relate to the Culver Square estate. Both Lion Walk and Culver Square will be included in this part of the deployment.
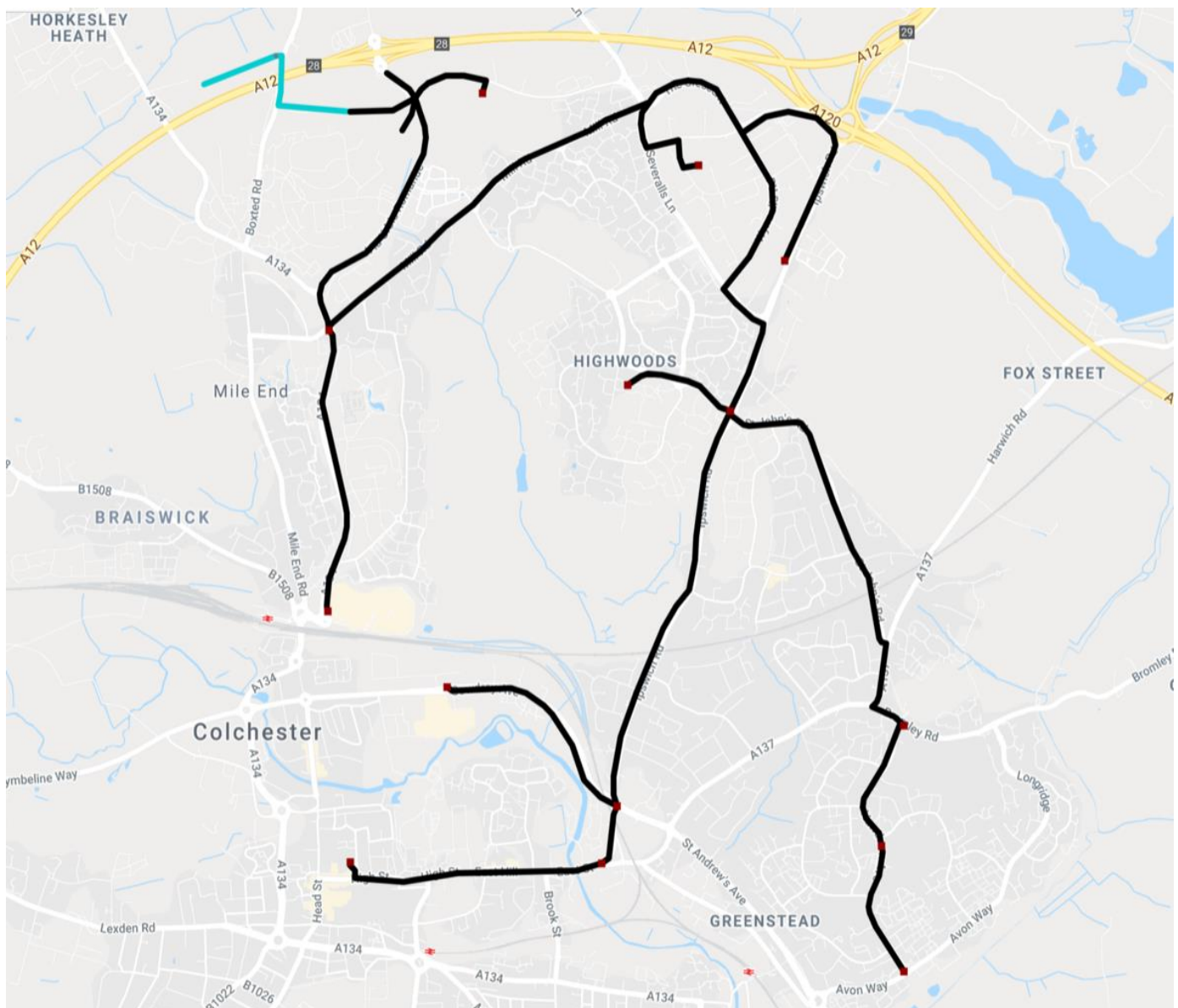

2. **Northern Gateway and GTT Integration:** A new network infrastructure will be built across the Northern Gateway to showcase the benefits of this new technology to both the residential and commercial buildings that will be constructed across the zone. Every new home built across the Northern Gateway will come with gigabit internet connectivity, enhancing their attractiveness and potential sales value. Every commercial site will come with world-class connectivity directly linked to the UK's core internet exchange in London.

Additionally, the forthcoming district heating centre will also house a network headend providing a connection point to GTT, the operators of the UK's core fibre optic infrastructure, in order to provide unlimited internet capacity to Colchester. This connection will provide a direct link, for the first time, between Colchester and Telehouse

(the UK's primary internet exchange) as well as 35 major cities across Europe. The joint deployment of the fibre network and district heating system will showcase best-case deployment methods aimed at reducing costs and underscoring our commitment to an "infrastructure first" approach.

3. **"Metronet" build:** A large (24km) network of ducts, street chambers and street cabinets will be built to link the town centre and Northern Gateway networks. It is anticipated that the majority of this will be built using narrow-trench digging, which is a less disruptive approach to deployment than traditional dig and backfill (and far less costly). Critically, it is now permitted by Essex Highways as a way of expediting the deployment of fibre optic networks.

The metronet is a vitally important part of the project in that it will provide the core infrastructure to deliver gigabit technologies to a large footprint of urban Colchester, including Greenstead and the Hythe. A map of the metronet is included below. The black lines show the duct runs, while the red squares are street cabinets that will be equipped to facilitate at least 2,000 customer connections each.

5.2 **The impact of the infrastructure:** There will be major **Social Uplift Outcomes.** All CBH's sheltered housing developments will be offered the opportunity to secure ultrafast internet at zero capital cost as a result of the project. This will boost both business productivity, provide affordable, world-class connectivity to residents should they want it, and install the technologies required to deploy "smart" home and care solutions to assist in providing for vulnerable people, particularly the elderly.

Importantly, the deployments to CBH's sheltered housing developments will also be able to serve as "nodes" for the development of local connectivity clusters around them as future funding and commercial opportunities allow. A number of these developments are in the western part of the Borough to which the metronet cannot be extended under the current project due to cost considerations (the same applies to Mersea). In this way, parts of the Borough not covered by the core network build will nonetheless be able to take advantage of gigabit technologies.

6. Equality, Diversity and Human Rights implications

6.1 A comprehensive EIA assessment has been undertaken in preparing this paper. It identifies many positive outcomes from the project, particularly for the care of the elderly and providing the opportunity to deliver world-class connectivity to disadvantaged sections of Colchester's population. No discriminatory aspects have been identified.

6.2 The full EIA is available at the following link:

https://cbccrmdata.blob.core.windows.net/noteattachment/CBC-EQIA-Full-Fibre-Deployment-EqIA%20-%20Colchester%20Full%20Fibre%20Deployment%20-%2021%20October%202019.pdf

6.3 No potential breaches of human rights have been identified.

7. Standard References

7.1 This report details references to a number of elements of the Strategic Plan; describes consultation undertaken with a wide range of stakeholders, the publicity, financial, community safety, H&S, and risk management implications of the undertaking.

8. Strategic Plan References

8.1 The LFFN project aligns closely with a number of key strands of the Strategic Plan 2018-21. In particular, it furthers the aims of:

Growth: Ensure residents benefit from Colchester's economic growth with skills, jobs and improving infrastructure; promote inward investment to the borough; develop jobs, homes, infrastructure.

Opportunity: Promote green technologies through initiatives such as SMART cities; help business flourish by supporting infrastructure.

9. Consultation

9.1 Extensive consultation has taken place with a very wide range of internal and external stakeholders during the engagement with DCMS. The stakeholder mapping has been one of the key elements in our submission for funding and has described in detail the ways in which we have explained the benefits of the project and the desired outcomes/uplifts expressed by the various stakeholders.

10. Publicity Considerations

10.1 Our success in securing LFFN funding is a major one. There were initially more than 90 applications from Local Authorities to the LFFN fund over its duration, with fewer than a dozen eventually receiving funding and only two – Colchester and Stoke – being approved as examples of "public asset re-use" projects. CBC's Comms Team has maintained regular press releases and other updates relating to fibre deployments and the positive testimonials of new customers enjoying the technologies that were previously unavailable to them.

10.2 A website/portal – www.colchester-fibre.co.uk – will promote awareness of the project as it grows, carry a postcode checker enabling interested parties to check whether they can access the networks, and advertise both service providers and the products they wish to deliver to market over our infrastructure. This page, once it goes live, will also carry customer testimonials to promote the positive news angles of the project.

10.3 There are likely to be no overly controversial issues associated with the deployments beyond complaints about road and street works. These can be alleviated with appropriate explanation of the benefits the scheme will deliver. All such works will be notified in the usual way in accordance with the procedures operated by Essex Highways.

11. Financial implications

11.1 The deployment will cost £3.45m and needs to be forward-funded in full by CBC, with all capital costs repayable by DCMS upon submission of documented and evidenced monthly claims. The project must be completed and accounted for in full by the end of March 2021.

11.4 The financial appraisal of the project has been subject to external audit and analysis by AnalysysMason, in order to confirm that they are compliant with both State Aid principles and the Market Economy Operator Principle, as part of the bidding process. This confirmed that the project meets all requirements and demonstrates that no unfair market advantage is being conferred by the granting of Government funding.

11.7 A comprehensive market and local economy study undertaken in preparation for the bid, indicates that there will be a significant uplift to the value of the Borough economy of c.6% (£180m), if the work streams set out in the LFFN project are delivered in full.

11.8 A further project to set out the commercialisation of the new network and the outcomes of this will be set out in a further paper

12. Health, Wellbeing and Community Safety Implications

12.1 No potential, negative impacts of the deployment on health and wellbeing have been identified. Indeed, the impacts are likely to be positive, in that attention has been paid to the upgrading of connectivity to sheltered housing, public buildings and the

disadvantaged communities who may be ignored by the major incumbent telecoms operators.

12.2   The new fibre optic layer to be deployed across a large area will facilitate the cost-effective and far more rapid deployment of new or upgraded, digital CCTV systems. The current, analogue system is obsolete and unfit for purpose; it cannot be adapted to connect new cameras, including in those areas blighted by incidents of crime or ASB, and none outside the town centre. The deployment of the new fibre layer and associated electronics in the Town Hall means that a new system will be deployable at a far lower cost than would otherwise be the case, and that there is effectively no restriction on where cameras can be located.

13.   Health and Safety Implications

13.1   H&S implications arising from a large programme of street and road works will be the direct responsibility of the appointed contractor(s) during the build phase but will be closely monitored by the CATL project team.

Comprehensive Risk and Methodology Statements will be required for the phases of works and will be approved in consultation with the Project Team and, where appropriate, Essex Highways.

14.   Risk Management Implications

14.1   A Risk Register has been compiled and maintained throughout the whole engagement period with DCMS and will continue to be updated on a weekly basis to reflect dynamically changing risks and mitigation strategies.