

Item No.	Classification: Open	Date: 7 July 2022	Decision Taker: Cabinet Member for Parks, Streets and Clean Air
Report title:		Cox's Walk Footbridge – Proposed Refurbishment Works	
Ward(s) or groups affected:		Dulwich Wood	
From:		Head of Highways	

RECOMMENDATION(S)

1. That the Cabinet Member for the Parks, Streets and Clean Air approves the proposed refurbishment works to the Cox's Walk Footbridge as set out in option 3 below. This is to use new steel portal frames with pile foundations in front of the abutments and partial abutment/wingwall reconstruction with backfill replacement. The option retains the two oak trees.

BACKGROUND INFORMATION

2. Cox's Walk footbridge was built around 1865 to provide an access footpath across the underlying railway line, which was in a cutting. The bridge was fully restored to its original design, using teak and iron, in 1906. The railway line was decommissioned in 1954, and the bridge has fallen into disrepair over time. The repair works that have been carried out over the years are as follows:

1908	Cox's Walk footbridge was renewed in teak and iron to the same design as the original.
1985	Repairs undertaken to the bridge. Installed scaffolding to underside of bridge to lift bridge off abutments and repair areas of brickwork to abutments and piers.
Dec 2000	Replaced timbers to structure and spliced timber as necessary. Prepare timber and paint with approved timber treatment black in colour. Carried out temporary brickwork repairs to abutments.
May 2001	Undertook further repairs to the bridge. These works were similar to that undertaken in 1985. Installed scaffold to underside of bridge to lift bridge off abutments and reconstruct failed brickwork abutment piers.
March 2004	Supplied and fitted gates constructed from 50 x 10 flat top and bottom rails with 16mm infill bars. Gates hung on metal posts and locked with padlock and FB mortice lock. (All painted in black gloss)
April 2004	Completed surfacing of Cox's Walk footway from the junction of Dulwich Common to the Cox's Walk Foot-Bridge. The existing

	surface removed and replaced with plainings. Existing manholes lowered along its length to tie in with new footway level.
Aug 2004	Completed urgent repairs replacing gate at entrance to Cox's Walk - and welded lugs as necessary to stop gate and fence being lifted from its present position.
Sept 2004	Timber replacement of Cox's Walk Footbridge. 4 No. supporting timbers, 10 No side struts and various small timbers supporting rail.
March-May 2005	Timber Repairs - after examination of bridge, timbers noted as rotting and breaking up, all timbers refurbished.
Nov 2008	Carried out emergency works at bridge; expansion joint in bridge started to move and created a void in the bridge deck; checker plate was placed over the void and screwed to the deck.

3. At the west embankment of the abutment to the bridge, there are two oak trees located either side of the bridge. Based on tree age estimation techniques and the construction activities associated with the bridge, these trees were likely planted between 1865 and 1905.
4. Cox's Walk footpath and the bridge form part of the formal adopted public highway network. Consequently, there is a formal legal duty to keep the footbridge open as far as reasonable practicable whilst allowing for the duty of ensuring the public are kept safe.

Footbridge condition

5. A 2018 Assessment Report noted the footbridge was in a hazardous condition, because the supporting walls at each end of the bridge (the abutments) were at risk of failing. The report noted that this posed little risk to the public, provided works to fix the problem were carried out within 18 months. Consequently, the footpath was allowed to remain open and bridge refurbishment was scheduled for October 2019. For various reasons, which included ensuring that all practical construction options had been explored, the works have been delayed.
6. The risks of failure associated with the bridge's supporting walls have increased with the passage of time. The increase in the deterioration of the bridge's timber parapets and handrails has rendered the bridge unsafe for public use. Consequently, the bridge is currently closed to the public on safety grounds.

Footbridge Refurbishment works

7. The original works required the reconstruction of the western abutment of the bridge with reinforced masonry, and works to the foundations. Fifteen semi-mature replacement oak trees were planted as a planning condition and in preparation for the original works, which proposed the full replacement of the supporting walls on either side of the bridge. The Council's term contractor estimated the costs of this proposal to be £240,000 for the construction cost only. The scheme did require the

removal of the two oak trees on the west side of the bridge, in order to provide safe working conditions.

8. The works were placed on hold while the structures team continued to explore all options to avoid the loss of the oak trees, following significant levels of feedback from local residents. The planned works remained on hold until a viable feasible alternative refurbishment package was identified.
9. It should be noted that there is a general Tree Preservation Order (TPO) on the entire woodland area, which requires planning permission to be sought for any tree removals.

Alternative construction options

10. The Council commissioned several feasibility studies to investigate alternative construction options, which would retain the oak trees. Historic England were also consulted about the historic status of the bridge. The bridge is well known because of a painting by the famous French painter Pissaro circa 1871. In the initial feasibility study, no viable alternatives were determined that would retain the bridge in its historic status in its present form and retain the trees.
11. A further independent feasibility study was commissioned in July 2021 with the following criteria:
 - Restore the bridge in the form that meets its historic status
 - Retain the two oak trees adjacent to the western abutment
 - No removal of trees for the access for plant and machinery
 - Minimal effect on the fauna in the area
 - Match the original budget of £240,000.

Review of the options to refurbish the existing footbridge.

12. The Council's structural engineering consultant, Waterman's Infrastructure and Environment (WIE), has completed a review of the options to refurbish the footbridge. The options have been assessed on their technical viability and the five criteria set out in section 4.0. It should be noted that previous design alternatives were prepared by a different term consultant engineer. The options are set out below:

Option	Description	Comments
1.	Conway Aecom's option 1 (new reinforced masonry abutments on shallow foundations). Requires removal of two oak trees to provide safe working conditions.	Indicative Works Costs £ 358,000
2.	Conway Aecom's alternative option 1 (new freestanding piers and reinforced concrete bank seats in shallow foundations and	Indicative Works Costs £527,800

	extension decks). Option retains the two oak trees.	
3.	Conway Aecom's alternative option 2 (new steel portal frames with pile foundations in front of abutments and partial abutment/wingwall reconstruction with backfill replacement). Option retains the two oak trees. This is the preferred option from WIE review.	Indicative Works Costs £527,800
4.	Save the Oaks campaign option (new east frame pier and RC bank seats on pile foundations and extension decks). Option retains the two oak trees.	Indicative Works Costs £690,200
5.	WIE strengthening option 1 (minimum strengthening of abutments with Pattress plates, Platypus anchors and masonry reinforcement, and slope stabilisation with Platypus anchors). This option does not provide the design life and therefore not suitable to pursue.	Indicative Works Costs £360,000
6.	WIE strengthening option 2 (partial reconstruction of abutments/wingwalls with backfill replacement and abutment underpinning). Option retains the two oak trees.	Indicative Works Costs £591,600

- *These costs were obtained in 2021 and will be significantly higher due to material cost increase and inflation. This is reflected in paragraph 18*

13. The consultant did not consider the option of closure and diversion of the path/ trail through Sydenham Woods. Moving the bridge would involve building a new structure and an application to the Magistrates Court for a stopping-up order to formally close the existing route and footbridge. Further, the construction of a new bridge would necessitate the removal of a significant number of trees.
14. The consultant recommends the provision of a permanent access ramp for the works and ongoing maintenance of the bridge. This will necessitate the removal of a limited number of trees at the North West corner of the bridge. The route and the number of trees has been agreed in consultation with the London Wildlife Trust.
15. The option review study recommended that the superstructure be refurbished and Conway Aecom's alternative option 2 be adopted. This includes new steel portal frames with piled foundations in front of abutments. The abutment/wingwall will be partially reconstructed and backfilled. This option provides a new steel framework within the Root Protection Area for the two oak trees.

16. The consultant, WIE, undertook trial holes in the proposed location of the steel framework support for the bridge deck, to check for tree roots within the construction footprint. Although this location of the steelwork is within the Root Protection Area for the two oak trees, either side of the west abutment, no important roots were found. The findings were discussed with the Council's Arboricultural team and they are happy for these works to proceed.
17. The detailed design for the proposal will include a ground penetrating radar survey, to check for any further root spread in the foundation footprint. This activity will assist in the determination of the position of the screw piles for the proposal, and the pile caps in the proposed foundations for the steelwork frame.
18. The next step is to further develop this proposal with an outline design, and determine the outline estimate for the works. The outline estimate for the proposal is £700,000, including design costs. This cost is based on the original estimate, with inflation taken into account.
19. This proposal will address the critical criteria as follows:

Criteria	Comment
Restore the bridge in the form that meets its historic status	This is partially achieved as the new steel framework will alter the 'historic view' of the bridge.
Retain the two oak trees adjacent to the western abutment	Yes
No removal of trees for the access for plant and machinery	No. However, all the options will require tree removal for access for plant and machinery.
Minimal effect on the fauna in the area	No. The provision for plant and machinery for all options will affect the fauna in the area.
Match the original budget of £240k	No. The significantly increased costs is the only option that will allow the retention of the trees.

20. The outline of the proposal for the refurbishment of the footbridge is set out in Appendix 1. Preliminary drawing with the plan and elevation of the Preferred Scheme. The elevation of the proposal is also illustrated in Appendix 1.

KEY ISSUES FOR CONSIDERATION

21. The bridge is presently closed for public use, and the area is secure. The parapet timber beams have deteriorated, the beams in worst condition have fallen into the protected area. The bridge will remain closed to the public until the proposed refurbishment works can be completed.

Policy framework implications

22. The proposals contained within this report are consistent with the Council's Policy / strategy on the protection of trees. The proposed treatment of the repairs to the bridge has been pursued on the basis of protection to two oak trees. The TPO has been implemented to meet the following objectives:

Community, equalities (including socio-economic) and health impacts

Community impact statement

23. The proposal supports the council's equalities and human rights policies and promote social inclusion by:
- Providing a safe route along Cox's Walk and to maintain the public access through Sydenham Woods.
 - The proposal is area based and therefore will have the greatest impact upon those people living, working or traveling in the vicinity of Sydenham Woods.
 - Cox's Walk Footbridge provides a vital walking link going north to south through Sydenham Hill Woods. The bridge is key to crossing over the historical railway cutting.
24. The proposal has no disproportionate impact on any particular age, disability, faith or religion and ethnicity and sexual orientation.

Equalities (including socio-economic) impact statement

25. The proposal is not considered to have any adverse effect on socio-economic or health equalities.
26. An Equalities Impact Assessment will be undertaken and any potential equalities impact will be considered. The proposal is a direct response to objections to the removal of the two oak trees on either side of the existing footbridge.

Health impact statement

27. This proposal seeks to improve the access to the public highway through the Sydenham Woods and thus improve pedestrian access for walking through the woods

Climate change implications

28. The Council's consultant has reviewed the carbon embodiment of the design in line with 'net zero' aspirations. It has therefore been considered throughout every stage of the process.
29. The construction works are remedial rather than rebuild which minimises the effect on the existent ecology both adjacent to the bridge and to access the

area.

30. Ecological sustainability has been a key driver due to the close constraint of two significant oak trees of local interest. The development includes the following:
- The use of screw piles rather than a traditional approach is an innovative solution minimising the need for additional concrete. This also minimises waste as they are a known quantum.
 - The detailed design includes a review of the remedial materials in order to reduce their quantity and weight and, where proprietary material and methods can be used to reduce the whole life cost. The Environmental Protection Declaration (EPD) will be reviewed to ensure the lowest carbon solution during the detailed design.
 - The detailed design for the refurbishment includes Early Contractor Involvement with the Council's term contractor to ensure the construction methodology is included in the design considerations.
31. The carbon calculation for the scheme will be made. The evaluation of the proposal will ensure that the Council's objectives are maintained.

Resource implications

32. All costs arising from implementing the proposals will be fully contained within the existing business unit capital budgets.
33. The costs of the design and construction is £700,000, this will be met from the Capital allocations within Highways Maintenance for 2022/23 and 2023/24

Consultation

34. Consultation and stakeholder engagement with local Ward Councillors and local stakeholders and community groups is ongoing, as the detailed design of the works proceeds.

Timescale

35. It is intended that works will commence in September/October 2022 and be completed before March 2023 to avoid the bird nesting season.

SUPPLEMENTARY ADVICE FROM OTHER OFFICERS

Director of Law and Governance – SC/11/21

36. As stated in paragraph 2, Cox's Walk footpath is part of the public adopted highway network. The Council therefore has a duty under section 41 of the Highways Act 1980 to maintain it.
37. Under section 130 of the Highways Act 1980, it is the duty of the Council to assert and protect the rights of the public to the use and enjoyment of the

footpath. Section 130 also imposes a duty on the Council to prevent the stopping up or obstruction of the footpath.

38. Section 12 of the Health and Social Care Act 2012 imposes a duty on local authorities to take such steps as it considers appropriate for improving the health of the people in its area. It could be argued that restoring this footbridge and thus maintaining the footpath is an example of the Council actively promoting the healthy activity of outdoor exercise.
39. Section 149 of the Equality Act 2010 imposes a duty on the Council to have due regard in the exercise of its functions to the need to eliminate discrimination, harassment, victimisation and any other conduct that is prohibited by the Act; advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it; and to foster good relations between persons who share a relevant protected characteristic and persons who do not share it. The protected characteristics are age; disability; gender reassignment; marriage and civil partnership; pregnancy and maternity; race; religion or belief; sex; and sexual orientation.
40. It is not foreseen that a decision to restore Cox's Walk footpath would have any negative impact of the type described in s.149 of the Equality Act 2010 on any person with a protected characteristic.
41. The Council has also adopted the requirement to have due regard to tackling socio-economic disadvantage in the exercise of its functions, and this forms part of Article 1 of the Council's constitution. The Cabinet Member for Climate Emergency & Sustainable Development will have to make a judgement on the question of whether spending almost £700,000 on restoring a footbridge located in a Wood in a relatively wealthy part of the Borough accords with the Council's commitment to tackling socio-economic disadvantage.
42. The Cabinet Member for Cabinet Member for Parks, Streets and Clean Air is asked to approve this scheme.

Strategic Director of Finance and Governance (EL21/100)

43. The Strategic Director of finance and governance notes that the estimated costs for this work is £700,000 and there is sufficient funding from existing Highways capital budgets, reserves and grants to fund these proposals.
44. Staffing and other costs connected with this recommendation to be contained with existing departmental revenue budgets.

BACKGROUND DOCUMENTS

Background Papers	Held At	Contact
Feasibility Studies and Inspection Reports Bridges, subways and walls - Southwark Council	Southwark Council Highways Maintenance Highways 160 Tooley Street London SE1 2QH	Anthony Davis Structures Manager Anthony.Davis@Southwark.gov.uk Tel: 07599545757

APPENDICES

No.	Title
Appendix 1	Preliminary drawing with the plan and elevation of the Preferred Scheme

AUDIT TRAIL

Lead Officer	Dale Foden – Head of Highways	
Report Author	Alwyn Samuel- Highways Maintenance Manager	
Version	Final	
Dated	13/6/2022	
Key Decision?	Yes	
CONSULTATION WITH OTHER OFFICERS / DIRECTORATES / CABINET MEMBER		
Officer Title	Comments Sought	Comments Included
Director of Law and Governance	Yes	Yes
Strategic Director of Finance and Governance	Yes	Yes
List other officers here		
Public Health Team	Yes	Yes
Climate Emergency Team	Yes	Yes
Cabinet Member	Yes	No
Date final report sent to Constitutional Team / Scrutiny Team	5 July 2022	