

HIGHLAND COUNCIL

Agenda Item	7
Report No	LA/15/20

Committee: Lochaber Area Committee

Date: 28 September 2020

Report Title: Area Road Structures Annual Report 2019/20

Report By: Executive Chief Officer Infrastructure and Environment

1. Purpose/Executive Summary

- 1.1 This report provides an Area update on the inspection regime and the work undertaken as part of the overall Structures Programme for the 2019/20 financial year.

2. Recommendations

- 2.1 Members are asked to note the contents of the report.

3. Implications

- 3.1 Resource – The total backlog of work is currently unknown, but the rolling programme will be added to annually as inspections are completed.
- 3.2 Legal - The Council has a duty to maintain structures to a reasonable standard and to manage risk effectively.
- 3.3 Community (Equality, Poverty, Rural and Island): Due to the geographic nature of Highland, many structures are located in remote areas where failure may result in communities being cut off or having to travel significant distances via alternative routes.
- 3.4 Climate Change / Carbon Clever: There are no known Climate Change / Carbon Clever, implications arising as a direct result of this report. Although improving road structures is unlikely to have a significant effect on carbon emissions, keeping the road network in a condition which allows the free flow of traffic will assist in reducing them.
- 3.5 Risk: Although not specifically mentioned in CR10 Condition of our Roads, structures are a vital part of the road network and require active management.
- 3.6 Gaelic: There are no known Gaelic implications arising as a direct result of this report.

4 Structures Assets

- 4.1 This report applies only to structures which are considered to be part of the adopted road network under the Roads (Scotland) Act 1984 and are the responsibility of the Council. It does not include structures that are the responsibility of other Council Services or those owned by other parties which are part of the adopted road network.
- 4.2 The term 'road structure' is used to describe bridges, culverts, retaining walls and cattle grids. A breakdown of Council owned/ maintained road structure numbers per Operational Area is shown in Table 1 below (as at 20/08/20). It is important to note that footbridges which are part of the adopted road are also included.

Table 1: Adopted Road Structures per Operational Area

Area	Bridges (5.0m plus)	Bridges (under 5.0m)	Minor Culverts	Retaining Walls	Cattle Grids
Badenoch & Strathspey	60	56	14	23	16
Caithness	33	98	18	18	27
Inverness	112	131	79	160	40
Lochaber	126	176	78	217	82
Nairn	26	30	7	20	4
Ross & Cromarty	145	201	93	251	79
Skye & Lochalsh*	87	133	64	139	202
Sutherland	146	269	77	248	146

* Includes Lochalsh area – database to be updated.

5 Finance

- 5.1 A decision was made for 2017/18 to remove the costs for Principal Inspections (PIs) from Area revenue budgets. This removes the annual fluctuation in the Bridges Structural Maintenance budget for each Area which was dependent on the number of Principal Inspections that required to be completed.
- 5.2 The replacement and maintenance of structures is funded from either Capital or Revenue budgets. As would be expected, Area revenue budgets (Bridges Structural Maintenance) are used to effect relatively small repairs, maintenance or minor replacements, in comparison to Capital works. The Lochaber Area revenue budget for 2019/20 was £82,883.

6 Structures Inspection Programme

- 6.1 There are several types of inspections undertaken on structures. These include General and Principal Inspections (GIs and PIs). Currently, PIs are undertaken by the Structures Section of the Project Design Unit (PDU) on bridges with an overall length of 5m or more. PIs are a more detailed inspection, compared to a GI. The Area Structures Technicians, along with other Area staff when necessary, will undertake the majority of GIs. Some GIs on the larger structures (20m length or more) will be completed by the Structures Section (PDU). The Area Structures Technicians will assist the Structures Section in completing inspections whenever possible.
- 6.2 Members approved the 'Structures Inspections' policy at EDI committee in August 2019 to move towards a risk-based approach to inspections. Inspections are generally undertaken within a calendar, rather than financial year. This is to allow for programming.

7 2019/20 General Inspection Programme Update (bridges >20M; by the PDU)

7.1 For 2019/20, 69 bridges were programmed for General Inspections.

7.2 At the end of March 2020, 67 bridges had been inspected. This represents a completion rate of 97%. Two inspections were deferred as Newhall Bridge was replaced in 2017/18 and a principal inspection is programmed for Dublin Bridge in 2019/20. The bridges inspected are listed in **Appendix A** by area.

8 2019/20 Principal Inspection Programme Update (bridges >5m; by the PDU)

8.1 For 2019/20, 40 bridges were programmed for Principal Inspections. Members are reminded that the PDU Structures Section undertakes these inspections.

8.2 At the end of March 2020, 40 bridges had been inspected. This is a completion rate of 100%. The bridges inspected are listed in **Appendix B** by area.

9 Lochaber Area General Inspections (bridges <20m; by Lochaber Area Officers)

9.1 Programmed inspections:-

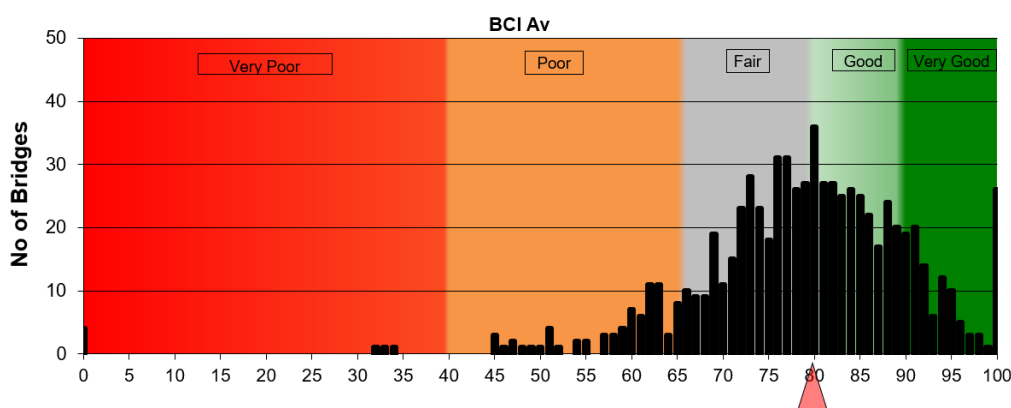
112 less than 5m span completed
37 greater than 5m span completed

9.2 Additional General Inspections (not programmed):-

A08840090 - Achnagavin
A08840080 - Acharn
A08840060 - Glen Liddesdale
U15040010 - Achnambeithach
B08630100C18 - Unnamed culvert
B08630100C44 - Unnamed culvert
B08630080 - Coire Ba
B08630020C72 - Chorcaig
C11920010 - Allt Daraich
B80070100C78 - Eaglais
U13530000C68 - Grigadale

10 Bridge Stock Condition

10.1 As inspections are completed, information gathered is used to calculate the Bridge Stock Condition Index (BSCI). Currently, principal inspection results are used as they generate a condition score for each bridge. The 2019/20 Highland BSCI average is 79.0 and BSCI critical is 64.0. The distribution of BCI average values for each bridge which has had a PI are shown in the diagram.



11 2019/20 Highland Bridge Maintenance Programme

11.1 The following repairs were undertaken in 2019/20:-

- Braeintra Bridge
 - Stonework repairs to structure and removal of temporary Mabey Quick Bridge.
- Cairn Gorm Bridge
 - 3.2m span masonry arch bridge with arch deformation caused by subsidence in abutments;
 - The existing structure was demolished and replaced with a prefabricated Mabey Quickbridge on replacement foundations.; and
 - Masonry works were undertaken by DA Macrae Ltd and civils works by DN Munro.
- Sallachy Bridge
 - Removal of steel plate to examine structure prior to future works.

11.2 Under the Roads and Transport Capital Budget, Strathconon Bridge was repaired as part of a Strategic Timber Transport Scheme. During the refurbishment works a temporary Bailey Bridge was erected to maintain access.

12 2019/20 Lochaber Area Bridge Maintenance Programme

12.1 Bridge Repairs completed:-

C11880020 Coire Dubh, Bells Grove - Accident damaged parapet and spandrel wall on masonry arch bridge. Repaired by contractors;

A08610350 Ceol na Mara, Ardery – Parapet strike on masonry arch bridge. Repaired by DLO;

B80430100 Kingairloch - Accident damaged steel guard rail replaced. Approach to bridge improved. Repaired by DLO;

C11530089 Caonich bridge, Loch Arkaig - Severe scour issue to abutment repaired by contractors;

B08630040 Sgoilte bridge, Kinlochleven high road- Accident damage to masonry parapet. Repaired by DLO;

U15040020 Coe Bridge, Glencoe village – Minor accident damage to masonry parapet. Repaired by DLO; and

B80070080 Doire Buidhe, near Loch Mudle – Accident damage to parapet. Repaired by DLO

We have begun to contract scaffolders directly and use DLO for repairs where possible. This has been found to be cheaper. Working at heights is the main constraint on getting works done.

Concern about number of parapet strikes. Renewing verge marker posts on bridge approaches. Trialling use of yellow and black chevrons on bridges with particularly poor angles of approach. Have improved approach for HGV's coming into bridge at Kingairloch as this seemed to be the main reason for the guardrail being struck.

12.2 Bridge Repairs to be carried out:-

U10350020 Oighre bridge, Kilfinnan. Damaged guardrail to be refurbished and reinstated;

C10940080 Invercharnan, Glen Etive. New guardrail to be installed in Autumn. Temporary rail in place at present;
U12070020 Shubh Beag, Kinlochhourn. Parapet and spandrel damaged on masonry arch bridge. Quote obtained from scaffolders. Hoping to coordinate a repair with the DLO before end of 2020; and
C12030011 Laroch Footbridge, Ballachulish - Anti-slip material to be placed on bridge.

A number of works instructions have been issued for minor scour works along the A861 between Drumsallie and Achaphubuil.

12.3 Potential Schemes

Replacement of bridges with portal culverts; and
Two on Loch Morar. C11500020 Bracora and one unnamed bridge at head of road.
C11920030 Swordale, Ardnamurchan

13 Retaining walls

- 13.1 Rhu – repair completed
B8043 Kingairloch Rd. – Coastal section inspected between Camasnacroise and Kilmalieu.
B849 Drimnin Rd. - Retaining walls along road inspected

Designation: Executive Chief Officer Infrastructure and Environment

Date: 10 September 2020

Author: Richard Porteous, Road Operations Manager – Lochaber, Nairn, Badenoch & Strathspey and Corran Ferry

Background Papers: TEC 77/13 Cattle and Deer Grids Policy
COM 58/15 Bridges and Road Structures
EDI 23/17 Road Structures Annual Report
EDI 81/18 Road Structures Annual Report
EDI 61/19 Risk Based Approach to Structures Inspections
EDI 83/19 Road Structures Annual Report
LA 19/19 Area Roads & Bridges Progress Report - 2018/19

2019/20 General Inspection Programme - Badenoch & Strathspey

Structure Ref	Name
(Undertaken by Structures Section)	
B91020030	OLD TULCHAN
B91500020	SPEY
B91530020	CARRBRIDGE
C11280010	BOAT OF GARTEN
C11320020	KINCRAIG SPEY
C11490020	SPEY BRIDGE ADVIE
(Undertaken by Area Staff)	

2019/20 General Inspection Programme – Caithness

Structure Ref	Name
(Undertaken by Structures Section)	
A00990060	WICK RIVER
A08820020	BRIDGE OF HASTER
A08820040	ACHINGALE (WATTEN)
B08740050	HALKIRK
(Undertaken by Area Staff)	

2019/20 General Inspection Programme – Inverness

Structure Ref	Name
(Undertaken by Structures Section)	
A08310100	COMAR
A08620090	LOVAT
A80820020	HOLM MILLS
B08510030	ABERARDER
C11060010	BLACK BRIDGE KILMORACK
U11690010	CANTRAY
U11770010	LOWER FOYERS
(Undertaken by Area Staff)	

2019/20 General Inspection Programme – Lochaber

Structure Ref	Name
(Undertaken by Structures Section)	
A08610169	INVERSCADDLE OVERFLOW
A08610230	RIVER GOUR
B80050050	ARKAIG
B80080030	MORAR RIVER
U10100029	LAIRE
B08630010	INVERCOE
C11530150	MURLAGGAN IV
(Undertaken by Area Staff)	

2019/20 General Inspection Programme - Nairn

Structure Ref	Name
(Undertaken by Area Staff)	

2019/20 General Inspection Programme – Ross & Cromarty

Structure Ref	Name
(Undertaken by Structures Section)	
A08320230	KINLOCHEWE
A08320370	GRUINARD
A08900080	STRATHCARRON
(Undertaken by Area Staff)	

2019/20 General Inspection Programme – Skye & Lochalsh

Structure Ref	Name
(Undertaken by Structures Section)	
B80090010	DRYNOCH
B80830030	SLAPIN
(Undertaken by Area Staff)	

2019/20 General Inspection Programme - Sutherland

Structure Ref	Name
(Undertaken by Structures Section)	
A08360360	HALLADALE
A08380010	TIRRY
A08380210	HOPE
C10220040	BALNACOIL
(Undertaken by Area Staff)	

2019/20 Principal Inspection Programme – Badenoch & Strathspey

Structure Ref	Name
B09700150	AVIEMORE RAILWAY
B91500010	RALIA RAILWAY
C11410010	SPEY STREET KINGUSSIE
U23870010	CRUBENMORE RAILWAY

2019/20 Principal Inspection Programme – Caithness

Structure Ref	Name
C10060010	AUCKHORN
C10060020	LYTH
C10290010	ACHAVAR
C10530020	OSCLAY
C10570030	ACHAIRN
U18230020	LOCH MORE

2019/20 Principal Inspection Programme - Inverness

Structure Ref	Name
A08620060	LETRAN
B08510010	DUNMAGLASS LODGE
B08530010	CULCABOCK ROAD
C10170020	AIRPORT RAILWAY
C10360010	CULLODEN RAILWAY
C10400010	TORBRECK ROAD
C10720020	BELLADRUM
C10800020	ALLT NA GOIRE
C11100010	FASNAKYLE
C11120040	BLAR NA GAMHNA
C11120050	COIRE BEITHE
C11120070	ALLT NA H IMRICH
U10960009	ALLT MOR
U14230010	ALLT CURRACHAN
U15680010	REELIG
U27860010	RUTHVEN
U28560010	RAIGBEG RAILWAY
U46200010	WATERLOO
U46840010	MILL BURN
U47140010	INSHES FOOTBRIDGE

2019/20 Principal Inspection Programme - Lochaber

Structure Ref	Name
A08610019	DRUIM FEARNA
A08610039	GARVAN
A08610089	BLAICH
A08610300	ACHNALEA
A08840020	CREICHE
A08840030	CLOICHE
B08630080	COIRE BA
B80040050	LOY
B80080010	BUNACAIMB
C11440010	BHIOIRA
C11530030	MUICK I
C11530160	SALLACHAN EAST
C11560010	ACHADH
C11640010	BHEAG
C12030010	OLD LAROCH
C12030011	OLD LAROCH FOOTBRIDGE
C12030020	LAROCH
U10100019	INVERLAIR
U10350030	SIDHEIN
U12070010	EIRICHEALLACH
U12070030	COIRE SHUBH
U12810010	SUILEAG
U15040020	COE

2019/20 Principal Inspection Programme - Nairn

Structure Ref	Name
B90900020	HOWFORD
B90900030	CAWDOR
C11540010	TOMLACHLAN
C11540060	HIGHLAND BOATH

2019/20 Principal Inspection Programme – Ross & Cromarty

Structure Ref	Name
A08620150	CONON
B08170050	ALNESS
B08170060	ALNESS RAILWAY
B08170061	ALNESS RAIL FOOTBRIDGE
B91630020	NEWHALL
B91760050	CRANNICH
B91760060	STRATHRORY
C10430020	ALLT NA CRICHE
C10430070	BRIDGEND
C10750010	ACHGARVE
C10750020	MELLON UDRIGLE
C10830019	MHIC NOBUIL
C10910020	INVERBAIN
C12140010	PETER'S
U19070010	DUBLIN
U20320010	ALNESS IND ESTATE RAILWAY
U37050010	INCHERIL

2019/20 Principal Inspection Programme – Skye & Lochalsh

Structure Ref	Name
C12210010	DUIRINISH
C12230010	OLD SHIEL
C12230060	AN UILLT MHOIR
C12230090	EILANREACH
C12230100	UPPER SANDAIG
C12230110	RARSAIDH
C12250010	EASAIN
C12250020	RIVER RHA
C12260010	KILMARTIN RIVER
C12320010	BALMACARA
C12330010	LON AN EIREANNAICH
U47920010	WATERLOO ROAD
U49290010	AULT A CHRUINN

2019/20 Principal Inspection Programme - Sutherland

Structure Ref	Name
A08350250	KNOCKAN
A08360020	EDDERTON
A08360040	CRAIGROY
A08360050	EASTER FEARN
A08360060	WESTER FEARN
A08360070	KINCARDINE
A08370110	ALLT EILEAG
A08370189	CULAG
A08390010	PITTENTRAIL
A08390020	ROVIE LODGE
A08390030	BLARICH
A08390050	GRUDIE
A08390080	DURCHA
A08970060	BAILE AN OR
A08970070	SUISGILL
A08970080	KINBRACE HATCHERY
B08710019	CARNACHY
B08710029	SKAIL BURN
B08710040	LANGDALE
C10220070	DALREAVOCH
C10700020	RHIVRA
C11130010	BUNAHOUN
C11400010	DOUNIE
C11420010	ASTLE
U13960020	ARDMORE
U21170030	ALLT AN RASAIL
U21260010	OYKEL BAILEY
U22420030	DALMORE
U32670010	ACHVAICH
U33140010	CUTHILL
U35210010	TORBOLL