

The Highland Council
City of Inverness Area Committee
3 March 2016

Agenda Item	12
Report No	CIA/14/16

Ness Islands Structural Maintenance - Footpaths, Bridges and Riverbanks

Report by the Director of Community Services and Inverness City Manager

Summary

This report provides details of the Detailed Structural Survey undertaken in regard to the Ness Islands Footpaths, Bridges and Roads. The report recommends the allocation of funds to deliver the work recommended in the Engineer's report. Also, an additional project is proposed to improve the lighting on a footpath on the west bank of the River Ness.

1. Background

- 1.1 The Ness Islands Management Plan 2015 – 2018 was approved by the City of Inverness Area Committee on 2nd June 2016. The Plan provides for structural surveys of Footpaths, Bridges and Riverbanks to be carried out at 3-yearly (for general inspections) and 9-yearly intervals for detailed inspections.
- 1.2 It was agreed that a further report would be brought back to the Committee should additional resources be required for remedial works identified by the Inspection Survey.
- 1.3 The latest detailed inspection survey was undertaken in 2016 and the summary sheets of the Engineers report are attached as **Appendix 1** to this report.
- 1.4 A likely overspend of £22,000 from the Inverness Common Good Fund to deal with the urgent issues to riverbanks and footpaths in the current financial year was reported to the City of Inverness Area Committee Meeting on 3 December 2015.

2. Proposed Work Programme 2016/17

- 2.1 This report seeks approval to complete the work recommended in the Engineer's report in 2016/17. These works comprise various repairs and other improvements including:

Bridge re-enforcement, decking replacement & Painting	£157,000 [Estimated Cost]
Riverbank maintenance by installing Gabian baskets, backfilling & turfing Over	£ 22,000 [Estimated Cost]
Repairing potholes, levelling paths, Balustrade repairs	£ 20,000 [Estimated cost]

- 2.2 During 2016 the Council received a suggestion from a member of the public to install lighting at the footpath from the General's Well Bridge leading towards the Fishermen's Carpark. The Area Lighting has investigated optional ways to install lighting (see **Appendix 2**).
- 2.3 If the Committee wished to agree to this suggestion the work could be delivered in addition to and coordinated with the planned work outlined above. The options were considered by local members at the Inverness West Ward business meeting and their recommendation is to implement Option 2.

3. Implications

- 3.1 **Resources** Following market testing a budget cost estimate to complete all of the work recommended in the Detailed Inspection report is £199,000. This includes the work planned for the remainder of the financial year. The additional work to install new lighting on the footpath by the River ness would cost either £28,000 or £26,000 depending on the chosen option.

- 3.2 **Legal:** All Contract and Standing Order requirements will be complied with. There are no known specific equality implications resulting from this report.

There are no known climate change/carbon clever implications resulting from this report.

Risk is managed through regular review and reporting to allow corrective action to be taken if necessary.

There are no Gaelic implications arising from this report.

There are no rural implications arising from this report.

Recommendation

Members are asked to:

1. **Note** the contents and recommendations of the Summary of the Engineer's detailed inspection report.
2. Decide on the preferred option, if any, for a lighting installation on the footpath
3. Agree a budget of either £227,000 or £225,000 to complete all of the work proposed in this report

Designation: Community Services Area Manager and Ward Manager

Date: 18 February 2016

Authors: Tracey Urry, Community Services, Inverness
Stewart Wardlaw, Ward Manager

Background Papers:

1. City of Inverness Area Committee Ness Islands Management Plan:
http://www.highland.gov.uk/meetings/meeting/3504/city_of_inverness_area_committee
2. City of Inverness Area Committee Inverness Common Good Fund Financial Monitoring.
http://www.highland.gov.uk/meetings/meeting/3604/city_of_inverness_area_committee

<u>Bridge</u>	<u>Description</u>	<u>Span</u>	<u>Clear Width</u>	<u>Allowable Design Load</u>	<u>Allowable Construction Load</u>	<u>Balustrade</u>	<u>Defects</u>	<u>Repairs Needed</u>
1. General's Well Bridge	Steel suspension bridge with two support towers bedded in river. Hardwood timber decking.	40m overall (29.64m between towers)	1.57m at gate 1.8m generally	5kN/m ²	20kN spread over 2.5m length	Steel post and rail with intermediate rails and dowel bar vertical infill.	Main structure has cosmetic painting defects only. Bolts below deck beginning to corrode. Base of gates rusted. Some loose balustrade bolting. Balustrade infill rails bent by vandals. Some damaged bridge deck planks. Masonry abutment requires re-pointing. Rock armour (below river bed pier bases) has broken out in places	Repaint main structure. Repaint bolts below deck. Repaint gates. Some bolting to be renewed in balustrade. Balustrading to be straightened. Deck plank repairs. Repair / Re-point abutment. A stone / cement infill is required to prevent further scour.
2. Banana Bridges	Two, single span, concrete filled, steel pile deck bridges.	9.25m & 10.50m	2.30m but 106 degree bend to be negotiated	5kN/m ²	20kN spread over 2.5m length	Steel post and rail with vertical bar infill.	Trip hazard where footpath bitmac surface abuts the concrete path. At the most westerly access end where the concrete and steel pile deck bridge structure adjoins the concrete ramp, there is cracking right across the concrete ramp. Masonry cracked at two bridge abutments. Access ramps at each end may not be compliant with disability access rules.	Breakout and patch bitmac Concrete needs to be broken out in order to expose the interface between the bridge and the concrete. The bridge structure needs to be tied onto the existing concrete and the ramp needs to be made good by concrete infilling. Repair / Re-point abutments.
3. Island Bank Road Bridge	Steel suspension bridge with end support towers. Hardwood timber decking.	27.96m	1.66m at gate 1.8m generally	5kN/m ²	20kN spread over 2.5m length	Steel post and rail with intermediate rails and dowel bar vertical infill.	Main structure has cosmetic painting defects only. Bolts below deck beginning to corrode. Base of gates rusted. Some loose balustrade bolting. Bent balustrade rail at island end. Balustrade infill rails bent by vandals. Holes and damage to bridge deck planks.	Repaint main structure. Repaint bolts below deck. Repaint gates. Some bolting to be renewed in balustrade. Balustrade rail to be repaired. Balustrading to be straightened. Deck plank repairs.
4. Island Bank Road Lade Bridge	Single span, reinforced concrete slab bridge.	5.1m	1.8m	5kN/m ²	No access.	Steel post and rail with intermediate rails and dowel bar vertical infill.	Cosmetic defects to painting of balustrade and fences out with the bridge.	Repaint balustrade and repair adjacent access ramp handrails.
5. Ault-na-Skaih Bridge	3No. Single span PFC bridge beams and hardwood timber decking.	2.4m	1.78m	5kN/m ²	20kN spread over 2.5m length	Decorative / curved steel balustrade.	Loose hardwood decking boards.	Re-fix down onto main structure.
6. Cavell Lade Bridge	3No. Single span PFC bridge beams and hardwood timber decking.	4.42m	2.0m	5kN/m ²	20kN spread over 2.5m length	Decorative / curved steel balustrade.	None.	None.

NESS ISLANDS PROJECT: FOOTPATHS 147234 Refer to drawings 147234/02, 04 & 05

<u>Location</u>	<u>Problems</u>	<u>Causes</u>	<u>Suggested Remedial Work</u>	<u>Priority</u>
Tarmac surfaced footpath parallel to Bought Road	1- Eroded area at path edge (Trip hazard) 2- Pothole (0.5m x 0.5m) (Trip hazard) 3- Pothole (1.0m x 1.0m) (Trip hazard)	Wear and tear.	Provide straight clean cut to tie into and infill with 50mm thick bitmac graded to provide smooth finish.	Urgent
Tarmac surfaced footpath parallel to Bought Road	Existing post and rail fence requires re-painting to protect and maintain appearance.	Wear and tear	Rub down and re-paint.	Urgent
Tarmac surfaced footpath parallel to Bought Road	Existing stone built retaining wall is displaced / cracked in numerous locations.	Retaining wall is not suitable to contain ground / root pressures. No weep holes in wall could also lead to pressures from groundwater.	Take down and re-build suitably designed wall. OR Construct new RC retaining wall in front of existing wall.	Short / medium term improvement
Ramp from Bought Road to General's Well Footbridge	Steep footpath with 1in8 slope. No handrail at far side of path at ramp. Rough surface from previous repair.	Longstanding feature Longstanding feature Rough surface from previous repair.	Form new ramp as drawing 147234/05 to be disabled compliant. Extend balustrade. Provide straight clean cut to tie into and infill with 50mm thick bitmac graded to provide smooth finish.	Medium/long term improvement Urgent Urgent
Ramps at Island end of General's Well Footbridge leading north and south:	Steep footpath slopes of 1in6 and 1in10	Longstanding feature (improved in 1988 when new bridge was re-erected)	Build up and extend ramps as drawing 147234/05 to be disabled compliant. This will be expensive as retaining walls likely to be needed with handrails.	Medium/long term improvement
Tarmac surfaced footpath at Island end of General's Well Footbridge leading south	1- Pothole (0.4m x 0.4m) (Trip hazard) 2- Tarmac Repair (2m x 7m Lg.) 3- Pothole (0.5m x 0.5m) (Trip hazard)	Wear and tear.	Provide straight clean cut to tie into and infill with 50mm thick bitmac graded to provide smooth finish.	Urgent
Footpath east side of South Island	Rough surface from previous repair. (2m x 5m Lg.)	Rough surface from previous repair.	Provide straight clean cut to tie into and infill with 50mm thick bitmac graded to provide smooth finish.	Urgent
Footpath east side of South Island near Banana Bridges	Pothole (1.0m x 1.0m) (Trip hazard)	Wear and tear.	Provide straight clean cut to tie into and infill with 50mm thick bitmac graded to provide smooth finish.	Urgent
Most westerly access to Banana Bridges (also noted within Bridges Report):	Pothole (1.0m x 1.0m) (Trip hazard)	Wear and tear where footpath (bitmac surface) abuts the concrete path.	Provide straight clean cut to tie into and infill with 50mm thick bitmac graded to provide smooth finish.	Urgent
Footpath at west end of Island Bank Road Footbridge	Uneven surface from previous repair. (3m x 9m Lg.)	Uneven surface from previous repair.	Provide straight clean cut to tie into and infill with 50mm thick bitmac graded to provide smooth finish.	Urgent
Banana Bridges both ends:	Steep access ramps 1in8 and 1in6	Longstanding features	Extend ramps as drawing 147234/05. This will be expensive as balustrades on bridges will require major alteration/extension and there will have to be retaining walls with extra handrails.	Medium/long term improvement
Islands end of Island Bank Road Footbridge:	Slightly steep footpath 1in11 locally steeper (also affected by tree roots)	Longstanding feature improved in 1988 when new bridge was erected.	Accept slope as if path overlaid this could be made close to 1in12 and therefore disabled compliant.	Urgent
Island Bank Road access ramps to Lade Footbridge and General's Well Footbridge (also noted within Bridges Report):	Steep slopes (not surveyed but clearly much steeper than 1in12) Defects in balustrade only 3No horizontal rails	Longstanding and recreated as was when Bridges were erected in 1988. Longstanding recreated as was when Lade Bridge was erected in 1988.	Leave ramps as they are as steps exist at the base of ramps which are non wheelchair compliant. Alternative compliant access exists at Cavell Gardens. Repair/improve balustrade	None Urgent
Lade end of Island Bank Road Footbridge:	Slightly steep footpath 1in10	Longstanding feature	Accept as it is	Not urgent

<u>Location</u>	<u>Problems</u>	<u>Causes</u>	<u>Suggested Remedial Work</u>	<u>Priority</u>
Riverbank at downstream Bught end of General's Well Footbridge	Scour erosion damage	Wear and tear and scour due to turbulence beyond Bridge.	Repair bank (5m of Detail 1)	As soon as possible
Riverbank 10m upstream from last	Localised erosion damage	Wear and tear	Repair bank (3m of Detail 1)	As soon as possible
Riverbank 30m upstream from last	Localised erosion damage	Wear and tear	Repair bank (10m of Detail 1)	As soon as possible
South Island west side upstream from General's Well Footbridge – 2No areas	Localised erosion damage	Wear and tear	Repair bank (2m & 5m of Detail 1) Remove existing stump at 5m section	As soon as possible
South end of South Island	Scour below masonry wall	Wear and tear and scour	Repair bank (2m of Detail 1)	As soon as possible
Extreme south end of South Island	Erosion of topsoil above gabions	Wear and tear	Re-instatement of existing gabion protection (4m of Detail 2)	As soon as possible
South Island east side – 3No areas	Localised erosion damage	Wear and tear	Repair bank (5m, 0.5m & 2m of Detail 1)	As soon as possible
North Island west side near Banana Bridge	Localised erosion damage to existing wall	Wear and tear	Repair bank (2m of Detail 1)	As soon as possible
North Island west side near Banana Bridge	River and foot traffic erosion of existing vegetation	Wear and tear	Repair bank by turfing onto existing exposed geotextile	As soon as possible
North Island west side – 2No areas	Localised erosion damage	Wear and tear	Repair bank (3m & 5m of Detail 1) Remove existing stump at 5m section	As soon as possible
North end of North Island	Scour below previous timber baulk and steel pin arrangement resulting in washout behind timber boards	Wear and tear and scour due to turbulence	Extra line of boarding to be placed below existing boarding and large boulders to be placed in voids (behind boards) under existing geotextile to prevent washout. Geotextile re-pinned and area to be turfed.	As soon as possible
East side of river close to Cavell Gardens Footbridge (approx.. 50m upstream)	Localised erosion damage	Wear and tear	Repair bank (5m of Detail 1)	As soon as possible
Ault-na-Skiah outfall into river	Localised erosion damage	Wear and tear and scour due to turbulence	Repair bank (8m of Detail 1)	As soon as possible
Throughout the Ness Islands	The uncontrolled establishment and growth of vegetation alongside and within the watercourse can adversely affect the water environment and flow resulting in flood risk.	The lack of management for maintenance of uncontrolled vegetation growth is essential in order to reduce the impacts on the flows.	Cutback and remove debris and uncontrolled vegetation growth.	As soon as possible

NESS RIVERSIDE FOOTPATH

BUGHT ROAD INVERNESS

LIGHTING

Further to the recent request to consider the installation of lighting on the section of footpath from the suspension bridge to the end of the walled area, I attach a copy of my drawing number SL/15/020 marked up with my proposal.

I would suggest that two options are considered for the project, the first would be to use equipment similar to that already used in the main Ness Islands while the second would entail using illuminated bollards.

OPTION 1 : use 9 x 5m steel columns with decorative embellishments and 32w LED Victorian style "ABBEY" lanterns, illustrations of the lantern and column is attached for information. The columns would be located against the railings on the inside of the footpath. If the columns were to be located on the opposite side of the footpath, against the wall, there is a distinct possibility of people climbing on the columns and carrying acts of vandalism to the lanterns. Light spill onto the River is a potential issue and it is proposed to paint the lantern panel parallel to the River black to reduce any light spillage. The column and lanterns may well at some locations have an impact on the tree canopy above the footpath, normally the branches would be selectively pruned and cut back however, the trees in the area are covered by a Tree Preservation Order and would require permission for the works to be carried out.

The associated underground cabling would be in a flexible duct, with T pieces at each column location. The excavations for the column foundation and cable duct will require to be carried out by hand so as to avoid any damage to tree routes. The footpath will require to be closed during the works.

The provision of all materials and electrical labour will be carried out by Community Services Lighting Section. Track excavations, cable laying, column foundations and column erection will be carried out by Community Services Lighting Section's term contractor.

Cost of works : £28000.00

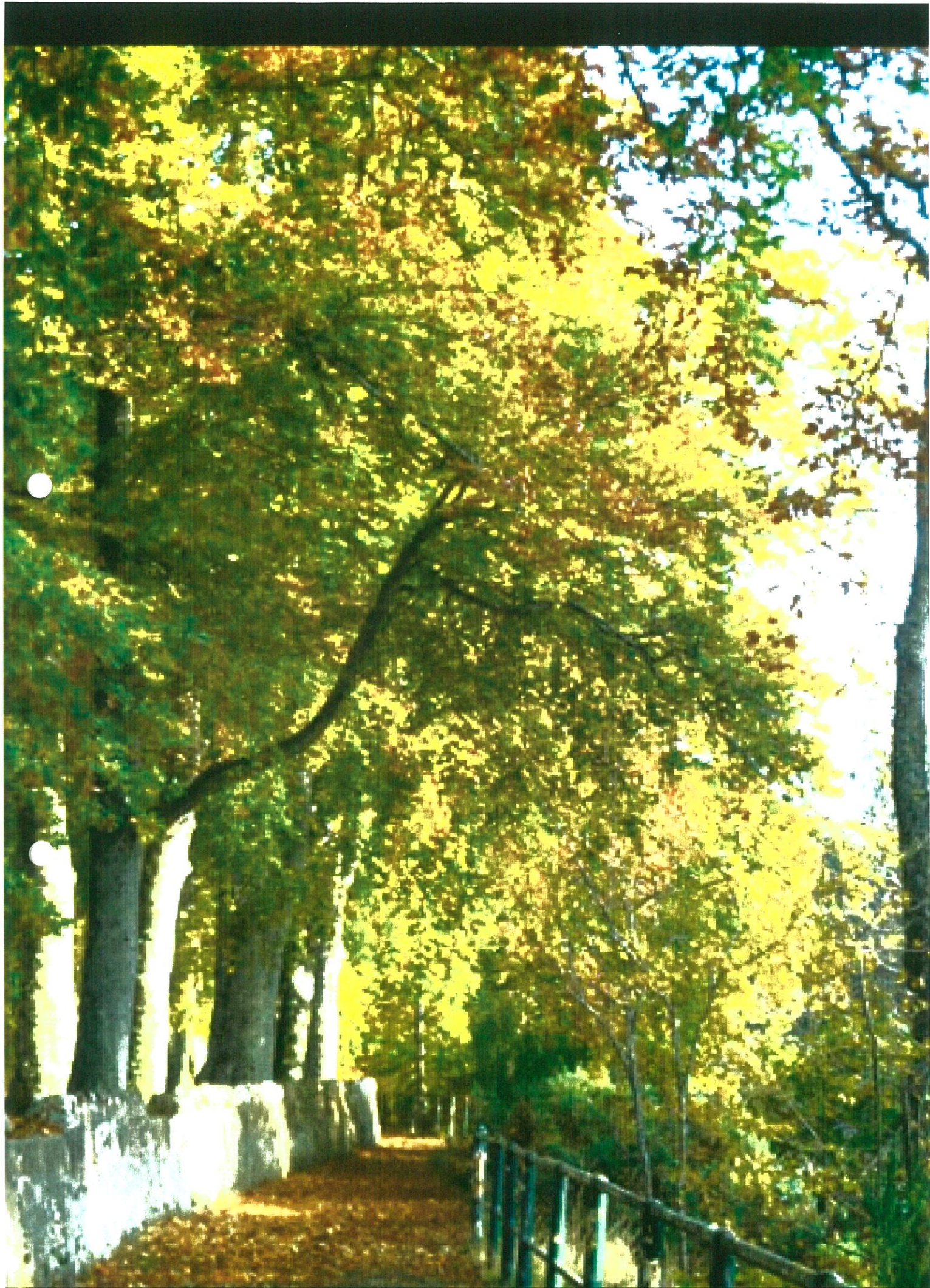
In order to reduce the impact of the columns in the area I would suggest the use of illuminated bollards as second option.

OPTION 2 : use 16 x 1m high illuminated " PHAROS " bollard with 11w LED lantern, illustrations of proposed bollard is attached for information. The footpath will be lit to the same standard as that of the "ABBEY " lantern. The bollard will be located as in Option 1 and will have no impact on the trees and any spill light will be adequately controlled. The potential for vandalism to the units will be minimal with the proposed bollard having been designed and tested for " real world " vandal resistance. The robust construction method and shatterproof lamp protector ensures that the Pharos bollard can withstand almost anything!
Cabling and duct works along with bollard foundations will be carried out as in OPTION 1.

Cost of works : £26000.00

*John Beaton
Area Lighting Engineer
Inverness, Nairn & Badenoch*

05/11/15



ABBEY® LED

Urbis
Schröder



THE PHAROS LED BOLLARD

Urbis
Schréder



- PROPOSED 5M DECORATIVE COLUMNS WITH LED LANTERNS
THE SAME AS THOSE ALREADY USED IN THE ISLANDS
- - - PROPOSED 6MM 3 CORE UG LIGHTING CABLE IN
FLEXIBLE PVC DUCT



THE HIGHLAND COUNCIL

COMMUNITY SERVICES

Director : William Gilfillan

LIGHTING SECTION
94 DIRIEBUGHT ROAD
INVERNESS IV2 3QN

NOTES:-

REVISION DETAILS:	BY :	DATE:	SUF'X:
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DRAWING NO' SL/15/020

TITLE:
Installation of Lighting
on footpath adjacent to River Ness
on Bught Road Inverness

SCALE: 1 : 500	JOB No : ERI7841 145
DRAWN: JA	SIGNATURE: <i>S. J. [Signature]</i>
CHECKED: JB	DATE: 03/11 /15

Highland