



Application Form: bids for funding in 2019/20

The level of information provided on this form should be proportionate to the size and complexity of the works proposed. An Excel data proforma should also be completed.

Note that DfT funding is a maximum of £5 million per project for bids in 2019-20. An individual local highway authority may apply to bid for only one scheme. Funding will be provided in 2019/20, but it is recognised that construction may go into 2020/21 as well. The closing date for bids is 31 October 2019.

For schemes submitted by a Combined Authority for component authorities a separate application form should be completed for each scheme, then the CA should rank them in order of preference.

Applicant Information

Local authority name: Derbyshire County Council

Bid Manager Name and position: Paul Beckett, Senior Project Engineer

Name and position of officer with day to day responsibility for delivering the proposed scheme.

Contact telephone number: 01629 538585 **Email address:** paul.beckett@derbyshire.gov.uk

Postal address: Derbyshire County Council

ETE Department

County Hall

Matlock

Postcode DE4 3AG

When authorities submit a bid for funding to the Department, as part of the Government's commitment to greater openness in the public sector under the Freedom of Information Act 2000 and the Environmental Information Regulations 2004, the local highway authority must also publish a version excluding any commercially sensitive information on their own website within two working days of submitting the final bid to the Department.

Please specify the weblink where this bid will be published:

<https://www.derbyshire.gov.uk/transport-roads/transport-plans/transport-funding-bids/transport-funding-bids.aspx>

SECTION A – Description of works

A1. Project name: A6 Resilience in the Derwent Valley Mills World Heritage Site

A2. Headline description:

Proposed start date _January 2020_____

Estimated Completion date _April 2021_____

Brief description

The Improvement and strengthening of historic Highway retaining walls along the A6 former Trunk Road between Matlock and Whatstandwell in Derbyshire, with the opportunity to trial smart technology to inform the management of key drainage assets in the project area.

The A6 is the main arterial route through the County from Greater Manchester through the Peak District National Park and the Derwent Valley Mills World Heritage Site into the City of Derby. It is therefore integral to effective operation of the visitor economy and to the local aggregates and minerals industry.

The total loss of this route or the imposition of weight restrictions on it would have major impact on the local economy and the surrounding areas as traffic would be diverted on to other less suitable roads leading to increased journey times, disturbance to communities and increased wear and tear on other Highway assets and the potential increase in road safety risk.

In order to embed asset management principles Derbyshire County Council commenced the project of Highway Retaining Wall data capture in June 2015, in accordance with the Management of Highway Structures. This process targeted the Resilient Network (consisting A, B, C and Unclassified roads). This systematic approach logged the location, length, height retained, type of construction, material used and condition of the retaining walls.

Ongoing management of the structures has identified that most retaining walls are at the end of their life, with several needing major intervention due to the increase in both traffic volumes and vehicle weights. Indeed the recent collapse of a retaining wall at A6 Matlock Bath (see case study in section B3) confirmed the condition of many structures and the associated disruption and inconvenience any collapse would have.

In addition climate change has increased the intensity of flow levels of many rivers with the River Derwent being no exception. This has led to an increase in scour to adjacent structures. In view of this the Environment Agency has undertaken flood modelling within the project area which has identified flood resilience improvements and from this there is scope for collaborative working.

A joined up approach to the issue of drainage and flooding will also allow the efficiency of the network to be maximised, alleviating problems in this key travel to work area whilst also supporting Derbyshire's Strategic Economic Plan.

In addition to the support of this bid from the Environment Agency, liaison with our local stakeholders - Peak District National Park Authority, Derby City Council, Derbyshire Dales District Council and Amber Valley Borough Council has resulted in expressions of support for this bid. This confirms the importance of the A6 and the benefits to the local economy and communities it brings.

A3. Geographic area:

Please provide a short description of the location referred to in the bid (in no more than 50 words)

The section of A6 between Matlock and Whatstandwell is situated in the World Heritage Site. It follows the Derwent Valley along a transport corridor that comprises the Matlock to Derby railway line, the River Derwent and the Cromford Canal. Its resilience is key to the local aggregates industry and the visitor economy.

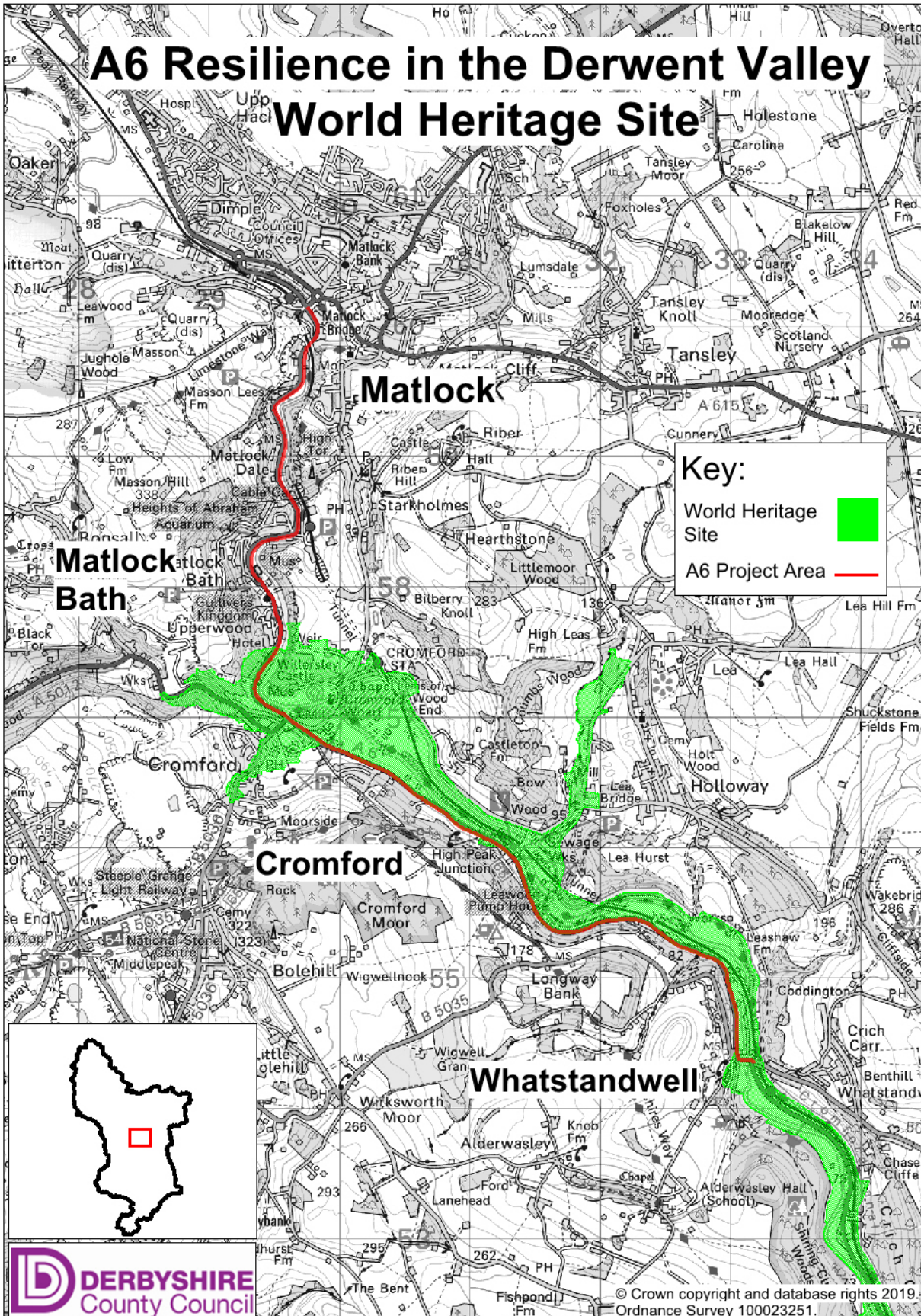
OS Grid Reference: 429755,360141 to 433110,354364

Postcode:

You might wish to append a map showing the location (and route) of the proposed project, existing transport infrastructure and other points of particular interest to the bid.

Please see location map below:

A6 Resilience in the Derwent Valley World Heritage Site



A4. Type of works (please tick relevant box):

Highways Maintenance Challenge Fund 2019/20 Application Form

DfT funding of up to £5 million in 2019/20

Structural maintenance, strengthening or renewal of bridges, viaducts, retaining walls or other key structures, footbridge or cycle bridge renewal

Major maintenance, full depth reconstruction of carriageways, structural maintenance of tunnels

Resurfacing of carriageways including improvements to footways or cycleways that are within the highway boundary

Renewal of gullies and replacement of drainage assets

SECTION B – The Business Case

B1. The Financial Case – Project Costs and Profile

Before preparing a proposal for submission, bid promoters should ensure they understand the financial implications of developing the project (including any implications for future resource spend and ongoing costs relating to maintaining and operating the asset), and the need to secure and underwrite any necessary funding outside the Department's maximum contribution.

Please complete the table below. **Figures should be entered in £000s** (i.e. £10,000 = 10).

Funding profile (Nominal terms)

£000s	2019-20	2020-21
<i>DfT Funding Sought</i>	£4,867	<i>DfT funding not available in 2020-21</i>
<i>LA Contribution</i>	£150	£344
<i>Other Third Party Funding</i>		£50 (<i>assumed</i>)

Notes:

- 1) Department for Transport funding will be granted in the 2019-20 financial year but local highway authorities may carry that funding over to following financial years if necessary.*
- 2) There is no specific amount for a local contribution by the local authority and/or a third party but if this is proposed please state what this is expected to be.*

B2. Local Contribution / Third Party Funding

Please provide information on the following points (where applicable):

- The non-DfT contribution may include funding from the local authority or a third party. This should include evidence to show how any third party contributions are being secured, the level of commitment and when they will become available.

Collaboration with Environment Agency has identified possible areas of collaboration. Discussions are at an early stage and will be progressed further if this bid is successful. However, it is currently thought that an amount in the region of £50,000 is in order.

b) Please list any other funding applications you have made for this project or variants of it and the outcome of these applications, including any reasons for rejection (e.g. applications made through any similar competition).

None

B3. Strategic Case (sections (a) to (f) below)

This section should **briefly** set out the rationale for making the investment and evidence of the existing situation, set out the history of the asset and why it is needs to be repaired or renewed. It should also include how it fits into the overall asset management strategy for the authority **and why it cannot be funded through the annual Highways Maintenance Block Funding grant.**

a) What are the current problems to be addressed by the proposed works? (Describe economic, environmental, social problems or opportunities which will be addressed by the scheme).

Ongoing management of the structures has identified that most of the historic retaining walls are at the end of their life, with several needing major intervention due to the increase in both traffic volumes and vehicle weights.

b) Why the asset is in need of urgent funding?

The current DfT funding formula does not cover retaining walls, only Highway bridges with a span over 1.5 metres. The value of the County's un-funded retaining walls is £1.75 billion and is more than twice the value of its bridges at £800 million. This lack of funding gives a significant risk to our ability to deliver appropriate maintenance on existing retaining walls and results in a reliance on reactive maintenance and pressure bids.

The total loss of this route or the imposition of weight restrictions on it would have major impact on the local economy and the surrounding areas as traffic would be diverted on to other less suitable roads leading to increased journey times, disturbance to communities and increased wear and tear on other Highway assets and the potential increase in road safety risk (see section e) below)

c) What options have been considered and why have alternatives have been rejected?

Do minimum – No change to the current situation – Reactive maintenance and minor planned intervention with no overall improvement in condition. *Rejected* due to the fact this is not good asset management practice nor does it address the issue of the condition of these structures with the potential for failure and loss of route availability and the implications this has for the customer and the effects on the local economy and tourism in the World Heritage Site

Do something (medium) – Implement prioritised improvements to Highway structures along the section of A6 between Matlock and Whatstandwell along with a smart drainage technology pilot to prevent flooding/drainage problems by using data intelligently to effectively manage the drainage asset. This section has been identified as the most critical section with the highest concentration of poor condition retaining wall assets (***This project***)

Do something (maximum) – Implement prioritised improvements on all Highway structures along the A6 from the Cheshire Boundary to the Derby Boundary and extend the drainage pilot along the whole route. *Rejected* due to not being deliverable within the budget or timescales

Note: The condition of many other retaining walls along the A6 are in need of similar attention to scope of this project and therefore there is still a longer term need for future works. In response to this the County Council intends to include further lengths of the A6 using the same principles as this bid in its expression of interest for Challenge Funding 2020.

d) What are the expected benefits / outcomes?

Outcomes of this project would maintain and improve network resilience to prevent the loss of the network and provide the following expected benefits and outcomes:

Easing congestion by providing reliable journey times without the disruption involved in diversions and weight restrictions.

Improved air quality from less congestion and smoother traffic flow resulting in reduced CO₂ emissions.

Road Safety by having structures that won't collapse and by keeping traffic on an appropriate route rather than other less suitable routes or other local rat-runs to avoid lengthy diversion routes. The repair of the retaining walls will give increased vehicle retention values in the new parapets.

Better access to jobs from more reliable journey times supporting the visitor economy to the Peak District and World Heritage Site.

Greater Inward Investment from network continuity, the A6 is a critical artery in linking the rural economy to connectivity to the wider network providing transport links to the north, south, east and west of the country.

Unlocking potential for housing development is provided from continued network resilience making such investment more attractive as can be seen with the many developments in the Matlock area.

Flood Alleviation the Environment Agency uses a significant length of the parapets along the A6 from Matlock to Matlock Bath as a flood alleviation measure to contain the River Derwent. Engagement with the Environment Agency has been carried out with regard to its flood modelling study and from this there is scope for collaborative working depending on the proposals they may have.

e) What will happen if funding for this scheme is not secured? Would an alternative (lower cost) solution be implemented (if yes, please describe this alternative and how it differs from the proposed scheme)?

If the funding bid were to be rejected there would be no change to the current maintenance regime as there is no funding for the upgrading of key infrastructure, i.e. "do minimum" option.

The County Council would continue to carry out reactive maintenance and minor planned intervention with no overall improvement in the asset's condition and in reality an accelerated decline. The lifecycle planning carried out shows that we do not have the funds to adequately maintain these assets.

In the short term, the future reliability of the network would be compromised, with any potential loss having a negative impact on journey reliability from traffic congestion, in addition to the wider societal

impacts such as a reduction in air quality, the access to job opportunities, increased transport costs and the impact on the growth of the rural economy by the loss of this major artery.

For example – The journey from A6/A38 junction at Derby via A6 to Matlock is 27.2km and usually takes 35 minutes. The HGV diversion along the SRN to avoid low bridges in the Derwent Valley would increase this to 49.6km with a 1 hour 10 minute journey time

Result - 22.4km additional distance with additional 35 minute duration

The total cost of this diversion to the Derbyshire economy is in the region of £90,000 per day of the closure.

f) What are the economic, environmental and social impacts of completing this project?

Economic - The positive benefits of a free flowing reliable A6 in the delivery of goods and services to the area whilst also allowing access to the World Heritage Site, the Peak District and other Derbyshire attractions for the many tourists who visit the county contributes heavily to the success of the local economy.

The Visitor Economy is both a key sector and major employer in Derbyshire with a Gross Value Added (GVA) of £2.3bn per year and employing over 30,000 people. In addition to the visitor economy the local mineral and aggregates industry relies heavily on the availability of the A6 as its route to supply materials around the County and beyond. This is evidenced by the high proportion of HGV's that use both the A6 and surrounding roads that feed local quarries.

This proposal would also contribute to the local economy during implementation as it is proposed to deliver this project on a mixed economy basis to facilitate delivery on time and to budget, with work being issued to local SME's as well as to the Council's in-house Construction Service.

Environmental - The reduction in air quality around road works due to idling traffic is acknowledged. A pro-active approach to the management of the asset is key to ensure that any traffic control is reduced to a minimum. This is proven in the case study for A6 Matlock Bath where the reactive response to a collapse resulted in traffic control being in force for 11 of the 15 week duration, where a pro-active approach would have cut this down to 4 weeks.

If the A6 was to be closed then exhaust and particulate emissions would be increased due to the greater distance travelled as vehicles would use more fuel and also cause more congestion elsewhere on the network leading to reductions in air quality at these points.

Social Impacts – As well as the provision of jobs due to a thriving local economy. A resilient A6 helps to reduce social exclusion.

This area of Derbyshire is rural and car use tends to be the norm. However, the regular public transport links along this key artery maintain communication links for service users who don't drive or own a car.

As well as the regular bus services along the A6, there are four railway stations dependant on the A6 for connectivity as well as the potential impact on the lines in areas close to any significant retaining wall failures. The continued presence of reliable journeys by public transport ensures that they can access job opportunities and local education establishments.

Case Study – A6 Pavilion Gardens Retaining Wall, Derby Road, Matlock Bath – Retaining Wall Collapse

Matlock Bath is a village situated approximately one mile south of the spa town of Matlock. It is situated in a spectacular limestone gorge and was developed as a tourist destination by the Victorians who nicknamed it Little Switzerland. Tourism is still central to the local economy and it remains as a popular visitor destination to this day.

In December 2018 a section of retaining wall at A6 Derby Road, Matlock Bath began to collapse. This existing historic structure (Figure 1) failed leading to subsidence of the adjacent carriageway and footway.

Figure 1 – Showing Failure of Existing Structure



Historic Tufa stone wall heavily voided and displaced with inconsistent foundation retaining 3 metres of highway land at the top of a steep slope above the River Derwent

The voided nature of the asset required the need for urgent installation of traffic lights to remove vehicles from the zone of loading to prevent total collapse as the wall had zero capacity. This resulted in immediate delays to the Highway user which had a negative impact on the network and visitor experience in the lead up to the Christmas period when significant traffic use is expected. In view of this it was necessary for 24 hour manual control of the signals to be used to mitigate the congestion. (Figure 2)

Figure 2 – Traffic Delay and Congestion



Initial de-vegetation of the wall and embankment allowed the true extent of the problem to be identified and subsequent options for remediation were formulated.

The number of statutory undertakers' (SU) equipment in the footway and carriageway meant that the wall had to be dismantled carefully to expose them. This revealed that the wall was heavily voided with insufficient foundations (Figure 3)

Figure 3 – Typical Voiding of Wall and Foundations



Typical example of voiding and distortion of the Highway retaining wall

Due to the high concentration of statutory undertaker's equipment in the highway, traditional methods of repair were not an option. Further intrusive investigations revealed that heavy extensive voiding was present down to founding level.

Prior to the repair of the retaining wall the embankment was stabilised with soil nails (Figure 4) to ensure that it could take the additional loading from the retaining wall remedial measures.

Figure 4 – Soil Nails to Strengthen Embankment



Once the embankment was stabilised the remedial works were carefully planned and executed so as not to disturb the SU equipment with the use of vibration monitors to ensure no damage during construction. The voids were grouted to strengthen the wall and the wall rebuilt.

In total the road was under traffic light control from 07/12/18 to 24/03/19 - a total of 15 weeks. To safeguard the travelling public the lights had to be in place until the wall was remediated. The investigation, design and procurement of a solution took 11 weeks. Therefore around 73% of the time

the lights were in place no works were being carried out on site. The actual remedial works to the structure, carriageway and footway were only carried out in the last 4 weeks of the restriction.

The works in total cost in the region of £146,000, with traffic management accounting for £56,000 for the whole 15 weeks duration. If funding had been available to pro-actively repair this wall then these works would have been planned and carried out before the wall had started to collapse. This would have resulted with 11 weeks less congestion and delay saving £41,000 in traffic management costs (28% of the total cost).

The cost of this additional delay to the Derbyshire economy is estimated to be in excess of £1 million over the course of the works

This clearly demonstrates that an asset management driven, pro-active approach (the basis of this bid) is the most cost effective way of managing the asset leading to the benefits of a safer, more reliable network with a successful Derbyshire economy giving benefits for all the count

B4. Equality Analysis

Has any Equality Analysis been undertaken in line with the Equality Duty? Yes No

An equality analysis has not been carried out as a more reliable and resilient A6 benefits all members of the community.

B5. The Commercial Case

This section categorises the procurement strategy that will be used to appoint a contractor and, importantly for this fund, set out the timescales involved in the procurement process to show that delivery can proceed quickly.

Project Milestones

Award of Funding – December 2019

Advance design & site investigation to identify early deliverables: Jan – Feb 2020

Commission early contract starts: April 2020

Commence detailed design and procurement: March 2020

Rolling construction programme for approximately 18 months commencing April 2020

What is the preferred procurement route for the scheme? For example, if it is proposed to use existing framework agreements or contracts, the contract must be appropriate in terms of scale and scope.

Framework contract

Direct labour

Competitive tender

Confidence on the deliverability on this project is high. In addition to the authority's own in-house design and construction resource, we are able to call on other methods of procurement such as the

Midlands Highways Alliance (MHA), PSP 3, SCAPE and ESBO frameworks. This will allow the authority to draw in the appropriate resource where required in a short timeframe with no negative impact on deliverability

The Council has access to its own in-house Construction and Design Service to facilitate early commencement, in addition we also have access to specialist framework contracts as and when required Derbyshire has a wealth of geotechnical contractors that we have used in the past and will form part of the collaborative approach for this project.

**It is the promoting authority's responsibility to decide whether or not their scheme proposal is lawful; and the extent of any new legal powers that need to be sought. Scheme promoters should ensure that any project complies with the Public Contracts Regulations as well as European Union State Aid rules, and should be prepared to provide the Department with confirmation of this, if required. An assurance that a strategy is in place that is legally compliant and is likely to achieve the best value for money outcomes is required from your Section 151 Officer below.*

B6. Delivery of project

Are any statutory procedures, such as planning permission, required to deliver the project? If yes please provide details below;

Yes No

Details of statutory procedures before works can commence

The works are to existing historic highway structures so planning permission will not be required. However, consents from Natural England will be required with regard to any areas where the proposals impact on protected species or protected natural habitats.

SECTION C: Declarations

C1. Senior Responsible Owner Declaration

As Senior Responsible Owner for A6 Resilience in the Derwent Valley World Heritage Site I hereby submit this request for approval to DfT on behalf of Derbyshire and confirm that I have the necessary authority to do so.

I confirm that Derbyshire County Council will have all the necessary powers in place to ensure the planned timescales in the application can be realised.

Name: Neill Bennett

Signed:



Position:

Highways Strategy Manager

C2. Section 151 Officer Declaration

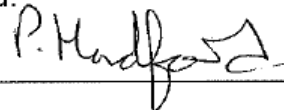
As Section 151 Officer for Derbyshire County Council I declare that the scheme cost estimates quoted in this bid are accurate to the best of my knowledge and that Derbyshire County Council

- has allocated sufficient budget to deliver this scheme on the basis of its proposed funding contribution
- will allocate sufficient staff and other necessary resources to deliver this scheme on time and on budget
- accepts responsibility for meeting any costs over and above the DfT contribution requested, including potential cost overruns and the underwriting of any funding contributions expected from third parties
- accepts responsibility for meeting any ongoing revenue requirements in relation to the scheme
- accepts that no further increase in DfT funding will be considered beyond the maximum contribution requested
- has the necessary governance / assurance arrangements in place
- has identified a procurement strategy that is legally compliant and is likely to achieve the best value for money outcome
- will ensure that a robust and effective stakeholder and communications plan is put in place

Name:

Peter Handford

Signed:



Submission of bids:

The deadline for bid submission is 5pm on **31 October 2019**

Successful bids for Challenge Fund Tranche 2B are to be funded in 2019/20.

An electronic copy only of the bid including any supporting material should be submitted to:

roadmaintenance@dft.gov.uk copying in Paul.O'Hara@dft.gov.uk