

Report of Director of City Development

Report to Executive Board

Date: 2nd April 2014

Subject: Design and Cost Report for the Leeds (River Aire) Flood Alleviation Scheme

Are specific electoral Wards affected? If relevant, name(s) of Ward(s): City and Hunslet & Rothwell Ward	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Are there implications for equality and diversity and cohesion and integration?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Is the decision eligible for Call-In?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Does the report contain confidential or exempt information? If relevant, Access to Information Procedure Rule number: 10.4(3) Appendix number: C	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

Summary of main issues

1. The Leeds Flood Alleviation Scheme (LFAS) is a high priority scheme for the City which has the aim of defending the City Centre against a 1 in 75 year river flood event and the significant physical and economic damage that can result from flooding. Since becoming the Lead Flood Authority and taking the coordinating role of this project in Autumn 2010, the Council has continued to work with partners to develop proposals, secure external funding and drive down costs. In line with the Council's Best City ambitions, the scheme will ensure and support the further growth and regeneration of the Leeds economy, particularly in the South Bank area and also protect key transportation infrastructure and the high quality public services it supports. The movable weirs at Crown Point and Knostrop will place Leeds at the cutting edge of national flood defence schemes. The use of pioneering technology will be the first of its kind in the UK, thus raising the profile of Leeds both nationally and internationally.
2. Since the abandonment of the original 1 in 200 year Environment Agency scheme in 2011, on cost grounds, there has been rapid progress of this alternative scheme in terms of assembling the financial package and developing the detailed design proposals. In February 2012, the scheme estimate cost was in the region of £76m (Environment Agency's Alternative Options report dated August 2011). The expectation now is that the scheme will be delivered within the funding package of £44.8m. This report seeks approval to approve the proposals for the scheme and incur expenditure to deliver the LFAS as described in the report.

3. A Leeds Flood Alleviation Team has been assembled and appointed with the task of ensuring that the scheme is progressed. The advanced flood mitigation works started on site in Woodlesford late January 2014 and the main flood defence works within the City Centre will follow soon after.

Recommendations

The Executive Board is requested to:

- 1) Approve the scheme as described in the report.
- 2) Approve promotion of Leeds City Council unsupported borrowing of £4,540.0k from the Amber to the Green Capital Programme.
- 3) Authorise expenditure from the Capital Programme of £36,463.2k for the implementation of the Leeds Flood Alleviation Scheme works. Including costs of £75k to be incurred to investigate any surface water flooding issues.
- 4) Approve that Leeds City Council will take responsibility for maintenance and operation of all assets constructed as part of the Leeds (River Aire) Flood Alleviation Scheme, including the movable weirs, walls and terraces.
- 5) Give authority to enter into a legal agreement with a third party to incorporate a hydropower turbine into the water course adjacent to the location of Knostrop Weir.
- 6) Authorise the Director of City Development to negotiate and approve the detailed terms of:
 - a) the acquisition of land required to facilitate the construction of the moveable weirs at Knostrop and Crown Point; and
 - b) the incorporation of a hydropower turbine adjacent to Knostrop Weir
 - c) the licence to access property owned by the Canals & Rivers Trust to carry out works to remove a length of Knostrop Cut
 - d) the acquisition of the remainder of the island at Knostrop Cut
 - e) any lease or other agreement required to facilitate the relocation of the Trans Pennine Trail at Knostrop Cut;
- 7) Note that the Chief Officer Highways and Transportation will be responsible for the implementation of these actions.

1.0 Purpose of this report

- 1.1 This report updates the Executive Board on the progress of proposals to provide river flood defences for the City and to enable Members to agree a design freeze on the scheme.
- 1.2 This report seeks approval to incur expenditure to implement the LFAS City Centre and Holbeck works.

2.0 Background information

- 2.1 Currently, there are no formal flood defences along the River Aire. In 2000, the city centre was only centimetres away from flooding with further near misses in 2004, June 2007 and January 2008. It has been estimated by the Environment Agency (EA) that over 3,500 residential and commercial properties are at risk and approximately £400m of direct damage would be caused by a major flood from the River Aire in Leeds.
- 2.2 The Executive Board in August 2009 considered a comprehensive scheme for the River Aire, from Newlay Bridge to Woodlesford and agreed that a Managed Adaptive approach to protecting Leeds from major flooding from the river should be adopted by the EA.
- 2.3 In January 2011, the Council and the EA were informed by Defra that the comprehensive scheme would be subject to the new “payments for outcomes” funding assessment model. The latter prioritises residential flood protection schemes ahead of those that protect businesses and distributes the “flood defence grant in aid” accordingly. For Leeds, because of the predominance of businesses on the Waterfront, this means the potential central government grant is relatively low requiring the shortfall to be made up from significant external funding. In essence, this makes the Comprehensive Scheme unaffordable in the foreseeable future.
- 2.4 As a consequence and further to a constructive meeting with the Secretary of State for Defra in March 2011, alternative options were examined including a phased approach to introducing flood defences along the River Aire.
- 2.5 The Director of City Development submitted a report to Executive Board in February 2012 providing an update on the progress of proposals to provide flood defences for the city. In response to this, Executive Board acknowledged that the original comprehensive flood defence scheme would not be funded and in light of that gave approval for an alternative approach. The alternative approach aims to achieve a 1 in 75 year Standard of Protection for the City Centre area from Leeds Station to Knostrop Weir by the end of 2016.
- 2.6 A Leeds Flood Alleviation Team has been assembled to progress the scheme with a view to commencing on site late this financial year. External consultants have also been engaged to support the team in the design, technical development and build of the project.
- 2.7 In October 2012 a planning application was submitted for approval to remove Crown Point and Knostrop weirs and replace them with two movable weirs.

Planning permission was granted on the 1st May 2013. A condition was placed on the approval to undertake mitigation measures to prevent any increase in flood risk downstream of the movable weirs. The planning condition also stipulated that any mitigation works must be implemented before the movable weirs can be operated.

- 2.8 An EA study identified Woodlesford as an area of increased flood risk due to the proposed flood defence works. River modelling has demonstrated that the proposed city centre defences could in a flood event raise the water level at Woodlesford by 50mm. Currently Woodlesford has no defence against the possibility of river flooding. In light of the upstream works and their potential effect, works have commenced on site to achieve a 1 in 200 year Standard of Protection to Woodlesford.
- 2.9 A funding package for the LFAS works comprising of contributions from the City Council, the Regional Growth Fund, the Flood Defence Grant in Aid and Defra Growth Funding is secured totalling £44,812.0k with an additional £700k of funding allocated from Defra should it be required (subject to final approval).
- 2.10 The Director of City Development submitted a report to Executive Board in September 2013. In response to this, Executive Board authorised expenditure for the initial development and design of the LFAS and for the implementation of the advanced mitigation works in Woodlesford. Executive Board also approved an injection of funding into the Capital Programme of £3,362.0k from the Regional Growth Fund and £23,000.0k from the Defra Growth Fund.
- 2.11 The Chief Planning Officer submitted a report to the City Plans Panel in October 2013. In response to this, City Plans Panel approved the scheme in principle and resolved to defer and delegate the final approval to the Chief Planning Officer. Approval was also granted to allow the application for the necessary alterations to listed buildings to be referred to the Secretary of State.

3 Main Issues

3.1 Overview

- 3.1.1 The option to provide a comprehensive flood defence scheme to protect the City Centre against a 1 in 200 flood event is not financially viable as per paragraphs 2.1 to 2.5. An alternative options study was undertaken in November 2011. The Executive Board has previously acknowledged this and has given approval for an alternative approach to provide a 1 in 75 year Standard of Protection for the City Centre area from Leeds Station to Knostrop Weir by the end of 2016. Funding to design and implement this option has now been secured. The scheme has a positive impact on numerous stakeholders and protects key transportation infrastructure and the high quality public services they support. It is estimated that over 3,500 residential and commercial properties are at risk and approximately £400m of direct damage would be caused by a major flood from the River Aire in Leeds. Much of the key infrastructure for Leeds including the Inner Ring Road and key access routes to the train station area, telecommunications and broadband facilities, and sub stations are also within the 1 in 75 event flood plain. Most of the residential properties are situated in blocks of flats on floors raised above flood level and so whilst the contents of these buildings are not at risk, the residents are

vulnerable to the disruption caused by temporary loss of access. 154 businesses and 53 residential properties in central Leeds would be directly exposed to floodwater during a 1 in 75 year event and a further 101 residential properties downstream at Woodlesford.

3.1.2 To protect the City Centre against a 1 in 75 year flood event, whilst also being sensitive to the waterfront environment and visual connectivity, it is necessary to install flood defences. The flood defences will consist of a number of components which will collectively achieve this desired level of protection. This includes the provision of physical linear flood defences (walls, embankments, terracing), the installation of two movable weirs (Crown Point and Knostrop), plus the removal of a length of Knostrop Cut to merge the canal and River Aire. The scheme overview is shown on the following Appendix A drawings :

- LFD-SPE-ARP-Z1-DR-CC-0002 – City Centre Zone 1 General Arrangement
- LFD-SPE-ARP-Z2-DR-CC-0003 – City Centre Zone 2 General Arrangement
- LFD-SPE-ARP-Z1-DR-CC-0004 – City Centre Zone 3 General Arrangement
- LFD-SPE-ARP-Z2-DR-CC-0005 – City Centre Zone 5 General Arrangement

All defences are to incorporate a precautionary allowance for climate change to 2039, with provision for increasing defence heights to the post-2080 1:200 year standard of protection in the future.

3.2 Weirs

3.2.1 The movable weirs and associated infrastructure will replace two static Victorian structures known as Crown Point Weir and Knostrop Weir. Although not used previously in the UK, around 80 moveable weirs have been installed around the world since the 1980's. The movable weirs will hold the water at the same artificially high level as the existing Victorian Weirs, but during a flood event, they will be lowered to enable water levels to drop by half a metre. The innovative use of moveable weirs (along with the removal of Knostrop Cut see paragraph 3.7) means that the height and extent of the physical linear flood defence measures elsewhere can be reduced.

3.3 Walls

3.3.1 The linear defences stretch along 3.5km of the River Aire in the City Centre and 0.7km of Hol Beck. Defences have been designed to reflect their immediate surroundings and therefore vary throughout from brick and stone walls with glazed inserts where appropriate, raised walkways and small pocket parks, new and amended ramps/steps, flood gates, plus the use of gabion walls to a landscaped embankment at Knostrop Cut. The defences vary in height from 0.4m to 1.5m with the majority of defences 1.1m or lower. In most instances where the defences are greater than 1.1m, ground levels are also raised locally to minimise the visible height of the defence.

3.3.1 In some limited instances defences are also incorporated into existing buildings both internally and externally and includes the introduction of brick courses to existing openings, the application of a transparent membrane and the introduction of flood proof windows and doors.

3.4 Knostrop Cut

- 3.4.1 It is necessary to remove a 600m length of Knostrop Cut merging the river and canal. The river and canal will be re-graded increasing both conveyance and capacity downstream of the City Centre. Elements of the cut are retained at either end to ensure bridges are retained/provided across the river and canal. The removal of the cut and re-grading of the canal and river supports the impact of the movable weirs to minimise the height and extent of the physical linear flood defences within the City Centre.
- 3.4.2 The removal of Knostrop Cut requires the relocation of the Trans Pennine Trail (TPT) onto the left bank. The route crosses to the left bank via the two existing footbridges near to Knostrop flood lock, runs alongside the river then crosses back via a new footbridge upstream of Knostrop Weir. Careful design has balanced stakeholder concerns, allowing for selected access to the river bank, fishing points etc whilst still allowing for some protected areas. At the downstream end the TPT will ramp up towards a new footbridge that will bring the route back to the Knostrop Cut by the new Knostrop Weir.
- 3.4.3 It is estimated that in excess of 100,000m³ of material will be excavated from Knostrop cut and related works. To mitigate the risk of these arisings being solely transported to landfill, work is currently progressing in an effort to reuse, where possible, as much of the material in close proximity to the scheme on a riverside site due to be redeveloped. This will have positive benefits, reducing both the landfill costs and the schemes overall carbon footprint. On-going negotiation with the potential development site owner is scheduled to conclude during May 2014.

3.5 Surface Water Flooding

- 3.5.1 The Leeds FAS objective is to alleviate river flooding. It does not seek to address surface water flooding. Taking on board lessons learnt from other river flood alleviation schemes where there has been negative public perception following surface water floods, a review of this issue in Leeds has been undertaken which involved various parties including the Leeds Flood Risk Management Team, the Environment Agency, Yorkshire Water (YW), Arup, Mouchel and the Canal and River Trust. The review included an appraisal of the YW drainage system and Meanwood Beck, with data collected from various sources including from a study carried out by YW into the impacts of the Leeds FAS on the YW drainage system.
- 3.5.2 The conclusions of the review are as follows:
- 3.5.2.1 The scheme generally reduces the risk of surface water flooding. This is achieved through the operation of the movable weirs which will allow some control over the river levels. During a flood event, the movable weirs will be lowered, reducing the river levels and allowing more water from the surface water drainage system to safely discharge into the river.
- 3.5.2.2 At one location, the scheme increases the risk of surface water flooding; this is downstream of Knostrop Weir on Waterside Road and as a result proposals to mitigate this are included in the scheme.

3.5.2.3 The risk of surface water flooding still exists.

3.5.3 Within the current scheme estimate, a provision of £1.5m has been set aside for surface water treatment improvements. It is therefore recommended that further work is undertaken to identify areas most susceptible to surface water flooding and to mitigate against this risk. In order to maintain the current programme for the river flooding scheme, the findings of the further study would be carried out through a separate work package.

3.6 Other

3.6.1 The movable weirs cannot be operated in the City Centre without first implementing the Woodlesford mitigation works as per paragraphs 2.7 and 2.8. The Woodlesford mitigation works started on site in January 2014 for completion in summer 2014. The City Centre flood defence works are programmed to be tendered early in the spring 2014 under a design and build contract. It is anticipated that the City Centre works will commence on site on completion of the mitigation works in Woodlesford. It is anticipated that the City Centre flood defence works will be completed by the end of 2016.

3.6.2 The maintenance regime of inspecting and operating the movable weirs has been considered by the LFAS Project Board and a recommendation is included within this report for the City Council to be responsible for all assets constructed as part of the LFAS, including the movable weirs, the walls and terraces.

3.6.3 Under Section 165 of the Water Resources Act 1991, powers have been devolved from the EA to enter private land for the purpose of undertaking flood defence and drainage works as part of the scheme. Separate to this, an agreement for the transfer of weir ownership to Leeds City Council, the merging of river and canal, and the incorporation of a hydropower turbine remains on course to be finalised prior to the commencement of site work in the City Centre.

3.6.4 In conjunction with the planning application for the moveable weir at Knostrop approved in May 2013, permission was also granted for the location of a hydro-electric turbine generator and a suitable fish pass.

3.6.5 Members will also recall that the Leeds Flood Risk Management Strategy, which provides a strategic approach to flood risk management across the district, was approved at Executive Board in March. With respect to this specific scheme, together with the Environment Agency the City Council has undertaken comprehensive flood modelling to ensure that the new flood alleviation measures being proposed along the River Aire do not have adverse downstream effects, or increase the danger of any potential flood events, to the east of the city.

The modelling demonstrated that eastward of Woodlesford no discernible difference in the behaviour of the river, or its existing levels within the channel, would be created by the upstream proposals in a flood event. It is considered that no flood mitigation measures are required for Methley or Allerton Bywater as part of the downstream effects of this project.

4 Corporate Considerations

4.1 Consultation and Engagement

- 4.1.1 Ward Members have been kept updated as the LFAS has developed. More recently correspondence was sent on the 12 April 2013 which resulted in two separate meetings on the 18th and 26th April 2013. Further updated correspondence has been sent on the 23rd July 2013, the 21st October 2013, the 26th November 2013 and the 21st January 2014. No adverse comments have been received.
- 4.1.2 Two key contacts regarding access and mobility, the Access and Mobility Officer for City Development and the Access representative for the RNIB, have been consulted. The planning officer has also contacted the Access Officer for LCC building control who is tasked with an accessibility review of planning applications. This includes discussing the application with access and mobility contacts.
- 4.1.3 Throughout June and July 2013 extensive consultations have been carried out for the LFAS. A questionnaire was distributed to all businesses and members of the public directly affected by the proposals via a letter and leaflet drop. The questionnaire was also made available through the LFAS webpage (www.leeds.gov.uk/fas).
- 4.1.4 The letter also advertised that the Leeds Flood Alleviation Team was in attendance at the Leeds Waterfront Festival on the 29th and 30th June 2013. Approximately 150 people visited the stall during this period. Visitors to the stall were offered copies of the consultation leaflet and informed about the LFAS website. The stall also offered an opportunity for members of the public to openly discuss the LFAS.
- 4.1.5 The feedback received was as follows:
- 4.1.2.1 The scheme has received strong support from a local MP.
 - 4.1.2.2 Leeds Civic Trust strongly support the overall principle of the works and believe the proposals are a significant improvement on the proposals of previous years particularly the lower walls, incorporation of defences into buildings and provision of seating.
 - 4.1.2.3 The Aire Rivers Trust requested the needs of anglers be considered and that consideration be given to removing debris.
 - 4.1.2.4 Aire Action Leeds provided detailed comments on a number of elements of the scheme and generally seek lower walls and continued dialogue regarding the relocation of the TPT. Aire Action state they have been involved in earlier consultations regarding the proposals and appreciate the design have attempted to keep the waterfront as accessible as possible.
 - 4.1.2.5 The Rushbond Group strongly support the proposals.
 - 4.1.2.6 Six further letters of representation raise the following issues/queries:
 - Further information on the relocation of the TPT is requested.

- Objection to the walls and treatment to the lagoon at Victoria Quays.
- The proposals in Holbeck should reflect the extant planning permissions for development.
- The proposals to introduce a new seating area adjacent to Neptune Street could attract anti-social behaviour.
- What will the embankment look like following the removal of Knostrop Cut?
- Will the TPT be relocated before the cut removed?
- Will there be an increase in noise from the new movable weir?
- The alterations to the walkway at Neptune Street is supported by the Residents of Turlow Court.

4.1.2.7 Responses to the above have been provided during September/October 2013.

4.1.2.8 Further scheme information was sent out on the 10th of December 2013 to all stakeholders who had previously provided their contact details and asked for updates as the scheme progressed.

4.1.2.9 The scheme website is updated every month. Regular updates and presentation have been provided to the Aire Action and Waterfront Association groups.

4.2 Equality and Diversity / Cohesion and Integration

4.2.1 An equality, diversity, cohesion and integration screening has been undertaken on the proposals and is available as Appendix B.

4.2.2 The proposals will have a beneficial impact on a large number of residential properties in the Holbeck and City Centre area, as it will provide a standard of protection against a 1 in 75 year flood event. This positive impact benefits all people living in the area, particularly people with impaired vision, people with mobility difficulties and small children who may have had difficulty exiting their properties should a major flood event be realised.

4.2.3 In addition to the benefits gains by residing and/or working in an area protected by the flood defences, the following positive and negative impacts have been identified:

Positives:

- (i) An existing Holbeck pedestrian bridge will be restored and hand rails installed for safety and guidance.
- (ii) All landscaping works and lifting of levels will be sensitive to the needs of disabled, wheelchairs, prams etc.
- (iii) A bridge spanning the River Aire adjacent to Knostrop Locks will be refurbished. This bridge is currently in a poor condition with loose panels and trip hazards making access by wheelchair difficult.
- (iv) The Knostrop Locks will be decommissioned removing the need to cross the canal over a narrow wooden bridge. The existing wooden bridge does not permit two way accesses for wheel chairs and prams. A new pedestrian footway will

be provided which will accommodate two way movements for wheel chairs and prams.

- (v) Additional rescue points will be positioned along the River Aire. This will benefit all vulnerable groups who may encounter difficulty exiting the river should they fall in.
- (vi) A new park area will be provided on the right bank of the River Aire near the Asda House car park. Levels will be lifted to maintain the visual waterfront connectivity in this area. The lifting of the levels will be sensitive to the needs of disabled, wheelchairs, prams etc. The park will also provide an open view of the River Aire to people in wheelchairs and children.

Negatives:

- (i) Pedestrians, cyclists and motorists will be disrupted during the construction of the works but overall no long term negative impact has been identified.

4.3 Council policies and City Priorities

4.3.1 The scheme is consistent with the objectives in the Best Council Plan 2013-17, notably, 'Supporting communities and tackling poverty', 'Promoting sustainable and inclusive economic growth' and the Vision for Leeds, including:

- (i) Best City for business – supporting the sustainable growth of the Leeds economy through safeguarding jobs in the area to be protected by flood defences, and provision of direct jobs through delivery of the construction work.
- (ii) Best City for health and well-being – supporting people to live safely in their homes. There are approximately 3,000 residential properties and 500 businesses in the floodplain of the River Aire. Much of the key infrastructure for Leeds including the Inner Ring Road and key access routes to the train station area, telecommunications and broadband facilities, and sub stations are also within the flood plain. Most of the residential properties are situated in blocks of flats on floors raised above flood level and so whilst the contents of these buildings are not at risk, the residents are vulnerable to the disruption caused by temporary loss of access. 154 businesses and 53 residential properties in central Leeds would be directly exposed to floodwater during a 1 in 75 year event and a further 101 residential properties downstream at Woodlesford.
- (iii) Best City to live – enabling growth of the city whilst protecting the distinctive green character of the city. The scheme is within the high profile waterfront area and has a civic importance. It will also need to fit within its urban context and create a sense of place and identity.
- (iv) Best City Region – The LFAS protects accessibility to the new south Leeds train station entrance, thus contributing to the Vision for Leeds 2030 by safeguarding the city region transport strategy by encouraging the use of sustainable travel choices to reduce congestion and progress towards a lower carbon economy.
- (v) Strong nationally and internationally – The movable weirs at Crown Point and Knostrop will make use of pioneering technology which will be the first of its kind in the UK, thus raising the profile of Leeds nationally and internationally.

4.4 Resources and value for money

4.4.1 Funding

There has been considerable progress in recent months in assembling significant external funding for the Leeds Flood Alleviation Scheme. The Regional Growth Fund bid has been approved for £3.362.0k. A Defra Growth Fund bid has been approved for £23,000.0k, with an additional £700.0k allocated should further funding be required (subject to final approval). Government monies, in the form of a “flood defence grant in aid (FDGiA)”, has been approved for £8.450.0k.

4.4.2 In addition to external grant funding, the Council has committed £10m of funding, currently financed through Prudential Borrowing.

4.4.3 The total confirmed funding package for the Leeds Flood Alleviation Scheme currently amounts to £44,812.0k. This funding package was assembled in order to deliver a comprehensive scheme of works which would ensure a 1 in 75 year protection from flooding for the city centre. This overall scheme of works also included operation and maintenance works and responsibilities that are instrumental to the successful delivery of the scheme outcomes over the next 100 years. These include: necessary staffing in order to inspect, supervise and operate the weirs; maintenance works and periodic component replacement.

4.4.4 However, detailed and specific terms and conditions exist for each of the external grant funding streams which include a restriction that funding must be spent on capital, and within a defined time period.

4.4.5 As the above operation and maintenance responsibilities are largely revenue in nature, or will require funding out with the timescales set out in the grant conditions, it has been necessary to identify alternative funding sources to support these costs. It is proposed that part of the original £10m capital contribution is redirected to fund the revenue operation and maintenance costs. This funding is currently supported by Prudential Borrowing, the debt costs for which will be reflected in the Council’s revenue budget. By reducing the capital contribution, the revenue budget set aside to pay for this borrowing can be redirected to fund the revenue operation and maintenance costs. Whilst this will reduce the Council’s Capital contribution to the scheme by £4.21m, the overall commitment to support of £10m towards the prevention of floods in the future is still in place across both revenue and capital.

4.4.6 The funding package outlined in the Capital Funding and Cashflow table at Para. 4.4.11 below now reflects this revised capital contribution.

4.4.7 A Business Improvement district (BID) is being considered as a potential funding mechanism for the scheme subject to Executive Board approval and support of this principle. A report in relation to the proposed Leeds City Centre Business Improvement District can be found elsewhere on this agenda.

4.4.8 Capital Approvals

As part of the report presented to Members in September 2013, Executive Board approved an injection of funding into the Capital Programme of £3,362.0k from the

Regional Growth Fund and £23,000.0k from the Defra Growth Fund. The Capital Programme 2014-17 report, approved by Full Council on February 26th 2014, included an injection of £8,450.0k FDGiA funding.

4.4.9 Executive Board previously authorised expenditure for the initial development and design of the LFAS and for the implementation of the advanced mitigation works in Woodlesford of £4,138.8k. The current capital cost of installing flood defence measures to provide a 1 in 75 year Standard of Protection, including fees, construction and contingency, is estimated at £40,602.0k. This report therefore seeks authority to spend the remaining £36,463.2k.

4.4.10 Confidential appendix C gives a summary of the cost estimates throughout the scheme development. A breakdown of the final cost estimate then separates the capital, contingency and revenue cost projections.

4.4.11 Capital Funding and Cashflow

Previous total Authority to Spend on this scheme	TOTAL £000's	TO MARCH 2013 £000's	FORECAST					
			2013/14 £000's	2014/15 £000's	2015/16 £000's	2016/17 £000's	2017 on £000's	
LAND (1)	0.0							
CONSTRUCTION (3)	1501.7		1300.0	201.7				
FURN & EQPT (5)	0.0							
DESIGN FEES (6)	423.4	154.1	269.3					
OTHER COSTS (7)	2213.7	297.6	990.6	925.5				
TOTALS	4138.8	451.7	2559.9	1127.2	0.0	0.0	0.0	0.0
Authority to Spend required for this Approval	TOTAL £000's	TO MARCH 2013 £000's	FORECAST					
			2013/14 £000's	2014/15 £000's	2015/16 £000's	2016/17 £000's	2017 on £000's	
LAND (1)	0.0							
CONSTRUCTION (3)	34235.3		200.0	12534.4	12045.8	9455.1		
FURN & EQPT (5)	0.0							
DESIGN FEES (6)	851.6		132.4	239.8	239.7	239.7		
OTHER COSTS (7)	1376.3		0.8	259.0	1093.5	23.0		
TOTALS	36463.2	0.0	333.2	13033.2	13379.0	9717.8	0.0	0.0
Total overall Funding (As per latest Capital Programme)	TOTAL £000's	TO MARCH 2013 £000's	FORECAST					
			2013/14 £000's	2014/15 £000's	2015/16 £000's	2016/17 £000's	2017 on £000's	
Grant (Defra Growth Fund)	23000.0		1639.1	12052.4	4929.0	4379.5		
Grant (RGF)	3362.0		1254.0	2108.0				
Grant (FDGiA)	8450.0				8450.0			
LCC Borrowing	5790.0	451.7				5338.3		
Total Funding	40602.0	451.7	2893.1	14160.4	13379.0	9717.8	0.0	0.0
Balance / Shortfall =	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

4.4.12 Revenue Implications

As outlined in Para. 3.6.2, Leeds City Council will be responsible for all assets constructed as part of the Leeds FAS. This includes any costs associated with

operation and maintenance of the weirs and walls. Current estimates show that the annual revenue cost of this is in the region of £192.7k. As detailed in Para 4.4.5, this will be funded from reduced debt costs as a result of reducing Leeds City Council's capital contribution to the scheme, which is funded by Prudential Borrowing.

4.5 Legal Implications, Access to Information and Call In

- 4.5.1 Under Section 165 of the Water Resources Act 1991, powers have been devolved from the EA to enter private land for the purpose of undertaking flood defence and drainage works as part of the scheme. Separate to this, an agreement for the transfer of weir ownership to Leeds City Council, the merging of river and canal, and the incorporation of a hydropower turbine remains on course to be finalised prior to the commencement of site work in the City Centre.
- 4.5.2 The information contained in Appendix C is exempt under Access to Information Rule 10.4 (3) as it contains information relating to the financial or business affairs of any particular person (including the authority holding that information). It is considered that the public interest in maintaining the content of Appendix C as exempt outweighs the public interest in disclosing the information. Appendix C is confidential as disclosing the cost estimate may affect the Council's ability to secure the best financial outcome through competition.

4.6 Risk Management

- 4.6.1 There is significant risk that if the progression of the scheme is delayed, difficulties will be encountered in achieving the deadlines and funding could be withdrawn.

5 Conclusions

- 5.1 Since the abandonment of the original 1 in 200 year Environment Agency scheme in 2011, on cost grounds, there has been rapid progress of this alternative scheme in terms of assembling the financial package, developing the detailed design proposals and driving down costs. The immediate progression of the LFAS is critical to ensure that the scheme can be delivered within the funding time constraints.
- 5.2 The scheme remains a vitally important scheme for the city, not just because of the threat to lives and property but also because of the long-term reputational damage a major flood would have on the attractiveness and economic performance of the city.

6 Recommendations

The Executive Board is requested to:

- 1) Approve the scheme as described in the report.
- 2) Approve promotion of Leeds City Council unsupported borrowing of £4,540.0k from the Amber to the Green Capital Programme.

- 3) Authorise expenditure from the Capital Programme of £36,463.2k for the implementation of the Leeds Flood Alleviation Scheme works. Including costs of £75k to be incurred to investigate any surface water flooding issues.
- 4) Approve that Leeds City Council will take responsibility for maintenance and operation of all assets constructed as part of the Leeds (River Aire) Flood Alleviation Scheme, including the movable weirs, walls and terraces.
- 5) Give authority to enter into a legal agreement with a third party to incorporate a hydropower turbine into the water course adjacent to the location of Knostrop Weir.
- 6) Authorise the Director of City Development to negotiate and approve the detailed terms of:
 - a) the acquisition of land required to facilitate the construction of the moveable weirs at Knostrop and Crown Point; and
 - b) the incorporation of a hydropower turbine adjacent to Knostrop Weir
 - c) the licence to access property owned by the Canals & Rivers Trust and carry out works to remove a length of Knostrop Cut
 - d) the acquisition of the remainder of the island at Knostrop Cut
 - e) any lease or other agreement required to facilitate the relocation of the Trans Pennine Trail at Knostrop Cut
- 7) Note that the Chief Officer Highways and Transportation will be responsible for the implementation of these actions.

7.0 Background documents¹

7.1 None

8.0 Appendices

8.1 Appendix A – Scheme Drawings

8.2 Appendix B – Equality, diversity, cohesion and integration screening

8.3 Appendix C – Confidential appendix

¹ The background documents listed in this section are available to download from the Council's website, unless they contain confidential or exempt information. The list of background documents does not include published works.