Leeds CITY COUNCIL

Originator: Richard Smith

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Report of the Chief Planning Officer

CITY PLANS PANEL

Date: 10TH MARCH 2015

Subject: APPLICATION 15/00651/FU – VARIATION OF CONDITION 18 OF PREVIOUS APPROVAL 14/01511/FU FOR MINOR MATERIAL AMENDMENT RELATING TO USE OF EXTERNAL FACING MATERIAL AT LEEDS WEIR

APPLICANT	**DATE VALID**	**TARGET DATE**
Leeds City Council	13/02/15	15/05/15

Electoral Wards Affected:

City & Hunslet
Burmantofts and Richmond Hill

Yes — Ward Members consulted

Specific Implications For:

Equality and Diversity ☐

Community Cohesion ☐

Narrowing the Gap ☐

RECOMMENDATION:

MEMBERS are requested to consider option 4 (concrete) as an external facing material at Leeds Weir and if this is not considered acceptable, advise on the preference between the other approaches that have been considered by the applicant and presented in the approval section below.

1.0 INTRODUCTION:

1.1 The Leeds Flood Alleviation Scheme includes the introduction of flood defences, the removal of Knostrop Cut and the replacement of the existing Leeds and Knostrop Weirs with moveable weirs. The City Plans Panel resolved to approve applications relating to the two replacement weirs at the January 2013 City Plans Panel and the applications relating to the defences and cut at the October 2013 Panel.

1.2 At the June 2014 Plans Panel revisions to the plans were then approved in respect of the design and locations of the movable weirs where Members also required that the construction of the piers at Leeds Weir should be constructed using stone under condition. Further to the imposition of this condition, an application has been

received very recently to formally request its variation with the applicants' preference to use a 'high quality concrete' finish ("option 4").

2.0 PROPOSAL:

2.1 Permission has been granted to remove the existing weirs at Leeds Weir and Knostrop Weir and introduce two movable weirs that will allow the river levels to be controlled to prevent flooding during high flows.

2.2 The in channel piers for both weirs were originally proposed to be finished in a smooth concrete when presented before Panel Members in June 2014.

2.3 However members determined that stone should be used to construct the piers at Leeds Weir as controlled by condition (no18 of approval 14/01511/FU).

2.4 The applicants have further assessed this from a technical and cost perspective and it now proposed to again seek a high quality concrete finish ("option 4"). A technical justification document has been submitted (Appendix A) which sets out the background to this as part of four options which are as follows:

- Option 1: Reclaimed masonry from Knostrop Cut;
- Option 2: Stone cladding;
- Option 3: Pigmented concrete imprinted with a masonry finish;
- Option 4: High quality concrete finish.

3.0 SITE AND SURROUNDINGS:

3.1 The proposed works take place within the River Aire and adjacent land at Leeds Weir.

3.2 Leeds Weir is a grade II listed structure built in stone and is located within the Central Area Conservation Area. The listing description for Leeds Weir states the weir is medieval in origin and was probably rebuilt in mid 19th Century during the building of the Leeds Dock area. The weir stretches from Fearns Island to Turlow Court on the northern bank of the River Aire. There is a mix of residential and commercial properties in the area.

3.3 The area does have a mixture of materials with stone, brick and metal structures all prevalent in the surrounding vicinity.

4.0 RELEVANT PLANNING HISTORY:

4.1 12/04465/FU and 12/04466/LI: The removal of the existing Leeds and Knostrop Weirs and replacement with movable weirs - approved 01/05/13 and 05/06/13 after being agreed at the 17/1/13 City Plans Panel.

4.2 13/03191/FU and 13/03192/LI: Flood defences and the removal of Knostrop Cut - approved 21/3/14 and 23/4/14 after being agreed at the 24/10/13 City Plans Panel.

4.3 14/01511/FU and 14/01713/LI: Variation of condition 2 of application 12/04465/FU which requires the development to be carried out in accordance with the Approved Plans - approved 26/06/14 after agreement at 05/06/14 City Plans Panel.

5.0 HISTORY OF NEGOTIATIONS:

5.1 A flood defence scheme has been under consideration since 2008 and works have commenced on site at Woodlesford and Knostrop Cut.

6.0 PUBLIC/LOCAL RESPONSE:

6.1 The application is to be advertised in the Yorkshire Evening Post (05/03/15) and site notices were erected at various locations around the site on 13/02/15 – 16/02/15.

6.2 An update of any public representations received in due course will be verbally given to Plans Panel.

7.0 CONSULTATIONS RESPONSES:

7.1 Statutory:

7.2 English Heritage: Comments awaited. Verbal update to be given at Panel.

7.3 Environment Agency: No comments to make.

7.4 Canal and River Trust: Comments awaited. Verbal update to be given at Panel.

7.6 Non-statutory:

7.7 Conservation Team: At this stage Conservation colleagues have sought further clarification as to the heritage impact justification for using concrete instead of stone. Although the principal of demolition of the listed structure has been agreed this was subject to the reuse of stone finishing in compensation for the loss of the listed building.

8.0 PLANNING POLICIES:

8.1 <u>Development Plan Saved Policies</u>
UDPR Designation: Leeds Weir is grade II listed and is located within the Central Area Conservation Area.

GP5: Proposals should resolve detailed planning considerations.
N19: Development within or adjoining Conservation Areas should preserve/enhance the character and appearance of the Conservation Area.
BC7: Use of local materials in Conservation Areas

8.2 <u>Core Strategy</u>
The Core Strategy sets out strategic level policies and vision to guide the delivery of development investment decisions and the overall future of the district.

Spatial Policy 1 sets out the broad spatial framework for the location and scale of development. This policy prioritises the redevelopment of previously developed land within Main Urban Area, in a way that respects and enhances the local character and identity of places and neighbourhoods.

Policy P10 requires new development to be based on a thorough contextual analysis to provide good design appropriate to its scale and function, delivering high quality innovative design and enhancing existing landscapes and spaces.

Policy P11 states that the historic environment including locally significant undesignated assets and their settings will be conserved and enhanced, particularly those elements which help to give Leeds its distinct identity.

8.3 National Planning Guidance

The National Planning Policy Framework (NPPF) came into force on 27th March 2012. The NPPF states that unless material considerations indicate otherwise development proposals which accord with the Development Plan should be approved. This has recently been supplemented by the National Planning Practice Guidance (NPPG).

Para 56: Government attaches great importance to design of the built environment.

Para 58: policies and decisions should aim to ensure developments:

- function well and add to the overall area quality over the long term
- establish strong sense of place, creating attractive, comfortable places
- optimise potential of site to accommodate development
- respond to local character and history
- create safe and accessible environments
- are visually attractive (architecture and landscaping)

Para 129: Local Planning Authorities (LPAs) to identify and assess significance of any heritage asset and take into account evidence / expertise.

Para 131: LPAs should take account of desirability / viability of heritage assets consistent with their conservation; the positive contribution of heritage assets to sustainable economically viable communities; new development making a positive contribution to local character and distinctiveness.

Para 132: Impact of a proposed development should be weighed against designated heritage assets with importance placed on their conservation. The more important the asset, the greater weight given. Substantial harm / loss of grade II assets should be exceptional and to grade I, II* wholly exceptional.

Para 133: LPAs should refuse consent where any harm or loss cannot be justified unless there are proven clear and necessary substantial public benefits (designated heritage assets).

Para 134: Development harm should be weighed in significance against the public benefits of a proposal including securing its optimum viable use.

9.0 MAIN ISSUES

- Change to the existing consent for external stone facing material.

10.0 APPRAISAL

10.1 The Contractor appointed to undertake the works has reviewed the requirement of the existing consent to use a stone finish. Several options have been assessed including:

- Reclaimed stone from Knostrop Cut
- Stone facing
- Pigmented concrete with masonry imprint to replicate a masonry finish

10.2 The impacts on programme and costs of the options have been compared against the use of high quality concrete finishes.

10.3 On this basis of the review the applicant is now seeking agreement to use a high quality concrete finish due to technical / maintenance reasons and also due to the cost now calculated for the use of reclaimed stone as detailed below.

10.4 Preferred Option 4 – High quality Concrete
Concrete is the most commonly used material in bridge piers particularly in river locations. Concrete is generally considered to be maintenance free with no need to re-point or remove vegetation. A range of colour matches can be assessed to surrounding materials in the area. The assessment of the other options is summarised below and detailed in Appendix A.

10.5 The weirs were originally intended to be clad in stone (application 12/04465/FU) but within application 14/01511/FU were proposed to be finished with a high quality concrete (similar to that used for the London Millennium Bridge). The engineers working on the submission have stated that if stone were used it would be prone to crack dwelling vegetation such as buddleia which is already prevalent on many of the masonry walls within the river. It is also suggested that the stone reclaimed from the existing weir and Knostrop Cut is not guaranteed to be of a suitable strength to survive the demolition and rebuilding process in addition to the continued scour. To maintain the quality of the concrete finish the concrete will be treated to prevent algal staining.

10.6 The applicant's assessment of the other options is summarised below and detailed in Appendix A.

10.7 Option 1 – Reclaimed Stone Masonry from Knostrop Cut
This stone is thought to match that used in the construction of Fearns Island (adjacent to Leeds Weir). The condition of the stone below the waterline at Knostrop however is unknown; it is suggested by the applicants that some is of deteriorated condition. Recovery of this material could be time consuming with special lifting equipment required. The structural integrity of the stone is unclear to the applicants who see this as a project risk. It would need treatment and dressing to fit the weir piers. The applicant's contractor sees the task as being a slow process in lifting and fixing with an extra 70 days timetabled. The combination of this is calculated to cost in the region of £1.2m. The applicants also highlight that ongoing maintenance would be required to the bed joint and mortar to ensure vegetation was unable to grow and damage the structure.

10.8 Option 2 – Stone Facing
This option involves the use of structural concrete faced with masonry cladding. A range of designs are available for the cladding. The formation of cladding however requires a wider pier design (structural reasons) and a new nosing / coping detail would be required as the original rounded bullnoses could not be accommodated. This is suggested could look 'less interesting'. The contractors suggest the option would add 34 days to the programme of works with an anticipated cost of £510,000. Concern is also raised that the cladding would be prone to damage from debris and replacement in the future could represent a significant health and safety risk.

10.9 Option 3 – Pigmented Concrete with a Masonry Finish
The appearance of masonry is cast against the concrete surface. The texture can be random or regular in design. Again the pier shape would need redesigning with

simpler nosing and coping and it is again suggested this could look ‘less interesting’. Although this option would not impact on programme timescales the addition of this would cost £250,000.

10.10 Conservation colleagues previously in 2014 had raised concern regarding the failure to reuse stone for the in channel piers and were not supportive of the use of concrete in the conservation setting at Leeds Weir. Having considered the applicant’s justification statement further information has been requested on the likely heritage impact of the proposals to use concrete instead of stone. Also, further comment is being sought from English Heritage in due course and an update will be given to Members at Plans Panel itself.

10.11 The upcoming programme timetable for construction is very tight hence why the application is being brought to Plans Panel shortly following validation; the contractor requires instruction immediately.

11.0 CONCLUSION

11.1 The applicants have again requested the use of concrete as a finishing material and Members views on this are requested further to the more detailed analysis now provided.

11.2 If concrete is deemed to be again unsuitable in this setting and location, then consideration is requested to be given to the other options (no’s 1 – 3) specified.

12.0 BACKGROUND PAPERS

12.1 Application files 14/01511/FU and 14/01713/LI and history files 12/04465/FU and 12/04466/LI.

12.2 Appendix A – Justification for Change to Material Finishes at Crown Point Weir

12.3 Notice served on the Canal and River Trust and Pemberstone Reversions (Leeds) Ltd.

Leeds City Council

Leeds Flood Alleviation Scheme

Justification for Change to Material Finishes at Crown Point Weir

LFD-ARP-Z1-W1-RP-CC-00001

Issue | 3 February 2015

Job number 234952

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1 Introduction

As part of the Leeds Flood Alleviation the existing weirs at Crown Point (Leeds Weir) and Knostrop are to be replaced with new movable weirs. Other elements of the scheme include linear defences and the merging of the canal and river channels along the Knostrop Cut. Planning permission 12/04465/FU for two replacement movable weirs and associated infrastructure was granted on 1st May 2013.

As further detail for the new weirs was determined, application minor material amendment to the original permission was sought under Section 73 of the Town and Country Planning Act updating a previous application on 17th March 2014 (LCC reference 14/01511/FU) and planning permission was granted on 26th June 2014 with a number of conditions.

Condition 18 states *"Prior to the construction of the external facing materials, full details of all external facing materials for the in channel piers, fish passes and turbines shall be submitted to and approved in writing by the Local Planning Authority with the agreed details implemented in accordance with the approved details and retained and maintained as such thereafter.* ***Such details shall include the use of stone for the in channel piers at Leeds Weir****."*

Having undertaken more design development and having appointed a Contractor to undertake the works the Project Team, has a greater understanding of the implications attached to Condition 18, particularly with regards the technical feasibility, maintenance and cost and seek to amend this condition to allow for the use of high quality concrete finishes at Crown Point (similar to those accepted at Knostrop Weir).

The purpose of this report is to provide justification in support of an application to vary condition 18 to remove the requirement for the use of stone for the in-channel piers at Leeds Weir.

2 Background

2.1 Timescales for delivery

The Leeds Flood Alleviation Scheme (Leeds FAS) is funded from a number of sources including Leeds City Council, Regional Growth Funding; Flood Defence Grant in Aid (from the Environment Agency) and Economic Development Funding (from Defra).

A requirement of the various different funders is that work on the Leeds FAS is completed by March 2017 with £10M spent by mid-2015. This has meant that the project has required an accelerated approach towards planning and procurement.

Outline details have been presented to Plans Panel at pre-application presentations and further details have been presented as they have been developed throughout the development of the design. Engagement with Planning Officers and appropriate consultees has been undertaken throughout the development of the project.

A report by officers in relation to planning application 14/01511/FU for the two replacement weirs at Knostop and Crown Point Weirs was presented to the City Centre Plans Panel in June 2014. The report included for the use of high quality concrete finishes for the piers at both locations.

At the time, high quality concrete finishes were promoted by the Project team at both locations based on the following reasons:

- The concrete option offered the lowest maintenance costs, as the surface finish would not promote the growth of vegetation such as buddleia.
- The concrete option offered the lowest health and safety risk associated with construction and maintenance.
- The movable weirs are a modern innovation and the concrete finish is deemed contemporary with this construction.
- A high quality concrete finish was estimated to be the most cost effective option, in terms of its simplicity to construct.

The case for concrete finishes was supported by the Plans Panel at Knostrop Weir as it was deemed a less sensitive area in terms of visual appearance of the weir and in a less prominent position on the outskirts of the City.

The proposal for concrete finishes at Crown Point however was not supported as this area is regarded as more sensitive in terms of the existing heritage context and it was requested that a condition that the weir piers should be finished in stone be specified.

2.2 Feasibility Review

The need to deliver the project to an accelerated timescale has also meant that procurement for the construction of the scheme had to be completed before planning approval for the amended scheme had been received or before planning conditions had been resolved. A Contract for the works was therefore issued prior

to the receipt of the decision notice for 14/01511/FU and based on the conditions imposed on 12/04465/FU.

The Contractor appointed for the works has undertaken a thorough assessment of the elements of the scheme including buildability and cost including a review of the planning conditions which were not included in the Contract.

The impact of incorporating masonry finishes into the design at Crown Point significantly increases the complexity and duration of the works. The impact on the programme has been estimated to be potentially an additional 70 days and the potential associated increased in cost has been estimated at £1.2M. The increased cost is primarily related to the longer periods hire of cofferdams, props, craneage, plant and pontoons.

2.3 Maintenance

Concerns were expressed by the Project Team at Plans Panels in response to questions from members that the use of masonry at this location would increase maintenance liability for this critical piece of flood resilience infrastructure. This would include regular treatment to remove vegetation.

The new weir will be owned by the Canal and Rivers Trust (CRT) and leased to Leeds City Council on a 250 year lease. Leeds City Council will be responsible for the maintenance of the weirs over this period. Both stakeholders have accepted the use of high quality concrete finishes and expressed concern over the potential maintenance issues associated with masonry. The use of masonry is like to have increased costs for LCC as they are the maintaining authority.

It was agreed by the Project Board to review all the options and return to Plans Panel with more detailed justification for the Project teams preferred weir finish.

3 Site Context

The site combines a mixture of historic structures such as the recently widened Crown Point Bridge and original river walls, and more contemporary buildings such as Merchants Quay, Turlow Court, Fearns Wharf, Royal Armouries and Clarence Dock.

There are also a number of different construction types and materials used in existing walls and structures in this area. These include sheet piles walls, original mass stone river walls, concrete copings and numerous brick types. A selection of these different materials and construction types are shown in the photographs below.

Photo1 - Existing walls around Crown Point Weir have various finishes.

3.1 Existing Finishes at Crown Point

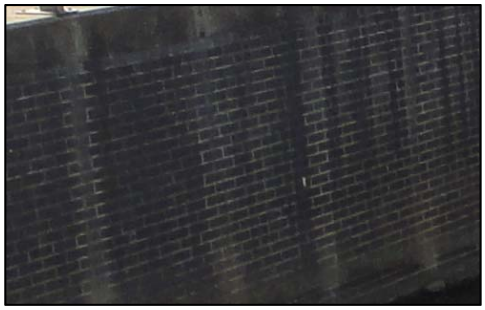


Photo 2: Fearns Island River Wall, adjacent to weir
Photo 3: Turlow Court River wall, adjacent to weir
Photo 4: Fearns Wharf River Wall

Photo 5: Buildings on the right bank – Clarence Dock, Royal Armouries

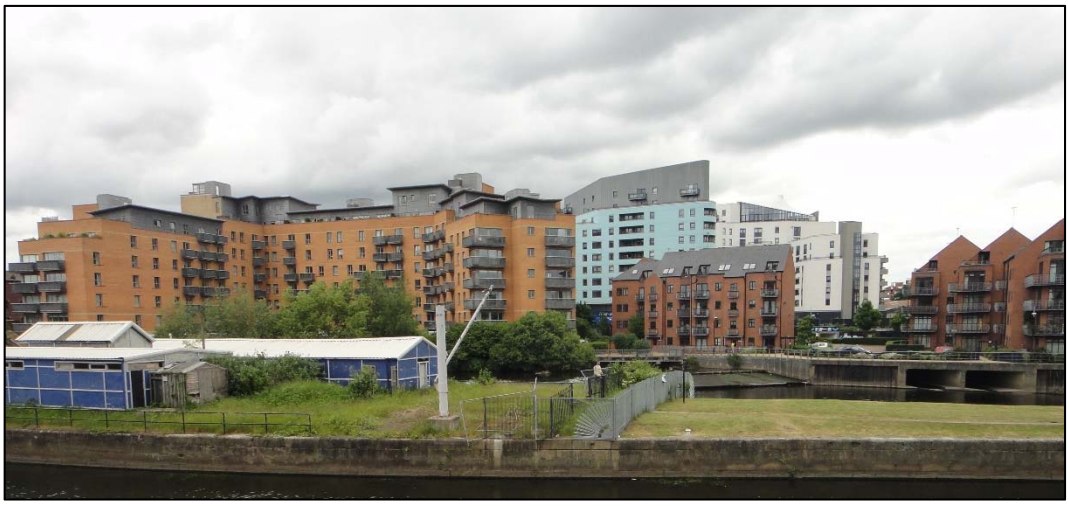


Photo 6: Buildings on the left bank – Merchants Quay, Turlow Court, The Gateway (Background)

3.2 Proposed Structure

The existing Crown Point weir is a Grade II listed structure. The removal of this structure has been approved with the condition that a portion of the existing weir is retained and a site interpretation board is provided in the vicinity explaining the heritage of the site.

The proposed new weir consists of two movable flood gates, a fish pass and a portion of retained remnant weir. The weir gates comprise painted steel panels supported on rubberised air bladders founded on a concrete apron (refer to the diagram below).

The gates will be predominantly submerged and in normal conditions (Q95) the downstream face and upper 420mm of the dividing piers will be visible (refer to figure 1). That is to say, under normal river conditions only a limited portion of the pier would be visible.

A stainless steel panel is inset into the pier to provide a sound interface between the fixed and moving components.

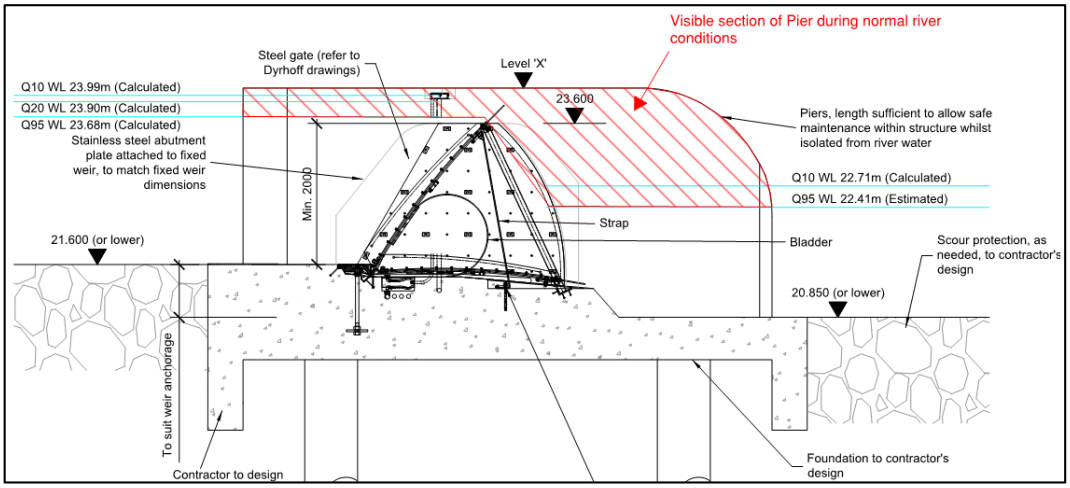


Figure 1: proposed cross section through the weir.

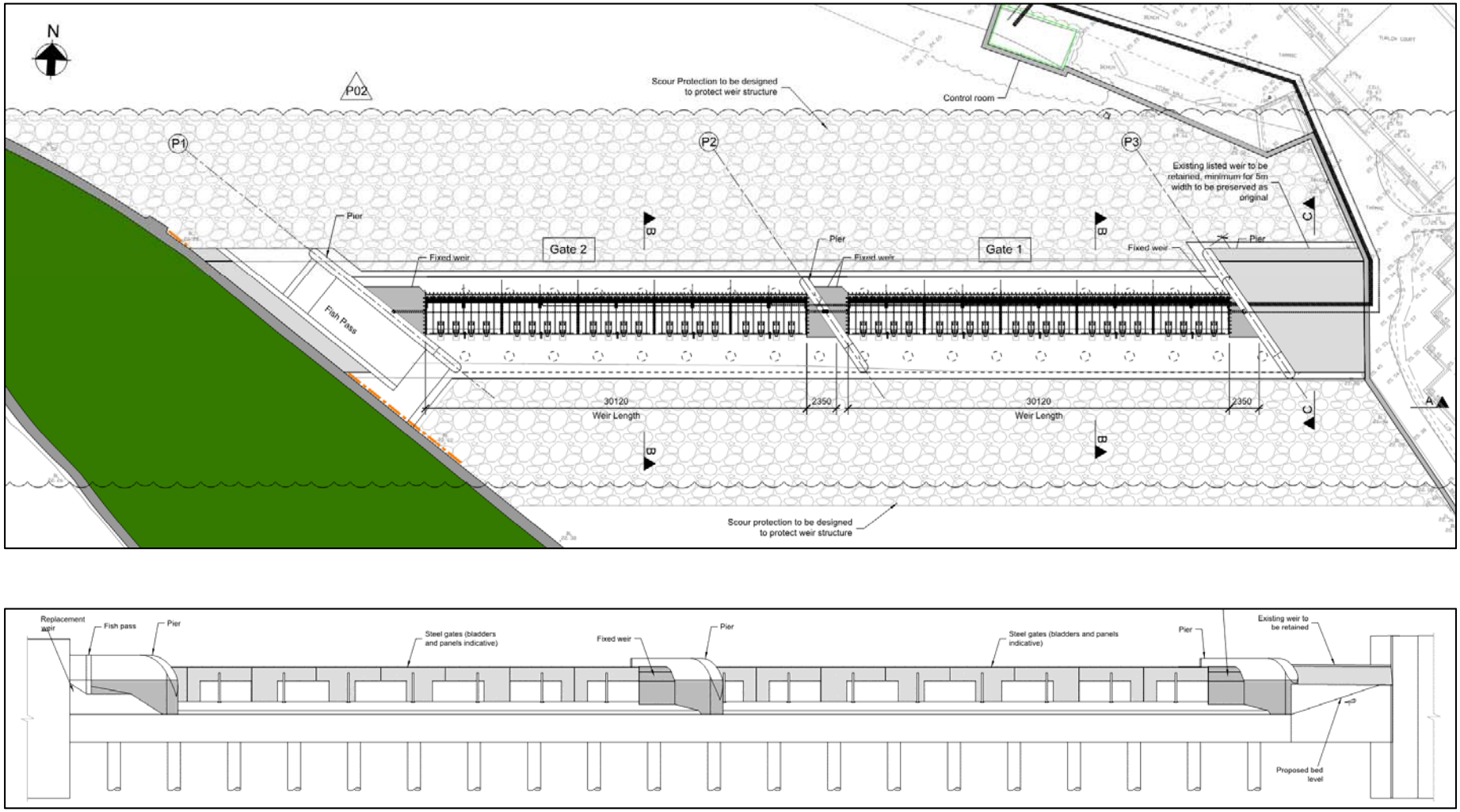


Figure 2 and 3: Plan and front elevation of proposed movable weir at Crown Point

4 Scheme Viability

The Contractor appointed to undertake the works has reviewed how the masonry finishes might be achieved. Several options have been assessed including;

- Reclaimed stone masonry from Knostrop Cut
- Stone facing
- Pigmented concrete with masonry imprint to replicate a masonry finish.

The impacts on programme and costs of the options have been compared against the use of high quality concrete finishes.

4.1 Option 1 Reclaimed Stone Masonry from Knostrop Cut

The photograph below shows the type of stone that could be reclaimed from the Knostrop Cut when the river and canal channels are merged. This stone would appear to be a good match for similar stone that is used in the construction of Fearns Island.

Photo 7: Typical material along Knostrop Cut

The condition of this stone below the waterline is unknown and some of the masonry is in a deteriorated condition. It is however considered technically feasible that sufficient quantity of material could be recovered for use at Crown Point subject to inspection of the material once recovered. The recovery of this material would be time consuming and require special lifting equipment to remove each masonry block. Given the likely deterioration of the stone below the waterline, it is unclear as to whether this would be structurally adequate and the integrity of the stone would be a project risk bourne by LCC.

The stone would then have to be treated and dressed to fit the dimensions of the weir piers and transported to the Crown Point site. The masonry would require extensive dowelling to ensure the integrity of the pier.

The construction of the piers using this material would be a slow task as the stone would have to be lifted in and require extensive fixing. This would extend the duration of the works within the river. The Contractor has estimated a prolongation of the works in the region of 70 days.

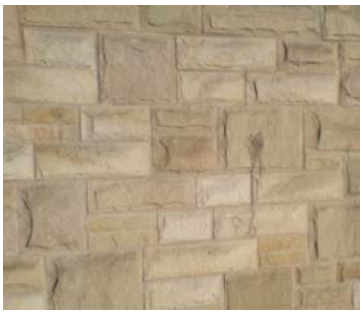
The costs associated with this option are in the region of £1,200,000.

Ongoing maintenance would be required to maintain the bed-joint and mortar to ensure vegetation was unable to grow and damage the pier.

Option 1: Construct the piers from reclaimed masonry from Knostrop Cut Time Impact on Programme: 70 days Initial estimated cost: £1,200,000	
Advantages	**Disadvantages**
Meets with planning condition no 18.	Risk that reclaimed material will not be of suitable strength to survive demolition and rebuilding, or continued scour.
	Complex construction methods and temporary works required – blocks would require dowelling into the concrete below
	Increased maintenance requirements
	More vulnerable to vegetation growth
	Potential risk of being unable to procure masons with appropriate skills due to unavailability
	Increase in design costs

4.2 Option 2 - Stone Facing

An alternative to the use of mass stone would be to construct the piers in structural concrete and face them in masonry cladding to give the appearance of a masonry pier. There are a range of different cladding alternatives such as the ones shown below.



Photos 8 and 9: masonry cladding options

In order to incorporate the cladding, it is likely that the width of the piers would have to be increased as the cladding would not act structurally. This option would also require a simpler nosing and coping detail as the rounded bullnoses could not be accommodated with cladding. This may result in a less interesting shape of pier.

The use of cladding could potentially reduce the programme however again the fixing of cladding would not be a simple task. The Contractors' estimate for programme prolongation is approximately 34 days.

The costs associated with this option are in the region of £510,000.

There would be an additional maintenance risk associated with the use of stone cladding. The cladding tiles are relatively thin and can be prone to damage particularly in a location where continuous impact from river debris can be expected. Replacing any damaged tiles would present a significant health and safety risk.

Option 2: Construct piers using stone cladding Time Impact on Programme: 34 days Initial estimated cost: £510,000	
Advantages	**Disadvantages**
Meets with planning condition no 18, although the appearance would be affected by the block size	The texture and size of blocks available would not match the existing larger smooth blocks of the river walls
	Complex construction methods and temporary works required
	Increased maintenance requirements
	More vulnerable to damage from floating debris

	More vulnerable to vegetation growth
	Requires a coping to complete appearance – this would mean the current downstream shape of the piers would not be appropriate. A vertical end with a bull nose radius could be provided

4.3 Option 3 – The use of pigmented concrete imprinted with a masonry finish

The appearance of masonry with the robustness and ease of construction of concrete can be achieved to a certain degree of success by the use of pigmented concrete which is cast against a textured form liner. This type of construction is typically used where long lengths of regular walls are required.

The imprinted texture can be either random or regular. The images below show a couple of examples where imprinted concrete finishes have been used.

Photos 10 and 11: Pigmented Concrete with masonry imprint

This option would also require a simpler nosing and coping detail as the rounded bullnoses could not be accommodated with the imprint. This may result in a less interesting shape of pier.

This option would have very limited impact on the programme and is likely to be similar to the option of high quality concrete finishes. The liners used to form the imprint are more expensive that standard liners and therefore the estimate for the use of this option is in the region of £250,000.

This construction method is best used on random or rough finished stone and it is unlikely that the existing masonry appearance, which consists of large blocks of smooth faces with close bed-joints could be satisfactorily replicated.

Option 3: Construct the piers using high quality concrete with masonry imprint Time Impact on Programme: **0 days** Initial estimated cost: **£256,000**	
Advantages	**Disadvantages**
Meets with planning condition no 18, although the appearance would be affected by the masonry liner.	Requires a coping to complete appearance – this would mean the current downstream shape of the piers would not be appropriate. A vertical end with a bull nose radius could be provided.

Efficient construction method	Difficult to maintain continuous and consistent colour shading throughout.
Relatively low maintenance requirements.	
Robust construction	
Prevents vegetation establishment	

4.4 Option 4: Use of high quality concrete finishes

The original proposal submitted in the planning application included piers constructed using high quality concrete finishes. Concrete is frequently used as an architectural material and high quality finishes can be achieved through the use of the appropriate formwork and good working practises. Concrete is the most common material used in bridge piers, particularly those sited within rivers.

Concrete offers an efficient, robust option which is also flexible in terms of the shapes that can be cast. Algal staining can be reduced through the application of additives and transparent membranes.

A small selection of photographs of different concrete pier structures are shown below.

Photos 12, 13, 14 and 15: High Quality Concrete finishes on bridge piers

A significant advantage of concrete over the other options, is that concrete is generally maintenance free with no need to re-point or remove vegetation.

Additional costs savings on the scheme could be realised on the scheme through the use of concrete at Crown Point as the formwork used at Knostrop weir could be reused.

Option 4: Construct the piers using high quality concrete

Time Impact on Programme: 0 days
Estimated Additional Cost: **£0.00**

Advantages	**Disadvantages**
Efficient construction method	Does not meet the planning condition 18.
Robust construction	
Relatively low maintenance requirements	
Prevents vegetation establishment	
Colour matches surrounding materials e.g. Meanwood Beck outlet, the adjacent cantilever footway and the Royal Armouries.	

5 Visualisations

In this section a number of visualisations have been prepared to provide an indication of how the weir would fit in its surrounding based on masonry and concrete finishes.

The visualisations show a couple of different forms of Control Buildings which are separately being considered at this location. Both forms include a brick finish similar to those that are proposed for the linear defences.

The Control Building form has yet to be confirmed and will be subject to discussion with LCC officers prior to submission of the details for planning approval.

Figure 4: Upstream visual representations of masonry finishes

Figure 5: Downstream visual representations of masonry finishes

Figure 6: Upstream visual representations of Concrete finishes

Figure 7: Downstream visual representations of Concrete finishes

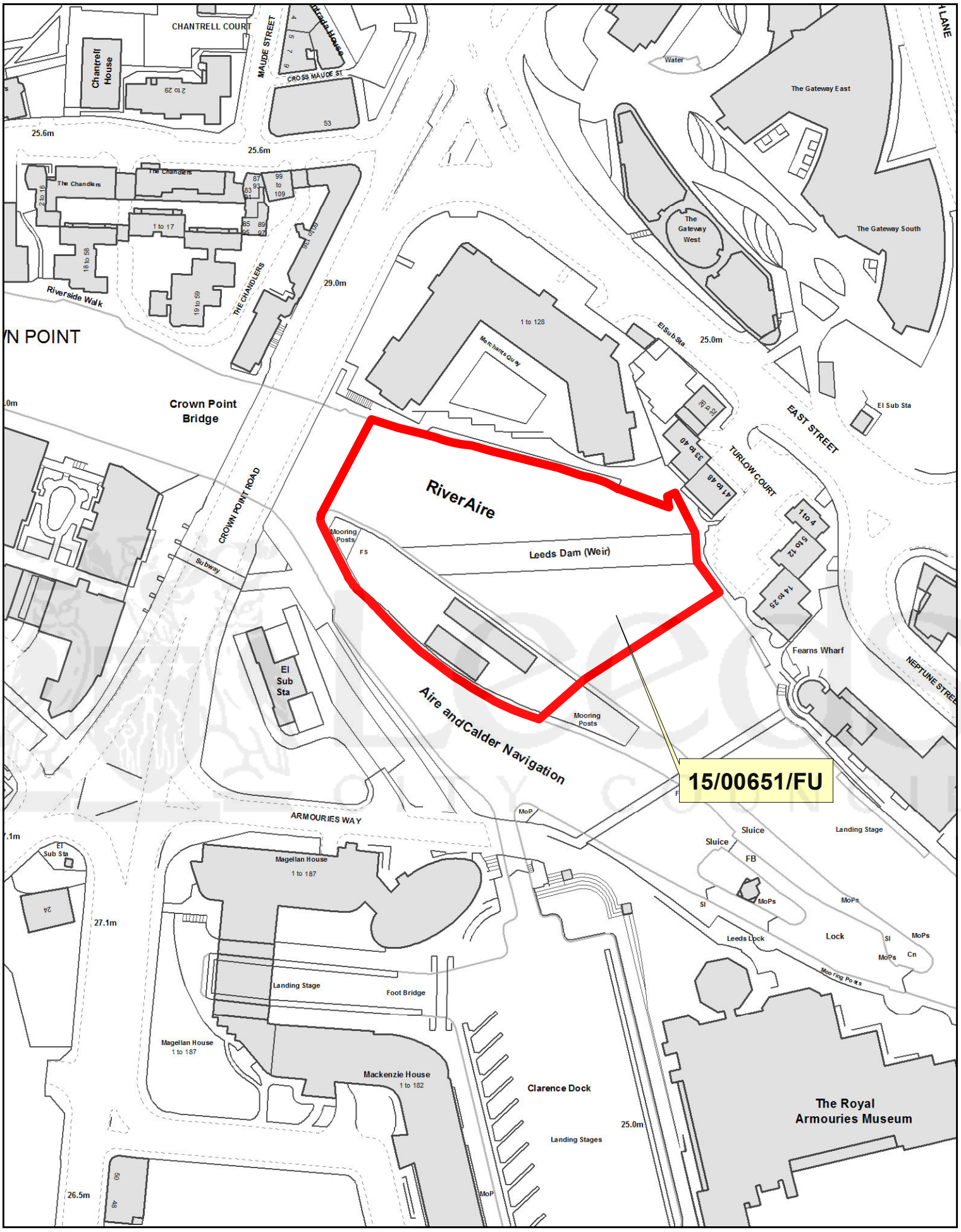
6 Conclusion

In response to the planning condition, the project team has examined how masonry could be accommodated within the design. While there are several options that have been considered, they with the exception of imprinted concrete introduce significant programme and cost when compared to the high quality concrete proposal. We do not believe these offer the funders of the scheme with value for money.

The masonry options introduce additional maintenance liabilities for LCC which have both financial and health and safety impacts. This would increase project risk as well as having ongoing budgetary implications for LCC throughout the life of the weir

The visual impact is limited as in normal flow conditions only a limited portion of the piers would be visible.

Consultation has been undertaken with a number of consultees including English Heritage and Canal and Rivers Trust in developing the options and agreeing the use of concrete as a viable material, with limited maintenance and construction implications. The approach to varying the condition to allow the use of concrete has also been discussed with LCC planning prior to submission of this application.



CITY PLANS PANEL

PRODUCED BY CITY DEVELOPMENT, GIS MAPPING & DATA TEAM, LEEDS CITY COUNCIL

SCALE : 1/1500