

SCHEDULE A: Applications with Recommendation

19/0149

Item No: 03

Date of Committee: 26/04/2019

Appn Ref No:
19/0149

Applicant:
Environment Agency

Parish:
Carlisle

Agent:
Jacobs

Ward:
Botcherby

Location: Land at Warwick Road, Melbourne Park & Tesco, Carlisle

Proposal: Carlisle Phase 1 Flood Risk Management Scheme, Consisting Of New And Raised Flood Defences At Melbourne Park And Associated Land Raising At The Entrance To Tesco Supermarket At The Junction With The A69 Warwick Road

Date of Receipt:
20/02/2019 23:01:16

Statutory Expiry Date
22/05/2019 23:01:16

26 Week Determination

REPORT

Case Officer: Stephen Daniel

1. Recommendation

- 1.1 It is recommended that this application is approved with conditions.

2. Main Issues

- 2.1 Whether The Proposal Would Be Acceptable In Principle
- 2.2 Whether The Siting, Scale And Design Would Be Acceptable
- 2.3 Impact On Biodiversity
- 2.4 Impact On Flood Risk
- 2.5 Impact on Heritage Assets
- 2.6 Impact On The Occupiers Of Neighbouring Properties
- 2.7 Impact On Trees
- 2.8 Highway Matters
- 2.9 Other Matters

3. Application Details

The Site

- 3.1 The proposed works are located within Melbourne Park and at the entrance to the Tesco supermarket. The application sites cover a total area of 7.62ha.
- 3.2 The majority of the works would be located within Melbourne Park. The proposed site consists entirely of amenity open space and is surrounded by predominantly residential properties, along with the Carlisle Central Premier Inn to the north west, some manufacturing / commercial premises to the south east and the railway line to the south of the park. Warwick Road forms the northern boundary of the site.
- 3.3 At Tesco, the site is located at the entrance to the supermarket at the junction with Warwick Road. A petrol station and car wash are located adjacent to the site, whilst the supermarket itself is located beyond to the north east of the site.

Background

- 3.4 In 2015, Storm Desmond brought unprecedented levels of rainfall during the 5th and 6th of December leading to high water levels in the River Petteril, River Caldew and River Eden. This resulted in flooding across Carlisle which affected approximately 1,925 properties. This was categorised as a 0.33% Annual Exceedance Probability (AEP) event. Prior to this, the most significant flood event occurred in January 2005, which had an estimated AEP of 0.59%. Following this flood event, the majority of the City's defences were raised to meet a higher Standard Of Protection (SOP) (0.50% AEP) to reduce the flood risk. However, this was not sufficient to defend against the extent of the 2015 Storm Desmond event.
- 3.5 Consequently, options have been and are continuing to be developed to increase the SOP to properties across the City to increase the defence levels above the Storm Desmond event, which has resulted in the development of the Carlisle Flood Risk Management Scheme (FRMS). As the works required to deliver the FRMS are continuing to be developed and refined a phased approach is being taken to their implementation.
- 3.6 Phase 1 of the scheme has progressed to a position where a proposed design has been developed and works are ready to be progressed. As such, planning consent is being sought for this phase ahead of future phases, which will be subject to separate planning applications. The Phase 1 works are split across two areas, within Melbourne Park and at the entrance to Tesco off Warwick Road.
- 3.7 The area around Melbourne Park has suffered flooding multiple times in the past from both the River Eden and the River Petteril. The existing defences were completed in 2007 following the severe flood that occurred in January 2005. The defences provide property protection up to a flood event of 0.5% AEP.
- 3.8 During the Storm Desmond floods of December 2015 the current defences were first by-passed by out of bank flow from the River Petteril and then

overtopped as River Eden flood depths surcharged the outlet of the River Petteril. Downstream of Botcherby Bridge flood levels reached defence crest levels causing minor spills at limited locations. Upstream of Botcherby Bridge flood levels significantly exceeded crest levels causing widespread flooding.

- 3.9 The area near the Tesco's entrance section was included in the Eden and Petteril Flood Alleviation Scheme, completed in 2007. During Storm Desmond flood water was witnessed flowing into Warwick Road via the footpath along the Car Wash and also over the Tesco entrance. The entrance to the car park is designed at 16.83mAOD to match ground levels on the western footpath. There was, however, a low spot on the existing eastern footpath into Tesco from Warwick Road at 16.49mAOD. The original 2007 design proposed to fill this gap with a new grass embankment raised to 16.93mAOD to tie into the high ground on Rotary Way verge. However, during a site walkover in March 2017 this could not be seen on the ground suggesting that either the work was never fully completed, or the embankment has suffered significant settlement.
- 3.10 A Project Appraisal Report was prepared to detail the evaluation that has been carried out for the project. A long list of options was initially developed based on engineering judgement, site constraints and geotechnical information. These options were assessed against a multi criteria matrix and scored based on established assessment criteria. The highest scoring long list options were taken forward to a short list of options, which also included "Do Nothing" and "Do Minimum" options. The "Do Nothing" option would entail no capital investment or maintenance to be undertaken, and a "Do Minimum" option, would include maintenance of existing defences being undertaken, but with no capital investment. These options represented economic baseline options used in the appraisal process against which the "Do Something" options could be assessed. It was considered likely that the preferred flood risk management strategy would be a combination of some of the "Do Something" Options that were taken forward for further appraisal.
- 3.11 Following hydraulic modelling of the options and subsequent economic analysis a proposed scheme comprising a combination of increasing the height and length of existing defences within Melbourne Park and Tesco's supermarket entrance was identified.

The Proposal

- 3.12 The overall aim of the Carlisle Phase 1 FRMS is to deliver new and improved flood defences to a standard of protection above the level of the Storm Desmond event, when taking into consideration, engineering, environmental, social and economic constraints. To achieve this objective, works are required across two locations at Melbourne Park and at the entrance to Tesco supermarket.
- 3.13 Within Melbourne Park, the existing flood defences, which run to the east and west of the River Petteril would be raised and extended. At the Tesco supermarket entrance at the junction with the Warwick Road the existing

supermarket entrance road would be regraded and a new grass embankment along the eastern footpath entrance would be created.

3.14 The works to the western defences, between Warwick Road in the north and Melbourne Road / Adelaide Street would include:

- raising of the existing wall (66m) by approximately 0.5m between Warwick Road (Botcherby Bridge) and Wallace Gardens.
- raising of an existing grassed embankment (505m) by up to 1.63m between Wallace Gardens and Jesmond Road (coach depot).
- regrading of existing grass access ramps at Riverside Way to tie into the new crest level of the raised embankment.
- raising existing tarmac footpath over embankment at Riverside Way and Wallace Gardens.
- reinstatement of 250m tarmac riverside footpath along the toe of the embankment (wet side) between Wallace Gardens and Riverside Way.
- construction of approximately 250m of new earth embankment approximately 0.5m high, extending south from the existing embankment and tying into high ground adjacent to Adelaide Street.
- regrading of existing footpath over new embankment at Melbourne Road.
- cut off trench (below ground) along wet side and a drain along dry side for full length of the embankment.

3.15 The works to the eastern defences, between Warwick Road in the north and Borland Avenue to the south would include:

- raising of 415m of existing grassed embankment by up to 0.94m between Warwick Road (Botcherby Bridge) and Falcon Mews.
- regrading of existing grass access ramps at Botcherby Bridge.
- raising of existing tarmac footpaths / access ramps over the embankment at Walkmill Crescent.
- extension of the two existing drawdown structures to take account of the increased width and footprint of the embankment. One headwall structure at each location would be removed to allow the embankment to be widened and then replaced.
- construction of approximately 195m of new earth embankment up to 1.52m high from the existing embankment near Falcon Mews and tying into high ground adjacent to the playground off Borland Avenue.
- regrading of existing footpath Public Right of Way (PRoW) over new raised embankment at Botcherby Avenue and Borland Avenue.
- cut off trench (below ground) along wet side and a drain along dry side for full length of the embankment.
- to minimise the risk of build-up of material at times of flood under Botcherby Bridge, potentially increasing the risk of flooding upstream, the underside of the bridge would be smoothed / flattened by infilling the existing ribbed soffit with shotcrete to reduce the turbulence and friction losses.

3.16 The works at Tesco can be summarised as follows:

- regrade a 14m wide section of tarmac, footpaths and road crossing at the Tesco supermarket entrance at the junction with Warwick Road to a

maximum height of 17.03mAOD.

- new eastern embankment along footpath entrance approximately 25m long and up to 460mm high.
- raise existing western embankment along footpath entrance by approx. 150mm along its length.

3.17 The application is accompanied by the following reports:

- Ecological Assessment Report
- Habitat Regulations Assessment (Stage 1 and Stage 2)
- Landscape and Visual Impact Assessment
- Heritage Statement
- Flood Risk Assessment
- Preliminary Water Framework Directive Compliance Assessment
- Noise and Vibration Assessment
- Stage 1 Preliminary Geoenvironmental Assessment
- Arboricultural Method Statement
- Traffic and Transport Assessment

4. Summary of Representations

4.1 This application has been advertised by means of the display of ten site notices, press notices and notification letters sent to 234 neighbouring properties. In response, four letters of objection (three from individuals and one from Carlisle Flood Action Group (CFLAG) and two letters of comment have been received.

4.2 The three letters of objection raise the following concerns:

- there are significant concerns regarding the implications for flooding further upstream on the River Petteril;
- the FRA does not fully address or alleviate any concerns regarding increased flood risk at other sites, including Harraby Green Business Park;
- the EA are the applicant and also a statutory consultee on flood risk and there is, therefore, a conflict of interest - ask the Council to clarify that independent consultees will be brought in to fully assess this application;
- until the implications of the proposed raised defences on all affected land are fully understood and can be proven this application should not be approved;
- the consultation has been very limited - the proposals should have been discussed with the owners of Harraby Green Business Park;
- the interests of all stakeholders both up and downstream of these proposals must be fully understood;

4.3 A summary of the comments from CFLAG is provided below:

- CFLAG concurs with the EA that a first phase of works should be aimed at measures to repair failures in the defences in the area south of Botcherby Bridge. However, the omission of re-profiling river bed and bank encroachment deposits prevents the proposal being effective in the critical

early stages of a storm flood.

- In national terms the £25m Government 'booster' funding for Carlisle appears generous, particularly following the £38m spent after the 2005 flood event. Nevertheless, considering the important first phase for Carlisle, CFLAG considers it is questionable that the intended goal of protecting the east side of the city against another Desmond storm can be achieved by this scheme alone.

- It is considered relevant and important that the planning authority takes cognisance of whether an engineering operation will achieve its designed effect. This is material to any consent to be granted or the planning authority become complicit with any failure thereafter.

- River timings and peak levels are critical to the River Petteril conveyance, particularly in regard to the inefficiency of the Botcherby Bridge during the early stages of a major flood event. CFLAG believe the applicant should clearly show how this scheme takes regard of such timings.

- The lower reaches of the River Petteril, north of Botcherby Bridge, has a relatively flat gradient and was historically prone to convoluted meanders and frequent changes of course and silting up. Engineering in the form of the Botcherby Bridge assisted transport but not river conveyance. Engineering works to straighten the channel in the 1960's attempted to improve the situation but essentially the river now suffers from slow conveyance exacerbated by lack of maintenance with vegetation growth on banks and floodplain, deposits of gravel and silt raising and restricting the river flow and recent development narrowing the extent of its floodplain north and south of the bridge. The river also suffers from poor planning decisions allowing encroachment of residential development onto the floodplain compromising the optimum location of extreme event defence structures. Protracted lack of maintenance both by the EA of the river channel and the riparian owners, Carlisle City Council, of the banks and remaining flood plain has made a poor situation worse.

- Botcherby Bridge was not designed as a flood defence. It has become one due to a poor aperture for river conveyance and river peak conflict with the Eden and to keep Warwick Road open in times of major flooding. Alternatives potentially exist via either a replacement bridge of single span or rise and fall hydraulic flood barriers across Warwick Road (allowing the bridge to be consumed by the river) to improve conveyance. Currently great faith is being placed upon the strength of the existing bridge parapet as a flood defence. If this remains the case the applicant should prove that the current structure can resist the river energy at a Desmond peak level and be made to improve early conveyance of the Petteril peak.

- The project landscaping proposals are misplaced – they focus on the benefits to leisure pursuits and environmental benefits within the floodplain between defence embankments when this area should be kept specifically clean and smooth to convey flood waters as quickly as possible in the early stages of a major storm. The applicant should revise its landscaping

proposals accordingly.

- Study of levels and the volume of water taken into the Warwick Road west area during the 12 critical hours of the Desmond flood (2 million cubic metres of water) suggests that the proposed level of defences would not contain this volume. CFLAG predict that the defences would need to sit at least 335mm higher than those proposed (i.e. to 18.035m OD) and the bridge parapet raised by 765mm minimum above its current level unless other major mitigating work is undertaken upstream and downstream as part of a defence strategy to improve conveyance. The applicant should check this assertion and amend proposals accordingly.

- The proposed scheme appears something of a compromise but flood protection cannot be subject to compromise. Works following the 2005 flood made the flood of 2015 deeper than before as defences were overtopped and outflanked and water corralled into an informal reservoir within the residential area. CFLAG's work, in checking the current scheme, shows that this may well occur again in another Desmond situation even if to a lesser degree. All that can be said is that the failure of the defences will occur later in the event than it did on 5 December 2015 and so for a shorter duration. Flood levels should be lower as the volume of water escaping would be less as it would have a later point of spill so volume would be limited by time, however, an expectation of a standing flood level between 100mm and 500mm on average in the 0.5 km nearest the river should be anticipated as the potential outcome of this scheme.

- Significant extra work is required to achieve the applicant's stated goal and the public should be aware that the proposal does not, in CFLAG's view, provide the level of protection claimed. Property Level Protection (PLP) appears essential for all households and businesses within 0.5 km of the river and the applicant should communicate widely on this potential.

- No mention is made of maintaining and clearing the river, clearing gravels at the bridge and at river bends where it is estimated opportunities exist to lower accumulated levels by up to 1.5m or the emptying of existing or proposed new catch pits to ensure the river flows efficiently and is capable of discharging its peak levels in a storm event without restriction in a maintainable way. This is basic and essential river maintenance work which has greatly reduced under the custodianship of the EA. The applicant should set down a maintenance regime that it is prepared to abide by under a legal agreement in conjunction with riparian owners.

4.4 The letters of comment make the following points:

- see the scheme doomed to failure as the River Petteril flows need to be attenuated upstream of the village of Wreay where the geography is eminently suitable for such a scheme;
- the virtual dam of the Warwick Road bridge will always retain a potentially damaging amount of flood;
- the River Petteril backs up from the River Eden due to the contiguous elevation of both rivers;

- adding 4 inches to the Tesco ramp is insufficient - 12 inches would be a more realistic raise;
- the works will abut properties on Raven Street which will present security problems;
- can you confirm 2 oak trees near Raven Street will not be felled and that no other trees will be sacrificed;
- the major role of the Friends of Melbourne Park is to encourage wildlife and any destruction of bird's habitats would be distressing;
- concerned that further works may increase the ingress of water from the park to Adelaide Street and will presumably sacrifice the allotments to flood waters.

5. Summary of Consultation Responses

Cumbria County Council - (Highways & Lead Local Flood Authority): - no objections, subject to conditions (Surface Water Management Plan; construction details of works in Highway; Construction Method Statement; Construction Traffic Management Plan);

Environment Agency: - no objection in principle to the proposed development. Satisfied that the FRA submitted with the application demonstrates that the proposed development would not exacerbate flood risk elsewhere. The proposed development must proceed in strict accordance with the FRA and the mitigation measures identified;

United Utilities: - no objections, subject to conditions (protection of United Utilities assets);

Natural England: - the EA has submitted an Appropriate Assessment that concludes that there will be no impact on site integrity of the River Eden SAC. Natural England agree with this conclusion has no objections to the proposal;

Historic England - North West Office: - no comments received;

Green Spaces: - no objections. All slopes on the flood defences should be no more than 1:2.5 to allow maintenance by Green Spaces;

Local Environment - Environmental Protection: - no objections;

Northern Gas Networks: - no objections.

6. Officer's Report

Assessment

- 6.1 Section 70(2) of the Town and Country Planning Act 1990/Section 38(6) of the Planning and Compulsory Purchase Act 2004, requires that an application for planning permission is determined in accordance with the provisions of the Development Plan unless material considerations indicate otherwise.

- 6.2 The relevant planning policies against which the application is required to be assessed are the National Planning Policy Framework (NPPF), the Planning Practice Guidance (PPG) and Policies CC4, CC5, IP2, HE1, GI3, GI5, GI6, SP6 and SP9 of the Carlisle District Local Plan (CDLP) 2015-2030.
- 6.3 The proposal raises the following planning issues.
1. Whether The Proposal Would Be Acceptable In Principle
- 6.4 The proposed scheme for the first phase of the Carlisle FRMS seeks to deliver raised and extended flood defences within Melbourne Park to the east and west of the River Petteril, along with complementary works to improve defences at the junction of the entrance to the Tesco supermarket at the junction with Warwick Road. These works would improve the standard of protection and resilience of existing flood defences to ensure that enhanced flood protection is provided to the local community.
- 6.5 Given the nature of the scheme and its function as flood control infrastructure, it has a specific requirement to be located in an area of high flood risk to enable the proposed scheme to perform its function of reducing flood risk to people, homes and businesses. This is supported by Planning Practice Guidance in respect of Flood Risk and Coastal Change, which confirms that it is appropriate to construct flood defences which are water-compatible development in any flood zone.
- 6.6 A Flood Risk Assessment accompanies the application and this confirms that the proposed scheme would reduce localised flood risk without increasing the risk elsewhere. The assessment also confirms that the scheme has been designed to increase the standard of flood protection whilst also taking into account the predicted effects of climate change and that the EA's own guidance - Adapting to climate change: guidance for risk management authorities has been applied.
- 6.7 The proposed scheme is required to ensure that the residents and businesses in the area have adequate protection from flooding. There is, therefore, a strong justification for a flood protection scheme to prevent future flooding from the River Petteril and River Eden. The proposal would, therefore, be acceptable in principle.
2. Whether The Siting, Scale And Design Would Be Acceptable
- 6.8 The proposed layout of the scheme has been dictated by the existing flood defence infrastructure in place; the land form of the site; the proximity to environmental features; neighbouring land uses and properties; and construction requirements and constraints.
- 6.9 The existing flood wall located along the western bank of the River Petteril between Botcherby Bridge and the existing western flood embankment would be raised by approximately 0.5m along its 66m length to an overall height of 17.5mAOD.

- 6.10 The western flood embankment would be raised in height ranging from approximately 0.88m to 1.74m to a maximum height of 17.9mAOD along its 505m length. The embankment would maintain a general crest width of 4m but would have steeper side slopes than existing with a 1:2.15 slope gradient on both wet and dry sides. The width of the embankment taken from the wet side toe to the dry side toe would range from approximately 10m to 13m. The northern extent of the embankment would tie into the existing flood wall, whilst the southern extent would tie into the new western embankment extension.
- 6.11 The western flood embankment would be extended by approximately 270m in length. It would be constructed to a maximum height of 18.13mAOD, creating a new section of embankment ranging from 0.56m to 1.63m in height. The embankment would generally have a crest width of 4m and would have a 1:2.15 slope gradient on both the wet and dry sides. The width of the embankment taken from the wet side to the dry side would range from approximately 6m to 13m. The northern extent of the embankment would tie into the existing western embankment, whilst the southern extent would tie into high ground.
- 6.12 The eastern flood embankment would be raised in height ranging from approximately 0.67m to 0.94m to a maximum height of 17.88mAOD along its 415m length. The embankment would maintain a general crest width of 4m but would have steeper side slopes than existing with a 1:2.15 slope gradient on both the wet and dry sides. The width, taken from the wet side to the dry side toe of the embankment, would range from approximately 14m to 19m. The northern extent of the embankment would tie into Botcherby Bridge to the north, whilst the southern extent would tie into the new eastern embankment extension.
- 6.13 The eastern flood embankment would be extended by approximately 195m in length. It would be constructed to a maximum height of approximately 18.03mAOD creating a new section of embankment ranging from 0.3m to 1.52m in height. The embankment would generally have a crest width of 4m and would have a 1:2.15 slope gradient on both the wet and dry sides. The width of the embankment taken from the wet side to the dry side would range from approximately 5m to 15m. The northern extent of the embankment would tie into the existing western embankment, whilst the southern extent would tie into high ground.
- 6.14 The embankment profile would vary where existing access ramps are proposed to be regraded and where new ramp access is proposed. There are currently two ramps along the western embankment, with a pedestrian access ramp located to the northern extent of the existing western embankment and a vehicle access ramp to the southern extent. Both ramps would require raising to tie into the new crest level of the raised embankment at 17.9mAOD.
- 6.15 Along the existing eastern embankment, two existing maintenance access ramps would be raised, along with an extension to the existing maintenance access ramp to the south of Botcherby Bridge and two new pedestrian

access ramps would be constructed to the northern and southern extents of the existing embankment off Walkmill Crescent. These ramps would be raised and constructed to a height of 17.88mAOD to tie into the new crest level of the eastern embankment.

- 6.16 As the existing embankments are being widened to accommodate the proposed increase in height, the two existing drawdown structures would require extending to take account of the increased width and footprint of the embankment. One headwall structure at each location would be removed to allow the embankment to be widened and then replaced.
- 6.17 The design proposals in Melbourne Park have sought to integrate flood defences into the park, avoiding existing sports facilities (i.e. football pitches and playgrounds), vegetation and trees and informal routes through the park. The majority of the works within the park should not conflict or change the existing uses across the site. However, inevitably there would be some minor changes to the use of land within the footprint of the new and extended embankments. However, the embankment extensions have been carefully designed to ensure that there would be no permanent encroachment on sports pitches, play grounds or other recreational facilities within the park.
- 6.18 A Landscape and Visual Impact Assessment (LVIA) has been undertaken which considers potential effects on landscape character and visual receptors that might arise as a result of the proposed scheme.
- 6.19 Likely landscape impacts identified include: the temporary loss of parkland amenity grass areas to accommodate working space and construction; temporary closure/diversion of formal and informal paths, including those along the top of existing embankments; permanent losses of a low number of trees and young woodland fringe, plus a short length of hedgerow; and slight change to character from the raising of existing embankments and construction of new ones.
- 6.20 Likely visual impacts identified include: on temporary views of construction operations for the duration of the works, including tree clearance, plant operation and associated construction traffic; views of the raised and extended west and east embankments for residents, park users and road users; and views of a raised flood wall adjacent Botcherby Bridge.
- 6.21 The LVIA concludes that, through careful and sensitive design, potential impacts can be successfully mitigated. Mitigation by design to date has included adjustments to the alignment of the defences and the location of the satellite compound to minimise tree loss, and to keep the riverside path away from housing. These changes contribute to the mitigation of visual effects arising from the operational scheme on sensitive receptors, including residents and footpath users. Other mitigation includes wildflower and amenity grassland reinstatement and tree planting.
- 6.22 Where appropriate, enhancements would be secured at Melbourne Park through additional tree planting (replacement of trees at a ratio of 5:1); installation of park furniture including seats, a notice board and entrance

features; and provision of a link path extending from the south end of the east embankment.

- 6.23 Whilst the scheme would cause temporary impacts on the use of the PRow, informal paths, cycle way and access during the works activities, the level of impact would be reduced through mitigation. However, on completion all lost habitat vegetation would be reinstated and the constructed embankments would be seeded to re-establish amenity grass and footpaths. The cycle way would also be reinstated and therefore the overall residual impact of the scheme is considered to be negligible.
- 6.24 At the junction of the Tesco supermarket car park with the A69 Warwick Road, the land would be raised over a 14m wide section of tarmac to regrade and increase its height to a minimum of 17.03mAOD. A new 25m long, 460mm high grassed earth embankment would be constructed along the eastern footpath entrance from a north west to south easterly direction.
- 6.25 In light of the above, the siting, scale and design of the proposed flood defences would be acceptable.

3. Impact On Biodiversity

- 6.26 A Habitat Regulations Assessment has been undertaken for the proposed scheme, as required by section 63 of the Conservation of Habitats and Species Regulations 2017 as the River Petteril is hydrologically connected to the River Eden SAC. The River Petteril also represents important off-site supporting habitat for some of the SAC species, so an assessment is also required of the potential direct impacts to the tributary.
- 6.27 Stage 1 screening of the proposed scheme concluded that there was the likelihood of significant effects on all of the SAC qualifying features during the construction period. No likely significant effects were identified for the operational phase of the proposed scheme. The Stage 2 Appropriate Assessment concluded that, with the necessary mitigation in place, these risks could be reduced to a level which would avoid there being the potential for adverse effects on the integrity of the SAC.
- 6.28 Ecological surveys for the proposed scheme comprise a Preliminary Ecological Appraisal, Aerial Bat Tree Surveys and a Habitat Suitability Index of one pond. The proposed scheme encompasses habitats associated with parkland, with the River Petteril, a tributary of the River Eden SAC and SSSI flowing through the area. Ecological features associated with the River Petteril, which need conserving throughout construction include migratory fish species associated with the River Eden SAC and otter, which may traverse the river as part of its natural migration and feeding patterns.
- 6.29 The Aerial Bat Tree surveys concluded there to be no trees with bat interest within or adjacent to the proposed scheme. No evidence has been recorded for badger, and the potential for red squirrel to be present is low. However, pre-construction surveys are planned for these latter two species, as their presence leading up to construction cannot be discounted.

- 6.30 A single pond in Melbourne Park remains predominantly dry throughout the seasons and for this reason has poor potential to accommodate great crested newts.
- 6.31 All habitats throughout the proposed scheme have potential to accommodate breeding birds between March to August, inclusive. Vegetation clearance is, therefore, planned outside of the main breeding bird season. As biodiversity enhancement measures, twelve bird boxes and twelve bat boxes would be installed on trees to be retained.
- 6.32 Best environmental working practice would be employed for the River Petteril in-channel works at Botcherby Bridge and there is a planned programme of pre-construction protected species surveys prior to the start of works, which might result in additional mitigation being implemented subject to the survey findings. Taking into context existing planned mitigation, pre-construction surveys and presence of an Environmental Clerk of Works throughout the construction phase, no significant residual impacts are anticipated to result from the proposed scheme from an ecological perspective.
- 6.33 The invasive species Himalayan balsam was found to be present along the banks of the River Petteril. There is no current invasive species control programme in place. Prior to commencement of construction, invasive species would be mapped within and adjacent to the working areas and working methods would be agreed to manage these species and to prevent their spread during construction. A method statement would be produced by the contractor and would be adhered to during the works.
- 6.34 Natural England has been consulted on the application. It notes that the EA has submitted an Appropriate Assessment that concludes that there would be no impact on site integrity of the River Eden Special Area of Conservation. Natural England agree with the conclusion of the Appropriate Assessment and has no objections to the proposal.

4. Impact On Flood Risk

- 6.35 Objectors have raised concerns about the proposed flood defences increasing flood risk elsewhere, particularly at Harraby Green Business Park. A Flood Risk Assessment (FRA) has been submitted with the application. The floodplain in the vicinity of the proposal is defended by the existing flood defences and the proposal would increase the levels flood water would have to reach to overtop the defences and hence reduce the frequency with which water can enter the floodplain. This would reduce floodplain storage for flood events between that catered for by the current defences and those planned for with the development in place. This introduces the possibility of increasing flood levels and flood risk elsewhere.
- 6.36 The crest levels of existing flood defences are already above the 1% annual probability water level and increasing the heights of the defences further would not change floodplain storage for the 1% annual probability event nor

change the present day Flood Zone 3 extents.

- 6.37 The effect of the proposals has been tested to take account of climate change through to the end of 2080s. Hydraulic modelling has been undertaken to compare the present defence elevations to the proposed elevations for the 1%AEP flood with 2080s climate change increases in peak river flow. Increased defence elevations significantly reduce flood risk to 1,200 properties in the Warwick Road area by preventing water entering the floodplain from an event similar in magnitude to Storm Desmond.
- 6.38 The hydraulic modelling identified that the scheme would have minimal impact on flood risk elsewhere. Although the proposed works would cause some increase in water levels within some river channels, these increases are a function of the reduction of flood risk provided by the proposed defences and hence whilst there is an increase in water levels within the river channel, there is no increase in flood risk.
- 6.39 The agent has confirmed that the proposed scheme would not increase flood risk elsewhere, including at Harraby Green which lies upstream of Melbourne Park. Works associated with the proposal would not alter river levels at Harraby Green. It is worth noting that the EA are delivering flood risk management works across Carlisle over several phases with the need for future interventions at Harraby Green to be considered as part of Phase 4, which would consider the need for works to prevent future flood risk rather than existing flood risk.
- 6.40 All flood defences carry risks that they would be exceeded by a flood greater than designed for or they would fail structurally. In either case this would cause flooding behind the defences. The risk of structural failure is reduced by using appropriate design and construction methods and emerging planning by the EA so is very low. The residual risks are managed by the EA providing appropriate operation and maintenance of the flood defences and providing appropriate flood warnings to residents behind the defences. Analysis would be undertaken on the final scheme to assess risks associated with flooding in excess of design standard protection or failure at key locations (e.g. flood gates) with results used to inform EA operational plans, emergency response plans and Flood Warning Areas.
- 6.41 The EA has been consulted on the application and has no objections in principle to the proposed development. It is satisfied that the FRA submitted with the application demonstrates that the proposed development would not exacerbate flood risk elsewhere. The proposed development must proceed in strict accordance with the FRA and the mitigation measures identified.
- 6.42 Objectors consider that there is a conflict of interest with the EA reviewing an application that it has submitted. The EA is a statutory consultee on planning applications with a responsibility for main rivers. The EA is also responsible for the maintenance, improvement and delivery of new flood risk management measures and defences. To prevent a conflict of interest there is a dedicated Sustainable Places team, which deals with planning applications relating to the water environment and waste management. This

is a separate department within the EA to that responsible for the delivery of flood risk management schemes, which fall within the remit of the National Capital Programme Management Service (NCPMS) team. As with any other applications there is a requirement for the NCPMS team to liaise and consult with the Sustainable Places team as part of a scheme's development and progression, including agreeing the scope and outcomes of a FRA which will be objectively assessed by the Sustainable Places team.

- 6.43 The Lead Local Flood Authority has been consulted on the application. As stated within the FRA, Melbourne Park area is not susceptible to surface water flooding and the development of the proposed features within the park would not increase flood risk to properties. The applicant needs to provide details of how the surface water would be managed during the construction phase of the development and a condition has been added to cover this issue.

5. Impact on Heritage Assets

- 6.44 A Heritage Statement has been prepared which assesses the potential impacts of the scheme on heritage assets and previously unknown archaeological remains. The proposed scheme lies partly within the Buffer Zone of the Frontiers of the Roman Empire (Hadrian's Wall) World Heritage Site (WHS). A number of designated and non-designated heritage assets are also recorded within the vicinity of the proposed scheme.
- 6.45 The Heritage Statement concluded that no designated or non-designated archaeological assets would be affected. Given the results of previous investigations, the location of the proposed scheme on the periphery of the known Roman and medieval occupation within Carlisle and taking into consideration past impacts from the realignment of the River Petteril, the potential for the proposed scheme to impact on previously unknown archaeological assets was identified to be low/negligible.
- 6.46 The proposed scheme would result in a slight change to the setting of the non-designated Botcherby Bridge due to works within Melbourne Park. However, the impact to this low value asset would be negligible.
- 6.47 Whilst the Tesco supermarket entrance elements of the proposed scheme are located within Frontiers of the Roman Empire (Hadrian's Wall) WHS Buffer Zone, the presence of intervening vegetation precludes any clear views to the north and north-west towards the WHS from the proposed scheme. As such, it is considered that the scheme would not adversely impact the Outstanding Universal Value, authenticity and integrity of the WHS, or reduce the ability to appreciate these values.

6. Impact Of The Proposal On The Occupiers Of Neighbouring Properties

- 6.48 A Noise and Vibration Assessment has been undertaken which defines the existing baseline noise levels and estimates the noise and vibration levels from each of the proposed construction activities at the nearest noise sensitive receptors across a number of construction phases. The

assessment has focused on residential receptors, although some comment is made in relation to other receptors that are present in the study area.

- 6.49 The findings show that the construction works have the potential for increased noise levels on the noise sensitive receptors in the proximity. However, these impacts would be of temporary duration over the length of the construction programme. With regards to vibration the predicted levels are anticipated to be noticeable to the closest local residents, but these are not likely to give rise to complaints.
- 6.50 It is anticipated that with careful planning and the implementation of Best Practicable Means on site for the entire duration of the construction programme, and by informing the local community on the construction activities, the works should be capable of being undertaken without any significant complaints.
- 6.51 A letter of objection has been received which raises concerns about the security of properties due to the proximity of the flood defences to property boundaries. The flood banks are, however, all sited away from property boundaries
- 6.52 It is acknowledged that the embankments would increase the potential overlooking of some properties that lie in close proximity to the flood defences. The height of the embankments has been determined by hydraulic modelling and cannot be reduced without compromising the scheme. Overlooking from the embankments would only be possible if people walk along the tops of the grass embankments and this should be limited due to tarmac footpaths being provided adjacent to the defences.
- 6.53 In light of the above, the proposal would not have a significant adverse impact on the occupiers of neighbouring properties that would warrant refusal of the application.

7. Impact Of The Proposal On Trees

- 6.54 A Tree Survey has been submitted with the application. This details the methodology of the survey and provides plans showing tree locations, canopy sizes, indicative Root Protection Areas and classification with an accompanying tree schedule for the site.
- 6.55 This report has been used to influence the proposed layout design, providing the basis for deciding which trees might be suitable for retention within the site and informing alterations to the proposed embankment alignments in order to reduce tree loss.
- 6.56 An Arboricultural Method Statement has also been submitted with the application. This would help to ensure the successful retention of the trees on site during construction. It provides detailed guidelines for the contractor to follow to ensure trees are appropriately protected.
- 6.57 In total, 11 trees would be removed, with a number of these being diseased

or in poor condition. Replacement trees would be provided at a ratio of 5:1 and the location of the new trees would be agreed with the City Council's Green Spaces team who manage Melbourne Park.

- 6.58 Whilst it is acknowledged that the proposed scheme would result in the loss of some trees, it is considered that the overall benefits of the scheme, in providing a higher level of flood protection for the residents and businesses in the area, together with the level of new tree planting proposed, would compensate for their removal.

8. Highway Matters

- 6.59 A Traffic and Transport Assessment has been submitted with the application and this provides an evaluation of the potential impacts on traffic and transport resulting from the proposed scheme, with the aim of quantifying the significance of the impacts and any mitigation measures that could be required. It identifies that in trip generation terms, given the limited level of trips likely to be generated once the proposed scheme has been completed and becomes operational, a quantitative analysis has not been undertaken.
- 6.60 The assessment concludes that based on the impacts and the mitigation measures identified in the assessment, it is considered that in general the proposed scheme would not have any significant traffic or transport impacts during either construction or operation.
- 6.61 The Local Highway Authority has been consulted on the application and has confirmed that it has no objections to the proposals. It does, however, wish to see some changes made to the ramp at Tesco and this element has been conditioned.

9. Other Matters

- 6.62 The Carlisle Flood Action Group (CFLAG) has raised a number of issues, which are summarised in the report. The EA has provided a response to these issues which is set out below. The EA intends to address all of the points raised by CFLAG with them directly. The EA has worked closely with CFLAG since it was established post Storm Desmond and CFLAG considers itself a critical friend and the EA agrees with that description. The assertions made in the representation are largely known to the EA and have been discussed at length with CFLAG in the past as the EA's proposals have developed.
- 6.63 CFLAG have been made aware of EA's proposals to undertake works at Botcherby Bridge to manage conveyance and enable gravel management. The designs for these elements have not yet been completed. On completion and approval these designs will be shown to CFLAG. The intention to carry out conveyance and gravel management improvements was identified in the planning application but planning was not sought specifically for these items.
- 6.64 CFLAG considers that it is questionable that the intended goal of protecting

the east side of the city against another Storm Desmond would be achieved by this scheme alone. The proposals the EA has submitted to planning authority achieve the intended goal as follows:

- In Storm Desmond, approximately 1.2 million m³ of water was stored behind the defence at the peak of the event based on the calibrated hydraulic model
- Raising of linear defences around Melbourne Park prevents water leaving the Petteril during extreme flood events and raises in-channel water levels by approximately 300mm at Botcherby Bridge
- Elevated water levels allow more water to be stored within Melbourne Park
- Elevated water levels increased driving head at Botcherby Bridge, allowing the Petteril to discharge a greater volume of water during the Eden peak
- Storm Desmond is retained within the proposed defences, with water which would otherwise occupy the floodplain either stored in the park or conveyed downstream
- Peak water levels associated with a Petteril dominated flood event are contained by the proposed new flood embankment crest levels for an event of a similar rarity as Storm Desmond.

- 6.65 The LPA has to determine the planning application that has been submitted by the EA, who are experts in flooding issues. The scheme has been designed in accordance with all relevant standards and codes of practice to achieve the stated performance without the need for environmentally damaging work in the watercourse.
- 6.66 The EA has checked a full range of combinations of flows and timings on the Rivers Eden and Petteril to select the worst case of possible storms with the same likelihood as Storm Desmond. This is called a joint probability analysis and is designed to help reassure the EA that it has considered the full range of possible flood events that could cause flooding in the city.
- 6.67 The EA considers that a different maintenance regime on the River Petteril downstream of Botcherby Bridge would not reduce flood risk to properties in the Warwick Road area of Carlisle. Peak flood levels downstream of Botcherby Bridge are driven by the River Eden. Changing the maintenance regime on the River Petteril downstream of Botcherby Bridge would not reduce peak flood levels on the River Eden. The EA does undertake routine vegetation maintenance along this section of channel. As part of the design of the Phase 1 FRMS the EA will be developing a maintenance and management plan that will set out how the EA and riparian landowners need to maintain the scheme so as to achieve the design standard of protection.
- 6.68 Cumbria County Council Highways has been consulted by the EA on the measures being taken to protect Botcherby Bridge from the additional flood loads and will formally approve the principles and design methods to assure that these comply fully with the required standards. The EA considers that the replacement of the bridge with one of a single span would result in a deck of approximately twice the thickness. Thus the available waterway area would be reduced. Given that the bridge is a major transport artery and also carries water, gas, sewage and electricity mains, the cost of replacement in terms of construction, service diversions and traffic delays would be of the same order as that of the entire scheme. This would not be an effective use

of taxpayer's money for a bridge that could reasonably be expected to last a further 40-50 years. After this period it would make sense to review and select a replacement that combined all its roles in the most effective manner.

- 6.69 Floodplain between the flood embankments should not be kept clear as stated by CFLAG. It reflects misunderstanding of the combination of conveyance and storage at this location. The channel conveys most of the flow and the floodplain is there to store what cannot be conveyed. Roughness in the floodplain in this instance is thus a positive benefit (as it is across floodplains in the wider catchment). The raised water levels increase the gradient of the river maximising flow in the channel and allowing full usage of the extra storage provided by increasing levels by 300mm more at the upstream end of the defences than at the bridge. Similarly there are no flood risk benefits that are sufficient to outweigh the community and amenity value of the area between the flood defences and indeed this area should be enhanced as appropriate. The EA does undertake routine maintenance of the channel through Melbourne Park.
- 6.70 The calculation of required storage made by CFLAG hasn't reflected the fact that the proposed raising of the defences within Melbourne Park provides additional pressure head to drive the flow through the bridge opening. Similarly undertaking the proposed bridge soffit smoothing works to the existing ribbed surface would give an increase in the flow speed under the bridge. The combination of these two elements means that the EA is not attempting to accommodate the volume of water that overtopped the east and west embankments in Storm Desmond as suggested by the CFLAG calculations. The proposed flood embankment crest levels reflect the above mechanism and enable the EA to demonstrate that it is providing protection to Storm Desmond level. The same approach means that the bridge parapets do not have to be raised.
- 6.71 Almost by definition, flood protection will always be a compromise. CFLAG are familiar with the way government funding is used to support flood risk related works based on a funding formula established under HM Treasury rules. Flood risk related works undertaken by the EA using government funding have to compromise on a whole host of matters ranging through standards of protection, funding, societal considerations, existing infrastructure, historic development in the floodplain etc.
- 6.72 The proposed scheme achieves the stated goal. The EA would, however, always support Property Level Protection within areas at risk of flooding but will not be delivering this as part of its proposals for Phase 1 as it does not regard it as necessary in order to protect properties in this part of the city to a Storm Desmond order of event.
- 6.73 The EA will develop a management and maintenance plan as part of the detailed design of the Phase 1 scheme. This will be shared with CFLAG.
- 6.74 CFLAG have in several places in their representation commented that the scheme is a 'reaction' and remains limited in strategic concepts at a

catchment scale. In response, the EA considers that the devastating effect of Storm Desmond demanded that the risk of flooding to Carlisle was reduced at an acceptable timescale. Looking to the wider catchment to deliver a Storm Desmond or equivalent standard of protection via strategic or catchment measures was not feasible in the short term. Further reduction to flood risk in the city in the longer-term may be achieved via a catchment based approach and the EA will continue to work with partners in an attempt to realise these reductions. Improved flood resilience may also be achieved via the EA's proposed conveyance improvements at key structures (some of which will come through the planning process in planned future phases). It is unlikely that as flood risk in the city increases with climate change that the continued raising of flood defence walls and embankments will be appropriate. Increasing conveyance at key structures may be sufficient to accommodate the increased flows associated with climate change epochs beyond those that the defences have been constructed to defend against.

- 6.75 Objectors have questioned the extent of the consultation that has taken place. Consultation has been undertaken in accordance with Carlisle City Council's adopted Statement of Community Involvement, July 2017. The applicant has made every effort to consult with as many interested stakeholders as possible as detailed within the Statement of Consultation provided in Section 4 of the submitted Planning Statement. Table 2 of the Planning Statement identifies the Stakeholder Engagement Activities that have taken place over the past couple of years, which has included numerous drop-in sessions that have been open to the public to attend. These have included sessions covering initial long list options, through to short list options, as well as consultation on a preferred scheme. Following submission of the planning application, engagement with local residents, stakeholders and interested organisations has continued and a display has been provided at Carlisle library to try to capture and inform as many interested parties as possible.
- 6.76 The Green Spaces Manager has raised concerns about the angle of the slopes of the flood banks which should not be greater than 1:2.5 if they are to be maintained by Green Spaces. The agent has confirmed that a maintenance and management plan would be prepared and the EA in consultation with the City Council. As such, it should be possible to agree within the plan that the EA would be responsible for grass cutting slopes with steeper gradients than 1:2.5, where the City Council's equipment can't manage. The EA has remote control mowers which they can use in such cases. The agent has confirmed that the sections with steeper slopes are necessary to avoid putting the footpath on top of the embankment to reduce overlooking into residential properties.

Conclusion

- 6.77 In overall terms, the proposal would be acceptable in principle. The siting, scale and design of the proposed development would be acceptable. The proposal, subject to conditions and mitigation measures, would not have an adverse impact on flood risk, on biodiversity, on trees, on heritage assets,

on the living conditions of the occupiers of neighbouring properties, or on the highway network. In all aspects, the proposals are compliant with the objectives of the relevant adopted Local Plan policies.

7. Planning History

- 7.1 In December 2005, planning permission was granted for the improvement of flood defences on the Rivers Petteril and Eden (submission of amended details incorporating raising of certain embankment levels) (05/1024).

8. Recommendation: Grant Permission

1. The development shall be begun not later than the expiration of 3 years beginning with the date of the grant of this permission.

Reason: In accordance with the provisions of Section 91 of the Town and Country Planning Act 1990 (as amended by Section 51 of the Planning and Compulsory Purchase Act 2004).

2. The development shall be undertaken in strict accordance with the approved documents for this Planning Permission which comprise:

1. the submitted planning application form received 20th February 2019;
2. the Landowner Notification Sheet received 20th February 2019;
3. the Carlisle Phase 1 Site Location Plan (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0038 Rev P01) received 20th February 2019;
4. the Carlisle Phase 1 Site Layout Plan (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0039 Rev P01) received 20th February 2019;
5. the Figure 1.1 ZVI & Visual Analysis (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0025 Rev C03) received 20th February 2019;
6. the Figure 1.2 Landscape & Townscape Character Areas (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0026 Rev C03) received 20th February 2019;
7. the Figure 1.3 Environmental Designations (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0027 Rev C03) received 20th February 2019;
8. the Figure 1.4 Landscape Masterplan Sheet 1 of 3 - Overview Plan (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0035 Rev C04) received 20th February 2019;
9. the Figure 1.5 Landscape Masterplan Sheet 2 of 3 - South (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0036 Rev C05) received 20th February 2019;
10. the Figure 1.6 Landscape Masterplan Sheet 3 of 3 - North (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0037 Rev C05) received 20th February 2019;
11. the Carlisle Phase 1 Melbourne Park General Arrangement Plan

- (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0043 Rev P01) received 20th February 2019;
12. the Carlisle Phase 1 Melbourne Park Drawdown Structure Extension (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0044 Rev P01) received 20th February 2019;
 13. the Carlisle Phase 1 Melbourne Park Eastern Embankment Long Section Sheet 1 of 2 (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0045 Rev P01) received 20th February 2019;
 14. the Carlisle Phase 1 Melbourne Park Eastern Embankment Long Section Sheet 2 of 2 (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0046 Rev P01) received 20th February 2019;
 15. the Carlisle Phase 1 Melbourne Park Eastern Embankment Cross Sections Sheet 1 of 2 (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0047 Rev P01) received 20th February 2019;
 16. the Carlisle Phase 1 Melbourne Park Eastern Embankment Cross Sections Sheet 2 of 2 (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0048 Rev P01) received 20th February 2019;
 17. the Carlisle Phase 1 Melbourne Park Western Embankment Long Section Sheet 1 of 2 (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0049 Rev P01) received 20th February 2019;
 18. the Carlisle Phase 1 Melbourne Park Western Embankment Long Section Sheet 2 of 2 (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0050 Rev P01) received 20th February 2019;
 19. the Carlisle Phase 1 Melbourne Park Western Embankment Cross Sections Sheet 1 of 2 (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0051 Rev P01) received 20th February 2019;
 20. the Carlisle Phase 1 Melbourne Park Western Embankment Cross Section Sheet 2 of 2 (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0052 Rev P01) received 20th February 2019;
 21. the Carlisle Phase 1 Melbourne Park wall Raising Elevation & Sections (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0054 Rev P01) received 20th February 2019;
 22. the Phase 1 Tesco Entrance General Arrangement (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0053 Rev P01) received 20th February 2019;
 23. the Environmental Action Plan (version 3) received 20th February 2019;
 24. the Carlisle Flood Risk Management Scheme Phase 1 (Environmental Report - Part 1: Main Report) received 20th February 2019;
 25. the Tree Survey Report (November 2018) received 20th February 2019;
 26. the Carlisle Phase 1 Tree Survey Sheet 1 (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0029 Rev 01) received 20th

- February 2019;
27. the Carlisle Phase 1 Tree Survey Sheet 2 (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0030 Rev 01) received 20th February 2019;
 28. the Carlisle Phase 1 Tree Survey Sheet 3 (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0031 Rev 01) received 20th February 2019;
 29. the Carlisle Phase 1 Tree Survey Sheet 4 (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0032 Rev 01) received 20th February 2019;
 30. the Carlisle Phase 1 Tree Survey Sheet 5 (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0033 Rev 01) received 20th February 2019;
 31. the Carlisle Phase 1 Tree Survey Sheet 6 (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0034 Rev 01) received 20th February 2019;
 32. the Tree Protection Plan Sheet 1 of 6 (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0054 Rev 01) received 20th February 2019;
 33. the Tree Protection Plan Sheet 2 of 6 (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0055 Rev 01) received 20th February 2019;
 34. the Tree Protection Plan Sheet 3 of 6 (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0056 Rev 01) received 20th February 2019;
 35. the Tree Protection Plan Sheet 4 of 6 (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0057 Rev 01) received 20th February 2019;
 36. the Tree Protection Plan Sheet 5 of 6 (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0058 Rev 01) received 20th February 2019;
 37. the Tree Protection Plan Sheet 6 of 6 (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0059 Rev 01) received 20th February 2019;
 38. the Stage 1 Habitats Regulations Assessment (Version: Final 14/02/2019) received 20th February 2019;
 39. the Stage 2 Habitats Regulations Assessment (Version: Final 14/02/2019) received 20th February 2019;
 40. the Carlisle Phase 1: Flood Risk Management Scheme (Stage 1 Preliminary Assessment: Noise & Vibration) received 20th February 2019;
 41. the Carlisle Phase 1: Flood Risk Management Scheme (Planning Statement February 2019) received 20th February 2019;
 42. the Carlisle Flood Defence Scheme - Phase 1 (Stage 1 Preliminary Geoenvironmental Assessment Version 2) received 20th February 2019;
 43. the Carlisle Phase 1: Flood Risk Management Scheme (Traffic & Transport Assessment Document Version 2) received 20th February 2019;
 44. the Carlisle Phase 1: Flood Risk Management Scheme (Preliminary Water Framework Directive Compliance Assessment Final Version)

- received 20th February 2019;
45. the Carlisle Phase 1: Flood Risk Management Scheme (Design & Access Statement - February 2019) received 20th February 2019;
 46. the Carlisle Flood Risk Management Scheme Phase 1 (Arboricultural Method Statement - February 2019) received 20th February 2019;
 47. the Carlisle Flood Risk Management Scheme Phase 1 (Landscape & Visual Impact Assessment Version 3) received 20th February 2019;
 48. the Carlisle Phase 1 Flood Risk Management Scheme (Ecological Assessment Report - Version 2.0) received 20th February 2019;
 49. the Carlisle Flood Risk Management Scheme Phase 1 (Flood Risk Assessment - 7th February 2019) received 20th February 2019;
 50. the Melbourne Park Phase 1 Habitat Mapping (drawing ref ENV0000495C-CH2-000-A00-DR-EN-0012 Rev C.02) received 20th February 2019;
 51. the Great Crested Newt Habitat Suitability Index & Environmental DNA Test Results: Carlisle (document ref ENV0000495C-CH2-000-A00-RP-EN-0004 Rev 10) received 20th February 2019;
 52. the Environment Agency North West Package C Bat Tree Roost Survey Report: Carlisle (Phase 1) (October 2018) received 20th February 2019;
 53. the Carlisle Phase 1 FRMS Heritage Statement (February 2019) received 20th February 2019;
 54. the Cumbria Biodiversity Data Centre: Non-Statutory Sites Search received 20th February 2019;
 55. the Notice of Decision; and
 56. any such variation as may subsequently be approved in writing by the Local Planning Authority.

Reason: To define the permission.

3. Within three months of construction works commencing, full details of the proposed replacement landscaping, including a phased programme of works, shall be submitted to and approved in writing by the Local Planning Authority and these works shall be carried out as approved following the completion of the development or in accordance with a programme agreed by the Local Planning Authority. Any trees or other plants which die or are removed within the first ten years following the implementation of the landscaping scheme shall be replaced during the next planting season.

Reason: To ensure that a satisfactory landscaping scheme is prepared and to ensure compliance with Policies GI6 and SP6 of the Carlisle District Local Plan 2015-2030.

4. The existing trees to be retained shall be protected during construction works in accordance with the details contained in the Tree Survey Report (dated November 2018 and received on 20th February 2019) and the Tree Protection Plans - Sheets 1 to 6, received 20th February 2019.

Reason: To ensure that the existing trees to be retained are protected during construction works, in accordance with Policy GI6 of the

Carlisle District Local Plan 2015-2030.

5. The development shall be undertaken in strict accordance with the mitigation measures contained within the Environmental Report (dated February 2019 and received 20th February 2019); the Ecological Assessment Report (Version 2, dated 12th February 2019 and received 20th February 2019); and the Stage 1 and Stage 2 Habitats Regulations Assessments (received 20th February 2019).

Reason: To ensure that the proposal does not have an adverse effect on ecology/ biodiversity, in accordance with Policy GI3 of the Carlisle District Local Plan 2015-2030.

6. No development shall commence until a construction Surface Water Management Plan has been agreed in writing with the Local Planning Authority.

Reason: To safeguard against flooding to surrounding sites and to safeguard against pollution of surrounding watercourses and drainage systems.

7. The works shown on the submitted plans shall as far as it interacts with or is located on Highway shall be designed, constructed, drained and lit to a suitable standard. In this respect further details, including longitudinal/cross sections, shall be submitted to the Local Planning Authority for approval before work commences on site. No work shall be commenced until a full specification has been approved. Any works so approved shall be constructed before the development is complete.

Reason: To ensure a minimum standard of construction in the interests of highway safety and to support Local Transport Plan Policies LD5, LD7 & LD8.

8. Development shall not be begun until a Construction Method Statement including details of all on-site construction works, post-construction reinstatement, drainage, mitigation, and other restoration, together with details of their timetabling has been submitted to and approved by the Local Planning Authority and shall include measures to secure:

- formation of the construction compounds and access tracks and any areas of hardstanding;
- cleaning of site entrances and the adjacent public highway;
- the sheeting of all HGVs taking spoil to/from the site to prevent spillage or deposit of any materials on the highway;
- post-construction restoration/reinstatement of the working areas.

The Construction Method Statement shall be carried out as approved.

Reason: To minimise the impact of the development on the highway network during the construction phase.

9. Development shall not be begun until a Construction Traffic Management Plan has been submitted to and approved in writing by the Local Planning Authority. The CTMP shall include details of:

- the construction of the site access and the creation, positioning and maintenance of associated visibility splays;
- access gates will be hung to open away from the public highway no less than 5m from the carriageway edge and shall incorporate appropriate visibility displays;
- proposed accommodation works and where necessary a programme for their subsequent removal and the reinstatement of street furniture and verges, where required, along the route;
- details of proposed crossings of the highway verge;
- retained areas for vehicle parking, maneuvering, loading and unloading for their specific purpose during the development;
- construction vehicle routing;
- the management of junctions to and crossings of the public highway and other public rights of way/footway;
- the scheduling and timing of movements, temporary warning signs and banksman.

Development shall be carried out in accordance with the approved Construction Traffic Management Plan.

Reason: To minimise the impact of the development on the highway network during the construction phase.

10. Prior to construction works commencing that affect United Utilities assets, a method statement must be submitted to the Local Planning Authority and approved in writing detailing the measures to protect United Utilities assets during:

- the site investigation work;
- the construction and decommissioning phases; and
- the future day to day operation and maintenance of the scheme.

This must include proposals for reinforcements of any crossing points to ensure United Utilities assets are protected from heavy loads during and after construction. The approved method statement shall be in line with United Utilities' document 'Standard Conditions for works adjacent to pipelines'.

Reason: To ensure a satisfactory form of development and to afford appropriate protection of infrastructure that crosses the site.

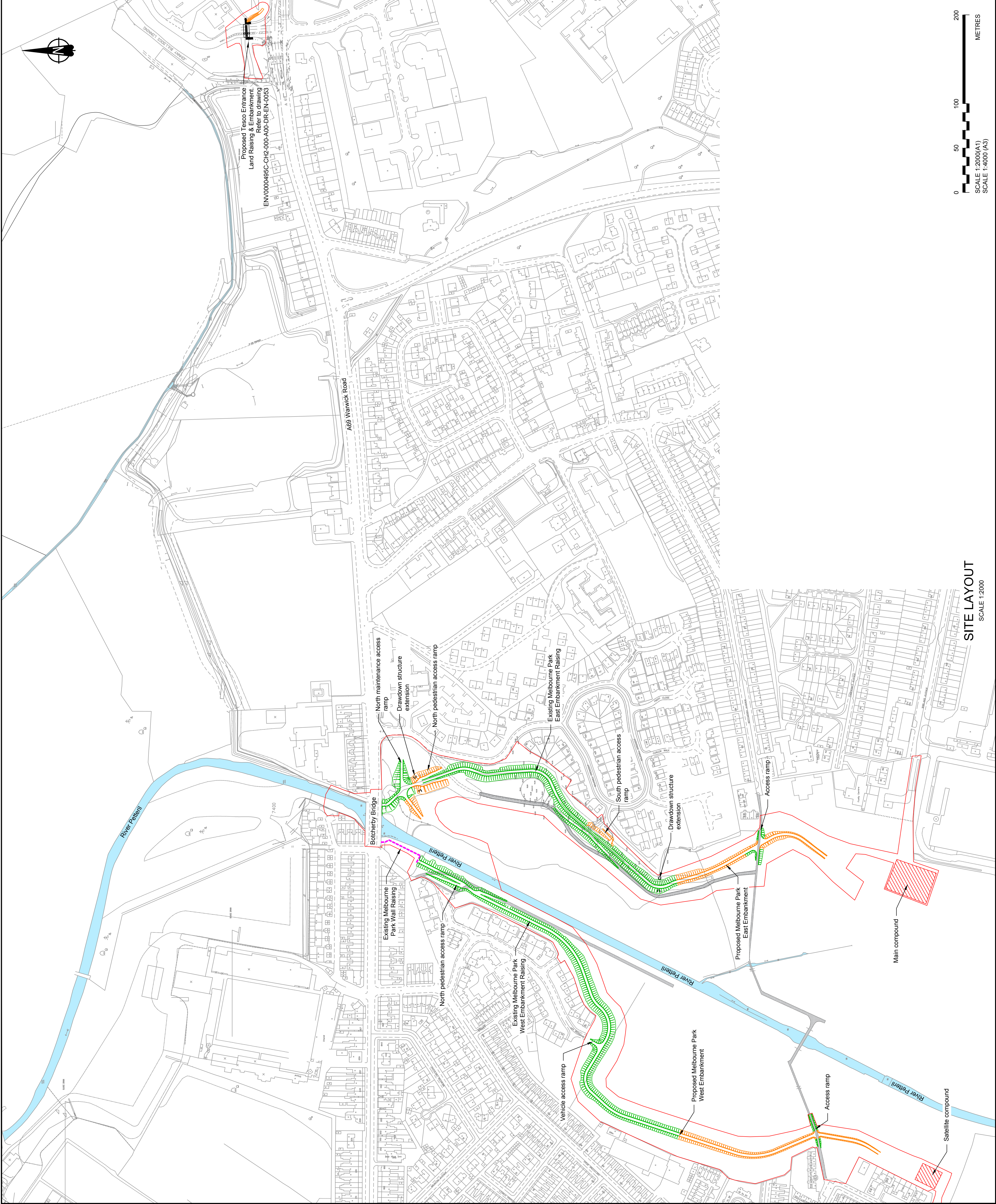
11. No construction work associated with the development hereby approved shall be carried out before 07.30 hours or after 18.00 hours Monday to Friday, before 07.30 hours or after 13.00 hours on Saturdays, nor at any times on Sundays or Bank Holidays.

Reason: To prevent disturbance to nearby occupants in accordance with

Policy SP6 of the Carlisle District Local Plan 2015-2030.

12. No clearance of vegetation shall take place during the bird breeding season from 1st March to 31st August unless the absence of nesting birds has been established through a survey and such survey has been agreed in writing beforehand by the Local Planning Authority.

Reason: To protect features of recognised nature conservation importance, in accordance with Policy GI3 of the Carlisle District Local Plan 2015-2030.



Key :

- New Embankment
- Existing Embankment Raising
- Land Required to Undertake Work. Area = 76.218m²
- EA Land Ownership
- Wall Raising
- Site Compound
- Existing Footpath
- Drawdown Structure



Rev	Rev. Date	Purpose of revision	RC	PC	PC	EM
P01	19/02/19	For information				
			Drawn	Checked	Rev'd	Appr'd

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Client
Environment Agency

Project
Carlisle Phase 1 FRMS

Drawing title

Carlisle Phase 1
Site Layout Plan

Drawing status
For information

Scale	1:2000 @ A1	DO NOT SCALE
Jacobs No.	682447CH	
Client no.		

Drawing number
ENV0000495C-CH2-000-A00-DR-EN-0039

Rev

P01

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SITE LAYOUT
SCALE 1:2000

